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FOREWORD

The **International Bulletin on Atomic and Molecular Data for Fusion** is prepared by the Atomic and Molecular Data Unit, **International Atomic Energy Agency** (IAEA), and published and distributed free of charge by the **IAEA** to assist in the development of fusion research and technology.

The references and indexations included in the Bulletin are provided by atomic data centres at the following institutions:

Oak Ridge National Laboratory, Oak Ridge, USA
National Institute for Standards and Technology, Gaithersburg, USA
Kurchatov Institute, Moscow, Russian Federation
National Institute for Fusion Science, Toki-shi, Japan
Universite de Paris XI, Paris-Sud, Orsay, France
Nuclear Data Section, IAEA, Vienna, Austria

Information in this Bulletin is presented in four parts. The Atomic and Molecular Data Information System (AMDIS) of the International Atomic Energy Agency is presented in Part 1. The indexed papers are listed separately for structure and spectra, atomic and molecular collisions, and surface interactions in Part 2. The structure and spectra indexation lines are grouped by process. The first column gives the process, the second one the reactants and then the character of the data contained (Th for theoretical, Ex for experimental, and E/T for both experimental and theoretical). The number in the last column is the reference number in Part 3 of the Bulletin. The atomic and molecular indexation lines are grouped by one collision partner (photon, electron or heavy particle). The first column gives the reactants, the second column gives the process, the third column gives the energy range with the appropriate units, and the last two columns are the same as in the structure and spectra indexation lines. The particle-surface interactions indexation lines are grouped by process. The first column gives the reactants, the second the energy range with the appropriate units, and the last two columns are the same as in the previous cases. Part 3 contains all the bibliographic data for both the indexed and non-indexed references. Those references which are indexed in Part 1 are identified by the repeated indexation lines. The Author Index (Part 4) refers to the bibliographic references contained in Part 3.

Contributions are solicited on data generation work in progress and on new data in the course of publication. Contributions should include an explanation of their applicability to fusion research and should be sent to:

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WWW access: http://www-amdis.iaea.org/

All data published in the Bulletin are included in AMBDAS, the IAEA Atomic and Molecular Data Unit bibliographic database. AMBDAS is freely available on line at http://www-amdis.iaea.org/AMBDAS.

Vienna, December 2008 The Editors

News on the Atomic and Molecular Data Unit

This edition of the Bulletin contains a large amount of data due to the recovery of missing data from the year 1999 by the Oak Ridge National Laboratories (ORNL) and the National Institute of Standards and Technology (NIST) Data Centres. Also are included entries of the Bulletin Corrigendum published in April 2008, concerning errors in collisional data indexing from the previous Bulletin, number 66. For consistency all data from section 2.2. onward in Bulletin 66 were retabulated:

- Atomic and Molecular Collisions, section 3.2, p. 204
- Surface Interactions, section 3.3, p. 236
- Particle Beam-Matter Interactions, section 3.4, p. 256
- Interactions of Atomic Particles with fields, section 3.5, p. 276

This Bulletin edition, number 67, makes obsolete the above sections in Bulletin 66, as well as the corrigendum published in April 2008.

The A+M Data Unit is organizing a joint ICTP-IAEA workshop on atomic and molecular data for fusion to be held on 20-30 April, 2009 at the ICTP facility in Trieste, Italy. The purpose of the workshop is to train potential new researchers in fusion energy in the basics of atomic, molecular and plasma-material interaction data. The Workshop participants are guided through the use of such data in fusion-relevant plasma situations and are introduced to a variety of sources of data. Workshop exercises make use of specific modelling codes using data from sources available through Internet links. Topics of the workshop are:

- Plasma-material interaction data for pure materials
- Co-deposition of materials and the Interaction of the mixed materials with the plasma
- Electron collision processes in atoms and molecules and their ions
- Molecular formation and dissociation
- Charge transfer processes

Additional information may be found on the ICTP web site at:

http://cdsagenda5.ictp.it/full_display.php?email=0&ida=a08151

Co-ordinated Reasearch Projects (CRP) are the main tool by which the Atomic and Molecular Data Unit (AMD Unit) collects and evaluates data for the establishment of recommended numerical databases for use in fusion energy research. The AMD unit operates three to four CRPs simultaneously. A CRP is a three to five-year joint project involving approximately 12 laboratories, research teams or institutions, performing coordinated research to achieve a certain well defined goal (e.g. establishment of a particular database, data generation, compilation and assessment for specific types of A+M collision processes, or classes of such processes, etc.). Results of two completed CRPs, "Data for molecular processes in edge plasmas" and "Atomic and molecular data for fusion diagnostics", were published in the IAEA APID Series: volumes 13 and 14 and are available online at http://www-amdis.iaea.org/publications/APID/. The CRP on "Atomic and molecular data for plasma modelling" held its final Research Coodinated Meeting (RCM) in November. The CRP on "Atomic data for heavy element impurities" will hold its final RCM on 4-6 March 2009. The CRP on "Data for surface composition dynamics relevant to erosion processes" will hold its second RCM on 11-13 March 2009. Finally the CRP on "Characterization of Size, Composition and Origins of Dust in Fusion Devices" hold its first meeting December 2008. More information on the CRPs are available in previous editions of the Bulletin and on the A+M Data Unit web site.

http://www-amdis.iaea.org/CRP/

OPEN-ADAS is a IAEA/ADAS joint project. The purpose is to search and download atomic data from the Atomic Data and Analysis Structure (ADAS) over the web. The first version of OPEN-ADAS was launched last summer. The interface allows a number of flexible searching mechanisms of the ADAS database. At present time, ADAS contains around 20,000 data files for a total size of 2.8GB.

http://open.adas.ac.uk/

XSAMS (XML Schema for Atoms, Molecules and Solids) is a joint effort to develop a new standard for atomic, molecular and particle surface interaction data exchange (AM/PSI) based on XML (eXtensible Markup Language). XSAMS is in its final phase for release of version 0.1. This work is supported by the IAEA in collaboration with the following institutions: NIST, ORNL and Observatoire Paris-Meudon, and progress has been reported during the ICAMDATA meetings. More information is posted on the IAEA A+M Data Unit web site.

http://www-amdis.iaea.org/XML/

Contents

Chapter 1

The Atomic and Molecular Data Information System

AMDIS is the **A**tomic and **M**olecular **D**ata **I**nformation **S**ystem of the International Atomic Energy Agency, established and maintained by the Atomic and Molecular Data Unit, Nuclear Data Section.

AMDIS contains two main parts: AMBDAS, a bibliographic database for atomic and molecular data for fusion research; ALADDIN, a numerical database of recommended and evaluated atomic, molecular and plasma-surface interaction data.

AMBDAS, **A**tomic and **M**olecular **B**ibliographic **D**ata **S**ystem, is an on-line bibliographic database **http://www-amdis.iaea.org/AMBDAS**. It contains more than 45,000 bibliographic entries with atomic, molecular and plasma-surface interaction data of interest to fusion research, and dating back to 1950. Entries may be retrieved by author, process, reactants, type of reference, year of publication and data source (theoretical or experimental). The interface is a web-based application, easy to use with no required registration. AMBDAS data are regurlarly published in the International Bulletin on Atomic and Molecular Data for Fusion.

ALADDIN is the online numerical database of the Atomic and Molecular Data Unit of the IAEA **http://www-amdis.iaea.org/ALADDIN**. It provides atomic, molecular and plasma-material interaction data of interest to fusion research. ALADDIN provides two similar interfaces, one for collisional data and one for particle surface interactions. An ALADDIN entry consists of searchable labels that characterize the process and reactants; the source of the data, date, laboratory or data centre, and reference; comment lines and the numerical data. When possible all requested data are displayed in the same units to permit easy comparison. A unit conversion tool is available and all results can be displayed in tabular and graphical mode.

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Ne^{4+}	Energy Levels, Wavelengths	Exp	64
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Ne^{+}	Energy Levels, Wavelengths	Exp	106
Ne^{3+}	Energy Levels, Wavelengths	Exp	116
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$\mathbf{Ar}^{5+}$	Energy Levels, Wavelengths	Exp	88
Ar	Energy Levels, Wavelengths	Exp	95
$\mathbf{Ar}^{+}$	Energy Levels, Wavelengths	Exp	95
Ar	Energy Levels, Wavelengths	E/T	98
$\mathbf{Ar}^{9+}$	Energy Levels, Wavelengths	Exp	127
$\mathbf{Ar}^{10+}$	Energy Levels, Wavelengths	Exp	127
$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	Exp	127
$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	Exp	127
$\mathbf{Ar}^{13+–14+}$	Energy Levels, Wavelengths	E/T	154
$\mathbf{Ar}^{10+}$	Energy Levels, Wavelengths	Th	159
$\mathbf{Ar}^{8+}$	Energy Levels, Wavelengths	Exp	165
$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	Th	201
Ar	Energy Levels, Wavelengths	E/T	202
Ar	Energy Levels, Wavelengths	Exp	207
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Th	211
$\mathbf{Ar}^{6+}$	Energy Levels, Wavelengths	E/T	213
$\mathbf{Ar}^{13+–14+}$	Energy Levels, Wavelengths	Exp	224
$\mathbf{Ar}^{11+}$	Energy Levels, Wavelengths	Exp	233
$\mathbf{Ar}^{13+–17+}$	Energy Levels, Wavelengths	Exp	241
$\mathbf{Ar}^{8+}$	Energy Levels, Wavelengths	Exp	251
$\mathbf{Ar}^{5+}$	Energy Levels, Wavelengths	Exp	252
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Exp	252
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	252
$\mathbf{Ar}^{13+–14+}$	Energy Levels, Wavelengths	Exp	259
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	259
$\mathbf{Ar}^{8+–10+}$	Energy Levels, Wavelengths	Exp	260
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	261
$\mathbf{Ar}^{15+–16+}$	Energy Levels, Wavelengths	Exp	263
Ar	Energy Levels, Wavelengths	Exp	282
$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	Exp	288
$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	Exp	288
$\mathbf{Ar}^{6+–8+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Ar}^{10+–12+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Ar}^{8+}$	Energy Levels, Wavelengths	Exp	310
$\mathbf{Ar}^{14+–15+}$	Energy Levels, Wavelengths	Exp	325
$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	Th	327
$\mathbf{Ar}^{8+}$	Energy Levels, Wavelengths	Exp	332
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Exp	334
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	334
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Th	337
$\mathbf{K}^{15+}$	Energy Levels, Wavelengths	Exp	1
$^{39}\mathbf{K}^{16+}$	Energy Levels, Wavelengths	Th	29
$\mathbf{K}^{11+–13+}$	Energy Levels, Wavelengths	Exp	64
$\mathbf{K}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{K}^{11+–13+}$	Energy Levels, Wavelengths	Exp	290
$\mathbf{K}^{12+}$	Energy Levels, Wavelengths	Exp	290
$\mathbf{K}^{8+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{K}^{10+–12+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Ca}^{13+–16+}$	Energy Levels, Wavelengths	Exp	1
$^{43}\mathbf{Ca}$	Energy Levels, Wavelengths	Th	21
Ca	Energy Levels, Wavelengths	Th	21
$^{40}\mathbf{Ca}^{17+}$	Energy Levels, Wavelengths	Th	29

$\mathbf{Ca}^{8+}$	Energy Levels, Wavelengths	Exp	64
$\mathbf{Ca}^{12+\text{--}14+}$	Energy Levels, Wavelengths	Exp	64
$\mathbf{Ca}^{+}$	Energy Levels, Wavelengths	Th	76
$\mathbf{Ca}^{6+}$	Energy Levels, Wavelengths	Exp	130
$\mathbf{Ca}^{12+}$	Energy Levels, Wavelengths	Th	178
$^{43}\mathbf{Ca}^{19+}$	Energy Levels, Wavelengths	Th	183
$\mathbf{Ca}^{19+}$	Energy Levels, Wavelengths	Th	183
$^{43}\mathbf{Ca}^{+}$	Energy Levels, Wavelengths	Th	190
$\mathbf{Ca}^{+}$	Energy Levels, Wavelengths	Th	190
$\mathbf{Ca}^{9+}$	Energy Levels, Wavelengths	Exp	233
$\mathbf{Ca}^{12+}$	Energy Levels, Wavelengths	Exp	233
$\mathbf{Ca\text{-}Zr}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Ca}^{6+\text{--}9+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Ca}^{11+\text{--}14+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Ti}^{3+}$	Energy Levels, Wavelengths	Th	30
$\mathbf{Ti}^{+}$	Energy Levels, Wavelengths	Exp	44
$\mathbf{Ti}^{14+\text{--}15+}$	Energy Levels, Wavelengths	Exp	64
$\mathbf{Ti}^{5+}$	Energy Levels, Wavelengths	E/T	72
$\mathbf{Ti}$	Energy Levels, Wavelengths	Exp	140
$\mathbf{Ti}^{+}$	Energy Levels, Wavelengths	Exp	141
$\mathbf{Ti}^{19+}$	Energy Levels, Wavelengths	Exp	167
$\mathbf{Ti}^{20+}$	Energy Levels, Wavelengths	Exp	167
$\mathbf{Ti}^{11+\text{--}12+}$	Energy Levels, Wavelengths	Exp	200
$\mathbf{Ti}^{14+\text{--}18+}$	Energy Levels, Wavelengths	Exp	200
$\mathbf{Ti}^{14+\text{--}15+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Ti}^{+}$	Energy Levels, Wavelengths	Exp	295
$\mathbf{Ti}^{3+}$	Energy Levels, Wavelengths	Exp	319
$\mathbf{Ti}^{3+}$	Energy Levels, Wavelengths	Exp	321
$\mathbf{Ti}^{18+}$	Energy Levels, Wavelengths	Th	335
$\mathbf{V}^{4+}$	Energy Levels, Wavelengths	Th	111
$^{51}\mathbf{V}$	Energy Levels, Wavelengths	Th	229
$\mathbf{V}$	Energy Levels, Wavelengths	Th	229
$\mathbf{V}^{4+}$	Trans. prob., Oscill. Strengths	Th	345
$\mathbf{V}^{4+}$	Trans. prob., Oscill. Strengths	Th	366
$\mathbf{V}^{0+\text{--}+}$	Trans. prob., Oscill. Strengths	Exp	375
$\mathbf{Cr}^{+}$	Energy Levels, Wavelengths	Exp	44
$\mathbf{Cr}^{15+\text{--}17+}$	Energy Levels, Wavelengths	Exp	64
$\mathbf{Cr}^{19+}$	Energy Levels, Wavelengths	Exp	64
$\mathbf{Cr}^{12+}$	Energy Levels, Wavelengths	Th	102
$^{53}\mathbf{Cr}$	Energy Levels, Wavelengths	E/T	113
$\mathbf{Cr}$	Energy Levels, Wavelengths	E/T	113
$\mathbf{Cr}^{+}$	Energy Levels, Wavelengths	Exp	141
$\mathbf{Cr}^{16+}$	Energy Levels, Wavelengths	Th	178
$^{53}\mathbf{Cr}^{23+}$	Energy Levels, Wavelengths	Th	183
$\mathbf{Cr}^{23+}$	Energy Levels, Wavelengths	Th	183
$\mathbf{Cr}^{9+}$	Energy Levels, Wavelengths	Exp	290
$\mathbf{Cr}^{10+}$	Energy Levels, Wavelengths	Exp	290
$\mathbf{Cr}^{9+\text{--}10+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Cr}^{15+\text{--}17+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Cr}^{19+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Cr}^{+}$	Energy Levels, Wavelengths	Exp	295
$\mathbf{Cr}^{0+\text{--}+}$	Energy Levels, Wavelengths	Exp	328
$\mathbf{Cr}^{+}$	Energy Levels, Wavelengths	Exp	328
$\mathbf{Cr}$	Trans. prob., Oscill. Strengths	Exp	341
$\mathbf{Cr}^{12+}$	Trans. prob., Oscill. Strengths	Th	361
$\mathbf{Mn}^{16+\text{--}23+}$	Energy Levels, Wavelengths	Th	24
$\mathbf{Mn}^{16+\text{--}18+}$	Energy Levels, Wavelengths	Exp	64

Mn^{20+}	Energy Levels, Wavelengths	Exp	64
Mn^{12+}	Energy Levels, Wavelengths	Th	87
Mn^{+}	Energy Levels, Wavelengths	Exp	141
Mn	Energy Levels, Wavelengths	Exp	237
Mn^{2+}	Energy Levels, Wavelengths	Exp	284
Mn^{10+}	Energy Levels, Wavelengths	Exp	290
Mn^{11+}	Energy Levels, Wavelengths	Exp	290
Mn$^{16+-17+}$	Energy Levels, Wavelengths	Exp	293
Mn$^{19+-20+}$	Energy Levels, Wavelengths	Exp	293
Mn^{+}	Energy Levels, Wavelengths	Exp	295
Mn	Energy Levels, Wavelengths	Th	304
Mn	Trans. prob., Oscill. Strengths	Exp	343
Mn^{12+}	Trans. prob., Oscill. Strengths	Th	359
Fe^{7+}	Energy Levels, Wavelengths	Exp	1
Fe$^{10+-11+}$	Energy Levels, Wavelengths	Exp	1
Fe$^{14+-17+}$	Energy Levels, Wavelengths	Exp	1
Fe$^{22+-23+}$	Energy Levels, Wavelengths	Exp	1
Fe^{24+}	Energy Levels, Wavelengths	Th	2
Fe$^{22+-24+}$	Energy Levels, Wavelengths	Exp	9
Fe^{3+}	Energy Levels, Wavelengths	E/T	28
Fe^{23+}	Energy Levels, Wavelengths	Th	34
Fe^{+}	Energy Levels, Wavelengths	Exp	35
Fe^{13+}	Energy Levels, Wavelengths	Exp	39
Fe^{19+}	Energy Levels, Wavelengths	Exp	41
Fe^{+}	Energy Levels, Wavelengths	Exp	44
Fe^{15+}	Energy Levels, Wavelengths	Th	45
Fe^{12+}	Energy Levels, Wavelengths	Exp	46
Fe$^{16+-23+}$	Energy Levels, Wavelengths	Th	49
Fe$^{17+-23+}$	Energy Levels, Wavelengths	E/T	50
Fe^{23+}	Energy Levels, Wavelengths	Exp	60
Fe$^{10+-12+}$	Energy Levels, Wavelengths	Exp	64
Fe$^{16+-22+}$	Energy Levels, Wavelengths	Exp	64
Fe^{20+}	Energy Levels, Wavelengths	Exp	64
Fe^{22+}	Energy Levels, Wavelengths	Exp	64
Fe^{14+}	Energy Levels, Wavelengths	Th	66
Fe^{0+-25+}	Energy Levels, Wavelengths	Th	73
Fe^{18+}	Energy Levels, Wavelengths	Th	77
Fe$^{24+-25+}$	Energy Levels, Wavelengths	E/T	79
Fe^{+}	Energy Levels, Wavelengths	Th	117
Fe^{6+}	Energy Levels, Wavelengths	Exp	130
Fe^{14+}	Energy Levels, Wavelengths	Exp	131
Fe^{21+}	Energy Levels, Wavelengths	Exp	132
Fe^{5+-15+}	Energy Levels, Wavelengths	Th	133
Fe$^{16+-22+}$	Energy Levels, Wavelengths	Th	134
Fe^{8+}	Energy Levels, Wavelengths	Th	136
Fe^{17+}	Energy Levels, Wavelengths	E/T	137
Fe^{21+}	Energy Levels, Wavelengths	Th	138
Fe^{23+}	Energy Levels, Wavelengths	E/T	139
Fe^{+}	Energy Levels, Wavelengths	Exp	141
Fe$^{17+-21+}$	Energy Levels, Wavelengths	Exp	147
Fe^{8+}	Energy Levels, Wavelengths	Th	148
Fe$^{15+-17+}$	Energy Levels, Wavelengths	E/T	152
Fe^{17+}	Energy Levels, Wavelengths	E/T	152
Fe$^{16+-18+}$	Energy Levels, Wavelengths	Exp	165
Fe^{23+}	Energy Levels, Wavelengths	Th	179
Fe^{23+}	Energy Levels, Wavelengths	Th	211
Fe^{14+}	Energy Levels, Wavelengths	Th	212

$\mathbf{Fe}^{0+\text{--}+}$	Energy Levels, Wavelengths	Exp	225
$\mathbf{Fe}^{10+}$	Energy Levels, Wavelengths	Exp	231
$\mathbf{Fe}^{+\text{--}2+}$	Energy Levels, Wavelengths	Exp	233
$\mathbf{Fe}^{16+\text{--}23+}$	Energy Levels, Wavelengths	Exp	243
$\mathbf{Fe}^{17+\text{--}23+}$	Energy Levels, Wavelengths	Exp	243
Fe	Energy Levels, Wavelengths	Exp	245
$\mathbf{Fe}^{22+}$	Energy Levels, Wavelengths	Th	281
$\mathbf{Fe}^{6+\text{--}7+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Fe}^{16+\text{--}22+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Fe}^{9+\text{--}16+}$	Energy Levels, Wavelengths	Th	297
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp	310
$\mathbf{Fe}^{19+\text{--}24+}$	Energy Levels, Wavelengths	Th	318
$\mathbf{Fe}^{16+\text{--}18+}$	Energy Levels, Wavelengths	Exp	325
$\mathbf{Fe}^{12+}$	Trans. prob., Oscill. Strengths	Th	344
$\mathbf{Fe}^{2+}$	Trans. prob., Oscill. Strengths	Th	365
$\mathbf{Fe}^{2+}$	Trans. prob., Oscill. Strengths	Th	371
$\mathbf{Co}^{15+}$	Energy Levels, Wavelengths	Exp	1
$\mathbf{Co}^{15+}$	Energy Levels, Wavelengths	Th	66
$\mathbf{Co}^{12+}$	Energy Levels, Wavelengths	Exp	121
$\mathbf{Co}^{11+}$	Energy Levels, Wavelengths	Exp	290
$\mathbf{Co}^{12+}$	Energy Levels, Wavelengths	Exp	290
$\mathbf{Co}^{11+\text{--}12+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Co}^{18+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Ni}^{16+}$	Energy Levels, Wavelengths	Exp	1
$\mathbf{Ni}^{18+\text{--}25+}$	Energy Levels, Wavelengths	Exp	40
$\mathbf{Ni}^{10+}$	Energy Levels, Wavelengths	Th	42
$\mathbf{Ni}^{18+\text{--}25+}$	Energy Levels, Wavelengths	Th	49
$\mathbf{Ni}^{12+\text{--}14+}$	Energy Levels, Wavelengths	Exp	64
$\mathbf{Ni}^{18+}$	Energy Levels, Wavelengths	Exp	64
$\mathbf{Ni}^{20+}$	Energy Levels, Wavelengths	Exp	64
$\mathbf{Ni}^{22+}$	Energy Levels, Wavelengths	Exp	64
$\mathbf{Ni}^{16+}$	Energy Levels, Wavelengths	Th	66
Ni	Energy Levels, Wavelengths	Exp	104
$\mathbf{Ni}^{13+}$	Energy Levels, Wavelengths	Exp	121
$\mathbf{Ni}^{18+}$	Energy Levels, Wavelengths	Th	135
$\mathbf{Ni}^{18+}$	Energy Levels, Wavelengths	Exp	153
$\mathbf{Ni}^{18+}$	Energy Levels, Wavelengths	Exp	165
$\mathbf{Ni}^{25+}$	Energy Levels, Wavelengths	Th	179
$\mathbf{Ni}^{7+}$	Energy Levels, Wavelengths	E/T	197
$\mathbf{Ni}^{5+}$	Energy Levels, Wavelengths	E/T	198
$\mathbf{Ni}^{18+\text{--}19+}$	Energy Levels, Wavelengths	Exp	243
$\mathbf{Ni}^{13+\text{--}14+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Ni}^{18+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Ni}^{20+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Ni}^{22+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Ni}^{26+}$	Energy Levels, Wavelengths	Exp	309
$\mathbf{Ni}^{27+}$	Energy Levels, Wavelengths	Exp	309
$\mathbf{Ni}^{10+}$	Trans. prob., Oscill. Strengths	Th	342
$^{63}\mathbf{Cu}$	Energy Levels, Wavelengths	Th	118
$^{65}\mathbf{Cu}$	Energy Levels, Wavelengths	Th	118
$^{66}\mathbf{Cu}$	Energy Levels, Wavelengths	Th	118
Cu	Energy Levels, Wavelengths	Th	118
$\mathbf{Cu}^{6+}$	Energy Levels, Wavelengths	E/T	198
$\mathbf{Cu}^{19+\text{--}27+}$	Energy Levels, Wavelengths	Th	216
Cu	Energy Levels, Wavelengths	Exp	245
$\mathbf{Cu}^{17+}$	Energy Levels, Wavelengths	Th	272
$^{65}\mathbf{Cu}$	Energy Levels, Wavelengths	E/T	313

^{68}**Cu**	Energy Levels, Wavelengths	E/T	313
^{70}**Cu**	Energy Levels, Wavelengths	E/T	313
Cu	Energy Levels, Wavelengths	E/T	313
Zn^{28+}	Energy Levels, Wavelengths	Th	2
Zn^{+}	Energy Levels, Wavelengths	Th	76
Zn^{+}	Energy Levels, Wavelengths	Exp	141
Zn^{7+}	Energy Levels, Wavelengths	E/T	198
Ga^{0+--3+}	Energy Levels, Wavelengths	E/T	122
Ga^{0+--6+}	Energy Levels, Wavelengths	E/T	122
Ga^{4+}	Energy Levels, Wavelengths	E/T	122
Ga$^{5+--12+}$	Energy Levels, Wavelengths	E/T	122
Ga$^{12+--25+}$	Energy Levels, Wavelengths	E/T	122
Ga$^{13+--28+}$	Energy Levels, Wavelengths	E/T	122
Ga$^{28+--30+}$	Energy Levels, Wavelengths	E/T	122
Ga^{29+}	Energy Levels, Wavelengths	E/T	122
Ga^{30+}	Energy Levels, Wavelengths	E/T	122
Ga^{+}	Energy Levels, Wavelengths	Th	206
Ga^{+}	Energy Levels, Wavelengths	Th	217
^{69}**Ga**	Energy Levels, Wavelengths	Th	219
^{71}**Ga**	Energy Levels, Wavelengths	Th	219
Ga	Energy Levels, Wavelengths	Th	219
Ga^{+}	Energy Levels, Wavelengths	Exp	295
Ge	Energy Levels, Wavelengths	Exp	104
^{73}**Ge**$^{31+}$	Energy Levels, Wavelengths	Th	183
Ge^{31+}	Energy Levels, Wavelengths	Th	183
Ge	Energy Levels, Wavelengths	Exp	245
Ge^{30+}	Energy Levels, Wavelengths	Th	326
As	Energy Levels, Wavelengths	E/T	285
Se^{4+}	Energy Levels, Wavelengths	Th	16
Se-Mo	Energy Levels, Wavelengths	E/T	285
Kr$^{31+--27+}$	Energy Levels, Wavelengths	Th	5
Kr	Energy Levels, Wavelengths	Exp	15
Kr^{6+}	Energy Levels, Wavelengths	Th	16
Kr^{34+}	Energy Levels, Wavelengths	Exp	22
Kr	Energy Levels, Wavelengths	Exp	32
Kr	Energy Levels, Wavelengths	E/T	83
Kr^{5+}	Energy Levels, Wavelengths	Exp	93
Kr^{6+}	Energy Levels, Wavelengths	Exp	93
^{78}**Kr**	Energy Levels, Wavelengths	Exp	96
^{80}**Kr**	Energy Levels, Wavelengths	Exp	96
^{82}**Kr**	Energy Levels, Wavelengths	Exp	96
^{83}**Kr**	Energy Levels, Wavelengths	Exp	96
^{84}**Kr**	Energy Levels, Wavelengths	Exp	96
^{86}**Kr**	Energy Levels, Wavelengths	Exp	96
Kr	Energy Levels, Wavelengths	Exp	96
Kr	Energy Levels, Wavelengths	Exp	99
Kr	Energy Levels, Wavelengths	E/T	108
Kr^{+}	Energy Levels, Wavelengths	Exp	114
^{84}**Kr**	Energy Levels, Wavelengths	E/T	123
^{86}**Kr**	Energy Levels, Wavelengths	E/T	123
Kr^{0+--2+}	Energy Levels, Wavelengths	E/T	123
Kr^{0+--9+}	Energy Levels, Wavelengths	E/T	123
Kr^{3+--6+}	Energy Levels, Wavelengths	E/T	123
Kr^{7+--8+}	Energy Levels, Wavelengths	E/T	123
Kr$^{9+--17+}$	Energy Levels, Wavelengths	E/T	123
Kr$^{10+--16+}$	Energy Levels, Wavelengths	E/T	123
Kr$^{11+--34+}$	Energy Levels, Wavelengths	E/T	123

$\mathbf{Kr}^{18+–32+}$	Energy Levels, Wavelengths	E/T	123
$\mathbf{Kr}^{33+}$	Energy Levels, Wavelengths	E/T	123
$\mathbf{Kr}^{33+–35+}$	Energy Levels, Wavelengths	E/T	123
$^{84}\mathbf{Kr}^{3+}$	Energy Levels, Wavelengths	Exp	169
$^{86}\mathbf{Kr}^{3+}$	Energy Levels, Wavelengths	Exp	169
$\mathbf{Kr}^{3+}$	Energy Levels, Wavelengths	Exp	169
$^{83}\mathbf{Kr}$	Energy Levels, Wavelengths	E/T	170
$^{84}\mathbf{Kr}$	Energy Levels, Wavelengths	E/T	170
Kr	Energy Levels, Wavelengths	E/T	170
$^{83}\mathbf{Kr}^{0+–+}$	Energy Levels, Wavelengths	E/T	170
$\mathbf{Kr}^{0+–+}$	Energy Levels, Wavelengths	E/T	170
$^{83}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp	189
Kr	Energy Levels, Wavelengths	Exp	189
$\mathbf{Kr}^{24+}$	Energy Levels, Wavelengths	Th	196
Kr	Energy Levels, Wavelengths	E/T	202
Kr	Energy Levels, Wavelengths	Exp	207
Kr	Energy Levels, Wavelengths	Exp	208
$\mathbf{Kr}^{33+}$	Energy Levels, Wavelengths	Th	211
$^{84}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp	218
Kr	Energy Levels, Wavelengths	Exp	218
$^{80}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp	238
$^{82}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp	238
$^{83}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp	238
$^{84}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp	238
$^{86}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp	238
Kr	Energy Levels, Wavelengths	Exp	238
$\mathbf{Kr}^{+}$	Energy Levels, Wavelengths	Exp	248
$\mathbf{Kr}^{31+–33+}$	Energy Levels, Wavelengths	Exp	258
$\mathbf{Kr}^{23+–27+}$	Energy Levels, Wavelengths	Exp	267
$\mathbf{Kr}^{+–2+}$	Energy Levels, Wavelengths	Th	275
Kr	Energy Levels, Wavelengths	E/T	277
$\mathbf{Kr}^{+}$	Energy Levels, Wavelengths	Exp	278
Kr	Energy Levels, Wavelengths	Exp	282
$\mathbf{Kr}^{24+–27+}$	Energy Levels, Wavelengths	Exp	334
Rb	Energy Levels, Wavelengths	E/T	303
$^{87}\mathbf{Sr}$	Energy Levels, Wavelengths	Th	21
Sr	Energy Levels, Wavelengths	Th	21
$^{87}\mathbf{Sr}^{+}$	Energy Levels, Wavelengths	Th	190
$\mathbf{Sr}^{+}$	Energy Levels, Wavelengths	Th	190
$\mathbf{Sr}^{+}$	Energy Levels, Wavelengths	E/T	303
$\mathbf{Y}^{2+}$	Energy Levels, Wavelengths	Exp	129
$\mathbf{Y}^{2+}$	Energy Levels, Wavelengths	E/T	303
$\mathbf{Zr}^{38+}$	Energy Levels, Wavelengths	Th	2
$\mathbf{Nb\text{-}Tc}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Nb}^{4+}$	Energy Levels, Wavelengths	E/T	301
$\mathbf{Nb}^{4+}$	Energy Levels, Wavelengths	E/T	303
$\mathbf{Mo}^{5+}$	Energy Levels, Wavelengths	Th	194
$\mathbf{Mo}^{33+}$	Energy Levels, Wavelengths	Th	268
$\mathbf{Mo}^{33+}$	Energy Levels, Wavelengths	Th	315
$\mathbf{Mo}^{30+–33+}$	Energy Levels, Wavelengths	Exp	334
Tc	Energy Levels, Wavelengths	E/T	285
Ru-Sb	Energy Levels, Wavelengths	E/T	285
$\mathbf{Ru}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Ru}^{16+}$	Trans. prob., Oscill. Strengths	Th	370
$\mathbf{Rh}^{40+}$	Energy Levels, Wavelengths	Th	223
$\mathbf{Rh\text{-}Pd}^{+}$	Energy Levels, Wavelengths	E/T	285
Ag	Energy Levels, Wavelengths	Th	19

^{107}Ag	Energy Levels, Wavelengths	Th	118
^{108}Ag	Energy Levels, Wavelengths	Th	118
^{109}Ag	Energy Levels, Wavelengths	Th	118
^{110}Ag	Energy Levels, Wavelengths	Th	118
Ag	Energy Levels, Wavelengths	Th	118
Ag-Sb^{+}	Energy Levels, Wavelengths	E/T	285
Sn^{48+}	Energy Levels, Wavelengths	Th	2
Sn^{22+}	Trans. prob., Oscill. Strengths	Th	370
Te	Energy Levels, Wavelengths	E/T	285
Te^{+}	Energy Levels, Wavelengths	E/T	285
I-Po	Energy Levels, Wavelengths	E/T	285
I-Ba^{+}	Energy Levels, Wavelengths	E/T	285
Xe^{44+}	Energy Levels, Wavelengths	Th	7
Xe^{26+}–$^{27+}$	Energy Levels, Wavelengths	E/T	8
Xe^{24+}	Energy Levels, Wavelengths	Th	16
Xe^{9+}	Energy Levels, Wavelengths	Exp	31
Xe^{16+}–$^{18+}$	Energy Levels, Wavelengths	Exp	31
Xe^{23+}	Energy Levels, Wavelengths	Exp	31
Xe^{24+}–$^{29+}$	Energy Levels, Wavelengths	E/T	47
Xe	Energy Levels, Wavelengths	E/T	51
Xe^{26+}	Energy Levels, Wavelengths	Th	63
Xe^{+}	Energy Levels, Wavelengths	Exp	75
Xe^{0+}–$^{7+}$	Energy Levels, Wavelengths	Th	91
Xe^{6+}–$^{9+}$	Energy Levels, Wavelengths	Exp	94
Xe^{23+}–$^{26+}$	Energy Levels, Wavelengths	Exp	94
Xe^{35+}–$^{43+}$	Energy Levels, Wavelengths	Exp	94
Xe^{+}–$^{2+}$	Energy Levels, Wavelengths	Exp	114
Xe^{8+}	Energy Levels, Wavelengths	E/T	150
^{129}Xe^{53+}	Energy Levels, Wavelengths	Th	183
^{131}Xe^{53+}	Energy Levels, Wavelengths	Th	183
Xe^{53+}	Energy Levels, Wavelengths	Th	183
Xe^{9+}	Energy Levels, Wavelengths	Exp	184
Xe^{31+}	Energy Levels, Wavelengths	Exp	184
Xe^{4+}–$^{6+}$	Energy Levels, Wavelengths	E/T	188
Xe^{26+}	Energy Levels, Wavelengths	Exp	191
Xe	Energy Levels, Wavelengths	E/T	202
Xe	Energy Levels, Wavelengths	E/T	204
Xe	Energy Levels, Wavelengths	Exp	207
Xe^{39+}–$^{45+}$	Energy Levels, Wavelengths	E/T	214
Xe^{35+}	Energy Levels, Wavelengths	Exp	221
Xe^{43+}–$^{45+}$	Energy Levels, Wavelengths	E/T	226
Xe^{2+}–$^{10+}$	Energy Levels, Wavelengths	E/T	239
Xe^{7+}	Energy Levels, Wavelengths	E/T	255
Xe^{8+}–$^{10+}$	Energy Levels, Wavelengths	Exp	260
Xe^{12+}–$^{13+}$	Energy Levels, Wavelengths	Exp	260
Xe^{15+}	Energy Levels, Wavelengths	Exp	260
Xe^{24+}	Energy Levels, Wavelengths	Th	264
Xe^{3+}	Energy Levels, Wavelengths	Exp	266
Xe	Energy Levels, Wavelengths	Exp	282
Xe	Energy Levels, Wavelengths	Exp	283
Xe	Energy Levels, Wavelengths	E/T	299
Xe^{52+}	Energy Levels, Wavelengths	Th	326
Xe^{9+}	Energy Levels, Wavelengths	Exp	329
Xe^{31+}	Energy Levels, Wavelengths	Exp	329
^{129}Xe^{0+}–$^{+}$	Energy Levels, Wavelengths	Exp	333
^{131}Xe^{0+}–$^{+}$	Energy Levels, Wavelengths	Exp	333
Xe^{0+}–$^{+}$	Energy Levels, Wavelengths	Exp	333

$\mathbf{Xe}^{26+}$	Trans. prob., Oscill. Strengths	Exp	349
$\mathbf{Xe}^{6+-–9+}$	Trans. prob., Oscill. Strengths	Th	360
$\mathbf{Xe}^{6+-–7+}$	Trans. prob., Oscill. Strengths	Th	364
$\mathbf{Xe}^{26+}$	Trans. prob., Oscill. Strengths	Th	370
$^{137}\mathbf{Ba}^{+}$	Energy Levels, Wavelengths	Th	190
$\mathbf{Ba}^{+}$	Energy Levels, Wavelengths	Th	190
$\mathbf{Ba}^{28+}$	Energy Levels, Wavelengths	Exp	191
$\mathbf{Ba}^{+}$	Energy Levels, Wavelengths	Exp	295
$\mathbf{Ba}^{28+}$	Trans. prob., Oscill. Strengths	Th	370
$\mathbf{La}^{27+}$	Energy Levels, Wavelengths	Th	16
$\mathbf{La}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Ce}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Pr\text{-}Sm}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Nd}^{58+}$	Energy Levels, Wavelengths	Th	2
$\mathbf{Nd}^{30+}$	Energy Levels, Wavelengths	Th	16
$\mathbf{Nd}^{59+}$	Energy Levels, Wavelengths	Th	240
$\mathbf{Eu}^{33+}$	Energy Levels, Wavelengths	Th	16
$\mathbf{Eu}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Eu}^{35+}$	Trans. prob., Oscill. Strengths	Th	370
$\mathbf{Gd}^{34+}$	Energy Levels, Wavelengths	Th	16
$\mathbf{Gd\text{-}Ho}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Dy}^{36+}$	Energy Levels, Wavelengths	Th	16
Dy	Energy Levels, Wavelengths	Th	19
$\mathbf{Dy}^{64+}$	Energy Levels, Wavelengths	Th	326
Ho	Energy Levels, Wavelengths	Th	19
$\mathbf{Er}^{38+}$	Energy Levels, Wavelengths	Th	16
$\mathbf{Er}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Tm}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Yb}^{68+}$	Energy Levels, Wavelengths	Th	2
$\mathbf{Yb}^{24+}$	Energy Levels, Wavelengths	Th	11
$\mathbf{Yb}^{40+}$	Energy Levels, Wavelengths	Th	16
$\mathbf{Yb}^{41+}$	Energy Levels, Wavelengths	Th	16
$\mathbf{Yb}^{+-–2+}$	Energy Levels, Wavelengths	Th	19
$^{173}\mathbf{Yb}^{+}$	Energy Levels, Wavelengths	Th	190
$\mathbf{Yb}^{+}$	Energy Levels, Wavelengths	Th	190
$\mathbf{Yb}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Yb}^{42+}$	Trans. prob., Oscill. Strengths	Th	370
$\mathbf{Lu\text{-}Hf}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Hf}^{59+-–61+}$	Energy Levels, Wavelengths	Exp	33
$\mathbf{Hf}^{40+-–46+}$	Energy Levels, Wavelengths	E/T	289
$\mathbf{Ta}^{60+-–62+}$	Energy Levels, Wavelengths	Exp	33
$^{180}\mathbf{Ta}$	Energy Levels, Wavelengths	E/T	172
$^{181}\mathbf{Ta}$	Energy Levels, Wavelengths	E/T	172
Ta	Energy Levels, Wavelengths	E/T	172
$\mathbf{Ta}^{45+}$	Energy Levels, Wavelengths	Th	257
$\mathbf{Ta}^{41+-–46+}$	Energy Levels, Wavelengths	E/T	289
$\mathbf{Ta}^{45+}$	Trans. prob., Oscill. Strengths	Th	370
$\mathbf{W}^{64+}$	Energy Levels, Wavelengths	Th	7
$\mathbf{W}^{13+}$	Energy Levels, Wavelengths	Exp	12
$\mathbf{W}^{13+}$	Energy Levels, Wavelengths	E/T	13
$\mathbf{W}^{45+}$	Energy Levels, Wavelengths	Th	16
$\mathbf{W}^{58+-–71+}$	Energy Levels, Wavelengths	Th	25
$\mathbf{W}^{54+-–63+}$	Energy Levels, Wavelengths	Exp	33
$\mathbf{W}^{39+-–47+}$	Energy Levels, Wavelengths	Exp	107
$\mathbf{W}^{46+}$	Energy Levels, Wavelengths	E/T	120
$\mathbf{W}^{25+-–45+}$	Energy Levels, Wavelengths	E/T	128
$\mathbf{W}^{28+-–45+}$	Energy Levels, Wavelengths	E/T	128

$\mathbf{W}^{45+}$	Energy Levels, Wavelengths	Th	166
$\mathbf{W}^{45+}$	Energy Levels, Wavelengths	E/T	173
$\mathbf{W}^{46+}$	Energy Levels, Wavelengths	E/T	173
$\mathbf{W}^{70+}$	Energy Levels, Wavelengths	Th	281
$\mathbf{W}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{W}^{39+--45+}$	Energy Levels, Wavelengths	E/T	289
$\mathbf{W}^{40+--50+}$	Energy Levels, Wavelengths	Exp	308
$\mathbf{W}^{72+}$	Energy Levels, Wavelengths	Th	326
$\mathbf{W}^{46+}$	Trans. prob., Oscill. Strengths	Th	370
$\mathbf{W}^{46+}$	Trans. prob., Oscill. Strengths	Th	372
$\mathbf{Re}^{43+--48+}$	Energy Levels, Wavelengths	E/T	289
$\mathbf{Os}^{46+}$	Energy Levels, Wavelengths	Th	16
$\mathbf{Os}^{47+}$	Energy Levels, Wavelengths	Th	16
$\mathbf{Os}^{46+}$	Energy Levels, Wavelengths	Th	264
$\mathbf{Os}^{48+}$	Trans. prob., Oscill. Strengths	Th	370
$\mathbf{Pt}^{-}$	Energy Levels, Wavelengths	Th	27
$\mathbf{Pt\text{-}Bi}^{+}$	Energy Levels, Wavelengths	E/T	285
$\mathbf{Pt}^{+}$	Energy Levels, Wavelengths	Exp	295
$\mathbf{Pt}^{0+--+}$	Energy Levels, Wavelengths	Exp	328
$\mathbf{Au}^{18+}$	Energy Levels, Wavelengths	E/T	13
$\mathbf{Au}^{49+}$	Energy Levels, Wavelengths	Th	16
$\mathbf{Au}^{50+}$	Energy Levels, Wavelengths	Th	16
Au	Energy Levels, Wavelengths	Th	19
Au	Energy Levels, Wavelengths	Th	26
$\mathbf{Au}^{-}$	Energy Levels, Wavelengths	Th	27
$\mathbf{Au}^{66+--68+}$	Energy Levels, Wavelengths	Exp	33
$^{195}\mathbf{Au}$	Energy Levels, Wavelengths	Th	118
$^{197}\mathbf{Au}$	Energy Levels, Wavelengths	Th	118
$^{199}\mathbf{Au}$	Energy Levels, Wavelengths	Th	118
Au	Energy Levels, Wavelengths	Th	118
$\mathbf{Au}^{11+}$	Energy Levels, Wavelengths	Th	151
$\mathbf{Au}^{50+}$	Energy Levels, Wavelengths	Th	166
$^{197}\mathbf{Au}$	Energy Levels, Wavelengths	Th	190
Au	Energy Levels, Wavelengths	Th	190
$\mathbf{Au}^{76+}$	Energy Levels, Wavelengths	Th	211
$\mathbf{Au}^{49+}$	Energy Levels, Wavelengths	Th	264
$\mathbf{Au}^{51+}$	Energy Levels, Wavelengths	Th	287
$\mathbf{Au}^{47+--52+}$	Energy Levels, Wavelengths	E/T	289
$\mathbf{Au}^{78+}$	Energy Levels, Wavelengths	Exp	292
$\mathbf{Au}^{47+--52+}$	Trans. prob., Oscill. Strengths	Th	357
$\mathbf{Au}^{51+}$	Trans. prob., Oscill. Strengths	Th	370
$\mathbf{Hg}^{78+}$	Energy Levels, Wavelengths	Th	2
$\mathbf{Hg}^{34+}$	Energy Levels, Wavelengths	Th	11
$\mathbf{Hg}^{+}$	Energy Levels, Wavelengths	Th	19
$^{201}\mathbf{Hg}^{+}$	Energy Levels, Wavelengths	Th	190
$\mathbf{Hg}^{+}$	Energy Levels, Wavelengths	Th	190
$\mathbf{Hg}^{77+}$	Energy Levels, Wavelengths	Th	211
$\mathbf{Hg}^{0+--+}$	Energy Levels, Wavelengths	Exp	295
$\mathbf{Pb}^{21+}$	Energy Levels, Wavelengths	Exp	12
$^{207}\mathbf{Pb}^{+}$	Energy Levels, Wavelengths	Th	74
$\mathbf{Pb}^{+}$	Energy Levels, Wavelengths	Th	74
$^{207}\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th	74
$\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th	74
$\mathbf{Pb}^{53+}$	Energy Levels, Wavelengths	Th	166
$^{207}\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th	183
$\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th	183
$\mathbf{Pb}^{54+}$	Trans. prob., Oscill. Strengths	Th	370

^{209}**Bi**$^{80+}$	Energy Levels, Wavelengths	Th	74
Bi^{80+}	Energy Levels, Wavelengths	Th	74
Bi^{82+}	Energy Levels, Wavelengths	Th	74
^{209}**Bi**$^{82+}$	Energy Levels, Wavelengths	Th	183
Bi^{82+}	Energy Levels, Wavelengths	Th	183
Bi^{80+}	Energy Levels, Wavelengths	Th	211
Bi^{80+}	Energy Levels, Wavelengths	Th	253
Bi^{81+}	Energy Levels, Wavelengths	Th	326
Bi^{55+}	Trans. prob., Oscill. Strengths	Th	370
At^{80+}	Energy Levels, Wavelengths	Th	223
Rn-Ra	Energy Levels, Wavelengths	E/T	285
Ra-Es^{+}	Energy Levels, Wavelengths	E/T	285
Ra^{+}	Energy Levels, Wavelengths	E/T	285
Ac	Energy Levels, Wavelengths	E/T	285
Ac^{+}	Energy Levels, Wavelengths	E/T	285
Th^{44+}	Energy Levels, Wavelengths	Th	11
Th^{60+}	Energy Levels, Wavelengths	Th	16
Th^{61+}	Energy Levels, Wavelengths	Th	16
Th^{0+-2+}	Energy Levels, Wavelengths	Exp	43
Th^{61+}	Energy Levels, Wavelengths	Th	166
Th^{87+}	Energy Levels, Wavelengths	Th	253
Th^{60+}	Energy Levels, Wavelengths	Th	264
Th^{0+-+}	Energy Levels, Wavelengths	E/T	285
Th^{62+}	Trans. prob., Oscill. Strengths	Th	370
^{231}**Pa**$^{40+}$	Energy Levels, Wavelengths	Th	74
Pa^{40+}	Energy Levels, Wavelengths	Th	74
^{231}**Pa**$^{88+}$	Energy Levels, Wavelengths	Th	74
Pa^{88+}	Energy Levels, Wavelengths	Th	74
Pa	Energy Levels, Wavelengths	E/T	285
U^{90+}	Energy Levels, Wavelengths	Th	2
^{238}**U**$^{91+}$	Energy Levels, Wavelengths	Th	2
U^{91+}	Energy Levels, Wavelengths	Th	2
U^{82+}	Energy Levels, Wavelengths	Th	7
U^{46+}	Energy Levels, Wavelengths	Th	11
U^{31+}	Energy Levels, Wavelengths	E/T	13
U^{62+}	Energy Levels, Wavelengths	Th	16
U^{63+}	Energy Levels, Wavelengths	Th	16
U^{63+}	Energy Levels, Wavelengths	Th	166
^{235}**U**$^{91+}$	Energy Levels, Wavelengths	Th	183
U^{91+}	Energy Levels, Wavelengths	Th	183
U^{89+}	Energy Levels, Wavelengths	Th	211
U^{89+}	Energy Levels, Wavelengths	Th	253
U^{62+}	Energy Levels, Wavelengths	Th	264
U-Cm	Energy Levels, Wavelengths	E/T	285
U^{+}	Energy Levels, Wavelengths	E/T	285
U$^{79+-81+}$	Energy Levels, Wavelengths	Th	330
U^{89+}	Energy Levels, Wavelengths	Th	330
U^{64+}	Trans. prob., Oscill. Strengths	Th	370
Pu^{+}	Energy Levels, Wavelengths	E/T	285
Bk	Energy Levels, Wavelengths	E/T	285
Cf	Energy Levels, Wavelengths	E/T	285
Cf^{+}	Energy Levels, Wavelengths	E/T	285
Es	Energy Levels, Wavelengths	E/T	285
Es^{+}	Energy Levels, Wavelengths	E/T	285
D	Energy Levels, Wavelengths	Th	149
D	Energy Levels, Wavelengths	Th	232
D	Energy Levels, Wavelengths	E/T	235

D	Energy Levels, Wavelengths	Th	254
D	Energy Levels, Wavelengths	Th	265
D	Energy Levels, Wavelengths	Th	300
T	Energy Levels, Wavelengths	Th	149
T	Energy Levels, Wavelengths	Th	232
T	Energy Levels, Wavelengths	E/T	235
T	Energy Levels, Wavelengths	Th	265
H Z= 10-100	Energy Levels, Wavelengths	Th	193
H Z= 1-30	Energy Levels, Wavelengths	Th	262
H Z= 1-108	Energy Levels, Wavelengths	Th	311
H Z= 54-94	Energy Levels, Wavelengths	Th	324
He Z= 2-29	Energy Levels, Wavelengths	E/T	4
He Z= 2-5	Energy Levels, Wavelengths	Th	38
He Z= 3-29	Energy Levels, Wavelengths	Th	62
He Z= 2-10	Energy Levels, Wavelengths	Th	228
He Z= 2-100	Energy Levels, Wavelengths	Th	250
He Z= 2-12	Energy Levels, Wavelengths	Th	269
He Z= 54-94	Energy Levels, Wavelengths	Th	324
Li Z= 3-29	Energy Levels, Wavelengths	E/T	4
Li Z= 10-20	Energy Levels, Wavelengths	Th	29
Li Z= 11-20	Energy Levels, Wavelengths	Th	36
Li Z= 3-92	Energy Levels, Wavelengths	Th	89
Li Z= 3-9	Energy Levels, Wavelengths	Th	125
Li Z= 10-100	Energy Levels, Wavelengths	Th	193
Li Z= 15-92	Energy Levels, Wavelengths	Th	211
Li Z= 37-82	Energy Levels, Wavelengths	Th	227
Li Z= 5-9	Energy Levels, Wavelengths	Exp	242
Li Z= 12-100	Energy Levels, Wavelengths	Th	253
Li Z= 4-6	Energy Levels, Wavelengths	Exp	256
Li Z= 3-8	Energy Levels, Wavelengths	Th	273
Li Z= 3-109	Energy Levels, Wavelengths	Th	306
Li Z= 7-10	Energy Levels, Wavelengths	Th	307
Li Z= 5-9	Energy Levels, Wavelengths	E/T	314
Li Z= 21-30	Energy Levels, Wavelengths	Th	317
Li Z= 54-94	Energy Levels, Wavelengths	Th	324
Li Z= 10-92	Energy Levels, Wavelengths	Th	330
Be Z= 10-14	Energy Levels, Wavelengths	Exp	64
Be Z= 7-10	Energy Levels, Wavelengths	Th	161
Be Z= 4-7	Energy Levels, Wavelengths	E/T	177
Be Z= 4-95	Energy Levels, Wavelengths	Th	223
Be Z= 37-82	Energy Levels, Wavelengths	Th	227
Be Z= 4-10	Energy Levels, Wavelengths	Th	276
Be Z= 4-109	Energy Levels, Wavelengths	Th	306
B Z= 10-16	Energy Levels, Wavelengths	Exp	64
B Z= 24-26	Energy Levels, Wavelengths	Exp	64
B Z= 14-54	Energy Levels, Wavelengths	Exp	145
B Z= 37-82	Energy Levels, Wavelengths	Th	227
B Z= 5-109	Energy Levels, Wavelengths	Th	306
B Z= 12-16 step 2	Trans. prob., Oscill. Strengths	Th	367
C Z= 12-14	Energy Levels, Wavelengths	Exp	64
C Z= 16-18	Energy Levels, Wavelengths	Exp	64
C Z= 37-82	Energy Levels, Wavelengths	Th	227
C Z= 6-109	Energy Levels, Wavelengths	Th	306
N Z= 13-14	Energy Levels, Wavelengths	Exp	64
N Z= 16-20	Energy Levels, Wavelengths	Exp	64
N Z= 24-26	Energy Levels, Wavelengths	Exp	64
N Z= 37-82	Energy Levels, Wavelengths	Th	227

N Z= 7-109	Energy Levels, Wavelengths	Th	306
O Z= 18-20	Energy Levels, Wavelengths	Exp	64
O Z= 24-26	Energy Levels, Wavelengths	Exp	64
O Z= 37-82	Energy Levels, Wavelengths	Th	227
O Z= 8-109	Energy Levels, Wavelengths	Th	306
F Z= 24-27	Energy Levels, Wavelengths	Exp	64
F Z= 37-82	Energy Levels, Wavelengths	Th	227
F Z= 9-109	Energy Levels, Wavelengths	Th	306
Ne Z= 10-105	Energy Levels, Wavelengths	Th	223
Ne Z= 37-82	Energy Levels, Wavelengths	Th	227
Ne Z= 10-109	Energy Levels, Wavelengths	Th	306
Na Z= 11-26	Energy Levels, Wavelengths	Th	158
Na Z= 27-36	Energy Levels, Wavelengths	Th	160
Na Z= 20-100	Energy Levels, Wavelengths	Th	193
Na Z= 11-109	Energy Levels, Wavelengths	Th	306
Mg Z= 12-26	Energy Levels, Wavelengths	Th	158
Mg Z= 53-58	Energy Levels, Wavelengths	Th	195
Mg Z= 60-62	Energy Levels, Wavelengths	Th	220
Mg Z= 12-95	Energy Levels, Wavelengths	Th	223
Mg Z= 12-109	Energy Levels, Wavelengths	Th	306
Mg Z= 26-28	Trans. prob., Oscill. Strengths	Th	352
Al Z= 26-31	Energy Levels, Wavelengths	Th	14
Al Z= 24-32 step 2	Energy Levels, Wavelengths	Th	142
Al Z= 13-26	Energy Levels, Wavelengths	Th	158
Al Z= 13-109	Energy Levels, Wavelengths	Th	306
Si Z= 23-29	Energy Levels, Wavelengths	Exp	156
Si Z= 25-29	Energy Levels, Wavelengths	Exp	156
Si Z= 14-26	Energy Levels, Wavelengths	Th	158
Si Z= 14-109	Energy Levels, Wavelengths	Th	306
P Z= 15-26	Energy Levels, Wavelengths	Th	158
P Z= 15-109	Energy Levels, Wavelengths	Th	306
S Z= 16-26	Energy Levels, Wavelengths	Th	158
S Z= 16-109	Energy Levels, Wavelengths	Th	306
Cl Z= 17-26	Energy Levels, Wavelengths	Th	158
Cl Z= 17-109	Energy Levels, Wavelengths	Th	306
Ar Z= 18-26	Energy Levels, Wavelengths	Th	158
Ar Z= 18-95	Energy Levels, Wavelengths	Th	223
Ar Z= 18-109	Energy Levels, Wavelengths	Th	306
K Z= 22-42	Energy Levels, Wavelengths	Th	23
K Z= 19-109	Energy Levels, Wavelengths	Th	306
Ca Z= 20-109	Energy Levels, Wavelengths	Th	306
Sc Z= 21-109	Energy Levels, Wavelengths	Th	306
Ti Z= 22-109	Energy Levels, Wavelengths	Th	306
V Z= 23-109	Energy Levels, Wavelengths	Th	306
Cr Z= 24-109	Energy Levels, Wavelengths	Th	306
Mn Z= 25-109	Energy Levels, Wavelengths	Th	306
Fe Z= 26-109	Energy Levels, Wavelengths	Th	306
Co Z= 27-109	Energy Levels, Wavelengths	Th	306
Ni Z= 34-67	Energy Levels, Wavelengths	Th	17
Ni Z= 36-92	Energy Levels, Wavelengths	Th	162
Ni Z= 28-100	Energy Levels, Wavelengths	Th	205
Ni Z= 28-109	Energy Levels, Wavelengths	Th	306
Ni Z= 72-74	Energy Levels, Wavelengths	Exp	338
Ni Z= 34-100	Trans. prob., Oscill. Strengths	Th	370
Ni Z= 36-42	Trans. prob., Oscill. Strengths	Th	370
Ni Z= 46-48	Trans. prob., Oscill. Strengths	Th	370
Cu Z= 82-83	Energy Levels, Wavelengths	Th	16

Cu Z= 70-92	Energy Levels, Wavelengths	Th	67
Cu Z= 70-92	Energy Levels, Wavelengths	Th	174
Cu Z= 40-100	Energy Levels, Wavelengths	Th	193
Cu Z= 29-109	Energy Levels, Wavelengths	Th	306
Cu Z= 42-44	Energy Levels, Wavelengths	Th	316
Cu Z= 70-92	Trans. prob., Oscill. Strengths	Th	353
Zn Z= 41-42	Energy Levels, Wavelengths	Th	16
Zn Z= 44-50	Energy Levels, Wavelengths	Th	16
Zn Z= 51-55	Energy Levels, Wavelengths	Th	16
Zn Z= 82-83	Energy Levels, Wavelengths	Th	16
Zn Z= 70-92	Energy Levels, Wavelengths	Th	65
Zn Z= 30-92	Energy Levels, Wavelengths	Th	103
Zn Z= 30-47	Energy Levels, Wavelengths	Th	210
Zn Z= 70-92	Energy Levels, Wavelengths	Th	230
Zn Z= 56-57	Energy Levels, Wavelengths	Th	264
Zn Z= 60-70 step 2	Energy Levels, Wavelengths	Th	264
Zn Z= 73-74	Energy Levels, Wavelengths	Th	264
Zn Z= 82-83	Energy Levels, Wavelengths	Th	264
Zn Z= 30-109	Energy Levels, Wavelengths	Th	306
Zn Z= 70-92	Trans. prob., Oscill. Strengths	Th	351
Ga Z= 70-92	Energy Levels, Wavelengths	Th	71
Ga Z= 31-92	Energy Levels, Wavelengths	Th	143
Ga Z= 31-98	Energy Levels, Wavelengths	Th	143
Ga Z= 31-109	Energy Levels, Wavelengths	Th	306
Ge Z= 70-92	Energy Levels, Wavelengths	Th	69
Ge Z= 32-109	Energy Levels, Wavelengths	Th	306
Ge Z= 70-92	Trans. prob., Oscill. Strengths	Th	355
As Z= 33-109	Energy Levels, Wavelengths	Th	306
Se Z= 34-109	Energy Levels, Wavelengths	Th	306
Br Z= 35-109	Energy Levels, Wavelengths	Th	306
Kr Z= 36-109	Energy Levels, Wavelengths	Th	306
Rb Z= 37-39	Energy Levels, Wavelengths	E/T	301
Rb Z= 37-87	Energy Levels, Wavelengths	E/T	301
Rb Z= 37-87	Energy Levels, Wavelengths	E/T	303
Rb Z= 37-109	Energy Levels, Wavelengths	Th	306
Sr Z= 38-109	Energy Levels, Wavelengths	Th	306
Y Z= 39-109	Energy Levels, Wavelengths	Th	306
Zr Z= 40-109	Energy Levels, Wavelengths	Th	306
Nb Z= 41-109	Energy Levels, Wavelengths	Th	306
Mo Z= 42-109	Energy Levels, Wavelengths	Th	306
Tc Z= 43-109	Energy Levels, Wavelengths	Th	306
Ru Z= 44-109	Energy Levels, Wavelengths	Th	306
Rh Z= 55-85 step 5	Energy Levels, Wavelengths	Th	54
Rh Z= 45-109	Energy Levels, Wavelengths	Th	306
Pd Z= 54-59	Energy Levels, Wavelengths	Th	11
Pd Z= 60-83	Energy Levels, Wavelengths	Th	54
Pd Z= 46-109	Energy Levels, Wavelengths	Th	306
Ag Z= 52-86	Energy Levels, Wavelengths	Th	54
Ag Z= 47-109	Energy Levels, Wavelengths	Th	306
Cd Z= 48-109	Energy Levels, Wavelengths	Th	306
In Z= 49-109	Energy Levels, Wavelengths	Th	306
Sn Z= 50-109	Energy Levels, Wavelengths	Th	306
Sb Z= 51-109	Energy Levels, Wavelengths	Th	306
Te Z= 52-109	Energy Levels, Wavelengths	Th	306
I Z= 53-109	Energy Levels, Wavelengths	Th	306
Xe Z= 54-109	Energy Levels, Wavelengths	Th	306
Cs Z= 55-109	Energy Levels, Wavelengths	Th	306

Ba Z= 56-109	Energy Levels, Wavelengths		Th	306
La Z= 57-109	Energy Levels, Wavelengths		Th	306
Ce Z= 58-109	Energy Levels, Wavelengths		Th	306
Pr Z= 59-109	Energy Levels, Wavelengths		Th	306
Nd Z= 60-109	Energy Levels, Wavelengths		Th	306
Pm Z= 74-92	Energy Levels, Wavelengths		E/T	13
Pm Z= 61-109	Energy Levels, Wavelengths		Th	306
Sm Z= 62-109	Energy Levels, Wavelengths		Th	306
Eu Z= 63-109	Energy Levels, Wavelengths		Th	306
Gd Z= 64-109	Energy Levels, Wavelengths		Th	306
Tb Z= 65-109	Energy Levels, Wavelengths		Th	306
Dy Z= 66-109	Energy Levels, Wavelengths		Th	306
Ho Z= 67-109	Energy Levels, Wavelengths		Th	306
Er Z= 68-109	Energy Levels, Wavelengths		Th	306
Tm Z= 69-109	Energy Levels, Wavelengths		Th	306
Yb Z= 70-109	Energy Levels, Wavelengths		Th	306
Lu Z= 71-109	Energy Levels, Wavelengths		Th	306
Hf Z= 72-109	Energy Levels, Wavelengths		Th	306
Ta Z= 73-109	Energy Levels, Wavelengths		Th	306
W Z= 74-109	Energy Levels, Wavelengths		Th	306
Re Z= 75-109	Energy Levels, Wavelengths		Th	306
Os Z= 76-109	Energy Levels, Wavelengths		Th	306
Ir Z= 77-109	Energy Levels, Wavelengths		Th	306
Pt Z= 78-109	Energy Levels, Wavelengths		Th	306
Au Z= 79-109	Energy Levels, Wavelengths		Th	306
Hg Z= 80-109	Energy Levels, Wavelengths		Th	306
Tl Z= 81-109	Energy Levels, Wavelengths		Th	306
Pb Z= 82-109	Energy Levels, Wavelengths		Th	306
Bi Z= 83-109	Energy Levels, Wavelengths		Th	306
Po Z= 84-109	Energy Levels, Wavelengths		Th	306
At Z= 85-109	Energy Levels, Wavelengths		Th	306
Rn Z= 86-109	Energy Levels, Wavelengths		Th	306
Fr Z= 87-109	Energy Levels, Wavelengths		Th	306
Ra Z= 88-109	Energy Levels, Wavelengths		Th	306
Ac Z= 89-109	Energy Levels, Wavelengths		Th	306
Th Z= 90-109	Energy Levels, Wavelengths		Th	306
Pa Z= 91-109	Energy Levels, Wavelengths		Th	306
U Z= 92-109	Energy Levels, Wavelengths		Th	306

2.2 Atomic and Molecular Collisions

2.2.1 Photon Collisions

$h\nu$ + **Na**	Fluorescence	2.1 eV	Exp	376
$h\nu$ + **He**	Photoionization	2-20 keV	Th	377
$h\nu$ + **He**	Photoionization	91.45 eV	Exp	378
$h\nu$ + **He**	Photoionization	45 eV	Th	379
$h\nu$ + **Ar**	Photoionization	90-330 eV	Exp	380
$h\nu$ + **He**	Photoexcitation		Th	381
$h\nu$ + H_2	Photoexcitation		Th	381
$h\nu$ + D_2	Photoexcitation		Th	381
$h\nu$ + **He**	Photoionization		Th	381
$h\nu$ + H_2	Photoionization		Th	381
$h\nu$ + D_2	Photoionization		Th	381
$h\nu$ + Li^+	Photoexcitation	200 eV	Th	382

hν + $\mathbf{Li^+}$	Photoionization	200 eV	Th	382
hν + **Li**	Photoionization	200-400 eV	Th	383
hν + **Be**	Photoionization	200-400 eV	Th	383
hν + $\mathbf{D_3}^+$	Photodissociation		Th	384
hν + $\mathbf{D_{13}}^+$	Photodissociation		Th	384
hν + $\mathbf{H_{13}}^+$	Photodissociation		Th	384
hν + $\mathbf{H_2}$	Photoionization	800 nm	Th	385
hν + **He**	Photoionization	13 eV	Exp	386
hν + **He**	Photoionization	13 eV	Th	387
hν + **CO**	Photodissociation	780 nm	Exp	388
hν + **CO**	Photoionization	780 nm	Exp	388
hν + $\mathbf{SiCl_4}$	Photoexcitation	100-225 eV	Exp	389
hν + **Rb**	Photoionization	61 eV	Th	390
hν + $\mathbf{C^-}$	Photodetachment	0-11 eV	Th	391
hν + $\mathbf{I^-}$	Photodetachment	0-30 eV	Th	392
hν + **Xe**	Photoionization	0-30 eV	Th	392
hν + $\mathbf{N_2}$	Fluorescence	$2-4x10^{14}$ W/cm^2	Th	393
hν + $\mathbf{O_2}$	Fluorescence	$2-4x10^{14}$ W/cm^2	Th	393
hν + $\mathbf{N_2}$	Photoionization	$2-4x10^{14}$ W/cm^2	Th	393
hν + $\mathbf{O_2}$	Photoionization	$2-4x10^{14}$ W/cm^2	Th	393
hν + $\mathbf{H_2}^+$	Photodissociation	10^{14} W/cm^2	E/T	394
hν + $\mathbf{D_2}^+$	Photodissociation	10^{14} W/cm^2	E/T	394
hν + $\mathbf{Cl^-}$	Photodetachment	38-85 eV	Exp	395
hν + $\mathbf{Cl^-}$	Photoionization	38-85 eV	Exp	395
hν + $\mathbf{O_2}$	Photodissociation	550-1800 nm	Exp	396
hν + $\mathbf{O_2}$	Photoionization	550-1800 nm	Exp	396
hν + **Ne**	Photoionization	800 nm	Exp	397
hν + **Ar**	Photoionization	800 nm	Exp	397
hν + $\mathbf{CH_3F}$	Photoexcitation	288.8-687.8 eV	Exp	398
hν + $\mathbf{CH_3F}$	Photoionization	288.8-687.8 eV	Exp	398
hν + **Sr**	Photoionization	190-210 eV	E/T	399
hν + **Ar**	Photoionization	250-253 eV	E/T	400
hν + **He**	Photodissociation	79.1 eV	Th	401
hν + **He**	Photoexcitation	79.1 eV	Th	401
hν + $\mathbf{CO_2}$	Photoionization	540.5-546.5 eV	Exp	402
hν + $\mathbf{Fe^{15+}}$	Photoionization	1-37 keV	Th	403
hν + $\mathbf{U^{81+}}$	Photoionization	1-37 keV	Th	403
hν + **Kr**	Photoionization	1850 eV	Exp	404
hν + $\mathbf{H_2}$	Photodissociation	266 nm	Th	405
hν + $\mathbf{H_2}^+$	Photodissociation	266 nm	Th	405
hν + $\mathbf{S^-}$	Photodetachment	150-240 eV	Exp	406
hν + $\mathbf{S^-}$	Photoionization	150-240 eV	Exp	406
hν + **I**	Photoionization	50-200 eV	E/T	407
hν + $\mathbf{I^+}$	Photoionization	50-200 eV	E/T	407
hν + $\mathbf{Xe^+}$	Photoionization	50-200 eV	E/T	407
hν + **He**	Photoionization	0.1-1 keV	E/T	408
hν + **Ne**	Photoexcitation	near-threshold	Th	409
hν + **Ne**	Photoionization	near-threshold	Th	409
hν + $\mathbf{H_2}^+$	Photodissociation	785 nm	Exp	410
hν + $\mathbf{D_2}^+$	Photodissociation	785 nm	Exp	410
hν + $\mathbf{S^{11+}}$	Photoexcitation		Th	411
hν + $\mathbf{S^{12+}}$	Photoexcitation		Th	411
hν + $\mathbf{Cl^{12+}}$	Photoexcitation		Th	411
hν + $\mathbf{Cl^{13+}}$	Photoexcitation		Th	411
hν + $\mathbf{Ar^{13+}}$	Photoexcitation		Th	411
hν + $\mathbf{Ar^{14+}}$	Photoexcitation		Th	411
hν + $\mathbf{K^{14+}}$	Photoexcitation		Th	411

hν + $\mathbf{K}^{15+}$	Photoexcitation		Th	411
hν + $\mathbf{Ti}^{17+}$	Photoexcitation		Th	411
hν + $\mathbf{Ti}^{18+}$	Photoexcitation		Th	411
hν + $\mathbf{Fe}^{9+}$	Photoexcitation		Exp	412
hν + $\mathbf{Fe}^{10+}$	Photoexcitation		Exp	412
hν + $\mathbf{Fe}^{13+}$	Photoexcitation		Exp	412
hν + **He**	Photoionization	390 nm	Th	413
hν + **Na**	Photoionization	8-10 eV	Th	414
hν + $\mathbf{Na}^*$	Photoionization	8-10 eV	Th	414
hν + $\mathbf{H}_2$	Photoionization	15.47-15.75 eV	Exp	415
hν + **He**	Photoionization	69-76 eV	Th	416
hν + $\mathbf{He}^*$	Photoionization	69-76 eV	Th	416
hν + **Ne**	Photoexcitation	870 eV	E/T	417
hν + **Ne**	Photoionization	870 eV	E/T	417
hν + **H**	Photoionization	6.5-22 eV	Th	418
hν + **He**	Photoionization	6.5-22 eV	Th	418
hν + **Ne**	Photoionization	870 eV	Th	419
hν + $\mathbf{H}_2$	Photodissociation	30-10,000 eV	Th	420
hν + $\mathbf{H}_2$	Photoionization	30-10,000 eV	Th	420
hν + $\mathbf{H}^-$	Photoionization		Th	421
hν + **He**	Photoionization		Th	421
hν + $\mathbf{Li}^+$	Photoionization		Th	421
hν + $\mathbf{He}^+$	Fluorescence	1.75 eV	Exp	422
hν + $\mathbf{H}_2$	Photoexcitation	800 nm	Th	423
hν + $\mathbf{H}_2$	Photoionization	800 nm	Th	423
hν + $\mathbf{F}^-$	Photodetachment	20-62 eV	E/T	424
hν + $\mathbf{F}^-$	Photoionization	20-62 eV	E/T	424
hν + $\mathbf{H}_2{}^+$	Photodissociation	$2x10^{14}$ W/cm^2	Exp	425
hν + **H**	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th	426
hν + **He**	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th	426
hν + **Ne**	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th	426
hν + $\mathbf{Ne}^+$	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th	426
hν + **Ar**	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th	426
hν + $\mathbf{Ar}^+$	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th	426
hν + **Rb**	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th	426
hν + $\mathbf{H}_2{}^+$	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th	426
hν + **He**	Fluorescence	64 eV	Exp	427
hν + **He**	Photoexcitation	64 eV	Exp	427
hν + $\mathbf{CO}^+$	Photodissociation	20.5-34.5 eV	Exp	428
hν + $\mathbf{CO}^+$	Photoionization	20.5-34.5 eV	Exp	428
hν + $\mathbf{H}_2{}^+$	Photoionization	1 GeV/u	Th	429
hν + **Ne**	Photoionization	803-816 eV	E/T	430
hν + $\mathbf{H}_2$	Photodissociation	27-38 eV	E/T	431
hν + $\mathbf{H}_2$	Fluorescence	27-38 eV	E/T	431
hν + **Gd**	Photoionization	59.54 keV	Exp	432
hν + **Dy**	Photoionization	59.54 keV	Exp	432
hν + **Er**	Photoionization	59.54 keV	Exp	432
hν + **Yb**	Photoionization	59.54 keV	Exp	432
hν + **Hf**	Photoionization	59.54 keV	Exp	432
hν + **Ta**	Photoionization	59.54 keV	Exp	432
hν + **Te**	Photoexcitation	50-130 eV	E/T	433
hν + $\mathbf{Te}^+$	Photoexcitation	50-130 eV	E/T	433
hν + $\mathbf{Te}^{2+}$	Photoexcitation	50-130 eV	E/T	433
hν + $\mathbf{Te}^{3+}$	Photoexcitation	50-130 eV	E/T	433
hν + $\mathbf{Al}^+$	Photoionization	20-160 eV	E/T	434
hν + $\mathbf{CO}_2$	Photodissociation	540-580 eV	E/T	435
hν + $\mathbf{CO}_2$	Photoionization	540-580 eV	E/T	435

hν + He	Total Absorption, Scattering	400-850 nm	E/T	436
hν + Na	Total Absorption, Scattering	400-850 nm	E/T	436
hν + K	Total Absorption, Scattering	400-850 nm	E/T	436
hν + Kr^+	Photoexcitation	82-92 nm	E/T	437
hν + Kr^+	Photoionization	82-92 nm	E/T	437
hν + Sc	Photoionization	29-41 eV	E/T	438
hν + Ar	Fluorescence	806 nm	Exp	439
hν + Arn	Fluorescence	806 nm	Exp	439
hν + Arn(H_2O)m	Fluorescence	806 nm	Exp	439
hν + N_2	Photoionization	800 nm	Exp	440
hν + NO	Photoionization	800 nm	Exp	440
hν + O_2	Photoionization	800 nm	Exp	440
hν + Xe	Photoionization	64-71 eV	E/T	441
hν + N_2	Photodissociation	406-412 eV	Exp	442
hν + Ne	Photoionization	867 eV	E/T	443
hν + Ne^*	Photoionization	867 eV	E/T	443
hν + CO	Photoexcitation	60,000-96,000 cm^{-1}	Exp	444
hν + Kr^+	Photoexcitation		Th	445
hν + Kr^{2+}	Photoexcitation		Th	445
hν + Kr^+	Photoionization		Th	445
hν + Kr^{2+}	Photoionization		Th	445
hν + OCS	Photoionization	200 eV	Exp	446
hν + Kr	Photoionization	93.7-783 eV	Exp	447
hν + Xe	Photoionization	93.7-783 eV	Exp	447
hν + He	Photoionization	810 nm	E/T	448
hν + H	Photoionization	1.93 eV	Th	449
hν + Xe	Photoionization	1.93 eV	Th	449
hν + He	Photoionization	11.2-49.50 eV	Th	450
hν + He^*	Photoionization	11.2-49.50 eV	Th	450
hν + He	Photoionization	2-30 eV	Th	451
hν + H_2	Photoionization	2-30 eV	Th	451
hν + Kr	Fluorescence	91-92.8 eV	Exp	452
hν + Kr	Photoexcitation	91-92.8 eV	Exp	452
hν + Kr	Photoionization	91-92.8 eV	Exp	452
hν + Sn^+	Total Absorption, Scattering	30-65 eV	E/T	453
hν + Sn^{3+}	Total Absorption, Scattering	30-65 eV	E/T	453
hν + ${C_{60}}^+$	Photoionization	7-50 eV	Th	454
hν + Na	Photoionization	420-630 K	E/T	455
hν + Na^*	Photoionization	420-630 K	E/T	455
hν + H_2	Photoexcitation	100,000 cm^{-1}	Th	456
hν + HD	Photoexcitation	100,000 cm^{-1}	Th	456
hν + Cr^+	Photoexcitation	4850-2050 $\AA$	Exp	457
hν + Fe^{23+}	Photoexcitation	0-1.4$x10^7$ cm^{-1}	Th	458
hν + Hf^+	Photoexcitation	3000 $\AA$	Exp	459
hν + Pd	Photoexcitation	400 $\AA$	E/T	460
hν + Fe^+	Photoexcitation	9000 $\AA$	Th	461
hν + Ni^+	Photoexcitation	1317 $\AA$	Exp	462
hν + Fe^+	Photoexcitation	2.0 μ m	Th	463
hν + Fe^{5+}	Photoexcitation	16 $\AA$	Th	464
hν + Fe^{6+}	Photoexcitation	16 $\AA$	Th	464
hν + Fe^{7+}	Photoexcitation	16 $\AA$	Th	464
hν + Fe^{8+}	Photoexcitation	16 $\AA$	Th	464
hν + Fe^{9+}	Photoexcitation	16 $\AA$	Th	464
hν + Fe^{10+}	Photoexcitation	16 $\AA$	Th	464
hν + Fe^{11+}	Photoexcitation	16 $\AA$	Th	464
hν + Fe^{12+}	Photoexcitation	16 $\AA$	Th	464

hν + Fe^{13+}	Photoexcitation	16 $\AA$	Th	464
hν + Fe^{14+}	Photoexcitation	16 $\AA$	Th	464
hν + Fe^{15+}	Photoexcitation	16 $\AA$	Th	464
hν + Na	Photoionization	355 nm	Th	465
hν + Na*	Photoionization	355 nm	Th	465
hν + N$_2$	Photoexcitation	99.5-93.5 nm	Th	466
hν + N$_2$	Photoionization	430 eV	E/T	467
hν + Fe^{21+}	Photoexcitation	5.0 keV	Th	468
hν + NH$_3$	Photoexcitation	140-220 nm	Exp	469
hν + ND$_3$	Photoexcitation	140-220 nm	Exp	469
hν + NH$_2$D	Photoexcitation	140-220 nm	Exp	469
hν + NHD$_2$	Photoexcitation	140-220 nm	Exp	469
hν + CO	Photoexcitation	1000 $\AA$	Exp	470
hν + He	Photoionization	0-60 eV	Exp	471
hν + Li	Photoionization	0-60 eV	Exp	471
hν + Be	Photoionization	0-60 eV	Exp	471
hν + Na	Photoionization	0-60 eV	Exp	471
hν + H$_2$	Photoionization	0-60 eV	Exp	471
hν + Ta	Elastic Scattering	24-136 keV	Th	472
hν + Hg	Elastic Scattering	24-136 keV	Th	472
hν + Pb	Elastic Scattering	24-136 keV	Th	472
hν + C	Elastic Scattering	17.5 keV	Exp	473
hν + Al	Elastic Scattering	17.5 keV	Exp	473
hν + Si	Elastic Scattering	17.5 keV	Exp	473
hν + S	Elastic Scattering	17.5 keV	Exp	473
hν + Ti	Elastic Scattering	17.5 keV	Exp	473
hν + V	Elastic Scattering	17.5 keV	Exp	473
hν + Co	Elastic Scattering	17.5 keV	Exp	473
hν + Ni	Elastic Scattering	17.5 keV	Exp	473
hν + Cu	Elastic Scattering	17.5 keV	Exp	473
hν + Zn	Elastic Scattering	17.5 keV	Exp	473
hν + As	Elastic Scattering	17.5 keV	Exp	473
hν + Se	Elastic Scattering	17.5 keV	Exp	473
hν + Rb	Elastic Scattering	17.5 keV	Exp	473
hν + Sr	Elastic Scattering	17.5 keV	Exp	473
hν + Ru	Elastic Scattering	17.5 keV	Exp	473
hν + Ag	Elastic Scattering	17.5 keV	Exp	473
hν + Cd	Elastic Scattering	17.5 keV	Exp	473
hν + In	Elastic Scattering	17.5 keV	Exp	473
hν + Sn	Elastic Scattering	17.5 keV	Exp	473
hν + Sb	Elastic Scattering	17.5 keV	Exp	473
hν + Ba	Elastic Scattering	17.5 keV	Exp	473
hν + Nd	Elastic Scattering	17.5 keV	Exp	473
hν + Eu	Elastic Scattering	17.5 keV	Exp	473
hν + Gd	Elastic Scattering	17.5 keV	Exp	473
hν + Dy	Elastic Scattering	17.5 keV	Exp	473
hν + Ho	Elastic Scattering	17.5 keV	Exp	473
hν + Tm	Elastic Scattering	17.5 keV	Exp	473
hν + Yb	Elastic Scattering	17.5 keV	Exp	473
hν + Lu	Elastic Scattering	17.5 keV	Exp	473
hν + Ta	Elastic Scattering	17.5 keV	Exp	473
hν + W	Elastic Scattering	17.5 keV	Exp	473
hν + Ir	Elastic Scattering	17.5 keV	Exp	473
hν + Pt	Elastic Scattering	17.5 keV	Exp	473
hν + Au	Elastic Scattering	17.5 keV	Exp	473
hν + Hg	Elastic Scattering	17.5 keV	Exp	473
hν + Tl	Elastic Scattering	17.5 keV	Exp	473

hν + Pb	Elastic Scattering	17.5 keV	Exp	473
hν + Bi	Elastic Scattering	17.5 keV	Exp	473
hν + Th	Elastic Scattering	17.5 keV	Exp	473
hν + Tb	Photoionization	124 keV	Exp	474
hν + Dy	Photoionization	124 keV	Exp	474
hν + Ho	Photoionization	124 keV	Exp	474
hν + Er	Photoionization	124 keV	Exp	474
hν + Tm	Photoionization	124 keV	Exp	474
hν + Yb	Photoionization	124 keV	Exp	474
hν + Lu	Photoionization	124 keV	Exp	474
hν + Hf	Photoionization	124 keV	Exp	474
hν + Ta	Photoionization	124 keV	Exp	474
hν + W	Photoionization	124 keV	Exp	474
hν + Re	Photoionization	124 keV	Exp	474
hν + Os	Photoionization	124 keV	Exp	474
hν + Ir	Photoionization	124 keV	Exp	474
hν + Pt	Photoionization	124 keV	Exp	474
hν + Au	Photoionization	124 keV	Exp	474
hν + Hg	Photoionization	124 keV	Exp	474
hν + Tl	Photoionization	124 keV	Exp	474
hν + Pb	Photoionization	124 keV	Exp	474
hν + Bi	Photoionization	124 keV	Exp	474
hν + Th	Photoionization	124 keV	Exp	474
hν + U	Photoionization	124 keV	Exp	474
hν + He	Photoexcitation	78 eV	Exp	475
hν + He	Photoionization	78 eV	Exp	475
hν + H_2	Photodissociation	76 eV	Exp	476
hν + H_2	Photoionization	76 eV	Exp	476
hν + N_2	Photoexcitation	0.5 cm^{-1}	Th	477
hν + O_2	Photoexcitation	0-20 eV	Th	478
hν + H^-	Photodetachment	0.9-51 eV; 1000-25,000 K	Th	479
hν + He	Photoionization	0.9-51 eV; 1000-25,000 K	Th	479
hν + Ne	Photoionization	351-364 nm	Exp	480
hν + Ne^*	Photoionization	351-364 nm	Exp	480
hν + HBr	Photodissociation	69-74 eV	Exp	481
hν + HBr	Photoexcitation	69-74 eV	Exp	481
hν + HBr	Photoionization	69-74 eV	Exp	481
hν + Ne	Photoionization	880-950 eV	Th	482
hν + ${NeC_{60}}^-$	Photoionization	880-950 eV	Th	482
hν + NeC_{60}	Photoionization	880-950 eV	Th	482
hν + ${NeC_{60}}^{2+}$	Photoionization	880-950 eV	Th	482
hν + ${NeC_{60}}^{5+}$	Photoionization	880-950 eV	Th	482
hν + ${NeC_{60}}^{10+}$	Photoionization	880-950 eV	Th	482
hν + Xe	Photoionization	700-1600 nm	Exp	483
hν + Fe^{4+}	Photoionization	59-140 eV	Exp	484
hν + He	Photoionization	75 eV	Th	485
hν + Be	Photoionization	75 eV	Th	485
hν + Ne	Photoionization	75 eV	Th	485
hν + H_2	Photoionization	75 eV	Th	485
hν + ${Na_{11}}^+$	Photoexcitation	$2x10^{10} - 2x10^{11}$ W/cm^2	Exp	486
hν + He	Photoionization	400 nm	Exp	487
hν + Li	Photoexcitation		Th	488
hν + Na	Photoexcitation		Th	488
hν + K	Photoexcitation		Th	488
hν + Rb	Photoexcitation		Th	488
hν + Cs	Photoexcitation		Th	488
hν + H_2	Photoexcitation	202 nm	Exp	489

hν + HD	Photoexcitation	202 nm	Exp	489
hν + D_2	Photoexcitation	202 nm	Exp	489
hν + Ag	Photoionization	50-90 keV	E/T	490
hν + Ne	Photoexcitation		Exp	491
hν + Ne	Photoionization		Exp	491
hν + O^-	Photodetachment	1-7 eV	Th	492
hν + Xe^{3+}	Photoionization	160 eV	Exp	493
hν + Xe^{4+}	Photoionization	160 eV	Exp	493
hν + Xe^{5+}	Photoionization	160 eV	Exp	493
hν + Xe^{6+}	Photoionization	160 eV	Exp	493
hν + K	Photoexcitation	340-400 eV	E/T	494
hν + K	Photoionization	340-400 eV	E/T	494
hν + He	Photoionization	75 eV	Th	495
hν + He	Photoionization	91.6 eV	Th	496
hν + He	Total Absorption, Scattering	248.6 nm	Th	497
hν + He	Photoexcitation	248.6 nm	Th	497
hν + He	Photoionization	248.6 nm	Th	497
hν + Li_2	Elastic Scattering	12,500 cm^{-1}	E/T	498
hν + Li_2	Fluorescence	12,500 cm^{-1}	E/T	498
hν + Li_2	Photoexcitation	12,500 cm^{-1}	E/T	498
hν + $H_2{}^+$	Photoionization	800 nm	Th	499
hν + $H_2{}^+$	Photoexcitation		Th	500
hν + $H_2{}^+$	Photoionization		Th	500
hν + He	Photoionization	248.6-390 nm	Th	501
hν + Ne	Photoionization	248.6-390 nm	Th	501
hν + Ar	Photoionization	248.6-390 nm	Th	501
hν + $H_2{}^+$	Photodissociation	400 nm	Th	502
hν + $D_2{}^+$	Photodissociation	400 nm	Th	502
hν + $H_2{}^+$	Photoexcitation		Th	503
hν + Ba	Photoexcitation	50-70 GHz	Exp	504
hν + Ba	Photoionization	50-70 GHz	Exp	504
hν + Hf	Total Absorption, Scattering	40-140 eV	Exp	505
hν + Ta	Total Absorption, Scattering	40-140 eV	Exp	505
hν + Au	Total Absorption, Scattering	40-140 eV	Exp	505
hν + Pb	Total Absorption, Scattering	40-140 eV	Exp	505
hν + Hf	Photoionization	40-140 eV	Exp	505
hν + Ta	Photoionization	40-140 eV	Exp	505
hν + Au	Photoionization	40-140 eV	Exp	505
hν + Pb	Photoionization	40-140 eV	Exp	505
hν + Xe^{4+}	Photoionization	90-110 eV	E/T	506
hν + Xe^{5+}	Photoionization	90-110 eV	E/T	506
hν + Xe^{6+}	Photoionization	90-110 eV	E/T	506
hν + O_2	Photoionization	110 MeV	Exp	507
hν + He^-	Photodetachment	38.5-40.5 eV	Exp	508
hν + He^-	Photoionization	38.5-40.5 eV	Exp	508
hν + Ar	Photoexcitation	2500 eV	E/T	509
hν + HeNe	Elastic Scattering	95-295 K	Th	510
hν + N_2	Photodissociation	790 nm	Exp	511
hν + N_2	Photoionization	790 nm	Exp	511
hν + H_2	Photodissociation	758 nm	Th	512
hν + $H_2{}^+$	Photodissociation	758 nm	Th	512
hν + H_2	Photoionization	758 nm	Th	512
hν + $H_2{}^+$	Photoionization	758 nm	Th	512
hν + H^-	Photodetachment	0.75-1.05 eV	Th	513
hν + N_2	Photodissociation	400-1200 nm	Exp	514
hν + N_2	Photoionization	400-1200 nm	Exp	514
hν + C^-	Photodetachment	281.3-282.3 eV	Exp	515

hν + **He**	Photoexcitation		Th	516
hν + **Be**	Photoionization	126.5-128 eV	Exp	517
hν + **Ar**	Photoionization	+2 eV	Th	518
hν + **Kr**	Photoionization	+2 eV	Th	518
hν + **K**	Photoionization	3.6-3.62 keV	Exp	519
hν + **Xe**	Photoexcitation	0-4 a.u.	Th	520
hν + **Cs**	Photoexcitation	0-4 a.u.	Th	520
hν + **Ba**	Photoexcitation	0-4 a.u.	Th	520
hν + $\mathbf{He^-}$	Photoionization		Th	521
hν + **Cs**	Photoexcitation	16-25 eV	Exp	522
hν + $\mathbf{Kr^{5+}}$	Photoionization	74-175 eV	E/T	523
hν + **K**	Photoionization	60 eV	Exp	524
hν + $\mathbf{H_2S}$	Photoionization	180-240 eV	Exp	525
hν + $\mathbf{CO_2}^{3+}$	Photodissociation	200 eV	Exp	526
hν + $\mathbf{CO_2}^{3+}$	Photoionization	200 eV	Exp	526
hν + **He**	Photoionization	500 nm	Exp	527
hν + $\mathbf{H^-}$	Photodetachment	0-500 cm^{-1}	Th	528
hν + $\mathbf{H_2}$	Fluorescence	800 nm	Th	529
hν + $\mathbf{D_2}$	Fluorescence	800 nm	Th	529
hν + $\mathbf{N_2}$	Fluorescence	800 nm	Th	529
hν + $\mathbf{O_2}$	Fluorescence	800 nm	Th	529
hν + $\mathbf{H_2}$	Photoexcitation	800 nm	Th	529
hν + $\mathbf{D_2}$	Photoexcitation	800 nm	Th	529
hν + $\mathbf{N_2}$	Photoexcitation	800 nm	Th	529
hν + $\mathbf{O_2}$	Photoexcitation	800 nm	Th	529
hν + $\mathbf{H_2}$	Photoionization	800 nm	Th	529
hν + $\mathbf{D_2}$	Photoionization	800 nm	Th	529
hν + $\mathbf{N_2}$	Photoionization	800 nm	Th	529
hν + $\mathbf{O_2}$	Photoionization	800 nm	Th	529
hν + **H**	Photoionization	800 nm	Th	530
hν + **Mg**	Photoionization	3 eV	Th	531
hν + **Ar**	Photoionization	800 nm	Th	532
hν + **H**	Photoexcitation	10^8 V/m	Th	533
hν + $\mathbf{H^-}$	Photodetachment	2.3 nm	Th	534
hν + **Na**	Photoionization	36.5-170 eV	Exp	535
hν + **K**	Photoionization	36.5-170 eV	Exp	535
hν + **He**	Photoionization	85-90 eV	Th	536
hν + **Li**	Photoionization	148-161 eV	Exp	537
hν + $\mathbf{H_2O}$	Total Absorption, Scattering	28-539 eV	Th	538
hν + **CO**	Total Absorption, Scattering	28-539 eV	Th	538
hν + $\mathbf{C_6H_6}$	Total Absorption, Scattering	28-539 eV	Th	538
hν + $\mathbf{C_4H_4N}$	Total Absorption, Scattering	28-539 eV	Th	538
hν + **Kr**	Photoionization	800 nm	Th	539
hν + **HI**	Photodissociation	10^{13} W/cm^2	Th	540
hν + $\mathbf{CO_2}^+$	Photodissociation	$3x10^{13} - 6x10^{16}$ W/cm^2	Exp	541
hν + $\mathbf{CO_2}^+$	Photoionization	$3x10^{13} - 6x10^{16}$ W/cm^2	Exp	541
hν + $\mathbf{CH_3I}$	Photodissociation	$10^{12} - 10^{13}$ W/cm^2	Exp	542
hν + $\mathbf{CH_3Cl}$	Photodissociation	$10^{12} - 10^{13}$ W/cm^2	Exp	542
hν + $\mathbf{CH_3Br}$	Photodissociation	$10^{12} - 10^{13}$ W/cm^2	Exp	542
hν + $\mathbf{CH_3F}$	Photodissociation	$10^{12} - 10^{13}$ W/cm^2	Exp	542
hν + $\mathbf{CH_3I}$	Photoionization	$10^{12} - 10^{13}$ W/cm^2	Exp	542
hν + $\mathbf{CH_3Cl}$	Photoionization	$10^{12} - 10^{13}$ W/cm^2	Exp	542
hν + $\mathbf{CH_3Br}$	Photoionization	$10^{12} - 10^{13}$ W/cm^2	Exp	542
hν + $\mathbf{CH_3F}$	Photoionization	$10^{12} - 10^{13}$ W/cm^2	Exp	542
hν + $\mathbf{H_2}^+$	Photodissociation	790 nm	E/T	543
hν + $\mathbf{H_2}^+$	Photoionization	790 nm	E/T	543
hν + $\mathbf{H_2}^+$	Photoionization	10^{14} W/cm^2	Th	544

hν + H	Photoionization		Th	545
hν + Na$_2$	Photoionization	2.5-7.5, 10^{11} W/cm^2	Th	546
hν + He	Photoionization	77.5-78.3 eV	E/T	547
hν + He*	Photoionization	77.5-78.3 eV	E/T	547
hν + H$_2^+$	Photoionization	100 eV	Th	548
hν + N$_2$	Photoionization	500 eV	Exp	549
hν + He	Photoionization	450 eV	Th	550
hν + H$_2$	Fluorescence	20-55 eV	Exp	551
hν + K	Photoionization	0-8 Ry	Th	552
hν + Sc	Photoionization	0-8 Ry	Th	552
hν + Mn	Photoionization	0-8 Ry	Th	552
hν + In	Photoionization	0-8 Ry	Th	552
hν + Au	Photoionization	0-8 Ry	Th	552
hν + Tl	Photoionization	0-8 Ry	Th	552
hν + N$_2$	Fluorescence	135-190 nm	Exp	553
hν + Ba^{3+}	Total Absorption, Scattering	75-85 eV	Exp	554
hν + Ba^{4+}	Total Absorption, Scattering	75-85 eV	Exp	554
hν + Ba^{5+}	Total Absorption, Scattering	75-85 eV	Exp	554
hν + Ba^{3+}	Photoexcitation	75-85 eV	Exp	554
hν + Ba^{4+}	Photoexcitation	75-85 eV	Exp	554
hν + Ba^{5+}	Photoexcitation	75-85 eV	Exp	554
hν + N$_2$	Photoionization	410-450 eV	E/T	555
hν + Ca	Photoexcitation	10-25 eV	Th	556
hν + Nd^{48+}	Photoexcitation	$10^{-1} - 10$ a.u.	Th	557
hν + Pm^{49+}	Photoexcitation	$10^{-1} - 10$ a.u.	Th	557
hν + Sm^{50+}	Photoexcitation	$10^{-1} - 10$ a.u.	Th	557
hν + H$_2$O	Photoexcitation	$10^{-2} - 10^{-1}$ a.u.	Th	558
hν + Fe	Fluorescence	8.0-10.5 keV	E/T	559
hν + Co	Fluorescence	8.0-10.5 keV	E/T	559
hν + Fe	Photoexcitation	8.0-10.5 keV	E/T	559
hν + Co	Photoexcitation	8.0-10.5 keV	E/T	559
hν + Ne	Photoionization	871.7 eV	Th	560
hν + He	Photoionization	79.1-80.1 eV	Th	561
hν + Xe	Photoionization	674-792 eV	Exp	562
hν + Cs	Photoionization	674-792 eV	Exp	562
hν + H$_2$	Photodissociation	41.7 eV	Exp	563
hν + D$_2$	Photodissociation	41.7 eV	Exp	563
hν + H$_2$	Photoionization	41.7 eV	Exp	563
hν + D$_2$	Photoionization	41.7 eV	Exp	563
hν + He	Photoionization	41.85-51.15 eV	Th	564
hν + H$_2$	Photoionization	800 nm	Exp	565
hν + N$_2$	Photodissociation	400-403 eV	Exp	566
hν + N$_2$	Fluorescence	400-403 eV	Exp	566
hν + N$_2$	Photoionization	400-403 eV	Exp	566
hν + N$_2$	Fluorescence	28-49 eV	Exp	567
hν + N$_2$	Photoexcitation	28-49 eV	Exp	567
hν + Ne	Photoionization	869 eV	Exp	568
hν + Ne*	Photoionization	869 eV	Exp	568
hν + Kr	Photoionization	1660-1780 eV	Exp	569
hν + C$^-$	Photodetachment	281-284 eV	Th	570
hν + S$^-$	Photodetachment	614.6-577.1 nm	Exp	571
hν + K	Photoionization	42 eV	E/T	572
hν + N$_2$	Photoionization	0-8 eV	E/T	573
hν + Sr	Photoionization	355-410 nm	E/T	574
hν + Sr*	Photoionization	355-410 nm	E/T	574
hν + He	Photoionization	40-50 eV	Th	575
hν + NO	Photodissociation	405-420 eV	Th	576

hν + H^-	Photodetachment	1 eV	Th	577
hν + Li	Photoionization	300 eV	Th	578
hν + Ne	Photoionization		Exp	579
hν + Ne	Total Absorption, Scattering	900-940 eV	Exp	580
hν + Cu^{19+}	Photoexcitation	5 eV	Th	581
hν + Cu^{27+}	Photoexcitation	5 eV	Th	581
hν + Be	Photoexcitation	0.3-0.5 a.u.	Th	582
hν + Be	Photoionization	0.3-0.5 a.u.	Th	582
hν + Ar	Photoexcitation	$10^{-7} - 10^{-1}$ a.u.	Th	583
hν + C	Photoexcitation	$10^{-17} - 10^{-1}$ a.u.	Th	584
hν + Ti^{3+}	Photoexcitation	$10^{-4} - 1$ a.u.	Th	585
hν + Ne	Photoexcitation	$10^{-6} - 10^{-3}$ a.u.	Exp	586
hν + Ne	Photoionization	$10^{-6} - 10^{-3}$ a.u.	Exp	586
hν + N_2	Photoionization	440-550 eV	Exp	587
hν + OCS	Photodissociation	135-160 eV	Exp	588
hν + A	Photoexcitation		Th	589
hν + Na_2	Fluorescence	4900-6300 $\AA$	Exp	590
hν + N_2	Photoionization	10-2000 eV	Th	591
hν + Ca	Photoionization	374-323 nm	E/T	592
hν + Au	Photoionization	13-15 keV	Exp	593
hν + Ar	Photoexcitation	32.5-33.0 eV	E/T	594
hν + He	Photoionization	73.5-75.6 eV	Th	595
hν + S	Photoexcitation	83,000-830 cm^{-1}	Th	596
hν + Li	Photoionization	0-10 eV	E/T	597
hν + Sc	Total Absorption, Scattering	30-90 eV	E/T	598
hν + Ti	Total Absorption, Scattering	30-90 eV	E/T	598
hν + V	Total Absorption, Scattering	30-90 eV	E/T	598
hν + Cr	Total Absorption, Scattering	30-90 eV	E/T	598
hν + Mn	Total Absorption, Scattering	30-90 eV	E/T	598
hν + Fe	Total Absorption, Scattering	30-90 eV	E/T	598
hν + Co	Total Absorption, Scattering	30-90 eV	E/T	598
hν + Ni	Total Absorption, Scattering	30-90 eV	E/T	598
hν + Cu	Total Absorption, Scattering	30-90 eV	E/T	598
hν + Sc	Photoionization	30-90 eV	E/T	598
hν + Ti	Photoionization	30-90 eV	E/T	598
hν + V	Photoionization	30-90 eV	E/T	598
hν + Cr	Photoionization	30-90 eV	E/T	598
hν + Mn	Photoionization	30-90 eV	E/T	598
hν + Fe	Photoionization	30-90 eV	E/T	598
hν + Co	Photoionization	30-90 eV	E/T	598
hν + Ni	Photoionization	30-90 eV	E/T	598
hν + Cu	Photoionization	30-90 eV	E/T	598
hν + H_2O	Photodissociation	532-542 eV	Exp	599
hν + H_2O	Fluorescence	532-542 eV	Exp	599
hν + F	Photoionization	20-24 eV	E/T	600
hν + Ba	Photodetachment	0-10 ev; 0-2.5 eV	E/T	601
hν + Ne	Photoionization	795 nm	Exp	602
hν + Ar	Photoionization	795 nm	Exp	602
hν + Kr	Photoionization	815 nm	Exp	603
hν + H_2	Photoionization	800 nm	Th	604
hν + He	Photoionization	1.42-2.1 a.u.	Th	605
hν + H_2	Photodissociation	800 nm	Exp	606
hν + D_2	Photodissociation	800 nm	Exp	606
hν + C_2H_2	Photodissociation	800 nm	Exp	606
hν + H_2	Photoionization	800 nm	Exp	606
hν + D_2	Photoionization	800 nm	Exp	606
hν + C_2H_2	Photoionization	800 nm	Exp	606

hν + H_2	Photodissociation	795 nm	Exp	607
hν + D_2	Photodissociation	795 nm	Exp	607
hν + H_2	Photoionization	795 nm	Exp	607
hν + D_2	Photoionization	795 nm	Exp	607
hν + H_2	Photodissociation	810 nm	Exp	608
hν + D_2	Photodissociation	810 nm	Exp	608
hν + SO_2	Photodissociation	810 nm	Exp	608
hν + H_2	Photoionization	810 nm	Exp	608
hν + D_2	Photoionization	810 nm	Exp	608
hν + SO_2	Photoionization	810 nm	Exp	608
hν + CH_3OH	Photodissociation	800 nm	Exp	609
hν + CH_3OD	Photodissociation	800 nm	Exp	609
hν + CD_3OH	Photodissociation	800 nm	Exp	609
hν + CH_3OH	Photoionization	800 nm	Exp	609
hν + CH_3OD	Photoionization	800 nm	Exp	609
hν + CD_3OH	Photoionization	800 nm	Exp	609
hν + **H**	Photoexcitation		Th	610
hν + N_2	Photoionization	38 eV	Exp	611
hν + H_2	Photodissociation	0.5 a.u.	Th	612
hν + H_2^+	Photodissociation	0.5 a.u.	Th	612
hν + H_2	Photoionization	0.5 a.u.	Th	612
hν + H_2^+	Photoionization	0.5 a.u.	Th	612
hν + CO_2	Photoionization	300-340 eV	E/T	613
hν + **Ne**	Photoionization		Th	614
hν + **Ne**	Elastic Scattering	4 eV	E/T	615
hν + Ne^*	Elastic Scattering	4 eV	E/T	615
hν + **Ne**	Photoionization	4 eV	E/T	615
hν + Ne^*	Photoionization	4 eV	E/T	615
hν + **Ne**	Photoionization	400-800 nm	Exp	616
hν + **Ar**	Photoionization	400-800 nm	Exp	616
hν + **Ne**	Photoionization	950 eV	Exp	617
hν + N_2	Photodissociation	43-46 eV	Exp	618
hν + N_2	Photoionization	43-46 eV	Exp	618
hν + CO_2	Photoionization	550-570 eV	Exp	619
hν + Kr^+	Photoexcitation	350-720 nm	Exp	620
hν + H_2	Photoionization	4.3-8.0 10^{13} W/cm^2	Th	621
hν + H_2^*	Photoionization	4.3-8.0 10^{13} W/cm^2	Th	621
hν + CO_2	Photoionization	4.3-8.0 10^{13} W/cm^2	Th	621
hν + CO_2^*	Photoionization	4.3-8.0 10^{13} W/cm^2	Th	621
hν + N_2	Photoionization	4.3-8.0 10^{13} W/cm^2	Th	621
hν + N_2^*	Photoionization	4.3-8.0 10^{13} W/cm^2	Th	621
hν + **NO**	Photodissociation	800 nm	Exp	622
hν + **NO**	Photoionization	800 nm	Exp	622
hν + Li^+	Photoionization	140-180 eV	Exp	623
hν + Fe^{4+}	Photoionization	70-120 eV	Th	624
hν + **Li**	Photoionization	0-120 eV	Th	625
hν + **P**	Photoionization	0-120 eV	Th	625
hν + **Cr**	Photoionization	0-120 eV	Th	625
hν + Cr^*	Photoionization	0-120 eV	Th	625
hν + **Mn**	Photoionization	0-120 eV	Th	625
hν + **Eu**	Photoionization	0-120 eV	Th	625
hν + **Ne**	Photoexcitation	908-1080 eV	Exp	626
hν + **Ne**	Photoionization	908-1080 eV	Exp	626
hν + **Ba**	Fluorescence	5.6-30 keV	Exp	627
hν + **Ba**	Photoionization	5.6-30 keV	Exp	627
hν + H_2	Photoionization	15.65-15.68 eV	Exp	628
hν + D_2	Photoionization	15.65-15.68 eV	Exp	628

hν + $\mathbf{N_2}$	Photoionization	400-1600 eV	E/T	629
hν + **He**	Fluorescence	72.5-73.0 eV	E/T	630
hν + **He**	Photoionization	72.5-73.0 eV	E/T	630
hν + $\mathbf{H_2}$	Photodissociation	24-60 eV	E/T	631
hν + $\mathbf{D_2}$	Photodissociation	24-60 eV	E/T	631
hν + **H**	Photoionization	1-2 a.u.; 1 μ m	Th	632
hν + **Li**	Photoionization	0-3 eV	Exp	633
hν + **He**	Photoionization	30-320 eV	Th	634
hν + $\mathbf{Li^+}$	Photoionization	30-320 eV	Th	634
hν + $\mathbf{Be^{2+}}$	Photoionization	30-320 eV	Th	634
hν + $\mathbf{B^{3+}}$	Photoionization	30-320 eV	Th	634
hν + $\mathbf{O^{6+}}$	Photoionization	30-320 eV	Th	634
hν + **Ar**	Photoionization	1.6-90 eV	Th	635
hν + $\mathbf{Zr^+}$	Photoexcitation	5400-2500 $\AA$	Exp	636
hν + $\mathbf{Fe^{17+}}$	Photoexcitation	0-60 Ry	Th	637
hν + $\mathbf{Fe^{17+}}$	Photoexcitation	7 log T[K]	Th	638
hν + $\mathbf{Fe^{8+}}$	Photoexcitation	0-7.0 Ry	Th	639
hν + $\mathbf{Ni^{18+}}$	Photoexcitation	0-100 Ry	Th	640
hν + **Mg**	Photoexcitation	5180-2700 $\AA$	Exp	641
hν + $\mathbf{Fe^{15+}}$	Photoexcitation	0-60 Ry	Th	642
hν + $\mathbf{N_2}$	Photodissociation	800 nm	Exp	643
hν + $\mathbf{O_2}$	Photodissociation	800 nm	Exp	643
hν + $\mathbf{N_2}$	Photoionization	800 nm	Exp	643
hν + $\mathbf{O_2}$	Photoionization	800 nm	Exp	643
hν + **H**	Photoionization	243 nm	E/T	644
hν + $\mathbf{H_2}$	Photodissociation	75 eV	E/T	645
hν + $\mathbf{H_2}$	Photoionization	75 eV	E/T	645
hν + **Li**	Photoionization	317-1457 nm	E/T	646
hν + $\mathbf{Li^*}$	Photoionization	317-1457 nm	E/T	646
hν + $\mathbf{Ca^-}$	Photodetachment	0-4 eV	E/T	647
hν + $\mathbf{H^-}$	Photodetachment	0.0043-0.0253 $\omega(a.\mathrm{u.})$	E/T	648
hν + $\mathbf{F^-}$	Photodetachment	0.0043-0.0253 $\omega(a.\mathrm{u.})$	E/T	648
hν + **H**	Photoionization	0.675 $\omega(a.\mathrm{u.})$	Th	649
hν + **Ar** + $\mathbf{H_2}$	Total Absorption, Scattering	195 K	Th	650
hν + $\mathbf{ArH_2}$	Total Absorption, Scattering	195 K	Th	650
hν + **H**	Photoionization	0-60,000 cm^{-1}	Th	651
hν + $\mathbf{P^+}$	Photoexcitation	1154 $\AA$	Exp	652
hν + $\mathbf{Ge_2H_6}$	Photoexcitation	500-4500 cm^{-1}	Exp	653
hν + $\mathbf{Ge_2H_2}$	Photoexcitation	500-4500 cm^{-1}	Exp	653
hν + $\mathbf{Ge_2H_3}$	Photoexcitation	500-4500 cm^{-1}	Exp	653
hν + $\mathbf{Ge_2H_4}$	Photoexcitation	500-4500 cm^{-1}	Exp	653
hν + $\mathbf{Ge_2H_5}$	Photoexcitation	500-4500 cm^{-1}	Exp	653
hν + $\mathbf{Ni^{18+}}$	Photoexcitation	15.0-9.0 $\AA$	E/T	654
hν + $\mathbf{Ni^{19+}}$	Photoexcitation	15.0-9.0 $\AA$	E/T	654
hν + $\mathbf{Ni^{20+}}$	Photoexcitation	15.0-9.0 $\AA$	E/T	654
hν + $\mathbf{Ni^{21+}}$	Photoexcitation	15.0-9.0 $\AA$	E/T	654
hν + $\mathbf{Ni^{22+}}$	Photoexcitation	15.0-9.0 $\AA$	E/T	654
hν + $\mathbf{Ni^{23+}}$	Photoexcitation	15.0-9.0 $\AA$	E/T	654
hν + $\mathbf{Ni^{24+}}$	Photoexcitation	15.0-9.0 $\AA$	E/T	654
hν + $\mathbf{Ni^{25+}}$	Photoexcitation	15.0-9.0 $\AA$	E/T	654
hν + **He**	Photoionization	1 eV excess	Th	655
hν + **Li**	Photoionization	532-266 nm	Exp	656
hν + $\mathbf{Li^*}$	Photoionization	532-266 nm	Exp	656
hν + $\mathbf{CF_4}$	Photoionization	0-50 eV	E/T	657
hν + $\mathbf{C_2}$	Photoexcitation	1.0 $\AA$	Th	658
hν + $\mathbf{H_2}$	Photoionization	15.3-17.2 eV	Exp	659

hν + H_2	Photoexcitation	15.3-17.2 eV	Exp	660
hν + S	Photoionization	10-30 eV	Exp	661
hν + C_4	Photoionization	10 eV	Th	662
hν + Kr	Photoionization	64-95 eV	E/T	663
hν + He^-	Photodetachment	8-295 eV	E/T	664
hν + Li^-	Photodetachment	8-295 eV	E/T	664
hν + B^-	Photodetachment	8-295 eV	E/T	664
hν + C^-	Photodetachment	8-295 eV	E/T	664
hν + Na^-	Photodetachment	8-295 eV	E/T	664
hν + Cl^-	Photodetachment	8-295 eV	E/T	664
hν + V^-	Photodetachment	8-295 eV	E/T	664
hν + Cr^-	Photodetachment	8-295 eV	E/T	664
hν + Co^-	Photodetachment	8-295 eV	E/T	664
hν + Ni^-	Photodetachment	8-295 eV	E/T	664
hν + Te^-	Photodetachment	8-295 eV	E/T	664
hν + I^-	Photodetachment	8-295 eV	E/T	664
hν + I^-	Photoexcitation	8-295 eV	E/T	664
hν + I^+	Photoexcitation	8-295 eV	E/T	664
hν + I^{2+}	Photoexcitation	8-295 eV	E/T	664
hν + Xe	Photoexcitation	8-295 eV	E/T	664
hν + Xe^+	Photoexcitation	8-295 eV	E/T	664
hν + Xe^{2+}	Photoexcitation	8-295 eV	E/T	664
hν + Xe^{3+}	Photoexcitation	8-295 eV	E/T	664
hν + Xe^{4+}	Photoexcitation	8-295 eV	E/T	664
hν + Xe^{5+}	Photoexcitation	8-295 eV	E/T	664
hν + Xe^{6+}	Photoexcitation	8-295 eV	E/T	664
hν + Cs^+	Photoexcitation	8-295 eV	E/T	664
hν + Ba^+	Photoexcitation	8-295 eV	E/T	664
hν + Ba^{2+}	Photoexcitation	8-295 eV	E/T	664
hν + Ba^{3+}	Photoexcitation	8-295 eV	E/T	664
hν + La^+	Photoexcitation	8-295 eV	E/T	664
hν + La^{3+}	Photoexcitation	8-295 eV	E/T	664
hν + Ce^{4+}	Photoexcitation	8-295 eV	E/T	664
hν + He	Photoionization	8-295 eV	E/T	664
hν + He^+	Photoionization	8-295 eV	E/T	664
hν + Li	Photoionization	8-295 eV	E/T	664
hν + B^+	Photoionization	8-295 eV	E/T	664
hν + C^+	Photoionization	8-295 eV	E/T	664
hν + C^{2+}	Photoionization	8-295 eV	E/T	664
hν + N	Photoionization	8-295 eV	E/T	664
hν + N^+	Photoionization	8-295 eV	E/T	664
hν + N^{2+}	Photoionization	8-295 eV	E/T	664
hν + N^{3+}	Photoionization	8-295 eV	E/T	664
hν + O	Photoionization	8-295 eV	E/T	664
hν + O^+	Photoionization	8-295 eV	E/T	664
hν + O^{2+}	Photoionization	8-295 eV	E/T	664
hν + O^{3+}	Photoionization	8-295 eV	E/T	664
hν + O^{4+}	Photoionization	8-295 eV	E/T	664
hν + F^{2+}	Photoionization	8-295 eV	E/T	664
hν + F^{3+}	Photoionization	8-295 eV	E/T	664
hν + F^{4+}	Photoionization	8-295 eV	E/T	664
hν + Ne	Photoionization	8-295 eV	E/T	664
hν + Ne^+	Photoionization	8-295 eV	E/T	664
hν + Ne^{3+}	Photoionization	8-295 eV	E/T	664
hν + Ne^{4+}	Photoionization	8-295 eV	E/T	664
hν + Na	Photoionization	8-295 eV	E/T	664
hν + Mg^+	Photoionization	8-295 eV	E/T	664

hν + **Al**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Al**$^{2+}$	Photoionization	8-295 eV	E/T	664
hν + **Si**$^{2+}$	Photoionization	8-295 eV	E/T	664
hν + **S**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Ar**	Photoionization	8-295 eV	E/T	664
hν + **K**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Ca**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Ca**$^{2+}$	Photoionization	8-295 eV	E/T	664
hν + **Sc**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Sc**$^{2+}$	Photoionization	8-295 eV	E/T	664
hν + **Ti**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Ti**$^{3+}$	Photoionization	8-295 eV	E/T	664
hν + **V**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Cr**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Mn**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Fe**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Fe**$^{4+}$	Photoionization	8-295 eV	E/T	664
hν + **Co**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Ni**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Zn**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Ga**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Kr**	Photoionization	8-295 eV	E/T	664
hν + **Sr**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **I**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **I**$^{2+}$	Photoionization	8-295 eV	E/T	664
hν + **Xe**	Photoionization	8-295 eV	E/T	664
hν + **Xe**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Xe**$^{2+}$	Photoionization	8-295 eV	E/T	664
hν + **Xe**$^{3+}$	Photoionization	8-295 eV	E/T	664
hν + **Xe**$^{4+}$	Photoionization	8-295 eV	E/T	664
hν + **Xe**$^{5+}$	Photoionization	8-295 eV	E/T	664
hν + **Xe**$^{6+}$	Photoionization	8-295 eV	E/T	664
hν + **Cs**	Photoionization	8-295 eV	E/T	664
hν + **Cs**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Ba**	Photoionization	8-295 eV	E/T	664
hν + **Ba**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **Ba**$^{2+}$	Photoionization	8-295 eV	E/T	664
hν + **Ba**$^{3+}$	Photoionization	8-295 eV	E/T	664
hν + **La**$^{+}$	Photoionization	8-295 eV	E/T	664
hν + **La**$^{3+}$	Photoionization	8-295 eV	E/T	664
hν + **Ce**$^{4+}$	Photoionization	8-295 eV	E/T	664
hν + **Xe**$^{+}$	Photoionization	30-140 eV	Th	665
hν + **O**$^{+}$	Photoexcitation	0.1-40 eV	Th	666
hν + **F**$^{-}$	Photodetachment	0-900 eV	Th	667
hν + **H**	Photoionization	0-900 eV	Th	667
hν + **Xe**	Photoionization	320-550 eV	E/T	668
hν + **Ag**	Photoexcitation	661 nm	Exp	669
hν + **H**$_{2}$	Photoexcitation	202-355 nm	Exp	670
hν + **HD**	Photoexcitation	202-355 nm	Exp	670
hν + **D**$_{2}$	Photoexcitation	202-355 nm	Exp	670
hν + **Kr**$^{3+}$	Photoionization	39-179 eV	Exp	671
hν + **Rb**	Photoexcitation	200 eV	Exp	672
hν + **Rb**	Photoionization	200 eV	Exp	672
hν + **CO**	Photoionization	510-533 eV	Exp	673
hν + **H**$^{-}$	Photoionization	11-250 eV	Th	674
hν + **He**	Photoionization	11-250 eV	Th	674
hν + **He**	Photoionization	13 eV	Th	675

hν + $\mathbf{H_2}^+$	Photodissociation	80 nm	Th	676
hν + **Au**	Photoionization	5.96 keV	Exp	677
hν + **Hg**	Photoionization	5.96 keV	Exp	677
hν + **Tl**	Photoionization	5.96 keV	Exp	677
hν + **Pb**	Photoionization	5.96 keV	Exp	677
hν + **Bi**	Photoionization	5.96 keV	Exp	677
hν + **Th**	Photoionization	5.96 keV	Exp	677
hν + **U**	Photoionization	5.96 keV	Exp	677
hν + $\mathbf{H_2}$	Photodissociation	25 eV	Th	678
hν + $\mathbf{H_2}$	Photoionization	25 eV	Th	678
hν + **Ar**	Photoionization		Th	679
hν + **He**	Photoionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T	680
hν + **Ne**	Photoionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T	680
hν + **Ar**	Photoionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T	680
hν + $\mathbf{H_2}$	Photoionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T	680
hν + $\mathbf{D_2}$	Photoionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T	680
hν + $\mathbf{He}^-$	Photodetachment	57-65 eV	Exp	681
hν + $\mathbf{Li}^-$	Photodetachment	57-65 eV	Exp	681
hν + $\mathbf{B}^-$	Photodetachment	57-65 eV	Exp	681
hν + $\mathbf{N}^{2+}$	Photoionization	24-100 eV	E/T	682
hν + $\mathbf{O}^{3+}$	Photoionization	24-100 eV	E/T	682
hν + $\mathbf{He}^+$	Photoionization	30-40 eV	E/T	683
hν + $\mathbf{Ar}^+$	Photoionization	30-40 eV	E/T	683
hν + **Xe**	Photoionization		Exp	684
hν + $\mathbf{CO_2}$	Photodissociation	290-292 eV	Exp	685
hν + $\mathbf{CO_2}$	Photoionization	290-292 eV	Exp	685
hν + $\mathbf{NH_3}$	Photodissociation	100-400 eV	Exp	686
hν + $\mathbf{NH_3}$	Photoionization	100-400 eV	Exp	686
hν + **Xe**	Photoionization	1.55 eV	Exp	687
hν + **He**	Photoionization	78-79 eV	Exp	688
hν + $\mathbf{N}^+$	Photoionization	0-42 eV	E/T	689
hν + $\mathbf{O}^+$	Photoionization	0-42 eV	E/T	689
hν + **Li**	Photoionization	220 eV	Th	690
hν + **He**	Photoionization	10^{13} W/cm^2	Th	691
hν + $\mathbf{H_2}$	Photoionization	$2x10^{14}$ W/cm^2	Th	692
hν + $\mathbf{D_2}$	Photoionization	$2x10^{14}$ W/cm^2	Th	692
hν + **Kr**	Photoionization	60-88 eV	Exp	693
hν + **NO**	Photodissociation	$5x10^{13} - 6x10^{14}$ W/cm^2	Exp	694
hν + **NO**	Photoionization	$5x10^{13} - 6x10^{14}$ W/cm^2	Exp	694
hν + **He**	Photoionization	80 eV	Th	695
hν + **Mn**	Photoionization	10-14 eV	Th	696
hν + **Li**	Total Absorption, Scattering	500-3000 K	Th	697
hν + $\mathbf{Fe}^{7+}$	Photoexcitation	10-70 Ry	Th	698
hν + **H**	Photoionization	100-5000 eV	Th	699
hν + **He**	Photoionization	100-5000 eV	Th	699
hν + **Li**	Photoionization	100-5000 eV	Th	699
hν + **Be**	Photoionization	100-5000 eV	Th	699
hν + **B**	Photoionization	100-5000 eV	Th	699
hν + **C**	Photoionization	100-5000 eV	Th	699
hν + **N**	Photoionization	100-5000 eV	Th	699
hν + **O**	Photoionization	100-5000 eV	Th	699
hν + **F**	Photoionization	100-5000 eV	Th	699
hν + **Ne**	Photoionization	100-5000 eV	Th	699
hν + **Na**	Photoionization	100-5000 eV	Th	699
hν + **Mg**	Photoionization	100-5000 eV	Th	699
hν + **Al**	Photoionization	100-5000 eV	Th	699
hν + **Si**	Photoionization	100-5000 eV	Th	699

hν + **P**	Photoionization	100-5000 eV	Th	699
hν + **S**	Photoionization	100-5000 eV	Th	699
hν + **Cl**	Photoionization	100-5000 eV	Th	699
hν + **Ar**	Photoionization	100-5000 eV	Th	699
hν + **K**	Photoionization	100-5000 eV	Th	699
hν + **Ca**	Photoionization	100-5000 eV	Th	699
hν + **Sc**	Photoionization	100-5000 eV	Th	699
hν + **Ti**	Photoionization	100-5000 eV	Th	699
hν + **V**	Photoionization	100-5000 eV	Th	699
hν + **Cr**	Photoionization	100-5000 eV	Th	699
hν + **Mn**	Photoionization	100-5000 eV	Th	699
hν + **Fe**	Photoionization	100-5000 eV	Th	699
hν + **Co**	Photoionization	100-5000 eV	Th	699
hν + **Ni**	Photoionization	100-5000 eV	Th	699
hν + **Cu**	Photoionization	100-5000 eV	Th	699
hν + **Zn**	Photoionization	100-5000 eV	Th	699
hν + **Ga**	Photoionization	100-5000 eV	Th	699
hν + **Ge**	Photoionization	100-5000 eV	Th	699
hν + **As**	Photoionization	100-5000 eV	Th	699
hν + **Se**	Photoionization	100-5000 eV	Th	699
hν + **Br**	Photoionization	100-5000 eV	Th	699
hν + **Kr**	Photoionization	100-5000 eV	Th	699
hν + **Rb**	Photoionization	100-5000 eV	Th	699
hν + **Sr**	Photoionization	100-5000 eV	Th	699
hν + **Y**	Photoionization	100-5000 eV	Th	699
hν + **Zr**	Photoionization	100-5000 eV	Th	699
hν + **Nb**	Photoionization	100-5000 eV	Th	699
hν + **Mo**	Photoionization	100-5000 eV	Th	699
hν + **Tc**	Photoionization	100-5000 eV	Th	699
hν + **Ru**	Photoionization	100-5000 eV	Th	699
hν + **Rh**	Photoionization	100-5000 eV	Th	699
hν + **Pd**	Photoionization	100-5000 eV	Th	699
hν + **Ag**	Photoionization	100-5000 eV	Th	699
hν + **Cd**	Photoionization	100-5000 eV	Th	699
hν + **In**	Photoionization	100-5000 eV	Th	699
hν + **Sn**	Photoionization	100-5000 eV	Th	699
hν + **Sb**	Photoionization	100-5000 eV	Th	699
hν + **Te**	Photoionization	100-5000 eV	Th	699
hν + **I**	Photoionization	100-5000 eV	Th	699
hν + **Xe**	Photoionization	100-5000 eV	Th	699
hν + **Cl**	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{2+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{3+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{4+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{5+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{6+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{7+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{8+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{9+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{10+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{11+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{12+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{13+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{14+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{15+}$	Photoexcitation		Th	700
hν + $\mathbf{Cl}^{16+}$	Photoexcitation		Th	700

hν + **Fe**$^{10+}$	Photoexcitation	1-75 Ry	Th	701
hν + **Ne**	Photoionization	100-5000 eV	Th	702
hν + **Xe**	Photoionization	100-5000 eV	Th	702
hν + **Ba**	Photoionization	100-5000 eV	Th	702
hν + **La**	Photoionization	100-5000 eV	Th	702
hν + **Ce**	Photoionization	100-5000 eV	Th	702
hν + **Pr**	Photoionization	100-5000 eV	Th	702
hν + **Nd**	Photoionization	100-5000 eV	Th	702
hν + **Pm**	Photoionization	100-5000 eV	Th	702
hν + **Sm**	Photoionization	100-5000 eV	Th	702
hν + **Eu**	Photoionization	100-5000 eV	Th	702
hν + **Gd**	Photoionization	100-5000 eV	Th	702
hν + **Tb**	Photoionization	100-5000 eV	Th	702
hν + **Dy**	Photoionization	100-5000 eV	Th	702
hν + **Ho**	Photoionization	100-5000 eV	Th	702
hν + **Er**	Photoionization	100-5000 eV	Th	702
hν + **Tm**	Photoionization	100-5000 eV	Th	702
hν + **Yb**	Photoionization	100-5000 eV	Th	702
hν + **Lu**	Photoionization	100-5000 eV	Th	702
hν + **Hf**	Photoionization	100-5000 eV	Th	702
hν + **Ta**	Photoionization	100-5000 eV	Th	702
hν + **W**	Photoionization	100-5000 eV	Th	702
hν + **Re**	Photoionization	100-5000 eV	Th	702
hν + **Os**	Photoionization	100-5000 eV	Th	702
hν + **Ir**	Photoionization	100-5000 eV	Th	702
hν + **Pt**	Photoionization	100-5000 eV	Th	702
hν + **Au**	Photoionization	100-5000 eV	Th	702
hν + **Hg**	Photoionization	100-5000 eV	Th	702
hν + **Tl**	Photoionization	100-5000 eV	Th	702
hν + **Pb**	Photoionization	100-5000 eV	Th	702
hν + **Bi**	Photoionization	100-5000 eV	Th	702
hν + **Po**	Photoionization	100-5000 eV	Th	702
hν + **At**	Photoionization	100-5000 eV	Th	702
hν + **Rn**	Photoionization	100-5000 eV	Th	702
hν + **Fr**	Photoionization	100-5000 eV	Th	702
hν + **Ra**	Photoionization	100-5000 eV	Th	702
hν + **Ac**	Photoionization	100-5000 eV	Th	702
hν + **Th**	Photoionization	100-5000 eV	Th	702
hν + **Pa**	Photoionization	100-5000 eV	Th	702
hν + **U**	Photoionization	100-5000 eV	Th	702
hν + **Pu**	Photoionization	100-5000 eV	Th	702
hν + **Am**	Photoionization	100-5000 eV	Th	702
hν + **Cm**	Photoionization	100-5000 eV	Th	702
hν + **Bk**	Photoionization	100-5000 eV	Th	702
hν + **Cf**	Photoionization	100-5000 eV	Th	702
hν + **Es**	Photoionization	100-5000 eV	Th	702
hν + **Fm**	Photoionization	100-5000 eV	Th	702
hν + **Si**$^{6+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **P**$^{7+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **S**$^{8+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Cl**$^{9+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ar**$^{10+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **K**$^{11+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ca**$^{12+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Sc**$^{13+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ti**$^{14+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **V**$^{15+}$	Photoexcitation	0-10,000 Ry	Th	703

hν + **Cr**$^{16+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Mn**$^{17+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Fe**$^{18+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Co**$^{19+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ni**$^{20+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Cu**$^{21+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Zn**$^{22+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ga**$^{23+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ge**$^{24+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **As**$^{25+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Se**$^{26+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Br**$^{27+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Kr**$^{28+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Rb**$^{29+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Sr**$^{30+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Y**$^{31+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Zr**$^{32+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Nb**$^{33+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Mo**$^{34+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Tc**$^{35+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ru**$^{36+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Rh**$^{37+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Pd**$^{38+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ag**$^{39+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Cd**$^{40+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **In**$^{41+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Sn**$^{42+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Sb**$^{43+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Te**$^{44+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **I**$^{45+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Xe**$^{46+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Cs**$^{47+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ba**$^{48+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **La**$^{49+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ce**$^{50+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Pr**$^{51+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Nd**$^{52+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Pm**$^{53+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Sm**$^{54+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Eu**$^{55+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Gd**$^{56+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Tb**$^{57+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Dy**$^{58+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ho**$^{59+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Er**$^{60+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Tm**$^{61+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Yb**$^{62+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Lu**$^{63+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Hf**$^{64+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ta**$^{65+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **W**$^{66+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Re**$^{67+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Os**$^{68+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ir**$^{69+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Pt**$^{70+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Au**$^{71+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Hg**$^{72+}$	Photoexcitation	0-10,000 Ry	Th	703

hν + **Tl**$^{73+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Pb**$^{74+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Bi**$^{75+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Po**$^{76+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **At**$^{77+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Rn**$^{78+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Fr**$^{79+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ra**$^{80+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ac**$^{81+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Th**$^{82+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Pa**$^{81+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **U**$^{82+}$	Photoexcitation	0-10,000 Ry	Th	703
hν + **Ni**$^{20+}$	Photoexcitation	85-425 Ry	Th	704
hν + **Ne**$^{2+}$	Photoexcitation	5-45 Ry	Th	705
hν + **P**$^{2+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **S**$^{3+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Cl**$^{4+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Ar**$^{5+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **K**$^{6+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Ca**$^{7+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Sc**$^{8+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Ti**$^{9+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **V**$^{10+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Cr**$^{11+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Mn**$^{12+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Fe**$^{13+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Co**$^{14+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Ni**$^{15+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Cu**$^{16+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Zn**$^{17+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Ga**$^{18+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Ge**$^{19+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **As**$^{20+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Se**$^{21+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Br**$^{22+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Kr**$^{23+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Rb**$^{24+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Sr**$^{25+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Y**$^{26+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Zr**$^{27+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Nb**$^{28+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Mo**$^{29+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Tc**$^{30+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Ru**$^{31+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Rh**$^{32+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Pd**$^{33+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Ag**$^{34+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Cd**$^{35+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **In**$^{36+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Sn**$^{37+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Sb**$^{38+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Te**$^{39+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **I**$^{40+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Xe**$^{41+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Cs**$^{42+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **Ba**$^{43+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
hν + **La**$^{44+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706

$h\nu + Ce^{45+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Pr^{46+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Nd^{47+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Pm^{48+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Sm^{49+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Eu^{50+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Gd^{51+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Tb^{52+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Dy^{53+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Ho^{54+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Er^{55+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Tm^{56+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Yb^{57+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Lu^{58+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Hf^{59+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Ta^{60+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + W^{61+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Re^{62+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Os^{63+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Ir^{64+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Pt^{65+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Au^{66+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Hg^{67+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Tl^{68+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Pb^{69+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Bi^{70+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Po^{71+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + At^{72+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Rn^{73+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Fr^{74+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Ra^{75+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Ac^{76+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Th^{77+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Pa^{78+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + U^{79+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Np^{80+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Pu^{81+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Am^{82+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Cm^{83+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Bk^{84+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Cf^{85+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Es^{86+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Fm^{87+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	706
$h\nu + Cl^{5+}$	Photoexcitation	ned	Th	707
$h\nu + Fe^{16+}$	Photoexcitation	58.5-425 Ry	Th	708
$h\nu + S^{8+}$	Photoexcitation	25-125 Ry	Th	709
$h\nu + Si^{7+}$	Photoexcitation	20-80 Ry	Th	710
$h\nu + C^{+}$	Photoexcitation	0-10	Th	711
$h\nu + C^{3+}$	Photoexcitation	0-10	Th	711
$h\nu + N^{2+}$	Photoexcitation	0-10	Th	711
$h\nu + Ar^{12+}$	Photoexcitation	$10^{5} - 10^{7}$ K	Th	712
$h\nu + Fe^{13+}$	Photoexcitation	$10^{-9} - 10^{0}$	Th	713
$h\nu + Ni^{15+}$	Photoexcitation	$10^{-9} - 10^{0}$	Th	713
$h\nu + S^{9+}$	Photoexcitation	$10^{-5} - 10^{0}$	Th	714
$h\nu + Ta^{45+}$	Photoexcitation	4-600 Ry	Th	715
$h\nu + Ar^{11+}$	Photoexcitation	35-175 Ry	Th	716
$h\nu + Ne^{2+}$	Photoexcitation	5.2-25 Ry	Th	717

hν + **Ca**$^{13+}$	Photoexcitation	45-255 Ry	Th	718
hν + **Nd**$^{32+}$	Photoexcitation	5-20,000 eV	Th	719
hν + **Sm**$^{34+}$	Photoexcitation	5-20,000 eV	Th	719
hν + **Eu**$^{35+}$	Photoexcitation	5-20,000 eV	Th	719
hν + **Gd**$^{36+}$	Photoexcitation	5-20,000 eV	Th	719
hν + **Ta**$^{45+}$	Photoexcitation	5-20,000 eV	Th	719
hν + **W**$^{46+}$	Photoexcitation	5-20,000 eV	Th	719
hν + **Mg**$^{4+}$	Photoexcitation	10-50 Ry	Th	720
hν + **N**$^{3+}$	Photoexcitation	$10^{-2} - 10^{-1}$	Th	721
hν + **O**$^{4+}$	Photoexcitation	$10^{-2} - 10^{-1}$	Th	721
hν + **F**$^{5+}$	Photoexcitation	$10^{-2} - 10^{-1}$	Th	721
hν + **Ne**$^{6+}$	Photoexcitation	$10^{-2} - 10^{-1}$	Th	721
hν + **Co**$^{16+}$	Photoexcitation	$10^{-3} - 10^{0}$	Th	722
hν + **Ni**$^{17+}$	Photoexcitation	$10^{-3} - 10^{0}$	Th	722
hν + **Cu**$^{18+}$	Photoexcitation	$10^{-3} - 10^{0}$	Th	722
hν + **Zn**$^{19+}$	Photoexcitation	$10^{-3} - 10^{0}$	Th	722
hν + **Ga**$^{20+}$	Photoexcitation	$10^{-3} - 10^{0}$	Th	722
hν + **Ge**$^{21+}$	Photoexcitation	$10^{-3} - 10^{0}$	Th	722
hν + **As**$^{22+}$	Photoexcitation	$10^{-3} - 10^{0}$	Th	722
hν + **Se**$^{23+}$	Photoexcitation	$10^{-3} - 10^{0}$	Th	722
hν + **Br**$^{24+}$	Photoexcitation	$10^{-3} - 10^{0}$	Th	722
hν + **Kr**$^{25+}$	Photoexcitation	$10^{-3} - 10^{0}$	Th	722
hν + **H**	Photoionization	1-10 keV	Th	723
hν + **He**	Photoionization	1-10 keV	Th	723
hν + **Li**	Photoionization	1-10 keV	Th	723
hν + **Be**	Photoionization	1-10 keV	Th	723
hν + **B**	Photoionization	1-10 keV	Th	723
hν + **C**	Photoionization	1-10 keV	Th	723
hν + **N**	Photoionization	1-10 keV	Th	723
hν + **O**	Photoionization	1-10 keV	Th	723
hν + **F**	Photoionization	1-10 keV	Th	723
hν + **Ne**	Photoionization	1-10 keV	Th	723
hν + **Na**	Photoionization	1-10 keV	Th	723
hν + **Mg**	Photoionization	1-10 keV	Th	723
hν + **Al**	Photoionization	1-10 keV	Th	723
hν + **Si**	Photoionization	1-10 keV	Th	723
hν + **P**	Photoionization	1-10 keV	Th	723
hν + **S**	Photoionization	1-10 keV	Th	723
hν + **Cl**	Photoionization	1-10 keV	Th	723
hν + **Ar**	Photoionization	1-10 keV	Th	723
hν + **K**	Photoionization	1-10 keV	Th	723
hν + **Ca**	Photoionization	1-10 keV	Th	723
hν + **Sc**	Photoionization	1-10 keV	Th	723
hν + **Ti**	Photoionization	1-10 keV	Th	723
hν + **V**	Photoionization	1-10 keV	Th	723
hν + **Cr**	Photoionization	1-10 keV	Th	723
hν + **Mn**	Photoionization	1-10 keV	Th	723
hν + **Fe**	Photoionization	1-10 keV	Th	723
hν + **Co**	Photoionization	1-10 keV	Th	723
hν + **Ni**	Photoionization	1-10 keV	Th	723
hν + **Cu**	Photoionization	1-10 keV	Th	723
hν + **Zn**	Photoionization	1-10 keV	Th	723
hν + **Ga**	Photoionization	1-10 keV	Th	723
hν + **Ge**	Photoionization	1-10 keV	Th	723
hν + **As**	Photoionization	1-10 keV	Th	723
hν + **Se**	Photoionization	1-10 keV	Th	723
hν + **Br**	Photoionization	1-10 keV	Th	723

hν + Kr	Photoionization	1-10 keV	Th	723
hν + Rb	Photoionization	1-10 keV	Th	723
hν + Sr	Photoionization	1-10 keV	Th	723
hν + Y	Photoionization	1-10 keV	Th	723
hν + Zr	Photoionization	1-10 keV	Th	723
hν + Nb	Photoionization	1-10 keV	Th	723
hν + Mo	Photoionization	1-10 keV	Th	723
hν + Tc	Photoionization	1-10 keV	Th	723
hν + Ru	Photoionization	1-10 keV	Th	723
hν + Rh	Photoionization	1-10 keV	Th	723
hν + Pd	Photoionization	1-10 keV	Th	723
hν + Ag	Photoionization	1-10 keV	Th	723
hν + Cd	Photoionization	1-10 keV	Th	723
hν + In	Photoionization	1-10 keV	Th	723
hν + Sn	Photoionization	1-10 keV	Th	723
hν + Sb	Photoionization	1-10 keV	Th	723
hν + Te	Photoionization	1-10 keV	Th	723
hν + I	Photoionization	1-10 keV	Th	723
hν + Xe	Photoionization	1-10 keV	Th	723
hν + Cs	Photoionization	1-10 keV	Th	723
hν + Ba	Photoionization	1-10 keV	Th	723
hν + La	Photoionization	1-10 keV	Th	723
hν + Ce	Photoionization	1-10 keV	Th	723
hν + Pr	Photoionization	1-10 keV	Th	723
hν + Nd	Photoionization	1-10 keV	Th	723
hν + Pm	Photoionization	1-10 keV	Th	723
hν + Sm	Photoionization	1-10 keV	Th	723
hν + Eu	Photoionization	1-10 keV	Th	723
hν + Gd	Photoionization	1-10 keV	Th	723
hν + Tb	Photoionization	1-10 keV	Th	723
hν + Dy	Photoionization	1-10 keV	Th	723
hν + Ho	Photoionization	1-10 keV	Th	723
hν + Er	Photoionization	1-10 keV	Th	723
hν + Tm	Photoionization	1-10 keV	Th	723
hν + Yb	Photoionization	1-10 keV	Th	723
hν + Lu	Photoionization	1-10 keV	Th	723
hν + Hf	Photoionization	1-10 keV	Th	723
hν + Ta	Photoionization	1-10 keV	Th	723
hν + W	Photoionization	1-10 keV	Th	723
hν + Re	Photoionization	1-10 keV	Th	723
hν + Os	Photoionization	1-10 keV	Th	723
hν + Ir	Photoionization	1-10 keV	Th	723
hν + Pt	Photoionization	1-10 keV	Th	723
hν + Au	Photoionization	1-10 keV	Th	723
hν + Hg	Photoionization	1-10 keV	Th	723
hν + Tl	Photoionization	1-10 keV	Th	723
hν + Pb	Photoionization	1-10 keV	Th	723
hν + Bi	Photoionization	1-10 keV	Th	723
hν + Po	Photoionization	1-10 keV	Th	723
hν + At	Photoionization	1-10 keV	Th	723
hν + Rn	Photoionization	1-10 keV	Th	723
hν + Fr	Photoionization	1-10 keV	Th	723
hν + Ra	Photoionization	1-10 keV	Th	723
hν + Ac	Photoionization	1-10 keV	Th	723
hν + Pa	Photoionization	1-10 keV	Th	723
hν + U	Photoionization	1-10 keV	Th	723
hν + Np	Photoionization	1-10 keV	Th	723

hν + **Pu**	Photoionization	1-10 keV	Th	723
hν + **Am**	Photoionization	1-10 keV	Th	723
hν + **Cm**	Photoionization	1-10 keV	Th	723
hν + **Bk**	Photoionization	1-10 keV	Th	723
hν + **Cf**	Photoionization	1-10 keV	Th	723
hν + **Es**	Photoionization	1-10 keV	Th	723
hν + **Fm**	Photoionization	1-10 keV	Th	723
hν + $\mathbf{Ar^{10+}}$	Photoexcitation	30-150 Ry	Th	724
hν + $\mathbf{La^{29+}}$	Photoexcitation	10-10,000 eV	Th	725
hν + **Na**	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + **Mg**	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Mg^{+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + **Al**	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Al^{+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Al^{2+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + **Si**	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Si^{+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Si^{2+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Si^{3+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + **P**	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{P^{+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{P^{2+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{P^{3+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{P^{4+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + **S**	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{S^{+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{S^{2+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{S^{3+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{S^{4+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{S^{5+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + **Cl**	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cl^{+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cl^{2+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cl^{3+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cl^{4+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cl^{5+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cl^{6+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + **Ar**	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ar^{+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ar^{2+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ar^{3+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ar^{4+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ar^{5+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ar^{6+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ar^{7+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{K^{+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{K^{2+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{K^{3+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{K^{4+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{K^{5+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{K^{6+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{K^{7+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{K^{8+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ca^{2+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ca^{3+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ca^{4+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ca^{5+}}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726

hν + $\mathbf{Ca}^{6+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ca}^{7+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ca}^{8+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ca}^{9+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Sc}^{3+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Sc}^{4+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Sc}^{5+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Sc}^{6+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Sc}^{7+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Sc}^{8+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Sc}^{9+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Sc}^{10+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ti}^{4+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ti}^{5+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ti}^{6+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ti}^{7+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ti}^{8+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ti}^{9+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ti}^{10+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Ti}^{11+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{V}^{5+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{V}^{6+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{V}^{7+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{V}^{8+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{V}^{9+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{V}^{10+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{V}^{11+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{V}^{12+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cr}^{6+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cr}^{7+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cr}^{8+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cr}^{9+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cr}^{10+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cr}^{11+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cr}^{12+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Cr}^{13+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Mn}^{7+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Mn}^{8+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Mn}^{9+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Mn}^{10+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Mn}^{11+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Mn}^{12+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Mn}^{13+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Mn}^{14+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Fe}^{8+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Fe}^{9+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Fe}^{10+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Fe}^{11+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Fe}^{12+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Fe}^{13+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Fe}^{14+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Fe}^{15+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th	726
hν + $\mathbf{Mg}^{5+}$	Photoexcitation	12-60 Ry	Th	727
hν + $\mathbf{Ti}^{5+}$	Photoexcitation	$10^{-3} - 10^{0}$	Th	728
hν + **He**	Elastic Scattering	1-20,000 keV	Th	729
hν + $\mathbf{He}^{+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **C**	Elastic Scattering	1-20,000 keV	Th	729

hν + C^+	Elastic Scattering	1-20,000 keV	Th	729
hν + C^{2+}	Elastic Scattering	1-20,000 keV	Th	729
hν + C^{3+}	Elastic Scattering	1-20,000 keV	Th	729
hν + C^{4+}	Elastic Scattering	1-20,000 keV	Th	729
hν + C^{5+}	Elastic Scattering	1-20,000 keV	Th	729
hν + N	Elastic Scattering	1-20,000 keV	Th	729
hν + N^+	Elastic Scattering	1-20,000 keV	Th	729
hν + N^{2+}	Elastic Scattering	1-20,000 keV	Th	729
hν + N^{3+}	Elastic Scattering	1-20,000 keV	Th	729
hν + N^{4+}	Elastic Scattering	1-20,000 keV	Th	729
hν + N^{5+}	Elastic Scattering	1-20,000 keV	Th	729
hν + O	Elastic Scattering	1-20,000 keV	Th	729
hν + O^+	Elastic Scattering	1-20,000 keV	Th	729
hν + O^{2+}	Elastic Scattering	1-20,000 keV	Th	729
hν + O^{3+}	Elastic Scattering	1-20,000 keV	Th	729
hν + O^{4+}	Elastic Scattering	1-20,000 keV	Th	729
hν + O^{5+}	Elastic Scattering	1-20,000 keV	Th	729
hν + O^{6+}	Elastic Scattering	1-20,000 keV	Th	729
hν + O^{7+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Ne	Elastic Scattering	1-20,000 keV	Th	729
hν + Ne^+	Elastic Scattering	1-20,000 keV	Th	729
hν + Ne^{2+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Ne^{3+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Ne^{4+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Ne^{5+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Ne^{6+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Ne^{7+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Ne^{8+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Ne^{9+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Mg	Elastic Scattering	1-20,000 keV	Th	729
hν + Mg^+	Elastic Scattering	1-20,000 keV	Th	729
hν + Mg^{2+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Mg^{3+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Mg^{4+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Mg^{5+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Mg^{6+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Mg^{7+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Mg^{8+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Mg^{9+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Mg^{10+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Si	Elastic Scattering	1-20,000 keV	Th	729
hν + Si^+	Elastic Scattering	1-20,000 keV	Th	729
hν + Si^{2+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Si^{3+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Si^{4+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Si^{5+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Si^{6+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Si^{7+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Si^{8+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Si^{9+}	Elastic Scattering	1-20,000 keV	Th	729
hν + Si^{10+}	Elastic Scattering	1-20,000 keV	Th	729
hν + S	Elastic Scattering	1-20,000 keV	Th	729
hν + S^+	Elastic Scattering	1-20,000 keV	Th	729
hν + S^{2+}	Elastic Scattering	1-20,000 keV	Th	729
hν + S^{3+}	Elastic Scattering	1-20,000 keV	Th	729
hν + S^{4+}	Elastic Scattering	1-20,000 keV	Th	729
hν + S^{5+}	Elastic Scattering	1-20,000 keV	Th	729

hν + **S**$^{6+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **S**$^{7+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **S**$^{8+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **S**$^{9+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **S**$^{10+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Ar**	Elastic Scattering	1-20,000 keV	Th	729
hν + **Ar**$^{+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Ar**$^{2+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Ar**$^{3+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Ar**$^{4+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Ar**$^{5+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Ar**$^{6+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Ar**$^{7+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Ar**$^{8+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Ar**$^{9+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Ar**$^{10+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Fe**	Elastic Scattering	1-20,000 keV	Th	729
hν + **Fe**$^{+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Fe**$^{2+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Fe**$^{3+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Fe**$^{4+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Fe**$^{5+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Fe**$^{6+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Fe**$^{7+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Fe**$^{8+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Fe**$^{9+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Fe**$^{10+}$	Elastic Scattering	1-20,000 keV	Th	729
hν + **Au**$^{47+}$	Photoexcitation	5-40,000 eV	Th	730
hν + **Au**$^{48+}$	Photoexcitation	5-40,000 eV	Th	730
hν + **Au**$^{49+}$	Photoexcitation	5-40,000 eV	Th	730
hν + **Au**$^{50+}$	Photoexcitation	5-40,000 eV	Th	730
hν + **Au**$^{51+}$	Photoexcitation	5-40,000 eV	Th	730
hν + **Au**$^{52+}$	Photoexcitation	5-40,000 eV	Th	730
hν + **Si**$^{10+}$	Photoexcitation	35-175 Ry	Th	731
hν + **Mg**$^{4+}$	Photoexcitation	$10^{-7} - 10^{0}$	Th	732
hν + **Fe**$^{14+}$	Photoexcitation	$10^{-15} - 10^{0}$	Th	733
hν + **Co**$^{15+}$	Photoexcitation	$10^{-15} - 10^{0}$	Th	733
hν + **Ni**$^{16+}$	Photoexcitation	$10^{-15} - 10^{0}$	Th	733
hν + **Mg**$^{8+}$	Photoexcitation	25-125 Ry	Th	734
nhν + **O**$_2$	Photodissociation	550-1800 nm	Exp	396
nhν + **O**$_2$	Photoionization	550-1800 nm	Exp	396
nhν + **Ne**	Photoionization	800 nm	Exp	397
nhν + **Ar**	Photoionization	800 nm	Exp	397
nhν + **H**$_2$	Photodissociation	266 nm	Th	405
nhν + **H**$_2$$^{+}$	Photodissociation	266 nm	Th	405
nhν + **He**	Photoionization	390 nm	Th	413
nhν + **H**	Photoionization	6.5-22 eV	Th	418
nhν + **He**	Photoionization	6.5-22 eV	Th	418
nhν + **He**	Photoionization	810 nm	E/T	448
nhν + **H**	Photoionization	1.93 eV	Th	449
nhν + **Xe**	Photoionization	1.93 eV	Th	449
nhν + **He**	Photoionization	11.2-49.50 eV	Th	450
nhν + **He***	Photoionization	11.2-49.50 eV	Th	450
nhν + **He**	Photoionization	2-30 eV	Th	451
nhν + **H**$_2$	Photoionization	2-30 eV	Th	451
nhν + **H**$^{-}$	Photodetachment	0.0043-0.0253 $\omega(a.\text{u.})$	E/T	648
nhν + **F**$^{-}$	Photodetachment	0.0043-0.0253 $\omega(a.\text{u.})$	E/T	648

nhν + H	Photoionization	0.675 ω(a.u.)	Th	649
2hν + He	Photoionization	91.6 eV	Th	496
2hν + H	Photoionization	243 nm	E/T	644
hν + Cl Z= ?-?	Photoexcitation		Th	700

2.2.2 Electron Collisions

hν + Si^{6+}	Excitation	0-10,000 Ry	Th	1027
hν + P^{7+}	Excitation	0-10,000 Ry	Th	1027
hν + S^{8+}	Excitation	0-10,000 Ry	Th	1027
hν + Cl^{9+}	Excitation	0-10,000 Ry	Th	1027
hν + Ar^{10+}	Excitation	0-10,000 Ry	Th	1027
hν + K^{11+}	Excitation	0-10,000 Ry	Th	1027
hν + Ca^{12+}	Excitation	0-10,000 Ry	Th	1027
hν + Sc^{13+}	Excitation	0-10,000 Ry	Th	1027
hν + Ti^{14+}	Excitation	0-10,000 Ry	Th	1027
hν + V^{15+}	Excitation	0-10,000 Ry	Th	1027
hν + Cr^{16+}	Excitation	0-10,000 Ry	Th	1027
hν + Mn^{17+}	Excitation	0-10,000 Ry	Th	1027
hν + Fe^{18+}	Excitation	0-10,000 Ry	Th	1027
hν + Co^{19+}	Excitation	0-10,000 Ry	Th	1027
hν + Ni^{20+}	Excitation	0-10,000 Ry	Th	1027
hν + Cu^{21+}	Excitation	0-10,000 Ry	Th	1027
hν + Zn^{22+}	Excitation	0-10,000 Ry	Th	1027
hν + Ga^{23+}	Excitation	0-10,000 Ry	Th	1027
hν + Ge^{24+}	Excitation	0-10,000 Ry	Th	1027
hν + As^{25+}	Excitation	0-10,000 Ry	Th	1027
hν + Se^{26+}	Excitation	0-10,000 Ry	Th	1027
hν + Br^{27+}	Excitation	0-10,000 Ry	Th	1027
hν + Kr^{28+}	Excitation	0-10,000 Ry	Th	1027
hν + Rb^{29+}	Excitation	0-10,000 Ry	Th	1027
hν + Sr^{30+}	Excitation	0-10,000 Ry	Th	1027
hν + Y^{31+}	Excitation	0-10,000 Ry	Th	1027
hν + Zr^{32+}	Excitation	0-10,000 Ry	Th	1027
hν + Nb^{33+}	Excitation	0-10,000 Ry	Th	1027
hν + Mo^{34+}	Excitation	0-10,000 Ry	Th	1027
hν + Tc^{35+}	Excitation	0-10,000 Ry	Th	1027
hν + Ru^{36+}	Excitation	0-10,000 Ry	Th	1027
hν + Rh^{37+}	Excitation	0-10,000 Ry	Th	1027
hν + Pd^{38+}	Excitation	0-10,000 Ry	Th	1027
hν + Ag^{39+}	Excitation	0-10,000 Ry	Th	1027
hν + Cd^{40+}	Excitation	0-10,000 Ry	Th	1027
hν + In^{41+}	Excitation	0-10,000 Ry	Th	1027
hν + Sn^{42+}	Excitation	0-10,000 Ry	Th	1027
hν + Sb^{43+}	Excitation	0-10,000 Ry	Th	1027
hν + Te^{44+}	Excitation	0-10,000 Ry	Th	1027
hν + I^{45+}	Excitation	0-10,000 Ry	Th	1027
hν + Xe^{46+}	Excitation	0-10,000 Ry	Th	1027
hν + Cs^{47+}	Excitation	0-10,000 Ry	Th	1027
hν + Ba^{48+}	Excitation	0-10,000 Ry	Th	1027
hν + La^{49+}	Excitation	0-10,000 Ry	Th	1027
hν + Ce^{50+}	Excitation	0-10,000 Ry	Th	1027
hν + Pr^{51+}	Excitation	0-10,000 Ry	Th	1027
hν + Nd^{52+}	Excitation	0-10,000 Ry	Th	1027
hν + Pm^{53+}	Excitation	0-10,000 Ry	Th	1027
hν + Sm^{54+}	Excitation	0-10,000 Ry	Th	1027

hν + **Eu**$^{55+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Gd**$^{56+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Tb**$^{57+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Dy**$^{58+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Ho**$^{59+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Er**$^{60+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Tm**$^{61+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Yb**$^{62+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Lu**$^{63+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Hf**$^{64+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Ta**$^{65+}$	Excitation	0-10,000 Ry	Th	1027
hν + **W**$^{66+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Re**$^{67+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Os**$^{68+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Ir**$^{69+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Pt**$^{70+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Au**$^{71+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Hg**$^{72+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Tl**$^{73+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Pb**$^{74+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Bi**$^{75+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Po**$^{76+}$	Excitation	0-10,000 Ry	Th	1027
hν + **At**$^{77+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Rn**$^{78+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Fr**$^{79+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Ra**$^{80+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Ac**$^{81+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Th**$^{82+}$	Excitation	0-10,000 Ry	Th	1027
hν + **Pa**$^{81+}$	Excitation	0-10,000 Ry	Th	1027
hν + **U**$^{82+}$	Excitation	0-10,000 Ry	Th	1027
e + **U**$^{89+}$	Angular Scattering	2.18-218 MeV/u	Th	735
e + **U**$^{91+}$	Angular Scattering	2.18-218 MeV/u	Th	735
e + **U**$^{89+}$	Recombination	2.18-218 MeV/u	Th	735
e + **U**$^{91+}$	Recombination	2.18-218 MeV/u	Th	735
e + **Zn**	Angular Scattering	15-60 eV	E/T	736
e + **Zn**	Excitation	15-60 eV	E/T	736
e + $\mathbf{He_2}^+$	Dissociation	$10^{-4} - 50$ eV	Exp	737
e + $\mathbf{He_2}^+$	Recombination	$10^{-4} - 50$ eV	Exp	737
e + $\mathbf{He_2}^+$	Excitation	$10^{-4} - 50$ eV	Exp	737
e + **Ne**	Excitation	2500 eV	E/T	738
e + $\mathbf{H_2}^+$	Excitation	10-250 eV	Th	739
e + $\mathbf{H_2}^+$	Ionization	10-250 eV	Th	739
e + **OCS**	Elastic Scattering	0-2 eV	Th	740
e + $\mathbf{N_2}$	Ionization	35.6-400 eV	Th	741
e + $\mathbf{Fe}^+$	Excitation	0-10 Ry	Th	742
e + $\mathbf{H_3}^+$	Dissociation	$10^{-3} - 10$ eV	Th	743
e + $\mathbf{H_2D}^+$	Dissociation	$10^{-3} - 10$ eV	Th	743
e + $\mathbf{HD_2}^+$	Dissociation	$10^{-3} - 10$ eV	Th	743
e + $\mathbf{H_3}^+$	Recombination	$10^{-3} - 10$ eV	Th	743
e + $\mathbf{H_2D}^+$	Recombination	$10^{-3} - 10$ eV	Th	743
e + $\mathbf{HD_2}^+$	Recombination	$10^{-3} - 10$ eV	Th	743
e + $\mathbf{He_2}^{2+}$	Dissociation	1-15 eV	Th	744
e + $\mathbf{He_2}^{2+}$	Recombination	1-15 eV	Th	744
e + **Xe**	Excitation	0.5-10 eV	Exp	745
e + **H**	Ionization	15 eV	Th	746
e + **Ar**	Ionization	113.5-200 eV	Th	747
e + $\mathbf{C_2H_2}$	Excitation	300-800 eV	Th	748

e + C_3H_4	Ionization	25-1000 eV	Exp	749
e + HeH^+	Dissociation	0-2 eV	Th	750
e + HeH^+	Recombination	0-2 eV	Th	750
e + Ar	Angular Scattering	113.5-200 eV	Th	751
e + Ar	Ionization	113.5-200 eV	Th	751
e + He	Ionization	2080 eV	E/T	752
e + CO_2	Excitation	250-500 eV	Th	753
e + C_4H_6	Excitation	250-500 eV	Th	753
e + Pb^+	Ionization	0-1000 eV	E/T	754
e + Pb^{2+}	Ionization	0-1000 eV	E/T	754
e + Pb^{3+}	Ionization	0-1000 eV	E/T	754
e + Pb^{4+}	Ionization	0-1000 eV	E/T	754
e + Pb^{5+}	Ionization	0-1000 eV	E/T	754
e + Pb^{6+}	Ionization	0-1000 eV	E/T	754
e + Pb^{7+}	Ionization	0-1000 eV	E/T	754
e + Pb^{8+}	Ionization	0-1000 eV	E/T	754
e + Pb^{9+}	Ionization	0-1000 eV	E/T	754
e + Pb^{10+}	Ionization	0-1000 eV	E/T	754
e + H	Ionization	10-10,000 eV	Th	755
e + He^+	Ionization	10-10,000 eV	Th	755
e + Li	Ionization	10-10,000 eV	Th	755
e + C^{5+}	Ionization	10-10,000 eV	Th	755
e + N^{4+}	Ionization	10-10,000 eV	Th	755
e + N^{6+}	Ionization	10-10,000 eV	Th	755
e + O^{5+}	Ionization	10-10,000 eV	Th	755
e + O^{7+}	Ionization	10-10,000 eV	Th	755
e + Ne^{8+}	Ionization	10-10,000 eV	Th	755
e + Ti^{19+}	Ionization	10-10,000 eV	Th	755
e + V^{20+}	Ionization	10-10,000 eV	Th	755
e + Cr^{21+}	Ionization	10-10,000 eV	Th	755
e + Mn^{22+}	Ionization	10-10,000 eV	Th	755
e + Fe^{23+}	Ionization	10-10,000 eV	Th	755
e + Mo^{41+}	Ionization	10-10,000 eV	Th	755
e + Dy^{65+}	Ionization	10-10,000 eV	Th	755
e + U^{89+}	Ionization	10-10,000 eV	Th	755
e + U^{90+}	Ionization	10-10,000 eV	Th	755
e + U^{91+}	Ionization	10-10,000 eV	Th	755
e + N_2	Angular Scattering	75.6 eV	Th	756
e + N_2	Ionization	75.6 eV	Th	756
e + Mo^+	Ionization	15-150 eV	Th	757
e + He	Elastic Scattering	4-22 eV	Th	758
e + He	Angular Scattering	4-22 eV	Th	758
e + Be^+	Ionization	0-200 eV	E/T	759
e + B^{2+}	Ionization	0-200 eV	E/T	759
e + C^{3+}	Ionization	0-200 eV	E/T	759
e + N^{4+}	Ionization	0-200 eV	E/T	759
e + O^{5+}	Ionization	0-200 eV	E/T	759
e + F^{6+}	Ionization	0-200 eV	E/T	759
e + Ne^{7+}	Ionization	0-200 eV	E/T	759
e + Na^{8+}	Ionization	0-200 eV	E/T	759
e + Mg^{9+}	Ionization	0-200 eV	E/T	759
e + Al^{10+}	Ionization	0-200 eV	E/T	759
e + H_2O	Dissociation	20-200 eV	Exp	760
e + H_2O	Ionization	20-200 eV	Exp	760
e + C_6H_{14}	Elastic Scattering	0.4-1000 eV	Exp	761
e + C_6H_{12}	Elastic Scattering	0.4-1000 eV	Exp	761
e + C_6H_{14}	Excitation	0.4-1000 eV	Exp	761

e + C_6H_{12}	Excitation	0.4-1000 eV	Exp	761
e + C_6H_{14}	Ionization	0.4-1000 eV	Exp	761
e + C_6H_{12}	Ionization	0.4-1000 eV	Exp	761
e + Kr	Elastic Scattering	1.5-30 eV	Th	762
e + Kr^*	Elastic Scattering	1.5-30 eV	Th	762
e + Kr	Excitation	1.5-30 eV	Th	762
e + Kr^*	Excitation	1.5-30 eV	Th	762
e + $Cl_2{}^-$	Dissociation	0-200 eV	Exp	763
e + $Cl_2{}^-$	Detachment	0-200 eV	Exp	763
e + He	Excitation	1000-1600 eV	Exp	764
e + He	Ionization	1000-1600 eV	Exp	764
e + C_2H_4	Elastic Scattering	0.5-20 eV	Th	765
e + C_2H_4	Angular Scattering	0.5-20 eV	Th	765
e + C_2H_4	Total Scattering	0.5-20 eV	Th	765
e + Xe	Ionization	10-28 keV	Exp	766
e + W^+	Ionization	0-250 keV	Th	767
e + W^{2+}	Ionization	0-250 keV	Th	767
e + W^{3+}	Ionization	0-250 keV	Th	767
e + W^{4+}	Ionization	0-250 keV	Th	767
e + W^{5+}	Ionization	0-250 keV	Th	767
e + W^{6+}	Ionization	0-250 keV	Th	767
e + W^{7+}	Ionization	0-250 keV	Th	767
e + W^{8+}	Ionization	0-250 keV	Th	767
e + W^{9+}	Ionization	0-250 keV	Th	767
e + W^{10+}	Ionization	0-250 keV	Th	767
e + W^{11+}	Ionization	0-250 keV	Th	767
e + W^{12+}	Ionization	0-250 keV	Th	767
e + W^{13+}	Ionization	0-250 keV	Th	767
e + W^{14+}	Ionization	0-250 keV	Th	767
e + W^{15+}	Ionization	0-250 keV	Th	767
e + W^{16+}	Ionization	0-250 keV	Th	767
e + W^{17+}	Ionization	0-250 keV	Th	767
e + W^{18+}	Ionization	0-250 keV	Th	767
e + W^{19+}	Ionization	0-250 keV	Th	767
e + W^{20+}	Ionization	0-250 keV	Th	767
e + W^{21+}	Ionization	0-250 keV	Th	767
e + W^{22+}	Ionization	0-250 keV	Th	767
e + W^{23+}	Ionization	0-250 keV	Th	767
e + W^{24+}	Ionization	0-250 keV	Th	767
e + W^{25+}	Ionization	0-250 keV	Th	767
e + W^{26+}	Ionization	0-250 keV	Th	767
e + W^{27+}	Ionization	0-250 keV	Th	767
e + W^{28+}	Ionization	0-250 keV	Th	767
e + W^{29+}	Ionization	0-250 keV	Th	767
e + W^{30+}	Ionization	0-250 keV	Th	767
e + W^{31+}	Ionization	0-250 keV	Th	767
e + W^{32+}	Ionization	0-250 keV	Th	767
e + W^{33+}	Ionization	0-250 keV	Th	767
e + W^{34+}	Ionization	0-250 keV	Th	767
e + W^{35+}	Ionization	0-250 keV	Th	767
e + W^{36+}	Ionization	0-250 keV	Th	767
e + W^{37+}	Ionization	0-250 keV	Th	767
e + W^{38+}	Ionization	0-250 keV	Th	767
e + W^{39+}	Ionization	0-250 keV	Th	767
e + W^{40+}	Ionization	0-250 keV	Th	767
e + W^{41+}	Ionization	0-250 keV	Th	767
e + W^{42+}	Ionization	0-250 keV	Th	767

e + W^{43+}	Ionization	0-250 keV	Th	767
e + W^{44+}	Ionization	0-250 keV	Th	767
e + W^{45+}	Ionization	0-250 keV	Th	767
e + W^{46+}	Ionization	0-250 keV	Th	767
e + W^{47+}	Ionization	0-250 keV	Th	767
e + W^{48+}	Ionization	0-250 keV	Th	767
e + W^{49+}	Ionization	0-250 keV	Th	767
e + W^{50+}	Ionization	0-250 keV	Th	767
e + W^{51+}	Ionization	0-250 keV	Th	767
e + W^{52+}	Ionization	0-250 keV	Th	767
e + W^{53+}	Ionization	0-250 keV	Th	767
e + W^{54+}	Ionization	0-250 keV	Th	767
e + W^{55+}	Ionization	0-250 keV	Th	767
e + W^{56+}	Ionization	0-250 keV	Th	767
e + W^{57+}	Ionization	0-250 keV	Th	767
e + W^{58+}	Ionization	0-250 keV	Th	767
e + W^{59+}	Ionization	0-250 keV	Th	767
e + W^{60+}	Ionization	0-250 keV	Th	767
e + W^{61+}	Ionization	0-250 keV	Th	767
e + W^{62+}	Ionization	0-250 keV	Th	767
e + W^{63+}	Ionization	0-250 keV	Th	767
e + W^{64+}	Ionization	0-250 keV	Th	767
e + W^{65+}	Ionization	0-250 keV	Th	767
e + W^{66+}	Ionization	0-250 keV	Th	767
e + W^{67+}	Ionization	0-250 keV	Th	767
e + W^{68+}	Ionization	0-250 keV	Th	767
e + W^{69+}	Ionization	0-250 keV	Th	767
e + W^{70+}	Ionization	0-250 keV	Th	767
e + W^{71+}	Ionization	0-250 keV	Th	767
e + W^{72+}	Ionization	0-250 keV	Th	767
e + W^{73+}	Ionization	0-250 keV	Th	767
e + CH_4	Dissociation	0-500 eV	Th	768
e + He^+	Ionization	200-500 eV	Th	769
e + H_2O	Ionization	25 eV	Th	770
e + CF_4	Excitation	0.1-2 eV	Exp	771
e + Na	Angular Scattering	10-75 eV	Exp	772
e + Mg	Angular Scattering	10-75 eV	Exp	772
e + K	Angular Scattering	10-75 eV	Exp	772
e + Ca	Angular Scattering	10-75 eV	Exp	772
e + Na	Ionization	10-75 eV	Exp	772
e + Mg	Ionization	10-75 eV	Exp	772
e + K	Ionization	10-75 eV	Exp	772
e + Ca	Ionization	10-75 eV	Exp	772
e + He	Angular Scattering	26.3-40.7 eV	Th	773
e + He	Ionization	26.3-40.7 eV	Th	773
e + CF	Attachment	0-2 eV	Th	774
e + CF	Dissociation	0-2 eV	Th	774
e + CF	Excitation	0-2 eV	Th	774
e + Ar	Angular Scattering	12-24 keV	Exp	775
e + Ar	Ionization	12-24 keV	Exp	775
e + C_4H_8O	Elastic Scattering	2-21 eV	Exp	776
e + CS_2	Elastic Scattering	0-10 eV	Th	777
e + CS_2	Angular Scattering	0-10 eV	Th	777
e + Kr	Elastic Scattering	20-260 eV	E/T	778
e + Kr	Angular Scattering	20-260 eV	E/T	778
e + CHF_3	Elastic Scattering	20-500 eV	Exp	779
e + CHF_3	Angular Scattering	20-500 eV	Exp	779

e + Ca	Elastic Scattering	10-100 eV	E/T	780
e + Ca	Excitation	10-100 eV	Th	781
e + $\mathbf{He^+}$	Line Broadening	1.75 eV	Exp	782
e + $\mathbf{He^+}$	Fluorescence	1.75 eV	Exp	782
e + $\mathbf{H_2}$	Excitation	4087 eV	Th	783
e + $\mathbf{H_2}$	Ionization	4087 eV	Th	783
e + Ba	Elastic Scattering	20 eV	Exp	784
e + $\mathbf{Ba^*}$	Elastic Scattering	20 eV	Exp	784
e + Ba	Excitation	20 eV	Exp	784
e + $\mathbf{Ba^*}$	Excitation	20 eV	Exp	784
e + $\mathbf{Pb^+}$	Ionization	20-1000 eV	Exp	785
e + $\mathbf{Pb^{2+}}$	Ionization	20-1000 eV	Exp	785
e + $\mathbf{Pb^{3+}}$	Ionization	20-1000 eV	Exp	785
e + $\mathbf{Pb^{4+}}$	Ionization	20-1000 eV	Exp	785
e + $\mathbf{Pb^{5+}}$	Ionization	20-1000 eV	Exp	785
e + $\mathbf{Pb^{6+}}$	Ionization	20-1000 eV	Exp	785
e + $\mathbf{Pb^{7+}}$	Ionization	20-1000 eV	Exp	785
e + $\mathbf{Pb^{8+}}$	Ionization	20-1000 eV	Exp	785
e + $\mathbf{Pb^{9+}}$	Ionization	20-1000 eV	Exp	785
e + Ar	Elastic Scattering	2-10 eV	Th	786
e + Ar	Angular Scattering	2-10 eV	Th	786
e + $\mathbf{CO_2}$	Angular Scattering	20-100 eV	Exp	787
e + $\mathbf{CO_2}$	Ionization	20-100 eV	Exp	787
e + $\mathbf{Fe^+}$	Excitation	30-100,000 K	Th	788
e + H	Elastic Scattering	0.026-218 eV	Th	789
e + He	Elastic Scattering	0.026-218 eV	Th	789
e + $\mathbf{He^+}$	Elastic Scattering	0.026-218 eV	Th	789
e + H	Excitation	0.026-218 eV	Th	789
e + He	Excitation	0.026-218 eV	Th	789
e + $\mathbf{He^+}$	Excitation	0.026-218 eV	Th	789
e + $\mathbf{H_2{}^+}$	Ionization	20-160 eV	E/T	790
e + Rb	Angular Scattering	20 eV	Th	791
e + Rb	Excitation	20 eV	Th	791
e + Rb	Elastic Scattering	15-80 eV	E/T	792
e + Rb	Angular Scattering	15-80 eV	E/T	792
e + Rb	Excitation	15-80 eV	E/T	792
e + $\mathbf{C_2F_6}$	Dissociation	30-1000 eV	Exp	793
e + $\mathbf{C_2F_6}$	Elastic Scattering	30-1000 eV	Exp	793
e + $\mathbf{C_2F_6}$	Angular Scattering	30-1000 eV	Exp	793
e + $\mathbf{C_2F_6}$	Ionization	30-1000 eV	Exp	793
e + Yb	Angular Scattering	10-40 eV	Exp	794
e + Yb	Excitation	10-40 eV	Exp	794
e + Cs	Elastic Scattering	5-100 eV	Exp	795
e + N	Excitation	2-120 eV	Th	796
e + $\mathbf{N_2}$	Elastic Scattering	0.8-5 eV	Exp	797
e + $\mathbf{N_2}$	Excitation	0.8-5 eV	Exp	797
e + Li	Excitation		Th	798
e + CH	Elastic Scattering	0.1-20 eV	Th	799
e + $\mathbf{CH_2}$	Elastic Scattering	0.1-20 eV	Th	799
e + $\mathbf{CH_3}$	Elastic Scattering	0.1-20 eV	Th	799
e + $\mathbf{CH_4}$	Elastic Scattering	0.1-20 eV	Th	799
e + CH	Angular Scattering	0.1-20 eV	Th	799
e + $\mathbf{CH_2}$	Angular Scattering	0.1-20 eV	Th	799
e + $\mathbf{CH_3}$	Angular Scattering	0.1-20 eV	Th	799
e + $\mathbf{CH_4}$	Angular Scattering	0.1-20 eV	Th	799
e + $\mathbf{C^{2+}}$	Recombination	0-100,000 K	Th	800
e + $\mathbf{CH_2O}$	Elastic Scattering	0.008-20 eV	Th	801

e + CH_2O	Angular Scattering	0.008-20 eV	Th	801
e + CH_2O	Total Scattering	0.008-20 eV	Th	801
e + O_3	Elastic Scattering	0-15 eV	Th	802
e + O_3	Angular Scattering	0-15 eV	Th	802
e + O_3	Total Scattering	0-15 eV	Th	802
e + O_3	Excitation	0-15 eV	Th	802
e + Mg	Angular Scattering	20 eV	Exp	803
e + Mg	Excitation	20 eV	Exp	803
e + He	Excitation	200-570 eV	E/T	804
e + He	Ionization	200-570 eV	E/T	804
e + H_2	Angular Scattering	12-30 eV	Th	805
e + H_2	Excitation	12-30 eV	Th	805
e + C^{2+}	Recombination	$10 - 10^7$ K	E/T	806
e + N^{3+}	Recombination	$10 - 10^7$ K	E/T	806
e + O^{4+}	Recombination	$10 - 10^7$ K	E/T	806
e + Ca^{12+}	Excitation	40-200 Ry	Th	807
e + Fe^{17+}	Excitation	0-20 Ry	Th	808
e + Fe^{3+}	Excitation	3.3-6.0 log $T_e(k)$	Th	809
e + Ne^{+}	Recombination	$0 - 10^5$ eV	Th	810
e + Na^{2+}	Recombination	$0 - 10^5$ eV	Th	810
e + Mg^{3+}	Recombination	$0 - 10^5$ eV	Th	810
e + Al^{4+}	Recombination	$0 - 10^5$ eV	Th	810
e + Si^{5+}	Recombination	$0 - 10^5$ eV	Th	810
e + P^{6+}	Recombination	$0 - 10^5$ eV	Th	810
e + S^{7+}	Recombination	$0 - 10^5$ eV	Th	810
e + Cl^{8+}	Recombination	$0 - 10^5$ eV	Th	810
e + Ar^{9+}	Recombination	$0 - 10^5$ eV	Th	810
e + K^{10+}	Recombination	$0 - 10^5$ eV	Th	810
e + Ca^{11+}	Recombination	$0 - 10^5$ eV	Th	810
e + Sc^{12+}	Recombination	$0 - 10^5$ eV	Th	810
e + Ti^{13+}	Recombination	$0 - 10^5$ eV	Th	810
e + V^{14+}	Recombination	$0 - 10^5$ eV	Th	810
e + Cr^{15+}	Recombination	$0 - 10^5$ eV	Th	810
e + Mn^{16+}	Recombination	$0 - 10^5$ eV	Th	810
e + Fe^{17+}	Recombination	$0 - 10^5$ eV	Th	810
e + Co^{18+}	Recombination	$0 - 10^5$ eV	Th	810
e + Ni^{19+}	Recombination	$0 - 10^5$ eV	Th	810
e + Cu^{20+}	Recombination	$0 - 10^5$ eV	Th	810
e + Zn^{21+}	Recombination	$0 - 10^5$ eV	Th	810
e + Kr^{27+}	Recombination	$0 - 10^5$ eV	Th	810
e + Mo^{33+}	Recombination	$0 - 10^5$ eV	Th	810
e + Xe^{45+}	Recombination	$0 - 10^5$ eV	Th	810
e + He^{+}	Recombination	$0 - 10^5$ eV	Th	811
e + Li^{2+}	Recombination	$0 - 10^5$ eV	Th	811
e + Be^{3+}	Recombination	$0 - 10^5$ eV	Th	811
e + B^{4+}	Recombination	$0 - 10^5$ eV	Th	811
e + C^{5+}	Recombination	$0 - 10^5$ eV	Th	811
e + N^{6+}	Recombination	$0 - 10^5$ eV	Th	811
e + O^{7+}	Recombination	$0 - 10^5$ eV	Th	811
e + F^{8+}	Recombination	$0 - 10^5$ eV	Th	811
e + Ne^{9+}	Recombination	$0 - 10^5$ eV	Th	811
e + Na^{10+}	Recombination	$0 - 10^5$ eV	Th	811
e + Mg^{11+}	Recombination	$0 - 10^5$ eV	Th	811
e + Al^{12+}	Recombination	$0 - 10^5$ eV	Th	811
e + Si^{13+}	Recombination	$0 - 10^5$ eV	Th	811
e + P^{14+}	Recombination	$0 - 10^5$ eV	Th	811
e + S^{15+}	Recombination	$0 - 10^5$ eV	Th	811

e + Cl^{16+}	Recombination	$0 - 10^5$ eV	Th	811
e + Ar^{17+}	Recombination	$0 - 10^5$ eV	Th	811
e + K^{18+}	Recombination	$0 - 10^5$ eV	Th	811
e + Ca^{19+}	Recombination	$0 - 10^5$ eV	Th	811
e + Sc^{20+}	Recombination	$0 - 10^5$ eV	Th	811
e + Ti^{21+}	Recombination	$0 - 10^5$ eV	Th	811
e + V^{22+}	Recombination	$0 - 10^5$ eV	Th	811
e + Cr^{23+}	Recombination	$0 - 10^5$ eV	Th	811
e + Mn^{24+}	Recombination	$0 - 10^5$ eV	Th	811
e + Fe^{25+}	Recombination	$0 - 10^5$ eV	Th	811
e + Co^{26+}	Recombination	$0 - 10^5$ eV	Th	811
e + Ni^{27+}	Recombination	$0 - 10^5$ eV	Th	811
e + Cu^{28+}	Recombination	$0 - 10^5$ eV	Th	811
e + Zn^{29+}	Recombination	$0 - 10^5$ eV	Th	811
e + Kr^{35+}	Recombination	$0 - 10^5$ eV	Th	811
e + Mo^{41+}	Recombination	$0 - 10^5$ eV	Th	811
e + Xe^{53+}	Recombination	$0 - 10^5$ eV	Th	811
e + S^{4+}	Excitation	4.0-6.0 log T(k)	Th	812
e + Fe^{16+}	Excitation	1-100 Ry	Th	813
e + Fe^{17+}	Excitation	1-100 Ry	Th	813
e + Fe^{18+}	Excitation	1-100 Ry	Th	813
e + Fe^{19+}	Excitation	1-100 Ry	Th	813
e + Fe^{20+}	Excitation	1-100 Ry	Th	813
e + Fe^{21+}	Excitation	1-100 Ry	Th	813
e + Fe^{22+}	Excitation	1-100 Ry	Th	813
e + Fe^{22+}	Recombination	0.0-100.0 eV	E/T	814
e + H_2	Excitation	0-6 eV	Th	815
e + Fe^{+}	Ionization	50-1000 eV	Th	816
e + Fe^{3+}	Ionization	50-1000 eV	Th	816
e + CH_4	Excitation	0-2000 eV	Th	817
e + CH_4	Ionization	0-2000 eV	Th	817
e + N_2	Ionization	35.6-400 eV	Th	818
e + H_2	Ionization	10-60 eV	E/T	819
e + La	Excitation	0-900 eV	Exp	820
e + Pr	Excitation	0-900 eV	Exp	820
e + Ho	Excitation	0-900 eV	Exp	820
e + Tm	Excitation	0-900 eV	Exp	820
e + Lu	Excitation	0-900 eV	Exp	820
e + La	Ionization	0-900 eV	Exp	820
e + Pr	Ionization	0-900 eV	Exp	820
e + Ho	Ionization	0-900 eV	Exp	820
e + Tm	Ionization	0-900 eV	Exp	820
e + Lu	Ionization	0-900 eV	Exp	820
e + Ne	Bremsstrahlung	28-50 keV	Exp	821
e + Ar	Bremsstrahlung	28-50 keV	Exp	821
e + Kr	Bremsstrahlung	28-50 keV	Exp	821
e + Xe	Bremsstrahlung	28-50 keV	Exp	821
e + Ar	Angular Scattering	750 eV	Exp	822
e + Kr	Angular Scattering	750 eV	Exp	822
e + Ar	Ionization	750 eV	Exp	822
e + Kr	Ionization	750 eV	Exp	822
e + He	Angular Scattering	6 keV; 100 MeV/amu	Th	823
e + He	Ionization	6 keV; 100 MeV/amu	Th	823
e + He	Elastic Scattering	1.5-20 eV	E/T	824
e + N_2	Elastic Scattering	1.5-20 eV	E/T	824
e + N_2O	Elastic Scattering	1.5-20 eV	E/T	824
e + He	Angular Scattering	1.5-20 eV	E/T	824

e + N_2	Angular Scattering	1.5-20 eV	E/T	824
e + N_2O	Angular Scattering	1.5-20 eV	E/T	824
e + Ne	Excitation	1.5-20 eV	E/T	824
e + N_2	Excitation	1.5-20 eV	E/T	824
e + H_2	Elastic Scattering	0.1-20 eV	Th	825
e + H_2	Angular Scattering	0.1-20 eV	Th	825
e + N_2	Angular Scattering	0.1-20 eV	Th	825
e + H_2	Excitation	0.1-20 eV	Th	825
e + N_2	Excitation	0.1-20 eV	Th	825
e + Ti	Ionization	10-120 keV	Exp	826
e + Ni	Ionization	10-120 keV	Exp	826
e + Cu	Ionization	10-120 keV	Exp	826
e + Ag	Ionization	10-120 keV	Exp	826
e + Au	Ionization	10-120 keV	Exp	826
e + CH_4	Ionization	10-28 keV	Exp	827
e + C_3H_8	Ionization	10-28 keV	Exp	827
e + B^{4+}	Ionization	$10-10^4$ eV	Th	828
e + C^{4+}	Ionization	$10-10^4$ eV	Th	828
e + N^{6+}	Ionization	$10-10^4$ eV	Th	828
e + O^{7+}	Ionization	$10-10^4$ eV	Th	828
e + Ne^{8+}	Ionization	$10-10^4$ eV	Th	828
e + Mo^{41+}	Ionization	$10-10^4$ eV	Th	828
e + Dy^{65+}	Ionization	$10-10^4$ eV	Th	828
e + Au^{78+}	Ionization	$10-10^4$ eV	Th	828
e + Bi^{82+}	Ionization	$10-10^4$ eV	Th	828
e + U^{90+}	Ionization	$10-10^4$ eV	Th	828
e + U^{91+}	Ionization	$10-10^4$ eV	Th	828
e + O^{6+}	Recombination	0.1-1260 eV	Th	829
e + N_2	Elastic Scattering	0-6 eV	E/T	830
e + CF_4	Elastic Scattering	0-6 eV	E/T	830
e + N_2	Angular Scattering	0-6 eV	E/T	830
e + CF_4	Angular Scattering	0-6 eV	E/T	830
e + N_2	Excitation	0-6 eV	E/T	830
e + CF_4	Excitation	0-6 eV	E/T	830
e + N_2	Electron Collisions	0-6 eV	E/T	830
e + CF_4	Electron Collisions	0-6 eV	E/T	830
e + He	Excitation	112-319 eV	E/T	831
e + He	Ionization	112-319 eV	E/T	831
e + H_2	Dissociation	250 eV	E/T	832
e + H_2	Angular Scattering	250 eV	E/T	832
e + H_2	Ionization	250 eV	E/T	832
e + Fe^{17+}	Excitation	0-3.0 keV	E/T	833
e + Fe^{18+}	Excitation	0-3.0 keV	E/T	833
e + Fe^{19+}	Excitation	0-3.0 keV	E/T	833
e + Fe^{20+}	Excitation	0-3.0 keV	E/T	833
e + Fe^{21+}	Excitation	0-3.0 keV	E/T	833
e + Fe^{22+}	Excitation	0-3.0 keV	E/T	833
e + Fe^{23+}	Excitation	0-3.0 keV	E/T	833
e + H	Attachment	0.9-51 eV; 1000-25,000 K	Th	834
e + He^+	Recombination	0.9-51 eV; 1000-25,000 K	Th	834
e + H	Ionization	$0.015-10^6$ keV	Th	835
e + He	Ionization	$0.015-10^6$ keV	Th	835
e + C	Ionization	$0.015-10^6$ keV	Th	835
e + Al	Ionization	$0.015-10^6$ keV	Th	835
e + Ar	Ionization	$0.015-10^6$ keV	Th	835
e + V	Ionization	$0.015-10^6$ keV	Th	835
e + Ni	Ionization	$0.015-10^6$ keV	Th	835

e + Cu	Ionization	$0.015 - 10^6$ keV	Th	835
e + Se	Ionization	$0.015 - 10^6$ keV	Th	835
e + Ag	Ionization	$0.015 - 10^6$ keV	Th	835
e + Sn	Ionization	$0.015 - 10^6$ keV	Th	835
e + Au	Ionization	$0.015 - 10^6$ keV	Th	835
e + Pb	Ionization	$0.015 - 10^6$ keV	Th	835
e + Bi	Ionization	$0.015 - 10^6$ keV	Th	835
e + $\mathbf{C_{60}}$	Elastic Scattering	0-50 eV	Th	836
e + $\mathbf{C_{60}}$	Angular Scattering	0-50 eV	Th	836
e + $\mathbf{C_2O}$	Elastic Scattering	1-10 eV	Th	837
e + $\mathbf{C_2O}$	Angular Scattering	1-10 eV	Th	837
e + $\mathbf{H_2O}$	Angular Scattering	250 eV	E/T	838
e + $\mathbf{H_2O}$	Ionization	250 eV	E/T	838
e + $\mathbf{Fe^{16+}}$	Excitation	700-1200 eV	Th	839
e + Ar	Angular Scattering	113.5 eV	Th	840
e + Ar	Ionization	113.5 eV	Th	840
e + $\mathbf{I^{50+}}$	Excitation	29.5-32 keV	Exp	841
e + $\mathbf{I^{50+}}$	Ionization	29.5-32 keV	Exp	841
e + Li	Excitation		Th	842
e + $\mathbf{H_2}$	Attachment	0-10 eV	Th	843
e + $\mathbf{H_2}$	Dissociation	0-10 eV	Th	843
e + O	Ionization	400-2400 eV	Exp	844
e + $\mathbf{C_2H_4}$	Dissociation	10-200 keV	Th	845
e + $\mathbf{C_2H_4}$	Ionization	10-200 keV	Th	845
e + $\mathbf{C_3}^+$	Dissociation		Exp	846
e + $\mathbf{C_5}^+$	Dissociation		Exp	846
e + $\mathbf{C_4}^+$	Dissociation		Exp	846
e + $\mathbf{C_7}^+$	Dissociation		Exp	846
e + $\mathbf{C_6}^+$	Dissociation		Exp	846
e + $\mathbf{C_3}^+$	Recombination		Exp	846
e + $\mathbf{C_5}^+$	Recombination		Exp	846
e + $\mathbf{C_4}^+$	Recombination		Exp	846
e + $\mathbf{C_7}^+$	Recombination		Exp	846
e + $\mathbf{C_6}^+$	Recombination		Exp	846
e + Mg	Angular Scattering	400-3000 eV	Exp	847
e + Mg	Ionization	400-3000 eV	Exp	847
e + $\mathbf{C^{2+}}$	Excitation	10-28 eV	Exp	848
e + $\mathbf{Ne_2}^+$	Dissociation	$10^{-4} - 1$ eV	Th	849
e + $\mathbf{Ne_2}^+$	Recombination	$10^{-4} - 1$ eV	Th	849
e + $\mathbf{N_2}$	Angular Scattering	15 eV	Exp	850
e + $\mathbf{N_2}$	Excitation	15 eV	Exp	850
e + $\mathbf{H_2O}$	Dissociation	45-1500 eV	Exp	851
e + $\mathbf{H_2O}$	Ionization	45-1500 eV	Exp	851
e + $\mathbf{SO_2}$	Dissociation	1-15 eV	Th	852
e + $\mathbf{SO_2}$	Elastic Scattering	1-15 eV	Th	852
e + $\mathbf{SO_2}$	Angular Scattering	1-15 eV	Th	852
e + $\mathbf{SO_2}$	Excitation	1-15 eV	Th	852
e + Ar	Angular Scattering	2500 eV	E/T	853
e + Ar	Excitation	2500 eV	E/T	853
e + $\mathbf{Ar_2}^+$	Dissociation	$3x10^{-3} - 0.5$ eV	Th	854
e + $\mathbf{Ar_2}^+$	Recombination	$3x10^{-3} - 0.5$ eV	Th	854
e + He	Angular Scattering	32-45 eV	Th	855
e + He	Ionization	32-45 eV	Th	855
e + Xe	Angular Scattering	1200-2400 eV	Th	856
e + Xe	Ionization	1200-2400 eV	Th	856
e + K	Excitation	20-23 eV	E/T	857
e + Mn	Ionization	6-30 keV	Th	858

e + Fe	Ionization	6-30 keV	Th	858
e + Ni	Ionization	6-30 keV	Th	858
e + Cu	Ionization	6-30 keV	Th	858
e + W	Ionization	6-30 keV	Th	858
e + CO	Excitation	0-4 eV	Exp	859
e + $\mathbf{Fe^{24+}}$	Recombination	4550-5500 eV	Th	860
e + $\mathbf{Ni^{26+}}$	Recombination	4550-5500 eV	Th	860
e + Ga	Fluorescence	1.5-39 keV	Exp	861
e + As	Fluorescence	1.5-39 keV	Exp	861
e + Ga	Ionization	1.5-39 keV	Exp	861
e + As	Ionization	1.5-39 keV	Exp	861
e + $\mathbf{H_2O}$	Attachment	5-7 eV	Th	862
e + $\mathbf{H_2S}$	Attachment	5-7 eV	Th	862
e + $\mathbf{H_2O}$	Dissociation	5-7 eV	Th	862
e + $\mathbf{H_2S}$	Dissociation	5-7 eV	Th	862
e + $\mathbf{Kr^{5+}}$	Ionization	74-175 eV	E/T	863
e + $\mathbf{C_4H_8O}$	Elastic Scattering	1-370 eV	Exp	864
e + $\mathbf{C_4H_8O}$	Excitation	1-370 eV	Exp	864
e + H	Angular Scattering	15.6-17.6 eV	Th	865
e + H	Ionization	15.6-17.6 eV	Th	865
e + Ne	Excitation	2-400 eV	Th	866
e + $\mathbf{Ne^*}$	Excitation	2-400 eV	Th	866
e + Ar	Excitation	2-400 eV	Th	866
e + $\mathbf{Ar^*}$	Excitation	2-400 eV	Th	866
e + Kr	Excitation	2-400 eV	Th	866
e + $\mathbf{Kr^*}$	Excitation	2-400 eV	Th	866
e + Xe	Excitation	2-400 eV	Th	866
e + $\mathbf{Xe^*}$	Excitation	2-400 eV	Th	866
e + $\mathbf{H_2O}$	Angular Scattering	0.4-4 keV	E/T	867
e + $\mathbf{H_2O}$	Ionization	0.4-4 keV	E/T	867
e + He	Excitation	0-40 eV; $2x10^4 - 2x10^5$ K	Th	868
e + $\mathbf{He^*}$	Excitation	0-40 eV; $2x10^4 - 2x10^5$ K	Th	868
e + He	Angular Scattering	5.6 keV	Th	869
e + He	Ionization	5.6 keV	Th	869
e + $\mathbf{C_2N_2}$	Elastic Scattering	1-100 eV	Th	870
e + $\mathbf{O_2}$	Angular Scattering	5-15 eV	Th	871
e + $\mathbf{O_2}$	Excitation	5-15 eV	Th	871
e + $\mathbf{N_2O}$	Elastic Scattering	0-15 eV	Th	872
e + $\mathbf{N_2O}$	Angular Scattering	0-15 eV	Th	872
e + $\mathbf{Ar^{17+}}$	Excitation	5-150 keV	Exp	873
e + $\mathbf{Fe^{25+}}$	Excitation	5-150 keV	Exp	873
e + H	Excitation	12.24 eV	Th	874
e + Ne	Elastic Scattering	7-15 eV	Exp	875
e + Ne	Angular Scattering	7-15 eV	Exp	875
e + $\mathbf{CH_4}$	Dissociation	5-13 eV	Exp	876
e + $\mathbf{Ne^{8+}}$	Excitation	66.5-90 Ry	Th	877
e + HCOOH	Elastic Scattering	0.1-15 eV	Th	878
e + HCOOH	Angular Scattering	0.1-15 eV	Th	878
e + HCOOH	Total Scattering	0.1-15 eV	Th	878
e + $\mathbf{Fe^{16+}}$	Excitation	700-1200 eV	Th	879
e + $\mathbf{CF_3I}$	Attachment	0.5-500 meV	E/T	880
e + Na	Ionization	0-2.5 eV	Th	881
e + $\mathbf{Ni^{4+}}$	Excitation	0-6 Ry	Th	882
e + H	Excitation		Th	883
e + Ba	Elastic Scattering	20 eV	Exp	884
e + Ba	Angular Scattering	20 eV	Exp	884
e + Ba	Total Scattering	20 eV	Exp	884

e + **Ba**	Excitation	20 eV	Exp	884
e + **Ca**	Angular Scattering	10-25 eV	Th	885
e + **Ca**	Excitation	10-25 eV	Th	885
e + **Xe**	Ionization	1000 eV	Th	886
e + **K**	Excitation	20-28 eV	E/T	887
e + **Ar**	Elastic Scattering	40-200 eV	Exp	888
e + **Kr**	Elastic Scattering	40-200 eV	Exp	888
e + **Ar**	Angular Scattering	40-200 eV	Exp	888
e + **Kr**	Angular Scattering	40-200 eV	Exp	888
e + **H**	Angular Scattering	16.5-54 eV	E/T	889
e + **H**	Excitation	16.5-54 eV	E/T	889
e + $\mathbf{CF_3}^+$	Dissociation	$2x10^{-4} - 2x10^{1}$ eV	Exp	890
e + $\mathbf{CF_2}^+$	Dissociation	$2x10^{-4} - 2x10^{1}$ eV	Exp	890
e + $\mathbf{CF_3}^+$	Recombination	$2x10^{-4} - 2x10^{1}$ eV	Exp	890
e + $\mathbf{CF_2}^+$	Recombination	$2x10^{-4} - 2x10^{1}$ eV	Exp	890
e + **C**	Excitation	0-200 eV	Th	891
e + **C**	Ionization	0-200 eV	Th	891
e + **He**	Angular Scattering	601 eV	Th	892
e + **He**	Ionization	601 eV	Th	892
e + $\mathbf{H}^-$	Ionization	40-60 eV	Th	893
e + **Ne**	Angular Scattering	16.6-19.5 eV	E/T	894
e + **Ne**	Excitation	16.6-19.5 eV	E/T	894
e + $\mathbf{H_2}$	Angular Scattering	35.3-4168 eV	Th	895
e + $\mathbf{H_2}$	Ionization	35.3-4168 eV	Th	895
e + **Li**	Ionization	5-1000 eV	Th	896
e + $\mathbf{Be}^+$	Ionization	5-1000 eV	Th	896
e + $\mathbf{B}^{2+}$	Ionization	5-1000 eV	Th	896
e + $\mathbf{C}^{3+}$	Ionization	5-1000 eV	Th	896
e + $\mathbf{N}^{4+}$	Ionization	5-1000 eV	Th	896
e + $\mathbf{O}^{5+}$	Ionization	5-1000 eV	Th	896
e + $\mathbf{Ti}^+$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ti}^{2+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ti}^{3+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ti}^{4+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ti}^{5+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ti}^{6+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Fe}^+$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Fe}^{2+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Fe}^{3+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Fe}^{4+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Fe}^{5+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Fe}^{6+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ni}^+$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ni}^{2+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ni}^{3+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ni}^{4+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ni}^{5+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ni}^{6+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ga}^+$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ga}^{2+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ga}^{3+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ga}^{4+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ga}^{5+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Ga}^{6+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Kr}^+$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Kr}^{2+}$	Ionization	100-10,000 eV	Th	897
e + $\mathbf{Kr}^{3+}$	Ionization	100-10,000 eV	Th	897

e + Kr^{4+}	Ionization	100-10,000 eV	Th	897
e + Mo^{+}	Ionization	100-10,000 eV	Th	897
e + Mo^{2+}	Ionization	100-10,000 eV	Th	897
e + Mo^{3+}	Ionization	100-10,000 eV	Th	897
e + Mo^{4+}	Ionization	100-10,000 eV	Th	897
e + Mo^{5+}	Ionization	100-10,000 eV	Th	897
e + Mo^{6+}	Ionization	100-10,000 eV	Th	897
e + Pr^{+}	Ionization	100-10,000 eV	Th	897
e + Pr^{2+}	Ionization	100-10,000 eV	Th	897
e + Pr^{3+}	Ionization	100-10,000 eV	Th	897
e + Pr^{4+}	Ionization	100-10,000 eV	Th	897
e + Sm^{+}	Ionization	100-10,000 eV	Th	897
e + Sm^{2+}	Ionization	100-10,000 eV	Th	897
e + Sm^{3+}	Ionization	100-10,000 eV	Th	897
e + Sm^{4+}	Ionization	100-10,000 eV	Th	897
e + Sm^{5+}	Ionization	100-10,000 eV	Th	897
e + Sm^{6+}	Ionization	100-10,000 eV	Th	897
e + W^{6+}	Ionization	100-10,000 eV	Th	897
e + Pb^{6+}	Ionization	100-10,000 eV	Th	897
e + Bi^{+}	Ionization	100-10,000 eV	Th	897
e + Bi^{2+}	Ionization	100-10,000 eV	Th	897
e + Bi^{3+}	Ionization	100-10,000 eV	Th	897
e + Bi^{4+}	Ionization	100-10,000 eV	Th	897
e + Bi^{5+}	Ionization	100-10,000 eV	Th	897
e + Bi^{6+}	Ionization	100-10,000 eV	Th	897
e + Bi^{7+}	Ionization	100-10,000 eV	Th	897
e + Bi^{8+}	Ionization	100-10,000 eV	Th	897
e + Bi^{9+}	Ionization	100-10,000 eV	Th	897
e + Bi^{10+}	Ionization	100-10,000 eV	Th	897
e + Bi^{11+}	Ionization	100-10,000 eV	Th	897
e + Bi^{12+}	Ionization	100-10,000 eV	Th	897
e + He	Excitation	22.6-24.2 eV	E/T	898
e + Kr	Line Broadening		E/T	899
e + O^{+}	Excitation	1 Ry	Th	900
e + H	Line Broadening		Th	901
e + Cd	Excitation	60-80 eV	Exp	902
e + C_4H_8O	Elastic Scattering	1-20 eV	Th	903
e + C_4H_8O	Angular Scattering	1-20 eV	Th	903
e + He	Angular Scattering	721-729.6 eV	Exp	904
e + Ar	Angular Scattering	721-729.6 eV	Exp	904
e + He	Ionization	721-729.6 eV	Exp	904
e + Ar	Ionization	721-729.6 eV	Exp	904
e + C_2	Excitation	0-10 eV	Th	905
e + C_{60}	Elastic Scattering	15-40 eV	E/T	906
e + C_6H_6	Elastic Scattering	15-40 eV	E/T	906
e + C_6F_6	Elastic Scattering	15-40 eV	E/T	906
e + C_8H_8	Elastic Scattering	15-40 eV	E/T	906
e + O	Elastic Scattering	0-10 eV	E/T	907
e + Hg	Fluorescence	15-100 eV	E/T	908
e + Hg	Excitation	15-100 eV	E/T	908
e + H_2	Excitation	1200-2000 eV	E/T	909
e + H_2	Ionization	1200-2000 eV	E/T	909
e + Ba	Elastic Scattering	0-10 ev; 0-2.5 eV	E/T	910
e + $H_3{}^{+}$	Recombination	130-300 K	Exp	911
e + $D_3{}^{+}$	Recombination	130-300 K	Exp	911
e + $H_5{}^{+}$	Recombination	130-300 K	Exp	911
e + $D_5{}^{+}$	Recombination	130-300 K	Exp	911

e + Mg	Angular Scattering	10-100 eV	E/T	912
e + Mg	Excitation	10-100 eV	E/T	912
e + $\mathbf{Ar}^{3+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Ar}^{4+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Ar}^{5+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Ar}^{6+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Ar}^{7+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Kr}^{+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Kr}^{2+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Kr}^{3+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Kr}^{4+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Kr}^{5+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Kr}^{6+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Kr}^{7+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Xe}^{4+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Xe}^{5+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Xe}^{6+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Xe}^{7+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Xe}^{8+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Xe}^{9+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Xe}^{10+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{Xe}^{11+}$	Ionization	$30 - 3x10^4$ eV	Th	913
e + $\mathbf{O}_2$	Attachment	5-9.3 eV	Exp	914
e + $\mathbf{O}_2$	Ionization	5-9.3 eV	Exp	914
e + $\mathbf{Fe}^{14+}$	Recombination	0.1-1600 eV	Th	915
e + HCOOH	Excitation	1-5 eV	Exp	916
e + $\mathbf{He}^{+}$	Elastic Scattering	$3x10^1 - 5x10^7$ Ry	Th	917
e + $\mathbf{He}^{+}$	Excitation	$3x10^1 - 5x10^7$ Ry	Th	917
e + O	Excitation	15-100 eV	Th	918
e + $\mathbf{C}_3$	Elastic Scattering	1-10 eV	Exp	919
e + $\mathbf{C}_3$	Angular Scattering	1-10 eV	Exp	919
e + $\mathbf{C}_3$	Excitation	1-10 eV	Exp	919
e + $\mathbf{CO}^{+}$	Dissociation	5-2500 eV	Exp	920
e + $\mathbf{CO}^{+}$	Ionization	5-2500 eV	Exp	920
e + $\mathbf{CS}_2$	Elastic Scattering	1000 eV	Exp	921
e + $\mathbf{CS}_2$	Angular Scattering	1000 eV	Exp	921
e + $\mathbf{CS}_2$	Excitation	1000 eV	Exp	921
e + $\mathbf{N}^{5+}$	Excitation	0-4X E(4 $^1P_1$) Ry	Th	922
e + $\mathbf{N}^{8+}$	Excitation	0-4X E(4 $^1P_1$) Ry	Th	922
e + $\mathbf{Mg}^{10+}$	Excitation	0-4X E(4 $^1P_1$) Ry	Th	922
e + $\mathbf{Al}^{11+}$	Excitation	0-4X E(4 $^1P_1$) Ry	Th	922
e + $\mathbf{Si}^{12+}$	Excitation	0-4X E(4 $^1P_1$) Ry	Th	922
e + $\mathbf{S}^{14+}$	Excitation	0-4X E(4 $^1P_1$) Ry	Th	922
e + $\mathbf{Ca}^{18+}$	Excitation	0-4X E(4 $^1P_1$) Ry	Th	922
e + $\mathbf{W}^{46+}$	Excitation	1500-4000 eV	Th	923
e + Xe	Elastic Scattering	10-100 eV	E/T	924
e + Xe	Angular Scattering	10-100 eV	E/T	924
e + $\mathbf{Li}^{+}$	Excitation	15-2500 Ry	Th	925
e + $\mathbf{Fe}^{24+}$	Excitation	15-2500 Ry	Th	925
e + $\mathbf{H}_2\mathbf{O}$	Attachment	5-20 eV	Exp	926
e + $\mathbf{D}_2\mathbf{O}$	Attachment	5-20 eV	Exp	926
e + $\mathbf{H}_2\mathbf{O}$	Dissociation	5-20 eV	Exp	926
e + $\mathbf{D}_2\mathbf{O}$	Dissociation	5-20 eV	Exp	926
e + Ar	Elastic Scattering	75.6-78.7 eV	Th	927
e + Ar	Angular Scattering	75.6-78.7 eV	Th	927
e + $\mathbf{N}_2$	Angular Scattering	75.6-78.7 eV	Th	927
e + $\mathbf{N}_2$	Ionization	75.6-78.7 eV	Th	927

e + Fr	Elastic Scattering	0-3.4 eV	Th	928
e + H	Elastic Scattering	0-1000 eV	Th	929
e + H*	Elastic Scattering	0-1000 eV	Th	929
e + $\mathbf{He}^{+}$	Elastic Scattering	0-1000 eV	Th	929
e + $\mathbf{Li}^{2+}$	Elastic Scattering	0-1000 eV	Th	929
e + $\mathbf{Be}^{3+}$	Elastic Scattering	0-1000 eV	Th	929
e + H	Angular Scattering	0-1000 eV	Th	929
e + H*	Angular Scattering	0-1000 eV	Th	929
e + $\mathbf{He}^{+}$	Angular Scattering	0-1000 eV	Th	929
e + $\mathbf{Li}^{2+}$	Angular Scattering	0-1000 eV	Th	929
e + $\mathbf{Be}^{3+}$	Angular Scattering	0-1000 eV	Th	929
e + H	Excitation	0-1000 eV	Th	929
e + H*	Excitation	0-1000 eV	Th	929
e + $\mathbf{He}^{+}$	Excitation	0-1000 eV	Th	929
e + $\mathbf{Li}^{2+}$	Excitation	0-1000 eV	Th	929
e + $\mathbf{Be}^{3+}$	Excitation	0-1000 eV	Th	929
e + H	Ionization	0-1000 eV	Th	929
e + H*	Ionization	0-1000 eV	Th	929
e + $\mathbf{He}^{+}$	Ionization	0-1000 eV	Th	929
e + $\mathbf{Li}^{2+}$	Ionization	0-1000 eV	Th	929
e + $\mathbf{Be}^{3+}$	Ionization	0-1000 eV	Th	929
e + H	Electron Collisions	0-1000 eV	Th	929
e + H*	Electron Collisions	0-1000 eV	Th	929
e + $\mathbf{He}^{+}$	Electron Collisions	0-1000 eV	Th	929
e + $\mathbf{Li}^{2+}$	Electron Collisions	0-1000 eV	Th	929
e + $\mathbf{Be}^{3+}$	Electron Collisions	0-1000 eV	Th	929
e + $\mathbf{K}^{+}$	Excitation	20-400 eV	Th	930
e + $\mathbf{K}^{+}$	Ionization	20-400 eV	Th	930
e + Ar	Angular Scattering	910 eV	E/T	931
e + Ar	Ionization	910 eV	E/T	931
e + $\mathbf{Fe}^{13+}$	Recombination	0-230 eV	E/T	932
e + He	Fluorescence	55-60 eV	E/T	933
e + He	Excitation	55-60 eV	E/T	933
e + Ar	Ionization	466-956 eV	E/T	934
e + Xe	Excitation	30-500 eV	Exp	935
e + Xe	Ionization	30-500 eV	Exp	935
e + $\mathbf{O_2}^{+}$	Dissociation	4-2500 eV	Exp	936
e + $\mathbf{O_2}^{+}$	Ionization	4-2500 eV	Exp	936
e + $\mathbf{Si}^{3+}$	Recombination	0-20 eV	E/T	937
e + $\mathbf{C}^{+}$	Excitation	3.0-4.5 log T(K)	Th	938
e + O	Excitation	0-40 eV	Th	939
e + $\mathbf{Li}^{+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{Be}^{2+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{B}^{3+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{C}^{4+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{N}^{5+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{O}^{6+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{F}^{7+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{Ne}^{8+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{Na}^{9+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{Mg}^{10+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{Al}^{11+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{Si}^{12+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{P}^{13+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{S}^{14+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{Cl}^{15+}$	Recombination	$10-10^7$ K	Th	940
e + $\mathbf{Ar}^{16+}$	Recombination	$10-10^7$ K	Th	940

e + K^{17+}	Recombination	$10 - 10^7$ K	Th	940
e + Ca^{18+}	Recombination	$10 - 10^7$ K	Th	940
e + Sc^{19+}	Recombination	$10 - 10^7$ K	Th	940
e + Ti^{20+}	Recombination	$10 - 10^7$ K	Th	940
e + V^{21+}	Recombination	$10 - 10^7$ K	Th	940
e + Cr^{22+}	Recombination	$10 - 10^7$ K	Th	940
e + Mn^{23+}	Recombination	$10 - 10^7$ K	Th	940
e + Fe^{24+}	Recombination	$10 - 10^7$ K	Th	940
e + Co^{25+}	Recombination	$10 - 10^7$ K	Th	940
e + Ni^{26+}	Recombination	$10 - 10^7$ K	Th	940
e + Zn^{27+}	Recombination	$10 - 10^7$ K	Th	940
e + Kr^{28+}	Recombination	$10 - 10^7$ K	Th	940
e + Mo^{29+}	Recombination	$10 - 10^7$ K	Th	940
e + Xe^{30+}	Recombination	$10 - 10^7$ K	Th	940
e + Fe^{19+}	Excitation	5-9 log(K)	Th	941
e + H	Ionization	$0 - 10^5$ eV	Th	942
e + He	Ionization	$0 - 10^5$ eV	Th	942
e + He^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Li	Ionization	$0 - 10^5$ eV	Th	942
e + Li^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Li^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Be	Ionization	$0 - 10^5$ eV	Th	942
e + Be^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Be^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Be^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + B	Ionization	$0 - 10^5$ eV	Th	942
e + B^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + B^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + B^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + B^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + C	Ionization	$0 - 10^5$ eV	Th	942
e + C^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + C^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + C^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + C^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + C^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + N	Ionization	$0 - 10^5$ eV	Th	942
e + N^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + N^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + N^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + N^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + N^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + O	Ionization	$0 - 10^5$ eV	Th	942
e + O^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + O^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + O^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + O^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + O^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + O^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + O^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + F	Ionization	$0 - 10^5$ eV	Th	942
e + F^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + F^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + F^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + F^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + F^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + F^{6+}	Ionization	$0 - 10^5$ eV	Th	942

e + F^{7+}	Ionization	$0-10^5$ eV	Th	942
e + F^{8+}	Ionization	$0-10^5$ eV	Th	942
e + Ne	Ionization	$0-10^5$ eV	Th	942
e + Ne^{+}	Ionization	$0-10^5$ eV	Th	942
e + Ne^{2+}	Ionization	$0-10^5$ eV	Th	942
e + Ne^{3+}	Ionization	$0-10^5$ eV	Th	942
e + Ne^{4+}	Ionization	$0-10^5$ eV	Th	942
e + Ne^{5+}	Ionization	$0-10^5$ eV	Th	942
e + Ne^{6+}	Ionization	$0-10^5$ eV	Th	942
e + Ne^{7+}	Ionization	$0-10^5$ eV	Th	942
e + Ne^{8+}	Ionization	$0-10^5$ eV	Th	942
e + Ne^{9+}	Ionization	$0-10^5$ eV	Th	942
e + Na	Ionization	$0-10^5$ eV	Th	942
e + Na^{+}	Ionization	$0-10^5$ eV	Th	942
e + Na^{2+}	Ionization	$0-10^5$ eV	Th	942
e + Na^{3+}	Ionization	$0-10^5$ eV	Th	942
e + Na^{4+}	Ionization	$0-10^5$ eV	Th	942
e + Na^{5+}	Ionization	$0-10^5$ eV	Th	942
e + Na^{6+}	Ionization	$0-10^5$ eV	Th	942
e + Na^{7+}	Ionization	$0-10^5$ eV	Th	942
e + Na^{8+}	Ionization	$0-10^5$ eV	Th	942
e + Na^{9+}	Ionization	$0-10^5$ eV	Th	942
e + Na^{10+}	Ionization	$0-10^5$ eV	Th	942
e + Mg	Ionization	$0-10^5$ eV	Th	942
e + Mg^{+}	Ionization	$0-10^5$ eV	Th	942
e + Mg^{2+}	Ionization	$0-10^5$ eV	Th	942
e + Mg^{3+}	Ionization	$0-10^5$ eV	Th	942
e + Mg^{4+}	Ionization	$0-10^5$ eV	Th	942
e + Mg^{5+}	Ionization	$0-10^5$ eV	Th	942
e + Mg^{6+}	Ionization	$0-10^5$ eV	Th	942
e + Mg^{7+}	Ionization	$0-10^5$ eV	Th	942
e + Mg^{8+}	Ionization	$0-10^5$ eV	Th	942
e + Mg^{9+}	Ionization	$0-10^5$ eV	Th	942
e + Mg^{10+}	Ionization	$0-10^5$ eV	Th	942
e + Mg^{11+}	Ionization	$0-10^5$ eV	Th	942
e + Al	Ionization	$0-10^5$ eV	Th	942
e + Al^{+}	Ionization	$0-10^5$ eV	Th	942
e + Al^{2+}	Ionization	$0-10^5$ eV	Th	942
e + Al^{3+}	Ionization	$0-10^5$ eV	Th	942
e + Al^{4+}	Ionization	$0-10^5$ eV	Th	942
e + Al^{5+}	Ionization	$0-10^5$ eV	Th	942
e + Al^{6+}	Ionization	$0-10^5$ eV	Th	942
e + Al^{7+}	Ionization	$0-10^5$ eV	Th	942
e + Al^{8+}	Ionization	$0-10^5$ eV	Th	942
e + Al^{9+}	Ionization	$0-10^5$ eV	Th	942
e + Al^{10+}	Ionization	$0-10^5$ eV	Th	942
e + Al^{11+}	Ionization	$0-10^5$ eV	Th	942
e + Al^{12+}	Ionization	$0-10^5$ eV	Th	942
e + Si	Ionization	$0-10^5$ eV	Th	942
e + Si^{+}	Ionization	$0-10^5$ eV	Th	942
e + Si^{2+}	Ionization	$0-10^5$ eV	Th	942
e + Si^{3+}	Ionization	$0-10^5$ eV	Th	942
e + Si^{4+}	Ionization	$0-10^5$ eV	Th	942
e + Si^{5+}	Ionization	$0-10^5$ eV	Th	942
e + Si^{6+}	Ionization	$0-10^5$ eV	Th	942
e + Si^{7+}	Ionization	$0-10^5$ eV	Th	942
e + Si^{8+}	Ionization	$0-10^5$ eV	Th	942

e + Si^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + Si^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + Si^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + Si^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + Si^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + P	Ionization	$0 - 10^5$ eV	Th	942
e + P^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + P^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + S	Ionization	$0 - 10^5$ eV	Th	942
e + S^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + S^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cl^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{4+}	Ionization	$0 - 10^5$ eV	Th	942

e + Ar^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ar^{17+}	Ionization	$0 - 10^5$ eV	Th	942
e + K	Ionization	$0 - 10^5$ eV	Th	942
e + K^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{17+}	Ionization	$0 - 10^5$ eV	Th	942
e + K^{18+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{17+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{18+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ca^{19+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{4+}	Ionization	$0 - 10^5$ eV	Th	942

e + Sc^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{17+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{18+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{19+}	Ionization	$0 - 10^5$ eV	Th	942
e + Sc^{20+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{17+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{18+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{19+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{20+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ti^{21+}	Ionization	$0 - 10^5$ eV	Th	942
e + V	Ionization	$0 - 10^5$ eV	Th	942
e + V^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{17+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{18+}	Ionization	$0 - 10^5$ eV	Th	942

e + V^{19+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{21+}	Ionization	$0 - 10^5$ eV	Th	942
e + V^{22+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{17+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{18+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{19+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{20+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{21+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{22+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cr^{23+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{17+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{18+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{19+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{20+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{21+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{22+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{23+}	Ionization	$0 - 10^5$ eV	Th	942
e + Mn^{24+}	Ionization	$0 - 10^5$ eV	Th	942
e + Fe	Ionization	$0 - 10^5$ eV	Th	942
e + Fe^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Fe^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Fe^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + Fe^{4+}	Ionization	$0 - 10^5$ eV	Th	942

e + Fe^{5+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{6+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{7+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{8+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{9+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{10+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{11+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{12+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{13+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{14+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{15+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{16+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{17+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{18+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{19+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{20+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{21+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{22+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{23+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{24+}	Ionization	$0-10^5$ eV	Th	942
e + Fe^{25+}	Ionization	$0-10^5$ eV	Th	942
e + Co	Ionization	$0-10^5$ eV	Th	942
e + Co^{+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{2+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{3+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{4+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{5+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{6+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{7+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{8+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{9+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{10+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{11+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{12+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{13+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{14+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{15+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{16+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{17+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{18+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{19+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{20+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{21+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{22+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{23+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{24+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{25+}	Ionization	$0-10^5$ eV	Th	942
e + Co^{26+}	Ionization	$0-10^5$ eV	Th	942
e + Ni	Ionization	$0-10^5$ eV	Th	942
e + Ni^{+}	Ionization	$0-10^5$ eV	Th	942
e + Ni^{2+}	Ionization	$0-10^5$ eV	Th	942
e + Ni^{3+}	Ionization	$0-10^5$ eV	Th	942
e + Ni^{4+}	Ionization	$0-10^5$ eV	Th	942
e + Ni^{5+}	Ionization	$0-10^5$ eV	Th	942
e + Ni^{6+}	Ionization	$0-10^5$ eV	Th	942
e + Ni^{7+}	Ionization	$0-10^5$ eV	Th	942
e + Ni^{8+}	Ionization	$0-10^5$ eV	Th	942

e + Ni^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{17+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{18+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{19+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{20+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{21+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{22+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{23+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{24+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{25+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{26+}	Ionization	$0 - 10^5$ eV	Th	942
e + Ni^{27+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{8+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{17+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{18+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{19+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{20+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{21+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{22+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{23+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{24+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{25+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{26+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{27+}	Ionization	$0 - 10^5$ eV	Th	942
e + Cu^{28+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{2+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{3+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{4+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{5+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{6+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{7+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{8+}	Ionization	$0 - 10^5$ eV	Th	942

e + Zn^{9+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{10+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{11+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{12+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{13+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{14+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{15+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{16+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{17+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{18+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{19+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{20+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{21+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{22+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{23+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{24+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{25+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{26+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{27+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{28+}	Ionization	$0 - 10^5$ eV	Th	942
e + Zn^{29+}	Ionization	$0 - 10^5$ eV	Th	942
e + Xe^{9+}	Fluorescence	100-600 eV	Exp	943
e + Xe^{9+}	Excitation	100-600 eV	Exp	943
e + Xe	Angular Scattering	147.8 eV	E/T	944
e + Xe	Ionization	147.8 eV	E/T	944
e + H_2O	Dissociation	9-700 eV	Exp	945
e + H_2O	Fluorescence	9-700 eV	Exp	945
e + Li	Ionization	$10^1 - 10^5$ eV	E/T	946
e + Be^{+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + B^{+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + B^{2+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + C^{+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + C^{2+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + N^{2+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + N^{3+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + O^{3+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + O^{4+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + O^{5+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + Ne^{5+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + Ne^{6+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + Ne^{7+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + U^{88+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + U^{89+}	Ionization	$10^1 - 10^5$ eV	E/T	946
e + H_2	Ionization	15-100 eV	E/T	947
e + O_2	Elastic Scattering	0-15 eV	E/T	948
e + O_2^*	Elastic Scattering	0-15 eV	E/T	948
e + O_2	Excitation	0-15 eV	E/T	948
e + O_2^*	Excitation	0-15 eV	E/T	948
e + Ni^{18+}	Excitation	0-180 Ry	E/T	949
e + Hg^{75+}	Recombination	45-54 keV	Exp	950
e + Hg^{76+}	Recombination	45-54 keV	Exp	950
e + Hg^{77+}	Recombination	45-54 keV	Exp	950
e + Hg^{78+}	Recombination	45-54 keV	Exp	950
e + Hg^{75+}	Recombination	45-54 keV	Th	951
e + Hg^{76+}	Recombination	45-54 keV	Th	951
e + Hg^{77+}	Recombination	45-54 keV	Th	951
e + Hg^{78+}	Recombination	45-54 keV	Th	951

e + H	Elastic Scattering	0.1-0.8 Ry	Th	952
e + H	Angular Scattering	0.1-0.8 Ry	Th	952
e + C	Ionization	350-4000 eV	E/T	953
e + N	Ionization	350-4000 eV	E/T	953
e + O	Ionization	350-4000 eV	E/T	953
e + Ne	Ionization	350-4000 eV	E/T	953
e + $\mathbf{H_2O}$	Ionization	350-4000 eV	E/T	953
e + $\mathbf{CH_4}$	Ionization	350-4000 eV	E/T	953
e + $\mathbf{N_2}$	Ionization	350-4000 eV	E/T	953
e + $\mathbf{C_3H_4}$	Ionization	350-4000 eV	E/T	953
e + Ca	Elastic Scattering	0-4 eV	E/T	954
e + Ca	Angular Scattering	0-4 eV	E/T	954
e + $\mathbf{C^{6+}}$	Recombination	$10^{-5} - 10^{0}$ eV	E/T	955
e + $\mathbf{N_2}$	Angular Scattering	1.6-2.1 eV	Th	956
e + $\mathbf{N_2}$	Excitation	1.6-2.1 eV	Th	956
e + $\mathbf{H_2}$	Dissociation	1500-15,000 deg K	Th	957
e + OH	Dissociation	1500-15,000 deg K	Th	957
e + $\mathbf{H_2}$	Excitation	1500-15,000 deg K	Th	957
e + OH	Excitation	1500-15,000 deg K	Th	957
e + $\mathbf{H_2}$	Ionization	1500-15,000 deg K	Th	957
e + OH	Ionization	1500-15,000 deg K	Th	957
e + Cu	Angular Scattering	20-100 eV	Th	958
e + Cu	Excitation	20-100 eV	Th	958
e + $\mathbf{Ni^{10+}}$	Excitation	10-75 Ry	Th	959
e + $\mathbf{H_2}$	Excitation	0.0-10,000 eV	Th	960
e + $\mathbf{H_2O}$	Excitation	20-200 eV	Exp	961
e + CO	Excitation	20-200 eV	Exp	962
e + $\mathbf{C_2H_2F_2}$	Excitation	0-1000 eV	E/T	963
e + $\mathbf{C_4H_4O}$	Elastic Scattering	0-15 eV	Th	964
e + $\mathbf{N_3{}^{+}}$	Dissociation	$10^{-6} - 10^{-1}$ eV	Exp	965
e + Al	Elastic Scattering	200-1000 eV	Th	966
e + Cu	Elastic Scattering	200-1000 eV	Th	966
e + Ag	Elastic Scattering	200-1000 eV	Th	966
e + Au	Elastic Scattering	200-1000 eV	Th	966
e + He	Ionization	640 eV	Th	967
e + $\mathbf{H_2O}$	Dissociation	3.5-10 eV	Th	968
e + $\mathbf{H_2O}$	Excitation	3.5-10 eV	Th	968
e + $\mathbf{O^{+}}$	Excitation	0.1-40 eV	Th	969
e + Hg	Excitation	15-100 eV	E/T	970
e + Kr	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{2+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{3+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{4+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{5+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{6+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{7+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{8+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{9+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{10+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{11+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{12+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{13+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{14+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{15+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{16+}}$	Recombination	0-5000 eV	E/T	971
e + $\mathbf{Kr^{17+}}$	Recombination	0-5000 eV	E/T	971

e + Kr^{18+}	Recombination	0-5000 eV	E/T	971
e + Kr^{19+}	Recombination	0-5000 eV	E/T	971
e + Kr^{20+}	Recombination	0-5000 eV	E/T	971
e + Kr^{21+}	Recombination	0-5000 eV	E/T	971
e + Kr^{22+}	Recombination	0-5000 eV	E/T	971
e + Kr^{23+}	Recombination	0-5000 eV	E/T	971
e + Kr^{24+}	Recombination	0-5000 eV	E/T	971
e + Kr^{25+}	Recombination	0-5000 eV	E/T	971
e + Kr^{26+}	Recombination	0-5000 eV	E/T	971
e + Kr^{27+}	Recombination	0-5000 eV	E/T	971
e + Kr^{28+}	Recombination	0-5000 eV	E/T	971
e + Kr^{29+}	Recombination	0-5000 eV	E/T	971
e + Kr^{30+}	Recombination	0-5000 eV	E/T	971
e + Kr^{31+}	Recombination	0-5000 eV	E/T	971
e + Kr^{32+}	Recombination	0-5000 eV	E/T	971
e + Kr^{33+}	Recombination	0-5000 eV	E/T	971
e + Kr^{34+}	Recombination	0-5000 eV	E/T	971
e + Kr^{35+}	Recombination	0-5000 eV	E/T	971
e + Mo	Recombination	0-5000 eV	E/T	971
e + Mo^{+}	Recombination	0-5000 eV	E/T	971
e + Mo^{2+}	Recombination	0-5000 eV	E/T	971
e + Mo^{3+}	Recombination	0-5000 eV	E/T	971
e + Mo^{4+}	Recombination	0-5000 eV	E/T	971
e + Mo^{5+}	Recombination	0-5000 eV	E/T	971
e + Mo^{6+}	Recombination	0-5000 eV	E/T	971
e + Mo^{7+}	Recombination	0-5000 eV	E/T	971
e + Mo^{8+}	Recombination	0-5000 eV	E/T	971
e + Mo^{9+}	Recombination	0-5000 eV	E/T	971
e + Mo^{10+}	Recombination	0-5000 eV	E/T	971
e + Mo^{11+}	Recombination	0-5000 eV	E/T	971
e + Mo^{12+}	Recombination	0-5000 eV	E/T	971
e + Mo^{13+}	Recombination	0-5000 eV	E/T	971
e + Mo^{14+}	Recombination	0-5000 eV	E/T	971
e + Mo^{15+}	Recombination	0-5000 eV	E/T	971
e + Mo^{16+}	Recombination	0-5000 eV	E/T	971
e + Mo^{17+}	Recombination	0-5000 eV	E/T	971
e + Mo^{18+}	Recombination	0-5000 eV	E/T	971
e + Mo^{19+}	Recombination	0-5000 eV	E/T	971
e + Mo^{20+}	Recombination	0-5000 eV	E/T	971
e + Mo^{21+}	Recombination	0-5000 eV	E/T	971
e + Mo^{22+}	Recombination	0-5000 eV	E/T	971
e + Mo^{23+}	Recombination	0-5000 eV	E/T	971
e + Mo^{24+}	Recombination	0-5000 eV	E/T	971
e + Mo^{25+}	Recombination	0-5000 eV	E/T	971
e + Mo^{26+}	Recombination	0-5000 eV	E/T	971
e + Mo^{27+}	Recombination	0-5000 eV	E/T	971
e + Mo^{28+}	Recombination	0-5000 eV	E/T	971
e + Mo^{29+}	Recombination	0-5000 eV	E/T	971
e + Mo^{30+}	Recombination	0-5000 eV	E/T	971
e + Mo^{31+}	Recombination	0-5000 eV	E/T	971
e + Mo^{32+}	Recombination	0-5000 eV	E/T	971
e + Mo^{33+}	Recombination	0-5000 eV	E/T	971
e + Mo^{34+}	Recombination	0-5000 eV	E/T	971
e + Mo^{35+}	Recombination	0-5000 eV	E/T	971
e + Mo^{36+}	Recombination	0-5000 eV	E/T	971
e + Mo^{37+}	Recombination	0-5000 eV	E/T	971
e + Mo^{38+}	Recombination	0-5000 eV	E/T	971

e + Mo^{39+}	Recombination	0-5000 eV	E/T	971
e + Mo^{40+}	Recombination	0-5000 eV	E/T	971
e + Mo^{41+}	Recombination	0-5000 eV	E/T	971
e + Kr	Ionization	0-5000 eV	E/T	971
e + Kr^{+}	Ionization	0-5000 eV	E/T	971
e + Kr^{2+}	Ionization	0-5000 eV	E/T	971
e + Kr^{3+}	Ionization	0-5000 eV	E/T	971
e + Kr^{4+}	Ionization	0-5000 eV	E/T	971
e + Kr^{5+}	Ionization	0-5000 eV	E/T	971
e + Kr^{7+}	Ionization	0-5000 eV	E/T	971
e + Kr^{8+}	Ionization	0-5000 eV	E/T	971
e + Kr^{9+}	Ionization	0-5000 eV	E/T	971
e + Kr^{10+}	Ionization	0-5000 eV	E/T	971
e + Kr^{11+}	Ionization	0-5000 eV	E/T	971
e + Kr^{12+}	Ionization	0-5000 eV	E/T	971
e + Kr^{13+}	Ionization	0-5000 eV	E/T	971
e + Kr^{14+}	Ionization	0-5000 eV	E/T	971
e + Kr^{15+}	Ionization	0-5000 eV	E/T	971
e + Kr^{16+}	Ionization	0-5000 eV	E/T	971
e + Kr^{17+}	Ionization	0-5000 eV	E/T	971
e + Kr^{18+}	Ionization	0-5000 eV	E/T	971
e + Mo	Ionization	0-5000 eV	E/T	971
e + Mo^{+}	Ionization	0-5000 eV	E/T	971
e + Mo^{2+}	Ionization	0-5000 eV	E/T	971
e + Mo^{3+}	Ionization	0-5000 eV	E/T	971
e + Mo^{4+}	Ionization	0-5000 eV	E/T	971
e + Mo^{5+}	Ionization	0-5000 eV	E/T	971
e + Mo^{6+}	Ionization	0-5000 eV	E/T	971
e + Mo^{7+}	Ionization	0-5000 eV	E/T	971
e + Mo^{8+}	Ionization	0-5000 eV	E/T	971
e + Mo^{41+}	Ionization	0-5000 eV	E/T	971
e + Kr^{3+}	Ionization	39-179 eV	Exp	972
e + Cl$_2$	Attachment	0-1.5 eV	Th	973
e + Cl$_2$	Dissociation	0-1.5 eV	Th	973
e + Cl$_2$	Excitation	0-1.5 eV	Th	973
e + H	Ionization	0-3.4 keV	Th	974
e + He^{+}	Ionization	0-3.4 keV	Th	974
e + Li^{2+}	Ionization	0-3.4 keV	Th	974
e + Be^{3+}	Ionization	0-3.4 keV	Th	974
e + B^{4+}	Ionization	0-3.4 keV	Th	974
e + C^{5+}	Ionization	0-3.4 keV	Th	974
e + He	Excitation	0-4 a.u.	Th	975
e + He	Angular Scattering	102-1000 eV	Exp	976
e + He	Ionization	102-1000 eV	Exp	976
e + He	Angular Scattering	106 eV	Exp	977
e + He	Ionization	106 eV	Exp	977
e + Si^{3+}	Ionization	$10-10^9$ eV	Th	978
e + S	Ionization	$10-10^9$ eV	Th	978
e + S^{4+}	Ionization	$10-10^9$ eV	Th	978
e + Cl^{2+}	Ionization	$10-10^9$ eV	Th	978
e + Cl^{4+}	Ionization	$10-10^9$ eV	Th	978
e + Cl^{5+}	Ionization	$10-10^9$ eV	Th	978
e + Ar	Ionization	$10-10^9$ eV	Th	978
e + Ar^{3+}	Ionization	$10-10^9$ eV	Th	978
e + Ar^{5+}	Ionization	$10-10^9$ eV	Th	978
e + Ar^{6+}	Ionization	$10-10^9$ eV	Th	978
e + K^{+}	Ionization	$10-10^9$ eV	Th	978

e + Ti^{5+}	Ionization	$10 - 10^9$ eV	Th	978
e + Cr^{6+}	Ionization	$10 - 10^9$ eV	Th	978
e + Cr^{7+}	Ionization	$10 - 10^9$ eV	Th	978
e + Cr^{8+}	Ionization	$10 - 10^9$ eV	Th	978
e + Cr^{10+}	Ionization	$10 - 10^9$ eV	Th	978
e + Fe^{6+}	Ionization	$10 - 10^9$ eV	Th	978
e + Fe^{9+}	Ionization	$10 - 10^9$ eV	Th	978
e + Fe^{11+}	Ionization	$10 - 10^9$ eV	Th	978
e + Ni^{12+}	Ionization	$10 - 10^9$ eV	Th	978
e + Ni^{14+}	Ionization	$10 - 10^9$ eV	Th	978
e + Pb	Ionization	$10 - 10^9$ eV	Th	978
e + Bi	Ionization	$10 - 10^9$ eV	Th	978
e + U	Ionization	$10 - 10^9$ eV	Th	978
e + He	Ionization	$10 - 10^5$; $10 - 10^3$ eV	Th	979
e + He^*	Ionization	$10 - 10^5$; $10 - 10^3$ eV	Th	979
e + Ag^{11+}	Excitation	0.6-30 keV	Th	980
e + Ag^{19+}	Excitation	0.6-30 keV	Th	980
e + Ag^{29+}	Excitation	0.6-30 keV	Th	980
e + Ag^{37+}	Excitation	0.6-30 keV	Th	980
e + Ag^{43+}	Excitation	0.6-30 keV	Th	980
e + Ag^{11+}	Ionization	0.6-30 keV	Th	980
e + Ag^{19+}	Ionization	0.6-30 keV	Th	980
e + Ag^{29+}	Ionization	0.6-30 keV	Th	980
e + Ag^{37+}	Ionization	0.6-30 keV	Th	980
e + Ag^{43+}	Ionization	0.6-30 keV	Th	980
e + He	Ionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T	981
e + CO_2	Attachment	0-1000 MeV	Exp	982
e + N_2O	Attachment	0-1000 MeV	Exp	982
e + CO_2	Excitation	0-1000 MeV	Exp	982
e + N_2O	Excitation	0-1000 MeV	Exp	982
e + CO_2	Elastic Scattering	0-5 eV	Exp	983
e + N_2O	Elastic Scattering	0-5 eV	Exp	983
e + CS_2	Elastic Scattering	0-5 eV	Exp	983
e + CO_2	Excitation	0-5 eV	Exp	983
e + N_2O	Excitation	0-5 eV	Exp	983
e + CS_2	Excitation	0-5 eV	Exp	983
e + NO	Elastic Scattering	0-2.5 eV	Exp	984
e + NO	Angular Scattering	0-2.5 eV	Exp	984
e + NO	Excitation	0-2.5 eV	Exp	984
e + $H_2{}^+$	Dissociation	$10^{-4} - 10^{-1}$ eV	Th	985
e + HeH^+	Dissociation	$10^{-4} - 10^{-1}$ eV	Th	985
e + LiH^+	Dissociation	$10^{-4} - 10^{-1}$ eV	Th	985
e + $H_2{}^+$	Recombination	$10^{-4} - 10^{-1}$ eV	Th	985
e + HeH^+	Recombination	$10^{-4} - 10^{-1}$ eV	Th	985
e + LiH^+	Recombination	$10^{-4} - 10^{-1}$ eV	Th	985
e + $H_3{}^+$	Dissociation	$10^{-4} - 10^{+1}$ eV	Th	986
e + $H_3{}^+$	Recombination	$10^{-4} - 10^{+1}$ eV	Th	986
e + H_2	Elastic Scattering	80-150 eV	Exp	987
e + D_2	Elastic Scattering	80-150 eV	Exp	987
e + N_2	Elastic Scattering	80-150 eV	Exp	987
e + H_2	Excitation	80-150 eV	Exp	987
e + D_2	Excitation	80-150 eV	Exp	987
e + N_2	Excitation	80-150 eV	Exp	987
e + H_2	Ionization	80-150 eV	Exp	987
e + D_2	Ionization	80-150 eV	Exp	987
e + N_2	Ionization	80-150 eV	Exp	987
e + H_2O^+	Dissociation	0-3 eV	Exp	988

e + $CH_2{}^+$	Dissociation	0-3 eV	Exp	988
e + $NH_2{}^+$	Dissociation	0-3 eV	Exp	988
e + H_2O^+	Recombination	0-3 eV	Exp	988
e + $CH_2{}^+$	Recombination	0-3 eV	Exp	988
e + $NH_2{}^+$	Recombination	0-3 eV	Exp	988
e + $H_3{}^+$	Dissociation	$10^{-4} - 50$ eV	Exp	989
e + $H_3{}^+$	Recombination	$10^{-4} - 50$ eV	Exp	989
e + H	Angular Scattering	15.6 eV	Th	990
e + H	Ionization	15.6 eV	Th	990
e + $H_3{}^+$	Dissociation	0-42 eV	E/T	991
e + Si^{11+}	Recombination	0-42 eV	E/T	991
e + $H_3{}^+$	Recombination	0-42 eV	E/T	991
e + He^+	Excitation	0-42 eV	E/T	991
e + Fe^{9+}	Excitation	0-42 eV	E/T	991
e + N^{4+}	Recombination	0-1.6 eV	E/T	992
e + He^+	Angular Scattering	150-273 eV	Exp	993
e + Xe	Angular Scattering	150-273 eV	Exp	993
e + He^+	Excitation	150-273 eV	Exp	993
e + Xe	Excitation	150-273 eV	Exp	993
e + He^+	Ionization	150-273 eV	Exp	993
e + Xe	Ionization	150-273 eV	Exp	993
e + H	Elastic Scattering	14.6-40 eV	Exp	994
e + H	Angular Scattering	14.6-40 eV	Exp	994
e + H	Excitation	14.6-40 eV	Exp	994
e + H	Ionization	14.6-40 eV	Exp	994
e + Ar	Angular Scattering	466-956 eV	Exp	995
e + Ar	Ionization	466-956 eV	Exp	995
e + H	Angular Scattering	10-100 eV	Th	996
e + He	Angular Scattering	10-100 eV	Th	996
e + Li	Angular Scattering	10-100 eV	Th	996
e + B^+	Excitation	10-100 eV	Th	996
e + Si^{2+}	Excitation	10-100 eV	Th	996
e + Fe^+	Excitation	10-100 eV	Th	996
e + Kr	Excitation	10-100 eV	Th	996
e + CO_2	Excitation	10-100 eV	Th	996
e + H	Ionization	10-100 eV	Th	996
e + He	Ionization	10-100 eV	Th	996
e + Li	Ionization	10-100 eV	Th	996
e + Hg	Excitation	8-40 eV	Th	997
e + H	Ionization	55 eV	Th	998
e + CH_4	Dissociation	7-15 eV	Exp	999
e + Ca^+	Excitation	0.0-1.0 Ry	Th	1000
e + Fe^{14+}	Recombination	0-45 eV	E/T	1001
e + O_2	Excitation	10 eV	Exp	1002
e + He	Ionization	102 eV	Exp	1003
e + H	Excitation	54.4 eV	Exp	1004
e + He	Excitation	20.30-23.48 eV	E/T	1005
e + $H_3{}^+$	Excitation	0.02-0.3 eV	Th	1006
e + $B(CD_3)_3$	Elastic Scattering	0.4-370 eV	Exp	1007
e + $B(CH_3)_3$	Elastic Scattering	0.4-370 eV	Exp	1007
e + Ar	Angular Scattering	8-17 eV	E/T	1008
e + Xe	Angular Scattering	8-17 eV	E/T	1008
e + Ar	Excitation	8-17 eV	E/T	1008
e + Xe	Excitation	8-17 eV	E/T	1008
e + HCO^+	Dissociation	0.001-0.2 eV	Th	1009
e + HCO^+	Recombination	0.001-0.2 eV	Th	1009
e + Cs	Ionization	7-400 eV	E/T	1010

e + Cs*	Ionization	7-400 eV	E/T	1010
e + NH$_3$	Elastic Scattering	0.0225-20 eV	Th	1011
e + NH$_3$	Angular Scattering	0.0225-20 eV	Th	1011
e + NH$_3$	Excitation	0.0225-20 eV	Th	1011
e + He	Ionization	75-550 eV	Exp	1012
e + He	Angular Scattering	730 eV	Th	1013
e + He	Ionization	730 eV	Th	1013
e + S^{9+}	Excitation	$10^4 - 10^7$ K	Th	1014
e + N	Excitation	$10^3 - 6x10^5$ K	Th	1015
e + H	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + He	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + C	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + N	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + O	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Ne	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Na	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Mg	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Al	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Si	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Cl	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Ar	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + K	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Ca	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Ti	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + V	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Cr	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Mn	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Fe	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Co	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Ni	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Cu	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Zn	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Ge	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + As	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Se	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Br	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Kr	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Rb	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Sr	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Y	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Zr	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Nb	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Mo	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Pd	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Ag	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Cd	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + In	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Sn	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Sb	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Te	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Xe	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Ba	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + La	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Ce	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Pr	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Nd	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Sm	Ionization	$10^{-2} - 10^5$ keV	Exp	1016

e + Eu	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Gd	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Ho	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Er	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Tm	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Yb	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Ta	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + W	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Pt	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Au	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Pb	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Bi	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + U	Ionization	$10^{-2} - 10^5$ keV	Exp	1016
e + Fe^{7+}	Excitation	10-70 Ry	Th	1017
e + Cl^{2+}	Excitation	7500-200,000 K	Th	1018
e + Ca	Excitation	1000-10,000 K	Th	1019
e + H_2	Attachment	0-200 eV	E/T	1020
e + $H_2{}^*$	Attachment	0-200 eV	E/T	1020
e + HD	Attachment	0-200 eV	E/T	1020
e + HD^*	Attachment	0-200 eV	E/T	1020
e + HT	Attachment	0-200 eV	E/T	1020
e + HT^*	Attachment	0-200 eV	E/T	1020
e + D_2	Attachment	0-200 eV	E/T	1020
e + $D_2{}^*$	Attachment	0-200 eV	E/T	1020
e + DT	Attachment	0-200 eV	E/T	1020
e + DT^*	Attachment	0-200 eV	E/T	1020
e + T_2	Attachment	0-200 eV	E/T	1020
e + $T_2{}^*$	Attachment	0-200 eV	E/T	1020
e + H_2	Dissociation	0-200 eV	E/T	1020
e + $H_2{}^*$	Dissociation	0-200 eV	E/T	1020
e + D_2	Dissociation	0-200 eV	E/T	1020
e + $D_2{}^*$	Dissociation	0-200 eV	E/T	1020
e + DT	Dissociation	0-200 eV	E/T	1020
e + DT^*	Dissociation	0-200 eV	E/T	1020
e + T_2	Dissociation	0-200 eV	E/T	1020
e + $T_2{}^*$	Dissociation	0-200 eV	E/T	1020
e + H_2	Excitation	0-200 eV	E/T	1020
e + $H_2{}^*$	Excitation	0-200 eV	E/T	1020
e + D_2	Excitation	0-200 eV	E/T	1020
e + $D_2{}^*$	Excitation	0-200 eV	E/T	1020
e + DT	Excitation	0-200 eV	E/T	1020
e + DT^*	Excitation	0-200 eV	E/T	1020
e + T_2	Excitation	0-200 eV	E/T	1020
e + $T_2{}^*$	Excitation	0-200 eV	E/T	1020
e + H_2	Ionization	0-200 eV	E/T	1020
e + $H_2{}^*$	Ionization	0-200 eV	E/T	1020
e + D_2	Ionization	0-200 eV	E/T	1020
e + $D_2{}^*$	Ionization	0-200 eV	E/T	1020
e + Ar^{7+}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Ar^{7+*}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Ti^{11+}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Ti^{11+*}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Cr^{13+}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Cr^{13+*}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Fe^{15+}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Fe^{15+*}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Zn^{19+}	Ionization	$10^2 - 10^7$ K	Th	1021

e + Zn^{19+*}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Ge^{21+}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Ge^{21+*}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Se^{23+}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Se^{23+*}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Y^{28+}	Ionization	$10^2 - 10^7$ K	Th	1021
e + Y^{28+*}	Ionization	$10^2 - 10^7$ K	Th	1021
e + H_2O	Dissociation	1-10,000 eV	E/T	1022
e + CO	Dissociation	1-10,000 eV	E/T	1022
e + CO_2	Dissociation	1-10,000 eV	E/T	1022
e + H_2O	Elastic Scattering	1-10,000 eV	E/T	1022
e + CO	Elastic Scattering	1-10,000 eV	E/T	1022
e + CO_2	Elastic Scattering	1-10,000 eV	E/T	1022
e + H_2O	Total Scattering	1-10,000 eV	E/T	1022
e + CO	Total Scattering	1-10,000 eV	E/T	1022
e + CO_2	Total Scattering	1-10,000 eV	E/T	1022
e + H_2O	Excitation	1-10,000 eV	E/T	1022
e + CO	Excitation	1-10,000 eV	E/T	1022
e + CO_2	Excitation	1-10,000 eV	E/T	1022
e + H_2O	Ionization	1-10,000 eV	E/T	1022
e + CO	Ionization	1-10,000 eV	E/T	1022
e + CO_2	Ionization	1-10,000 eV	E/T	1022
e + Ar^{18+}	Recombination	0.001-1.5 MeV	Th	1023
e + Kr^{36+}	Recombination	0.001-1.5 MeV	Th	1023
e + Xe^{54+}	Recombination	0.001-1.5 MeV	Th	1023
e + Dy^{66+}	Recombination	0.001-1.5 MeV	Th	1023
e + Au^{79+}	Recombination	0.001-1.5 MeV	Th	1023
e + Pb^{82+}	Recombination	0.001-1.5 MeV	Th	1023
e + U^{92+}	Recombination	0.001-1.5 MeV	Th	1023
e + CH_4	Attachment		E/T	1024
e + C_2H_2	Attachment		E/T	1024
e + C_2H_4	Attachment		E/T	1024
e + C_2H_6	Attachment		E/T	1024
e + C_3H_6	Attachment		E/T	1024
e + C_3H_8	Attachment		E/T	1024
e + CH_4	Dissociation		E/T	1024
e + C_2H_2	Dissociation		E/T	1024
e + C_2H_4	Dissociation		E/T	1024
e + C_2H_6	Dissociation		E/T	1024
e + C_3H_6	Dissociation		E/T	1024
e + C_3H_8	Dissociation		E/T	1024
e + CH_4	Elastic Scattering		E/T	1024
e + C_2H_2	Elastic Scattering		E/T	1024
e + C_2H_4	Elastic Scattering		E/T	1024
e + C_2H_6	Elastic Scattering		E/T	1024
e + C_3H_6	Elastic Scattering		E/T	1024
e + C_3H_8	Elastic Scattering		E/T	1024
e + CH_4	Total Scattering		E/T	1024
e + C_2H_2	Total Scattering		E/T	1024
e + C_2H_4	Total Scattering		E/T	1024
e + C_2H_6	Total Scattering		E/T	1024
e + C_3H_6	Total Scattering		E/T	1024
e + C_3H_8	Total Scattering		E/T	1024
e + CH_4	Excitation		E/T	1024
e + C_2H_2	Excitation		E/T	1024
e + C_2H_4	Excitation		E/T	1024
e + C_2H_6	Excitation		E/T	1024

e + C_3H_6	Excitation		E/T	1024
e + C_3H_8	Excitation		E/T	1024
e + CH_4	Ionization		E/T	1024
e + C_2H_2	Ionization		E/T	1024
e + C_2H_4	Ionization		E/T	1024
e + C_2H_6	Ionization		E/T	1024
e + C_3H_6	Ionization		E/T	1024
e + C_3H_8	Ionization		E/T	1024
e + Fe^{10+}	Excitation	1-75 Ry	Th	1025
e + Cu^{+}	Recombination	0-10,000 K	Th	1026
e + Cu^{2+}	Recombination	0-10,000 K	Th	1026
e + Cu^{3+}	Recombination	0-10,000 K	Th	1026
e + Cu^{4+}	Recombination	0-10,000 K	Th	1026
e + Cu^{5+}	Recombination	0-10,000 K	Th	1026
e + Cu^{6+}	Recombination	0-10,000 K	Th	1026
e + Cu^{7+}	Recombination	0-10,000 K	Th	1026
e + Cu^{8+}	Recombination	0-10,000 K	Th	1026
e + Cu^{9+}	Recombination	0-10,000 K	Th	1026
e + Cu^{10+}	Recombination	0-10,000 K	Th	1026
e + Cu^{11+}	Recombination	0-10,000 K	Th	1026
e + Cu^{12+}	Recombination	0-10,000 K	Th	1026
e + Cu^{13+}	Recombination	0-10,000 K	Th	1026
e + Cu^{14+}	Recombination	0-10,000 K	Th	1026
e + Cu^{15+}	Recombination	0-10,000 K	Th	1026
e + Cu^{16+}	Recombination	0-10,000 K	Th	1026
e + Cu^{17+}	Recombination	0-10,000 K	Th	1026
e + Cu^{18+}	Recombination	0-10,000 K	Th	1026
e + Cu^{19+}	Recombination	0-10,000 K	Th	1026
e + Cu^{20+}	Recombination	0-10,000 K	Th	1026
e + Cu^{21+}	Recombination	0-10,000 K	Th	1026
e + Cu^{22+}	Recombination	0-10,000 K	Th	1026
e + Cu^{23+}	Recombination	0-10,000 K	Th	1026
e + Cu^{24+}	Recombination	0-10,000 K	Th	1026
e + Cu^{25+}	Recombination	0-10,000 K	Th	1026
e + Cu^{26+}	Recombination	0-10,000 K	Th	1026
e + Cu^{27+}	Recombination	0-10,000 K	Th	1026
e + Cu^{28+}	Recombination	0-10,000 K	Th	1026
e + Cu^{29+}	Recombination	0-10,000 K	Th	1026
e + Zn^{+}	Recombination	0-10,000 K	Th	1026
e + Zn^{2+}	Recombination	0-10,000 K	Th	1026
e + Zn^{3+}	Recombination	0-10,000 K	Th	1026
e + Zn^{4+}	Recombination	0-10,000 K	Th	1026
e + Zn^{5+}	Recombination	0-10,000 K	Th	1026
e + Zn^{6+}	Recombination	0-10,000 K	Th	1026
e + Zn^{7+}	Recombination	0-10,000 K	Th	1026
e + Zn^{8+}	Recombination	0-10,000 K	Th	1026
e + Zn^{9+}	Recombination	0-10,000 K	Th	1026
e + Zn^{10+}	Recombination	0-10,000 K	Th	1026
e + Zn^{11+}	Recombination	0-10,000 K	Th	1026
e + Zn^{12+}	Recombination	0-10,000 K	Th	1026
e + Zn^{13+}	Recombination	0-10,000 K	Th	1026
e + Zn^{14+}	Recombination	0-10,000 K	Th	1026
e + Zn^{15+}	Recombination	0-10,000 K	Th	1026
e + Zn^{16+}	Recombination	0-10,000 K	Th	1026
e + Zn^{17+}	Recombination	0-10,000 K	Th	1026
e + Zn^{18+}	Recombination	0-10,000 K	Th	1026
e + Zn^{19+}	Recombination	0-10,000 K	Th	1026

e + Zn^{20+}	Recombination	0-10,000 K	Th	1026
e + Zn^{21+}	Recombination	0-10,000 K	Th	1026
e + Zn^{22+}	Recombination	0-10,000 K	Th	1026
e + Zn^{23+}	Recombination	0-10,000 K	Th	1026
e + Zn^{24+}	Recombination	0-10,000 K	Th	1026
e + Zn^{25+}	Recombination	0-10,000 K	Th	1026
e + Zn^{26+}	Recombination	0-10,000 K	Th	1026
e + Zn^{27+}	Recombination	0-10,000 K	Th	1026
e + Zn^{28+}	Recombination	0-10,000 K	Th	1026
e + Zn^{29+}	Recombination	0-10,000 K	Th	1026
e + Zn^{30+}	Recombination	0-10,000 K	Th	1026
e + Ga^{+}	Recombination	0-10,000 K	Th	1026
e + Ga^{2+}	Recombination	0-10,000 K	Th	1026
e + Ga^{3+}	Recombination	0-10,000 K	Th	1026
e + Ga^{4+}	Recombination	0-10,000 K	Th	1026
e + Ga^{5+}	Recombination	0-10,000 K	Th	1026
e + Ga^{6+}	Recombination	0-10,000 K	Th	1026
e + Ga^{7+}	Recombination	0-10,000 K	Th	1026
e + Ga^{8+}	Recombination	0-10,000 K	Th	1026
e + Ga^{9+}	Recombination	0-10,000 K	Th	1026
e + Ga^{10+}	Recombination	0-10,000 K	Th	1026
e + Ga^{11+}	Recombination	0-10,000 K	Th	1026
e + Ga^{12+}	Recombination	0-10,000 K	Th	1026
e + Ga^{13+}	Recombination	0-10,000 K	Th	1026
e + Ga^{14+}	Recombination	0-10,000 K	Th	1026
e + Ga^{15+}	Recombination	0-10,000 K	Th	1026
e + Ga^{16+}	Recombination	0-10,000 K	Th	1026
e + Ga^{17+}	Recombination	0-10,000 K	Th	1026
e + Ga^{18+}	Recombination	0-10,000 K	Th	1026
e + Ga^{19+}	Recombination	0-10,000 K	Th	1026
e + Ga^{20+}	Recombination	0-10,000 K	Th	1026
e + Ga^{21+}	Recombination	0-10,000 K	Th	1026
e + Ga^{22+}	Recombination	0-10,000 K	Th	1026
e + Ga^{23+}	Recombination	0-10,000 K	Th	1026
e + Ga^{24+}	Recombination	0-10,000 K	Th	1026
e + Ga^{25+}	Recombination	0-10,000 K	Th	1026
e + Ga^{26+}	Recombination	0-10,000 K	Th	1026
e + Ga^{27+}	Recombination	0-10,000 K	Th	1026
e + Ga^{28+}	Recombination	0-10,000 K	Th	1026
e + Ga^{29+}	Recombination	0-10,000 K	Th	1026
e + Ga^{30+}	Recombination	0-10,000 K	Th	1026
e + Ga^{31+}	Recombination	0-10,000 K	Th	1026
e + Ge^{+}	Recombination	0-10,000 K	Th	1026
e + Ge^{2+}	Recombination	0-10,000 K	Th	1026
e + Ge^{3+}	Recombination	0-10,000 K	Th	1026
e + Ge^{4+}	Recombination	0-10,000 K	Th	1026
e + Ge^{5+}	Recombination	0-10,000 K	Th	1026
e + Ge^{6+}	Recombination	0-10,000 K	Th	1026
e + Ge^{7+}	Recombination	0-10,000 K	Th	1026
e + Ge^{8+}	Recombination	0-10,000 K	Th	1026
e + Ge^{9+}	Recombination	0-10,000 K	Th	1026
e + Ge^{10+}	Recombination	0-10,000 K	Th	1026
e + Ge^{11+}	Recombination	0-10,000 K	Th	1026
e + Ge^{12+}	Recombination	0-10,000 K	Th	1026
e + Ge^{13+}	Recombination	0-10,000 K	Th	1026
e + Ge^{14+}	Recombination	0-10,000 K	Th	1026
e + Ge^{15+}	Recombination	0-10,000 K	Th	1026

e + Ge^{16+}	Recombination	0-10,000 K	Th	1026
e + Ge^{17+}	Recombination	0-10,000 K	Th	1026
e + Ge^{18+}	Recombination	0-10,000 K	Th	1026
e + Ge^{19+}	Recombination	0-10,000 K	Th	1026
e + Ge^{20+}	Recombination	0-10,000 K	Th	1026
e + Ge^{21+}	Recombination	0-10,000 K	Th	1026
e + Ge^{22+}	Recombination	0-10,000 K	Th	1026
e + Ge^{23+}	Recombination	0-10,000 K	Th	1026
e + Ge^{24+}	Recombination	0-10,000 K	Th	1026
e + Ge^{25+}	Recombination	0-10,000 K	Th	1026
e + Ge^{26+}	Recombination	0-10,000 K	Th	1026
e + Ge^{27+}	Recombination	0-10,000 K	Th	1026
e + Ge^{28+}	Recombination	0-10,000 K	Th	1026
e + Ge^{29+}	Recombination	0-10,000 K	Th	1026
e + Ge^{30+}	Recombination	0-10,000 K	Th	1026
e + Ge^{31+}	Recombination	0-10,000 K	Th	1026
e + Ge^{32+}	Recombination	0-10,000 K	Th	1026
e + Cu^{4+}	Ionization	0-10,000 K	Th	1026
e + Cu^{5+}	Ionization	0-10,000 K	Th	1026
e + Cu^{6+}	Ionization	0-10,000 K	Th	1026
e + Cu^{7+}	Ionization	0-10,000 K	Th	1026
e + Cu^{8+}	Ionization	0-10,000 K	Th	1026
e + Cu^{9+}	Ionization	0-10,000 K	Th	1026
e + Cu^{10+}	Ionization	0-10,000 K	Th	1026
e + Cu^{11+}	Ionization	0-10,000 K	Th	1026
e + Cu^{12+}	Ionization	0-10,000 K	Th	1026
e + Cu^{13+}	Ionization	0-10,000 K	Th	1026
e + Cu^{14+}	Ionization	0-10,000 K	Th	1026
e + Cu^{15+}	Ionization	0-10,000 K	Th	1026
e + Cu^{16+}	Ionization	0-10,000 K	Th	1026
e + Cu^{17+}	Ionization	0-10,000 K	Th	1026
e + Cu^{18+}	Ionization	0-10,000 K	Th	1026
e + Cu^{19+}	Ionization	0-10,000 K	Th	1026
e + Cu^{20+}	Ionization	0-10,000 K	Th	1026
e + Cu^{21+}	Ionization	0-10,000 K	Th	1026
e + Cu^{22+}	Ionization	0-10,000 K	Th	1026
e + Cu^{23+}	Ionization	0-10,000 K	Th	1026
e + Cu^{24+}	Ionization	0-10,000 K	Th	1026
e + Cu^{25+}	Ionization	0-10,000 K	Th	1026
e + Cu^{26+}	Ionization	0-10,000 K	Th	1026
e + Cu^{27+}	Ionization	0-10,000 K	Th	1026
e + Cu^{28+}	Ionization	0-10,000 K	Th	1026
e + Zn^{5+}	Ionization	0-10,000 K	Th	1026
e + Zn^{6+}	Ionization	0-10,000 K	Th	1026
e + Zn^{7+}	Ionization	0-10,000 K	Th	1026
e + Zn^{8+}	Ionization	0-10,000 K	Th	1026
e + Zn^{9+}	Ionization	0-10,000 K	Th	1026
e + Zn^{10+}	Ionization	0-10,000 K	Th	1026
e + Zn^{11+}	Ionization	0-10,000 K	Th	1026
e + Zn^{12+}	Ionization	0-10,000 K	Th	1026
e + Zn^{13+}	Ionization	0-10,000 K	Th	1026
e + Zn^{14+}	Ionization	0-10,000 K	Th	1026
e + Zn^{15+}	Ionization	0-10,000 K	Th	1026
e + Zn^{16+}	Ionization	0-10,000 K	Th	1026
e + Zn^{17+}	Ionization	0-10,000 K	Th	1026
e + Zn^{18+}	Ionization	0-10,000 K	Th	1026
e + Zn^{19+}	Ionization	0-10,000 K	Th	1026

e + Zn^{20+}	Ionization	0-10,000 K	Th	1026
e + Zn^{21+}	Ionization	0-10,000 K	Th	1026
e + Zn^{22+}	Ionization	0-10,000 K	Th	1026
e + Zn^{23+}	Ionization	0-10,000 K	Th	1026
e + Zn^{24+}	Ionization	0-10,000 K	Th	1026
e + Zn^{25+}	Ionization	0-10,000 K	Th	1026
e + Zn^{26+}	Ionization	0-10,000 K	Th	1026
e + Zn^{27+}	Ionization	0-10,000 K	Th	1026
e + Zn^{28+}	Ionization	0-10,000 K	Th	1026
e + Zn^{29+}	Ionization	0-10,000 K	Th	1026
e + Ga^{6+}	Ionization	0-10,000 K	Th	1026
e + Ga^{7+}	Ionization	0-10,000 K	Th	1026
e + Ga^{8+}	Ionization	0-10,000 K	Th	1026
e + Ga^{9+}	Ionization	0-10,000 K	Th	1026
e + Ga^{10+}	Ionization	0-10,000 K	Th	1026
e + Ga^{11+}	Ionization	0-10,000 K	Th	1026
e + Ga^{12+}	Ionization	0-10,000 K	Th	1026
e + Ga^{13+}	Ionization	0-10,000 K	Th	1026
e + Ga^{14+}	Ionization	0-10,000 K	Th	1026
e + Ga^{15+}	Ionization	0-10,000 K	Th	1026
e + Ga^{16+}	Ionization	0-10,000 K	Th	1026
e + Ga^{17+}	Ionization	0-10,000 K	Th	1026
e + Ga^{18+}	Ionization	0-10,000 K	Th	1026
e + Ga^{19+}	Ionization	0-10,000 K	Th	1026
e + Ga^{20+}	Ionization	0-10,000 K	Th	1026
e + Ga^{21+}	Ionization	0-10,000 K	Th	1026
e + Ga^{22+}	Ionization	0-10,000 K	Th	1026
e + Ga^{23+}	Ionization	0-10,000 K	Th	1026
e + Ga^{24+}	Ionization	0-10,000 K	Th	1026
e + Ga^{25+}	Ionization	0-10,000 K	Th	1026
e + Ga^{26+}	Ionization	0-10,000 K	Th	1026
e + Ga^{27+}	Ionization	0-10,000 K	Th	1026
e + Ga^{28+}	Ionization	0-10,000 K	Th	1026
e + Ga^{29+}	Ionization	0-10,000 K	Th	1026
e + Ga^{30+}	Ionization	0-10,000 K	Th	1026
e + Ge^{7+}	Ionization	0-10,000 K	Th	1026
e + Ge^{8+}	Ionization	0-10,000 K	Th	1026
e + Ge^{9+}	Ionization	0-10,000 K	Th	1026
e + Ge^{10+}	Ionization	0-10,000 K	Th	1026
e + Ge^{11+}	Ionization	0-10,000 K	Th	1026
e + Ge^{12+}	Ionization	0-10,000 K	Th	1026
e + Ge^{13+}	Ionization	0-10,000 K	Th	1026
e + Ge^{14+}	Ionization	0-10,000 K	Th	1026
e + Ge^{15+}	Ionization	0-10,000 K	Th	1026
e + Ge^{16+}	Ionization	0-10,000 K	Th	1026
e + Ge^{17+}	Ionization	0-10,000 K	Th	1026
e + Ge^{18+}	Ionization	0-10,000 K	Th	1026
e + Ge^{19+}	Ionization	0-10,000 K	Th	1026
e + Ge^{20+}	Ionization	0-10,000 K	Th	1026
e + Ge^{21+}	Ionization	0-10,000 K	Th	1026
e + Ge^{22+}	Ionization	0-10,000 K	Th	1026
e + Ge^{23+}	Ionization	0-10,000 K	Th	1026
e + Ge^{24+}	Ionization	0-10,000 K	Th	1026
e + Ge^{25+}	Ionization	0-10,000 K	Th	1026
e + Ge^{26+}	Ionization	0-10,000 K	Th	1026
e + Ge^{27+}	Ionization	0-10,000 K	Th	1026
e + Ge^{28+}	Ionization	0-10,000 K	Th	1026

e + Ge^{29+}	Ionization	0-10,000 K	Th	1026
e + Ge^{30+}	Ionization	0-10,000 K	Th	1026
e + Ge^{31+}	Ionization	0-10,000 K	Th	1026
e + He	Excitation	$3x10^{-5} - 1.4$ MeV	E/T	1028
e + Ni^{20+}	Excitation	85-425 Ry	Th	1029
e + Ne^{2+}	Excitation	5-45 Ry	Th	1030
e + Fe^{16+}	Excitation	58.5-425 Ry	Th	1031
e + Si^{7+}	Excitation	$10^4 - 10^7$ K	Th	1032
e + S^{8+}	Excitation	25-125 Ry	Th	1033
e + Cl^{+}	Excitation	1000-1,000,000 K	Th	1034
e + Ag	Line Broadening	2500-50,000 K	Th	1035
e + Si^{7+}	Excitation	20-80 Ry	Th	1036
e + H	Ionization	5-10,000 eV	Th	1037
e + He	Ionization	5-10,000 eV	Th	1037
e + Li	Ionization	5-10,000 eV	Th	1037
e + Be	Ionization	5-10,000 eV	Th	1037
e + B	Ionization	5-10,000 eV	Th	1037
e + C	Ionization	5-10,000 eV	Th	1037
e + N	Ionization	5-10,000 eV	Th	1037
e + O	Ionization	5-10,000 eV	Th	1037
e + F	Ionization	5-10,000 eV	Th	1037
e + Ne	Ionization	5-10,000 eV	Th	1037
e + Na	Ionization	5-10,000 eV	Th	1037
e + Mg	Ionization	5-10,000 eV	Th	1037
e + Al	Ionization	5-10,000 eV	Th	1037
e + Si	Ionization	5-10,000 eV	Th	1037
e + P	Ionization	5-10,000 eV	Th	1037
e + S	Ionization	5-10,000 eV	Th	1037
e + Cl	Ionization	5-10,000 eV	Th	1037
e + Ar	Ionization	5-10,000 eV	Th	1037
e + Ca	Ionization	5-10,000 eV	Th	1037
e + Sc	Ionization	5-10,000 eV	Th	1037
e + Ti	Ionization	5-10,000 eV	Th	1037
e + V	Ionization	5-10,000 eV	Th	1037
e + Cr	Ionization	5-10,000 eV	Th	1037
e + Mn	Ionization	5-10,000 eV	Th	1037
e + Fe	Ionization	5-10,000 eV	Th	1037
e + Co	Ionization	5-10,000 eV	Th	1037
e + Ni	Ionization	5-10,000 eV	Th	1037
e + Cu	Ionization	5-10,000 eV	Th	1037
e + Zn	Ionization	5-10,000 eV	Th	1037
e + Ga	Ionization	5-10,000 eV	Th	1037
e + Ge	Ionization	5-10,000 eV	Th	1037
e + As	Ionization	5-10,000 eV	Th	1037
e + Se	Ionization	5-10,000 eV	Th	1037
e + Br	Ionization	5-10,000 eV	Th	1037
e + Kr	Ionization	5-10,000 eV	Th	1037
e + Rb	Ionization	5-10,000 eV	Th	1037
e + Sr	Ionization	5-10,000 eV	Th	1037
e + Y	Ionization	5-10,000 eV	Th	1037
e + Zr	Ionization	5-10,000 eV	Th	1037
e + Nb	Ionization	5-10,000 eV	Th	1037
e + Mo	Ionization	5-10,000 eV	Th	1037
e + Tc	Ionization	5-10,000 eV	Th	1037
e + Ru	Ionization	5-10,000 eV	Th	1037
e + Rh	Ionization	5-10,000 eV	Th	1037
e + Pd	Ionization	5-10,000 eV	Th	1037

e + Ag	Ionization	5-10,000 eV	Th	1037
e + Cd	Ionization	5-10,000 eV	Th	1037
e + In	Ionization	5-10,000 eV	Th	1037
e + Sn	Ionization	5-10,000 eV	Th	1037
e + Sb	Ionization	5-10,000 eV	Th	1037
e + Te	Ionization	5-10,000 eV	Th	1037
e + I	Ionization	5-10,000 eV	Th	1037
e + Xe	Ionization	5-10,000 eV	Th	1037
$\mathbf{e + Ar^{12+}}$	Excitation	$10^5 - 10^7$ K	Th	1038
$\mathbf{e + Ta^{45+}}$	Excitation	4-600 Ry	Th	1039
$\mathbf{e + Ar^{11+}}$	Excitation	35-175 Ry	Th	1040
$\mathbf{e + Ne^{2+}}$	Excitation	5.2-25 Ry	Th	1041
$\mathbf{e + O^{3+}}$	Recombination	0.1-120 eV	Th	1042
$\mathbf{e + Ca^{13+}}$	Excitation	45-255 Ry	Th	1043
$\mathbf{e + Nd^{32+}}$	Excitation	5-20,000 eV	Th	1044
$\mathbf{e + Sm^{34+}}$	Excitation	5-20,000 eV	Th	1044
$\mathbf{e + Eu^{35+}}$	Excitation	5-20,000 eV	Th	1044
$\mathbf{e + Gd^{36+}}$	Excitation	5-20,000 eV	Th	1044
$\mathbf{e + Ta^{45+}}$	Excitation	5-20,000 eV	Th	1044
$\mathbf{e + W^{46+}}$	Excitation	5-20,000 eV	Th	1044
e + He	Elastic Scattering	1-1000 eV	Th	1045
e + Ne	Elastic Scattering	1-1000 eV	Th	1045
e + Ar	Elastic Scattering	1-1000 eV	Th	1045
e + Kr	Elastic Scattering	1-1000 eV	Th	1045
e + Xe	Elastic Scattering	1-1000 eV	Th	1045
e + He	Angular Scattering	1-1000 eV	Th	1045
e + Ne	Angular Scattering	1-1000 eV	Th	1045
e + Ar	Angular Scattering	1-1000 eV	Th	1045
e + Kr	Angular Scattering	1-1000 eV	Th	1045
e + Xe	Angular Scattering	1-1000 eV	Th	1045
e + He	Total Scattering	1-1000 eV	Th	1045
e + Ne	Total Scattering	1-1000 eV	Th	1045
e + Ar	Total Scattering	1-1000 eV	Th	1045
e + Kr	Total Scattering	1-1000 eV	Th	1045
e + Xe	Total Scattering	1-1000 eV	Th	1045
$\mathbf{e + Mg^{4+}}$	Excitation	10-50 Ry	Th	1046
$\mathbf{e + Ar^{10+}}$	Excitation	30-150 Ry	Th	1047
$\mathbf{e + N_2}$	Dissociation	$10^{-2} - 10^4$ eV	E/T	1048
$\mathbf{e + N_2{}^+}$	Dissociation	$10^{-2} - 10^4$ eV	E/T	1048
$\mathbf{e + N_2}$	Elastic Scattering	$10^{-2} - 10^4$ eV	E/T	1048
$\mathbf{e + N_2}$	Total Scattering	$10^{-2} - 10^4$ eV	E/T	1048
$\mathbf{e + N_2}$	Excitation	$10^{-2} - 10^4$ eV	E/T	1048
$\mathbf{e + N_2{}^+}$	Excitation	$10^{-2} - 10^4$ eV	E/T	1048
$\mathbf{e + N_2}$	Ionization	$10^{-2} - 10^4$ eV	E/T	1048
$\mathbf{e + N_2{}^+}$	Ionization	$10^{-2} - 10^4$ eV	E/T	1048
e + C	Excitation	$10^{-1} - 10^7$ eV	E/T	1049
$\mathbf{e + C^{+}}$	Excitation	$10^{-1} - 10^7$ eV	E/T	1049
$\mathbf{e + C^{2+}}$	Excitation	$10^{-1} - 10^7$ eV	E/T	1049
$\mathbf{e + C^{3+}}$	Excitation	$10^{-1} - 10^7$ eV	E/T	1049
$\mathbf{e + C^{4+}}$	Excitation	$10^{-1} - 10^7$ eV	E/T	1049
$\mathbf{e + C^{5+}}$	Excitation	$10^{-1} - 10^7$ eV	E/T	1049
e + C	Ionization	$10^{-1} - 10^7$ eV	E/T	1049
$\mathbf{e + C^{+}}$	Ionization	$10^{-1} - 10^7$ eV	E/T	1049
$\mathbf{e + C^{2+}}$	Ionization	$10^{-1} - 10^7$ eV	E/T	1049
$\mathbf{e + C^{3+}}$	Ionization	$10^{-1} - 10^7$ eV	E/T	1049
$\mathbf{e + C^{4+}}$	Ionization	$10^{-1} - 10^7$ eV	E/T	1049
$\mathbf{e + C^{5+}}$	Ionization	$10^{-1} - 10^7$ eV	E/T	1049

e + La^{29+}	Excitation	10-10,000 eV	Th	1050
e + Li^{+}	Recombination	0.1-10,000 eV	Th	1051
e + Li^{2+}	Recombination	0.1-10,000 eV	Th	1051
e + Li	Excitation	0.1-10,000 eV	Th	1051
e + Li^{+}	Excitation	0.1-10,000 eV	Th	1051
e + Li^{2+}	Excitation	0.1-10,000 eV	Th	1051
e + Li	Ionization	0.1-10,000 eV	Th	1051
e + Li^{+}	Ionization	0.1-10,000 eV	Th	1051
e + Li^{2+}	Ionization	0.1-10,000 eV	Th	1051
e + Mg^{5+}	Excitation	12-60 Ry	Th	1052
e + Fe^{2+}	Excitation	$2000 - 10^6$ K	Th	1053
e + Au^{47+}	Excitation	5-40,000 eV	Th	1054
e + Au^{48+}	Excitation	5-40,000 eV	Th	1054
e + Au^{49+}	Excitation	5-40,000 eV	Th	1054
e + Au^{50+}	Excitation	5-40,000 eV	Th	1054
e + Au^{51+}	Excitation	5-40,000 eV	Th	1054
e + Au^{52+}	Excitation	5-40,000 eV	Th	1054
e + Si^{10+}	Excitation	35-175 Ry	Th	1055
e + Si^{8+}	Excitation	10-2000 eV	Th	1056
e + Si^{9+}	Excitation	10-2000 eV	Th	1056
e + Si^{10+}	Excitation	10-2000 eV	Th	1056
e + Mg^{8+}	Excitation	25-125 Ry	Th	1057

2.2.3 Heavy Particles Collisions

H^{+} + H_2	Ionization	1-5 MeV	Exp	1058
H^{+} + He	Charge Transfer	1.4-5.8 MeV	E/T	1061
H^{+} + He	Ionization	1.4-5.8 MeV	E/T	1061
H + OH	Interaction Potentials		Th	1065
H^{+} + H	Charge Transfer	1-1000 eV	Th	1066
H^{+} + H	Ionization	1-1000 eV	Th	1066
H^{+} + He	Excitation	25 keV/u	Th	1069
H^{+} + He	Ionization	25 keV/u	Th	1069
H^{+} + $H_2{}^{+}$	Charge Transfer	4-25 keV/u	Th	1070
H^{+} + $H_2{}^{+}$	Excitation	4-25 keV/u	Th	1070
H^{+} + CO	Dissociation	10-14,000 keV	Exp	1071
H^{+} + CO	Charge Transfer	10-14,000 keV	Exp	1071
H^{+} + CO	Ionization	10-14,000 keV	Exp	1071
H + F	Interaction Potentials		Th	1073
H^{+} + He	Interaction Potentials	0-2 eV	Th	1074
H^{+} + H_2	Charge Transfer	1-1.3 MeV	E/T	1083
H^{+} + H_2	Excitation	1-1.3 MeV	E/T	1083
H^{+} + H_2	Ionization	4 MeV	Exp	1085
H + H	Interaction Potentials	0-4 a.u.	Th	1087
H + H_2	Interaction Potentials	2-8 a_0	E/T	1089
H^{+} + H	Charge Transfer	1-100 keV	Th	1090
H^{+} + H	Excitation	1-100 keV	Th	1090
H^{+} + Si	Ionization	1-3 MeV	Exp	1091
H^{+} + He	Total Scattering	75 keV	Th	1093
H^{+} + He	Ionization	75 keV	Th	1093
H^{-} + He	Detachment	200 keV	Exp	1094
H^{-} + He	Ionization	200 keV	Exp	1094
H^{+} + Na	Charge Transfer	2-100 keV	E/T	1100
H^{+} + Na	Excitation	2-100 keV	E/T	1100
H^{+} + Na	Ionization	2-100 keV	E/T	1100
H^{+} + S^{3+}	Excitation	100-40,000 eV	Th	1102

$\mathbf{H^+ + Ar^{13+}}$	Excitation	100-40,000 eV	Th	1102
$\mathbf{H^+ + Fe^{13+}}$	Excitation	100-40,000 eV	Th	1102
$\mathbf{H^+ + CO_2}$	Dissociation	6 MeV	E/T	1108
$\mathbf{H^+ + CO_2}$	Ionization	6 MeV	E/T	1108
$\mathbf{H^+ + H}$	Charge Transfer	1-1000 keV	E/T	1113
$\mathbf{H^+ + H}$	Excitation	1-1000 keV	E/T	1113
$\mathbf{H^+ + H_2O}$	Dissociation	3-24 keV	Exp	1114
$\mathbf{H^+ + H_2O}$	Ionization	3-24 keV	Exp	1114
$\mathbf{H^+ + Na}$	Excitation	0.5-50 keV	E/T	1115
$\mathbf{H + D}$	Association	10-1000 deg K	Th	1116
$\mathbf{H + D}$	Interaction Potentials	10-1000 deg K	Th	1116
$\mathbf{H + D}$	Fluorescence	10-1000 deg K	Th	1116
$\mathbf{H + SiO}$	Excitation	2000-4000 K	Th	1124
$\mathbf{H^+ + H_2O}$	Charge Transfer	10-10,000 eV	Th	1126
$\mathbf{H^+ + H_2}$	Interchange reaction	0.0-2.0 eV	Th	1128
$\mathbf{H^+ + D_2}$	Interchange reaction	0.0-2.0 eV	Th	1128
$\mathbf{H^+ + CO}$	Elastic Scattering	9.5 eV	Th	1134
$\mathbf{H^+ + CO}$	Charge Transfer	9.5 eV	Th	1134
$\mathbf{H^+ + H}$	Ionization	$10^{-3} - 10$ MeV	Th	1146
$\mathbf{H^+ + He}$	Ionization	$10^{-3} - 10$ MeV	Th	1146
$\mathbf{H^+ + Ti}$	Ionization	$10^{-3} - 10$ MeV	Th	1146
$\mathbf{H^+ + Cu}$	Ionization	$10^{-3} - 10$ MeV	Th	1146
$\mathbf{H^+ + Se}$	Ionization	$10^{-3} - 10$ MeV	Th	1146
$\mathbf{H^+ + Nb}$	Ionization	$10^{-3} - 10$ MeV	Th	1146
$\mathbf{H^+ + Au}$	Ionization	$10^{-3} - 10$ MeV	Th	1146
$\mathbf{H^+ + H}$	Charge Transfer	0.5-145 keV	Th	1147
$\mathbf{H^+ + H}$	Ionization	20 keV	Th	1148
$\mathbf{H^+ + H_2}$	Charge Transfer	0.5-100 eV	Th	1149
$\mathbf{H^+ + H_2{}^+}$	Charge Transfer	0.5-100 eV	Th	1149
$\mathbf{H^- + He}$	Ionization	5-25 keV	Th	1152
$\mathbf{H + He}$	Ionization	5-25 keV	Th	1152
$\mathbf{H^+ + In}$	Ionization	1-10 MeV	Exp	1154
$\mathbf{H^+ + Sn}$	Ionization	1-10 MeV	Exp	1154
$\mathbf{H^+ + Y}$	Excitation	75-300 keV	Exp	1159
$\mathbf{H^+ + Zr}$	Excitation	75-300 keV	Exp	1159
$\mathbf{H^+ + Nb}$	Excitation	75-300 keV	Exp	1159
$\mathbf{H^+ + Mo}$	Excitation	75-300 keV	Exp	1159
$\mathbf{H^+ + Rh}$	Excitation	75-300 keV	Exp	1159
$\mathbf{H^+ + Pd}$	Excitation	75-300 keV	Exp	1159
$\mathbf{H^+ + Ag}$	Excitation	75-300 keV	Exp	1159
$\mathbf{H^+ + Sn}$	Excitation	75-300 keV	Exp	1159
$\mathbf{H^+ + Y}$	Ionization	75-300 keV	Exp	1159
$\mathbf{H^+ + Zr}$	Ionization	75-300 keV	Exp	1159
$\mathbf{H^+ + Nb}$	Ionization	75-300 keV	Exp	1159
$\mathbf{H^+ + Mo}$	Ionization	75-300 keV	Exp	1159
$\mathbf{H^+ + Rh}$	Ionization	75-300 keV	Exp	1159
$\mathbf{H^+ + Pd}$	Ionization	75-300 keV	Exp	1159
$\mathbf{H^+ + Ag}$	Ionization	75-300 keV	Exp	1159
$\mathbf{H^+ + Sn}$	Ionization	75-300 keV	Exp	1159
$\mathbf{H^+ + A}$	Excitation	0.5-3.0 MeV	Exp	1166
$\mathbf{H^+ + A}$	Ionization	0.5-3.0 MeV	Exp	1166
$\mathbf{H^+ + Ta}$	Excitation	0.7-2.4 MeV	Exp	1167
$\mathbf{H^+ + W}$	Excitation	0.7-2.4 MeV	Exp	1167
$\mathbf{H^+ + Pt}$	Excitation	0.7-2.4 MeV	Exp	1167
$\mathbf{H^+ + Au}$	Excitation	0.7-2.4 MeV	Exp	1167
$\mathbf{H^+ + Pb}$	Excitation	0.7-2.4 MeV	Exp	1167
$\mathbf{H^+ + Bi}$	Excitation	0.7-2.4 MeV	Exp	1167

H^+ + Ta	Ionization	0.7-2.4 MeV	Exp	1167
H^+ + W	Ionization	0.7-2.4 MeV	Exp	1167
H^+ + Pt	Ionization	0.7-2.4 MeV	Exp	1167
H^+ + Au	Ionization	0.7-2.4 MeV	Exp	1167
H^+ + Pb	Ionization	0.7-2.4 MeV	Exp	1167
H^+ + Bi	Ionization	0.7-2.4 MeV	Exp	1167
H^+ + C	Elastic Scattering	1.8-6.0 MeV	Exp	1168
H^+ + Si	Elastic Scattering	1.8-6.0 MeV	Exp	1168
H^+ + C	Interaction Potentials	1.8-6.0 MeV	Exp	1168
H^+ + Si	Interaction Potentials	1.8-6.0 MeV	Exp	1168
H^+ + Sm	Excitation	1-2.5 MeV	E/T	1169
H^+ + Yb	Excitation	1-2.5 MeV	E/T	1169
H^+ + Sm	Ionization	1-2.5 MeV	E/T	1169
H^+ + Yb	Ionization	1-2.5 MeV	E/T	1169
H^+ + Cr	Excitation	0.3-3.5 MeV	Exp	1171
H^+ + Cu	Excitation	0.3-3.5 MeV	Exp	1171
H^+ + Ge	Excitation	0.3-3.5 MeV	Exp	1171
H^+ + Ag	Excitation	0.3-3.5 MeV	Exp	1171
H^+ + W	Excitation	0.3-3.5 MeV	Exp	1171
H^+ + Au	Excitation	0.3-3.5 MeV	Exp	1171
H^+ + Cr	Ionization	0.3-3.5 MeV	Exp	1171
H^+ + Cu	Ionization	0.3-3.5 MeV	Exp	1171
H^+ + Ge	Ionization	0.3-3.5 MeV	Exp	1171
H^+ + Ag	Ionization	0.3-3.5 MeV	Exp	1171
H^+ + W	Ionization	0.3-3.5 MeV	Exp	1171
H^+ + Au	Ionization	0.3-3.5 MeV	Exp	1171
H^+ + Li	Elastic Scattering	3-7 MeV	Exp	1172
H^+ + C	Elastic Scattering	3-7 MeV	Exp	1172
H^+ + F	Elastic Scattering	3-7 MeV	Exp	1172
H^+ + Li	Excitation	3-5.7 MeV	Exp	1173
H^+ + F	Excitation	3-5.7 MeV	Exp	1173
H^+ + Li	Ionization	3-5.7 MeV	Exp	1173
H^+ + F	Ionization	3-5.7 MeV	Exp	1173
H^+ + Si	Ionization	100 keV	E/T	1175
H^+ + Y	Ionization	100 keV	E/T	1175
H + Ta	Ionization	0.1-1 MeV/u	E/T	1180
H + W	Ionization	0.1-1 MeV/u	E/T	1180
H + Re	Ionization	0.1-1 MeV/u	E/T	1180
H + Os	Ionization	0.1-1 MeV/u	E/T	1180
H + Ir	Ionization	0.1-1 MeV/u	E/T	1180
H + Pt	Ionization	0.1-1 MeV/u	E/T	1180
H + Au	Ionization	0.1-1 MeV/u	E/T	1180
H + Bi	Ionization	0.1-1 MeV/u	E/T	1180
H + Th	Ionization	0.1-1 MeV/u	E/T	1180
H^+ + H	Elastic Scattering	$1-2x10^6$ eV/u	Th	1181
H^+ + H	Charge Transfer	$1-2x10^6$ eV/u	Th	1181
H + Li	Interaction Potentials	Ultracold	Th	1190
H + K	Interaction Potentials	Ultracold	Th	1190
H^+ + H_2	Charge Transfer		Th	1192
H^+ + Pb	Dissociation	20-102 MeV	Exp	1193
H^+ + Bi	Dissociation	20-102 MeV	Exp	1193
H^+ + Pb	Ionization	20-102 MeV	Exp	1193
H^+ + Bi	Ionization	20-102 MeV	Exp	1193
H^+ + Ca	Charge Transfer	200-10,000 eV/u	Th	1195
H^+ + H	Charge Transfer	1.21 keV	Th	1200
H^+ + H	Ionization	1.21 keV	Th	1200
H^+ + He	Total Scattering	75 keV	E/T	1207

$\mathbf{H^+ + He}$	Ionization	75 keV	E/T	1207
$\mathbf{H + H}$	Interaction Potentials	0-200 a_0	Th	1208
$\mathbf{H + H^*}$	Interaction Potentials	0-200 a_0	Th	1208
$\mathbf{H^* + H^*}$	Interaction Potentials	0-200 a_0	Th	1208
$\mathbf{H^+ + He}$	Interaction Potentials		Th	1210
$\mathbf{H^+ + NH_2}$	Charge Transfer	0.5-1.5 keV	Th	1212
$\mathbf{H^+ + NH_2}$	Total Scattering	0.5-1.5 keV	Th	1212
$\mathbf{H + H}$	Excitation	1-10,000 MeV	Th	1213
$\mathbf{H + H^*}$	Excitation	1-10,000 MeV	Th	1213
$\mathbf{H^+ + H}$	Excitation	40-7000 keV/u	Th	1215
$\mathbf{H^+ + H}$	Ionization	40-7000 keV/u	Th	1215
$\mathbf{H + H_2}$	Association	0.08-1.4 eV	Th	1218
$\mathbf{H + H_2}$	Interchange reaction	0.08-1.4 eV	Th	1218
$\mathbf{H + H_2}$	Total Scattering	0.08-1.4 eV	Th	1218
$\mathbf{H^- + He}$	Total Scattering	200 keV	Exp	1223
$\mathbf{H^- + He}$	Detachment	200 keV	Exp	1223
$\mathbf{H^- + He}$	Ionization	200 keV	Exp	1223
$\mathbf{H^+ + He}$	Elastic Scattering	$10^{-4} - 1$ eV	Th	1224
$\mathbf{H^+ + Ne}$	Elastic Scattering	$10^{-4} - 1$ eV	Th	1224
$\mathbf{H^+ + Ar}$	Elastic Scattering	$10^{-4} - 1$ eV	Th	1224
$\mathbf{H^- + He}$	Detachment	1-10 keV	E/T	1226
$\mathbf{H^- + He}$	Ionization	1-10 keV	E/T	1226
$\mathbf{H + H}$	Interaction Potentials		Th	1228
$\mathbf{H^+ + He}$	Charge Transfer	100-6000 keV	Th	1232
$\mathbf{H^+ + He}$	Ionization	100-6000 keV	Th	1232
$\mathbf{H^+ + H_2O}$	Dissociation	1-14 MeV/u	E/T	1236
$\mathbf{H^+ + HDO}$	Dissociation	1-14 MeV/u	E/T	1236
$\mathbf{H^+ + H_2O}$	Ionization	1-14 MeV/u	E/T	1236
$\mathbf{H^+ + HDO}$	Ionization	1-14 MeV/u	E/T	1236
$\mathbf{H^+ + He}$	Ionization	50-2000 keV/u	Th	1237
$\mathbf{H^+ + He^+}$	Ionization	50-2000 keV/u	Th	1237
$\mathbf{H^+ + Li}$	Ionization	50-2000 keV/u	Th	1237
$\mathbf{H^+ + H}$	Interaction Potentials		Th	1241
$\mathbf{H^+ + D}$	Interaction Potentials		Th	1241
$\mathbf{H + H_2}$	Energy Transfer	0-10,000 K	Th	1248
$\mathbf{H + H_2}$	Interaction Potentials	0-10,000 K	Th	1248
$\mathbf{H + Li^*}$	Association	1 mK	Th	1264
$\mathbf{H^+ + H}$	Charge Transfer	1-2 a.u.; 1 μ m	Th	1276
$\mathbf{H^+ + H}$	Ionization	1-2 a.u.; 1 μ m	Th	1276
$\mathbf{H^+ + H}$	Total Scattering	10 a.u.	Th	1277
$\mathbf{H^+ + H}$	Ionization	10 a.u.	Th	1277
$\mathbf{H^+ + H}$	Interaction Potentials	0.007-4 nm	Th	1279
$\mathbf{H^+ + He}$	Interaction Potentials	0.007-4 nm	Th	1279
$\mathbf{H^+ + Ne}$	Interaction Potentials	0.007-4 nm	Th	1279
$\mathbf{H^+ + He}$	Charge Transfer	7.5-12.5 MeV	E/T	1287
$\mathbf{H^+ + He}$	Total Scattering	7.5-12.5 MeV	E/T	1287
$\mathbf{H + C}$	Excitation	0-1000 K	Th	1294
$\mathbf{H + O}$	Excitation	0-1000 K	Th	1294
$\mathbf{H^+ + Mg}$	Charge Transfer	1-100 keV	Th	1298
$\mathbf{H^+ + Ca}$	Charge Transfer	1-100 keV	Th	1298
$\mathbf{H^+ + Mg}$	Total Scattering	1-100 keV	Th	1298
$\mathbf{H^+ + Ca}$	Total Scattering	1-100 keV	Th	1298
$\mathbf{H^+ + H_2}$	Interchange reaction	0.0-1.0 eV	Th	1301
$\mathbf{H + H_2O}$	Interchange reaction	1.4 eV	Th	1303
$\mathbf{H + H_2}$	Interchange reaction	1.49-1.85 eV	Th	1305
$\mathbf{H + D_2}$	Interchange reaction	1.49-1.85 eV	Th	1305
$\mathbf{H + CH_4}$	Interchange reaction	2.0 eV	Th	1307

$H + H_2$	Interchange reaction	0.4-1.2 eV	Th	1308
$H + NH$	Interchange reaction	0-1000 K	E/T	1310
$H + ND$	Interchange reaction	0-1000 K	E/T	1310
$H + CH_4$	Interchange reaction	250-400 K	Th	1311
$H + H_2$	Interchange reaction	0.4-1.2 eV	Th	1318
$H + D_2$	Interchange reaction	0.4-1.2 eV	Th	1318
$H + NH_3$	Interchange reaction	200-2000 K	Th	1319
$H + NH_3$	Interchange reaction	0.4-1.6 eV	Th	1320
$H^+ + V_2O_3$	Fluorescence	3 MeV	Exp	1329
$H^+ + VO_2$	Fluorescence	3 MeV	Exp	1329
$H^+ + V_2O_5$	Fluorescence	3 MeV	Exp	1329
$H^+ + VC$	Fluorescence	3 MeV	Exp	1329
$H^+ + VN$	Fluorescence	3 MeV	Exp	1329
$H^+ + VCl_2$	Fluorescence	3 MeV	Exp	1329
$H^+ + NH_4VO_3$	Fluorescence	3 MeV	Exp	1329
$H^+ + VOSO_4(_5H_2O)$	Fluorescence	3 MeV	Exp	1329
$H^- + H_2$	Interchange reaction	0.2-2.4 eV	Th	1332
$H^- + D_2$	Interchange reaction	0.2-2.4 eV	Th	1332
$H^+ + K$	Elastic Scattering	100 keV	E/T	1335
$H^+ + Rb$	Elastic Scattering	100 keV	E/T	1335
$H^+ + Cs$	Elastic Scattering	100 keV	E/T	1335
$H^+ + K$	Excitation	100 keV	E/T	1335
$H^+ + Rb$	Excitation	100 keV	E/T	1335
$H^+ + Cs$	Excitation	100 keV	E/T	1335
$H^+ + He$	Excitation	$10 - 10^5$; $10 - 10^3$ eV	Th	1336
$H^+ + He^*$	Excitation	$10 - 10^5$; $10 - 10^3$ eV	Th	1336
$H^+ + He$	Ionization	0.075-100 MeV/u	Exp	1338
$H + H$	De-excitation	$5x10^{-10} - 10^{-6}$ a.u.	Th	1340
$H + H$	Elastic Scattering	$5x10^{-10} - 10^{-6}$ a.u.	Th	1340
$H + H$	Excitation	$5x10^{-10} - 10^{-6}$ a.u.	Th	1340
$H + H$	Ionization	$5x10^{-10} - 10^{-6}$ a.u.	Th	1340
$H^+ + CO$	Charge Transfer	$10^{-1} - 10^4$ eV	Th	1342
$H^- + He$	Detachment	2-10 keV	E/T	1346
$H^- + H_2$	Detachment	2-10 keV	E/T	1346
$H^- + H_2$	Excitation	1.66-2.79 eV	Th	1351
$H^+ + He$	Charge Transfer	25-75 keV	E/T	1354
$H^+ + He$	Excitation	25-75 keV	E/T	1354
$H^- + H_2$	Dissociation	$10^{-2} - 10^5$ eV	E/T	1358
$H + H_2$	Dissociation	$10^{-2} - 10^5$ eV	E/T	1358
$H^- + H_2$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T	1358
$H + H_2$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T	1358
$H^+ + H_2$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T	1358
$H^+ + H_2^*$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T	1358
$H + H_2$	Charge Transfer	$10^{-2} - 10^5$ eV	E/T	1358
$H^+ + H_2$	Charge Transfer	$10^{-2} - 10^5$ eV	E/T	1358
$H^+ + H_2$	Interchange reaction	$10^{-2} - 10^5$ eV	E/T	1358
$H^- + H_2$	Detachment	$10^{-2} - 10^5$ eV	E/T	1358
$H + H_2$	Excitation	$10^{-2} - 10^5$ eV	E/T	1358
$H^+ + H_2$	Excitation	$10^{-2} - 10^5$ eV	E/T	1358
$H^+ + H_2^*$	Excitation	$10^{-2} - 10^5$ eV	E/T	1358
$H^- + H_2$	Ionization	$10^{-2} - 10^5$ eV	E/T	1358
$H + H_2$	Ionization	$10^{-2} - 10^5$ eV	E/T	1358
$H^+ + H_2$	Ionization	$10^{-2} - 10^5$ eV	E/T	1358
$H^+ + He$	Excitation	$3x10^{-5} - 1.4$ MeV	E/T	1359
$H^+ + Ag$	Line Broadening	2500-50,000 K	Th	1360
$He^{2+} + C^{5+}$	Charge Transfer	30-10,000 keV/u	Th	1063
$He^{2+} + C^{5+}$	Ionization	30-10,000 keV/u	Th	1063

$\mathbf{He^{2+} + H_2{}^+}$	Charge Transfer	6 keV/u	Th	1064
$\mathbf{He^{+} + He}$	Excitation	25 keV/u	Th	1069
$\mathbf{He^{+} + He}$	Ionization	25 keV/u	Th	1069
$\mathbf{He^{2+} + H_2{}^+}$	Charge Transfer	4-25 keV/u	Th	1070
$\mathbf{He^{2+} + H_2{}^+}$	Excitation	4-25 keV/u	Th	1070
$\mathbf{He^{2+} + CO_2}$	Charge Transfer	25-400 eV/amu	Exp	1080
$\mathbf{He^{2+} + N_2}$	Charge Transfer	25-400 eV/amu	Exp	1080
$\mathbf{He^{2+} + NH_3}$	Charge Transfer	25-400 eV/amu	Exp	1080
$\mathbf{He^{2+} + O_2}$	Charge Transfer	25-400 eV/amu	Exp	1080
$\mathbf{He^{+} + He}$	Ionization	20-40 keV	Exp	1084
$\mathbf{He^{2+} + He}$	Ionization	20-40 keV	Exp	1084
$\mathbf{He^{2+} + H_2O}$	Ionization	6-10 MeV/u	Exp	1095
$\mathbf{He^{2+} + H_2}$	Dissociation	1-2 a.u.	Exp	1097
$\mathbf{He^{2+} + H_2}$	Total Scattering	1-2 a.u.	Exp	1097
$\mathbf{He^{2+} + H_2O}$	Dissociation	1-5 keV	Th	1101
$\mathbf{He^{+} + CF_4}$	Fluorescence	1-5000 eV	Exp	1110
$\mathbf{He^{+} + H_2O}$	Dissociation	3-24 keV	Exp	1114
$\mathbf{He^{2+} + H_2O}$	Dissociation	3-24 keV	Exp	1114
$\mathbf{He^{+} + H_2O}$	Ionization	3-24 keV	Exp	1114
$\mathbf{He^{2+} + H_2O}$	Ionization	3-24 keV	Exp	1114
$\mathbf{He + SO}$	Excitation	50-300 K	Th	1119
$\mathbf{He + CS}$	Interchange reaction	10-300 K	Th	1120
$\mathbf{He^{2+} + H_2O}$	Charge Transfer	0.2-10.0 keV/amu	Exp	1125
$\mathbf{He^{2+} + CH_4}$	Charge Transfer	0.2-10.0 keV/amu	Exp	1125
$\mathbf{He^{2+} + CO}$	Charge Transfer	0.2-10.0 keV/amu	Exp	1125
$\mathbf{He^{2+} + CO_2}$	Charge Transfer	0.2-10.0 keV/amu	Exp	1125
$\mathbf{He^{2+} + H_2}$	Charge Transfer	0.5-145 keV	Th	1147
$\mathbf{He^{2+} + In}$	Ionization	1-10 MeV	Exp	1154
$\mathbf{He^{2+} + Sn}$	Ionization	1-10 MeV	Exp	1154
$\mathbf{He^{+} + Er}$	Ionization	0.75-6.0 MeV	E/T	1155
$\mathbf{He^{+} + Yb}$	Ionization	0.75-6.0 MeV	E/T	1155
$\mathbf{He^{+} + Lu}$	Ionization	0.75-6.0 MeV	E/T	1155
$\mathbf{He^{2+} + C}$	Elastic Scattering	8-11.7 MeV	Exp	1174
$\mathbf{He^{2+} + C}$	Total Scattering	8-11.7 MeV	Exp	1174
$\mathbf{He + Ta}$	Ionization	0.1-1 MeV/u	E/T	1180
$\mathbf{He + W}$	Ionization	0.1-1 MeV/u	E/T	1180
$\mathbf{He + Re}$	Ionization	0.1-1 MeV/u	E/T	1180
$\mathbf{He + Os}$	Ionization	0.1-1 MeV/u	E/T	1180
$\mathbf{He + Ir}$	Ionization	0.1-1 MeV/u	E/T	1180
$\mathbf{He + Pt}$	Ionization	0.1-1 MeV/u	E/T	1180
$\mathbf{He + Au}$	Ionization	0.1-1 MeV/u	E/T	1180
$\mathbf{He + Bi}$	Ionization	0.1-1 MeV/u	E/T	1180
$\mathbf{He + Th}$	Ionization	0.1-1 MeV/u	E/T	1180
$\mathbf{He^{2+} + H_2{}^+}$	Charge Transfer	1-56 keV/u	Th	1183
$\mathbf{He^{2+} + H_2}$	Charge Transfer	0.2-2.7 keV/u	Exp	1186
$\mathbf{He^{2+} + CO}$	Charge Transfer	0.2-2.7 keV/u	Exp	1186
$\mathbf{He^{2+} + CO_2}$	Charge Transfer	0.2-2.7 keV/u	Exp	1186
$\mathbf{He^{2+} + N_2}$	Charge Transfer	0.2-2.7 keV/u	Exp	1186
$\mathbf{He^{2+} + O_2}$	Charge Transfer	0.2-2.7 keV/u	Exp	1186
$\mathbf{He + He}$	Interaction Potentials		Th	1187
$\mathbf{He^{+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{He^{2+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{He + He}$	Ionization	$10^{-2} - 10^{2}$ mK	E/T	1194
$\mathbf{He^{2+} + H_2{}^+}$	Charge Transfer	0.2-1.6 V(a.u.)	Th	1197
$\mathbf{He + Ne}$	Interaction Potentials	95-295 K	Th	1201
$\mathbf{He^{2+} + H}$	Charge Transfer	1 keV	Th	1204
$\mathbf{He^{2+} + Na}$	Ionization	10 keV/u	Exp	1206

He + He	Interaction Potentials	0-120 $\AA$	Th	1209
He^+ + H	Interaction Potentials		Th	1210
He^{2+} + H	Excitation	40-7000 keV/u	Th	1215
He^{2+} + H	Ionization	40-7000 keV/u	Th	1215
He + He	Interaction Potentials		Th	1216
He^* + He	Interaction Potentials		Th	1216
He^{2+} + He	Charge Transfer	50-500 keV/amu	E/T	1227
He^{2+} + He	Charge Transfer	100-6000 keV	Th	1232
He^{2+} + He	Ionization	100-6000 keV	Th	1232
He^{2+} + He	Ionization	50-2000 keV/u	Th	1237
He^{2+} + Li	Ionization	50-2000 keV/u	Th	1237
He^+ + He	Charge Transfer		Exp	1239
He^+ + He	Excitation		Exp	1239
He^{2+} + Na	Ionization	2-10 keV/u	Exp	1240
He^+ + N_2	Dissociation	0.75-3.5 MeV	Exp	1253
He^+ + N_2	Ionization	0.75-3.5 MeV	Exp	1253
He^{2+} + Na	Charge Transfer	2-20 keV	E/T	1254
He^{2+} + Na	Excitation	2-20 keV	E/T	1254
He^{2+} + Na	Ionization	2-20 keV	E/T	1254
He + He	Association	1.9-2.7 mK	E/T	1258
He + He^*	Association	1.9-2.7 mK	E/T	1258
He + He	Interaction Potentials	1.9-2.7 mK	E/T	1258
He + He^*	Interaction Potentials	1.9-2.7 mK	E/T	1258
He + Ne	Interaction Potentials		Th	1274
He^{2+} + H	Total Scattering	10 a.u.	Th	1277
He^{2+} + H	Ionization	10 a.u.	Th	1277
He + SO	Excitation	300-800 K	Th	1280
He + SiO	Excitation	10-300 K	Th	1281
He + NH_3	Excitation	0-100 K	Th	1283
He + NH_2D	Excitation	0-100 K	Th	1283
He + CS	Excitation	300-1500 K	Th	1284
He + HC_3N	Excitation	5-100 K	Th	1285
He + NH_3	Excitation	5-100 K	Th	1286
He + ND_2H	Excitation	5-100 K	Th	1286
He + H_2	Dissociation	0.0001-1 eV	Th	1291
He + H_2	De-excitation	0.0001-1 eV	Th	1291
He + H_2	Energy Transfer	0.0001-1 eV	Th	1291
He + PN	Excitation	0-2500 cm^{-1}	Th	1293
He + H_2O	Excitation	$10^{-6} - 10^3\ cm^{-1}$	Th	1315
He^+ + Rb	Charge Transfer	1-19 keV	Exp	1324
He^{2+} + Ti	Excitation	5-10 MeV	Exp	1327
He^{2+} + Cr	Excitation	5-10 MeV	Exp	1327
He^{2+} + Mn	Excitation	5-10 MeV	Exp	1327
He^{2+} + Fe	Excitation	5-10 MeV	Exp	1327
He^{2+} + Co	Excitation	5-10 MeV	Exp	1327
He^{2+} + Ni	Excitation	5-10 MeV	Exp	1327
He^{2+} + Cu	Excitation	5-10 MeV	Exp	1327
He^{2+} + Zn	Excitation	5-10 MeV	Exp	1327
He^{2+} + Ti	Ionization	5-10 MeV	Exp	1327
He^{2+} + Cr	Ionization	5-10 MeV	Exp	1327
He^{2+} + Mn	Ionization	5-10 MeV	Exp	1327
He^{2+} + Fe	Ionization	5-10 MeV	Exp	1327
He^{2+} + Co	Ionization	5-10 MeV	Exp	1327
He^{2+} + Ni	Ionization	5-10 MeV	Exp	1327
He^{2+} + Cu	Ionization	5-10 MeV	Exp	1327
He^{2+} + Zn	Ionization	5-10 MeV	Exp	1327
He^{2+} + He	Charge Transfer	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T	1337

He^{2+} + He	Charge Transfer	0.35-20.0 keV	Exp	1344
He^{2+} + H_2O	Charge Transfer	0.35-20.0 keV	Exp	1344
He^{+} + Ne	Charge Transfer	10-1000 keV/amu	Th	1345
He^{+} + Ne	Ionization	10-1000 keV/amu	Th	1345
He^{2+} + He	Charge Transfer	6 keV	Exp	1348
He^{2+} + He	Ionization	6 keV	Exp	1348
He + He	Interaction Potentials		Th	1352
He + K	Interaction Potentials		Th	1352
He^{+} + Ag	Line Broadening	2500-50,000 K	Th	1360
Li + Li	Association	600-1200 K	Th	1068
Li + Li	Ionization	600-1200 K	Th	1068
Li^{2+} + He^{2+}	Charge Transfer	6-148 keV	Exp	1098
Li^{2+} + Li^{3+}	Charge Transfer	6-148 keV	Exp	1098
Li + H_2	Interchange reaction	0.0-2.0 eV	Th	1131
Li^{2+} + In	Ionization	1-10 MeV	Exp	1154
Li^{2+} + Sn	Ionization	1-10 MeV	Exp	1154
Li^{3+} + In	Ionization	1-10 MeV	Exp	1154
Li^{3+} + Sn	Ionization	1-10 MeV	Exp	1154
Li + Li	Interaction Potentials	Ultracold	Th	1190
Li + K	Interaction Potentials	Ultracold	Th	1190
Li^{3+} + H_2	Charge Transfer		Th	1192
Li^{3+} + Pb	Dissociation	20-102 MeV	Exp	1193
Li^{3+} + Bi	Dissociation	20-102 MeV	Exp	1193
Li^{3+} + Pb	Ionization	20-102 MeV	Exp	1193
Li^{3+} + Bi	Ionization	20-102 MeV	Exp	1193
Li^{3+} + H_2^+	Charge Transfer	0.2-1.6 V(a.u.)	Th	1197
Li + H	Association	1 mK	Th	1199
Li^{3+} + H	Excitation	40-7000 keV/u	Th	1215
Li^{3+} + H	Ionization	40-7000 keV/u	Th	1215
Li + Hg	Elastic Scattering	0.05-0.5 eV	Th	1225
Li + Hg	Total Scattering	0.05-0.5 eV	Th	1225
Li^{3+} + He	Charge Transfer	50-500 keV/amu	E/T	1227
Li^{3+} + He	Charge Transfer	100-6000 keV	Th	1232
Li^{3+} + He	Ionization	100-6000 keV	Th	1232
Li^{3+} + He	Ionization	50-2000 keV/u	Th	1237
Li + Na	Energy Transfer	$3x10^{-4} - 4x10^{-4}$ K	Exp	1259
Li + H	Association	1 mK	Th	1264
Li + Cs	Association	10^{-4} K	Exp	1265
Li + He	Fluorescence	10 keV	Th	1331
Li^{*} + He	Fluorescence	10 keV	Th	1331
Be + H_2	Interaction Potentials		Th	1073
Be^{+} + Cr	Excitation	0.3-3.5 MeV	Exp	1171
Be^{+} + Cu	Excitation	0.3-3.5 MeV	Exp	1171
Be^{+} + Ge	Excitation	0.3-3.5 MeV	Exp	1171
Be^{+} + Ag	Excitation	0.3-3.5 MeV	Exp	1171
Be^{+} + W	Excitation	0.3-3.5 MeV	Exp	1171
Be^{+} + Au	Excitation	0.3-3.5 MeV	Exp	1171
Be^{+} + Cr	Ionization	0.3-3.5 MeV	Exp	1171
Be^{+} + Cu	Ionization	0.3-3.5 MeV	Exp	1171
Be^{+} + Ge	Ionization	0.3-3.5 MeV	Exp	1171
Be^{+} + Ag	Ionization	0.3-3.5 MeV	Exp	1171
Be^{+} + W	Ionization	0.3-3.5 MeV	Exp	1171
Be^{+} + Au	Ionization	0.3-3.5 MeV	Exp	1171
Be^{4+} + H_2	Charge Transfer		Th	1192
Be^{4+} + H_2^+	Charge Transfer	0.2-1.6 V(a.u.)	Th	1197
Be^{+} + H_2	Association	30 mK	Exp	1202
Be^{+} + HD	Association	30 mK	Exp	1202

$\mathbf{Be^+ + D_2}$	Association	30 mK	Exp	1202
$\mathbf{Be^{4+} + H}$	Excitation	40-7000 keV/u	Th	1215
$\mathbf{Be^{4+} + H}$	Ionization	40-7000 keV/u	Th	1215
$\mathbf{Be^{4+} + H}$	Charge Transfer	10-1000 keV/u	Th	1244
$\mathbf{B + H}$	Interaction Potentials		Th	1073
$\mathbf{B^{2+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{B^{5+} + H}$	Excitation	40-7000 keV/u	Th	1215
$\mathbf{B^{5+} + H}$	Ionization	40-7000 keV/u	Th	1215
$\mathbf{B^{5+} + He}$	Charge Transfer	50-500 keV/amu	E/T	1227
$\mathbf{C^{3+} + Ne}$	Charge Transfer	1-5 MeV	E/T	1059
$\mathbf{C^{3+} + Ne}$	Ionization	1-5 MeV	E/T	1059
$\mathbf{C^{6+} + H}$	Charge Transfer	1-1000 eV	Th	1062
$\mathbf{C^{4+} + CH_4}$	Charge Transfer	200-1500 eV/u	Exp	1067
$\mathbf{C + H_2}$	Interaction Potentials		Th	1073
$\mathbf{C^- + H_2}$	Dissociation	v=1.07-2.14 a.u.	Exp	1077
$\mathbf{C^- + H_2}$	Ionization	v=1.07-2.14 a.u.	Exp	1077
$\mathbf{C^{4+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{C^{5+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{C^{6+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{C^{4+} + C}$	Ionization	100-40,000 keV/u	E/T	1103
$\mathbf{C^{5+} + C}$	Ionization	100-40,000 keV/u	E/T	1103
$\mathbf{C^{6+} + C}$	Ionization	100-40,000 keV/u	E/T	1103
$\mathbf{C^{4+} + H}$	Charge Transfer	3-11 a.u.	Th	1109
$\mathbf{C^{4+} + H}$	Interaction Potentials	3-11 a.u.	Th	1109
$\mathbf{C^{5+} + He}$	Total Scattering	3.5-75 MeV	Th	1112
$\mathbf{C^{5+} + He}$	Ionization	3.5-75 MeV	Th	1112
$\mathbf{C^+ + H}$	Association	0-1000 K	Th	1123
$\mathbf{C + H_2}$	Interchange reaction	80 MeV	Th	1141
$\mathbf{C^{4+} + La}$	Ionization	35-60 MeV	Exp	1150
$\mathbf{C^{4+} + Ce}$	Ionization	35-60 MeV	Exp	1150
$\mathbf{C^{4+} + Nd}$	Ionization	35-60 MeV	Exp	1150
$\mathbf{C^{4+} + Sm}$	Ionization	35-60 MeV	Exp	1150
$\mathbf{C^{6+} + He}$	Total Scattering	6 keV; 100 MeV/amu	Th	1151
$\mathbf{C^{6+} + He}$	Ionization	6 keV; 100 MeV/amu	Th	1151
$\mathbf{C^{6+} + H_2}$	Charge Transfer	1-5 MeV	Exp	1156
$\mathbf{C^{6+} + D_2}$	Charge Transfer	1-5 MeV	Exp	1156
$\mathbf{C^{6+} + H}$	Total Scattering	2.5 MeV/amu	Th	1162
$\mathbf{C^{6+} + H}$	Ionization	2.5 MeV/amu	Th	1162
$\mathbf{C^{3+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{C^{6+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{C^{4+} + Pb}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{C^{4+} + Bi}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{C^{5+} + Pb}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{C^{5+} + Bi}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{C^{6+} + Pb}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{C^{6+} + Bi}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{C^{4+} + Pb}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{C^{4+} + Bi}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{C^{5+} + Pb}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{C^{5+} + Bi}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{C^{6+} + Pb}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{C^{6+} + Bi}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{C^{6+} + H}$	Excitation	40-7000 keV/u	Th	1215
$\mathbf{C^{6+} + H}$	Ionization	40-7000 keV/u	Th	1215
$\mathbf{C^{6+} + He}$	Total Scattering	3.6-100 MeV/u	Exp	1221
$\mathbf{C^{6+} + He}$	Ionization	3.6-100 MeV/u	Exp	1221
$\mathbf{C + O}$	Interaction Potentials	1.5-3.5 a.u.	Th	1234

C + O^+	Interaction Potentials	1.5-3.5 a.u.	Th	1234
C^+ + O	Interaction Potentials	1.5-3.5 a.u.	Th	1234
C^{6+} + He	Total Scattering	2 MeV/u	E/T	1235
C^{6+} + He	Ionization	2 MeV/u	E/T	1235
C^{6+} + He	Total Scattering	2 MeV/u	Th	1242
C^{6+} + He	Ionization	2 MeV/u	Th	1242
C + C	Interaction Potentials	0-10 eV	Th	1243
C^{6+} + He	Total Scattering	3.6-8.3 MeV/amu	E/T	1246
C^{6+} + He	Ionization	3.6-8.3 MeV/amu	E/T	1246
C^{6+} + He	Ionization	100 MeV/u	E/T	1250
C^{6+} + H	Total Scattering	1 MeV/u	Th	1255
C^{6+} + H	Ionization	1 MeV/u	Th	1255
C^{6+} + H	Charge Transfer	1-2 a.u.; 1 μ m	Th	1276
C^{6+} + H	Ionization	1-2 a.u.; 1 μ m	Th	1276
C^{6+} + H	Total Scattering	10 a.u.	Th	1277
C^{6+} + H	Ionization	10 a.u.	Th	1277
C + He	Elastic Scattering	0.2-2.5 eV	E/T	1288
C + He	Total Scattering	0.2-2.5 eV	E/T	1288
C^{4+} + Sb	Ionization	2-6.25 MeV/u	E/T	1290
C^{4+} + Au	Ionization	2-6.25 MeV/u	E/T	1290
C^{4+} + Bi	Ionization	2-6.25 MeV/u	E/T	1290
C^+ + H	Charge Transfer	50-200 keV/amu	Th	1295
C^{2+} + H	Charge Transfer	50-200 keV/amu	Th	1295
C^{3+} + H	Charge Transfer	50-200 keV/amu	Th	1295
C^{4+} + H	Charge Transfer	50-200 keV/amu	Th	1295
C^{5+} + H	Charge Transfer	50-200 keV/amu	Th	1295
C^+ + H	Excitation	50-200 keV/amu	Th	1295
C^{2+} + H	Excitation	50-200 keV/amu	Th	1295
C^{3+} + H	Excitation	50-200 keV/amu	Th	1295
C^{4+} + H	Excitation	50-200 keV/amu	Th	1295
C^{5+} + H	Excitation	50-200 keV/amu	Th	1295
C + He	Total Scattering	0.1-1.48 MeV/amu	Th	1296
C^{2+} + He	Total Scattering	0.1-1.48 MeV/amu	Th	1296
C^{4+} + He	Total Scattering	0.1-1.48 MeV/amu	Th	1296
C^{6+} + He	Total Scattering	0.1-1.48 MeV/amu	Th	1296
C + He	Ionization	0.1-1.48 MeV/amu	Th	1296
C^{2+} + He	Ionization	0.1-1.48 MeV/amu	Th	1296
C^{4+} + He	Ionization	0.1-1.48 MeV/amu	Th	1296
C^{6+} + He	Ionization	0.1-1.48 MeV/amu	Th	1296
C + OH	Interchange reaction	0-1 eV	Th	1316
C + C_2H_2	Interchange reaction	0-70 kJ/mol	Th	1317
C^{5+} + C^{3+}	Charge Transfer	0.05-16 keV/amu	Th	1322
C^{6+} + C^{3+}	Charge Transfer	0.05-16 keV/amu	Th	1322
C^{5+} + C^{3+}	Excitation	0.05-16 keV/amu	Th	1322
C^{6+} + C^{3+}	Excitation	0.05-16 keV/amu	Th	1322
C^{2+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
C^{3+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
C^{4+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
C^{5+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
C^{2+} + C	Ionization	4.3 MeV/amu	Exp	1325
C^{3+} + C	Ionization	4.3 MeV/amu	Exp	1325
C^{4+} + C	Ionization	4.3 MeV/amu	Exp	1325
C^{5+} + C	Ionization	4.3 MeV/amu	Exp	1325
C^{6+} + H_2	Interaction Potentials	80 MeV	Exp	1328
C^{6+} + H_2	Ionization	80 MeV	Exp	1328
C + He	Ionization	0.067-11 MeV/u	Th	1333
C^+ + He	Ionization	0.067-11 MeV/u	Th	1333

$\mathbf{C^{2+} + He}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{C^{3+} + He}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{C^{4+} + He}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{C^{5+} + He}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{C^{+} + He}$	Ionization	25-500 keV/amu	E/T	1334
$\mathbf{C^{2+} + He}$	Ionization	25-500 keV/amu	E/T	1334
$\mathbf{C^{3+} + He}$	Ionization	25-500 keV/amu	E/T	1334
$\mathbf{C^{6+} + He}$	Ionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T	1337
$\mathbf{C^{6+} + He}$	Ionization	0.075-100 MeV/u	Exp	1338
$\mathbf{C^{6+} + He}$	Ionization	3.6-100 MeV/u	Th	1356
$\mathbf{C^{+} + H}$	Charge Transfer	$10^{-1} - 10^{7}$ eV	E/T	1361
$\mathbf{C^{+} + C}$	Charge Transfer	$10^{-1} - 10^{7}$ eV	E/T	1361
$\mathbf{C^{2+} + H}$	Charge Transfer	$10^{-1} - 10^{7}$ eV	E/T	1361
$\mathbf{C^{3+} + H}$	Charge Transfer	$10^{-1} - 10^{7}$ eV	E/T	1361
$\mathbf{C^{4+} + H}$	Charge Transfer	$10^{-1} - 10^{7}$ eV	E/T	1361
$\mathbf{C^{5+} + H}$	Charge Transfer	$10^{-1} - 10^{7}$ eV	E/T	1361
$\mathbf{C^{6+} + H}$	Charge Transfer	$10^{-1} - 10^{7}$ eV	E/T	1361
$\mathbf{N + N}$	Interaction Potentials		Th	1073
$\mathbf{N + H_3}$	Interaction Potentials		Th	1073
$\mathbf{N^{2+} + H}$	Charge Transfer	0.001-10,000 eV	Th	1122
$\mathbf{N + H_2}$	Interchange reaction	0.0-0.5 eV	Th	1130
$\mathbf{N + H_2}$	Interchange reaction	9,909,5 eV	Th	1133
$\mathbf{N + H_2}$	Interchange reaction	1.0 eV	Th	1144
$\mathbf{N^{7+} + O}$	Charge Transfer	1-100 eV/u	Th	1160
$\mathbf{N^{7+} + O}$	Excitation	1-100 eV/u	Th	1160
$\mathbf{N^{4+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{N^{4+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{N^{4+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{N^{5+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{N^{5+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{N^{5+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{N^{6+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{N^{6+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{N^{6+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{N^{7+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{N^{7+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{N^{3+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{N^{7+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{N + H_2}$	Association	0.08-1.4 eV	Th	1218
$\mathbf{N + H_2}$	Interchange reaction	0.08-1.4 eV	Th	1218
$\mathbf{N + H_2}$	Total Scattering	0.08-1.4 eV	Th	1218
$\mathbf{N^{2+} + H}$	Charge Transfer	$10^{-2} - 10^{2}$ eV/amu	Th	1220
$\mathbf{N^{+} + H}$	Charge Transfer	50-200 keV/amu	Th	1295
$\mathbf{N^{2+} + H}$	Charge Transfer	50-200 keV/amu	Th	1295
$\mathbf{N^{3+} + H}$	Charge Transfer	50-200 keV/amu	Th	1295
$\mathbf{N^{4+} + H}$	Charge Transfer	50-200 keV/amu	Th	1295
$\mathbf{N^{5+} + H}$	Charge Transfer	50-200 keV/amu	Th	1295
$\mathbf{N^{+} + H}$	Excitation	50-200 keV/amu	Th	1295
$\mathbf{N^{2+} + H}$	Excitation	50-200 keV/amu	Th	1295
$\mathbf{N^{3+} + H}$	Excitation	50-200 keV/amu	Th	1295
$\mathbf{N^{4+} + H}$	Excitation	50-200 keV/amu	Th	1295
$\mathbf{N^{5+} + H}$	Excitation	50-200 keV/amu	Th	1295
$\mathbf{N^{6+} + N^{4+}}$	Charge Transfer	0.05-16 keV/amu	Th	1322
$\mathbf{N^{7+} + N^{4+}}$	Charge Transfer	0.05-16 keV/amu	Th	1322
$\mathbf{N^{6+} + N^{4+}}$	Excitation	0.05-16 keV/amu	Th	1322
$\mathbf{N^{7+} + N^{4+}}$	Excitation	0.05-16 keV/amu	Th	1322
$\mathbf{O + H + H}$	Interaction Potentials		Th	1065

$\mathbf{O + H_2}$	Interaction Potentials		Th	1065
$\mathbf{O^{6+} + H_2O}$	Charge Transfer	200-1500 eV/u	Exp	1067
$\mathbf{O^{6+} + CH_4}$	Charge Transfer	200-1500 eV/u	Exp	1067
$\mathbf{O^{6+} + CO_2}$	Charge Transfer	200-1500 eV/u	Exp	1067
$\mathbf{O^{-} + H_2}$	Dissociation	v=1.07-2.14 a.u.	Exp	1077
$\mathbf{O^{-} + N_2}$	Dissociation	v=1.07-2.14 a.u.	Exp	1077
$\mathbf{O^{-} + H_2}$	Ionization	v=1.07-2.14 a.u.	Exp	1077
$\mathbf{O^{-} + N_2}$	Ionization	v=1.07-2.14 a.u.	Exp	1077
$\mathbf{O^{7+} + He}$	Excitation	0.1-100 GeV/u	Th	1092
$\mathbf{O^{7+} + He}$	Ionization	0.1-100 GeV/u	Th	1092
$\mathbf{O^{6+} + Na}$	Charge Transfer	1-9 keV/u	E/T	1107
$\mathbf{O^{6+} + Na}$	Ionization	1-9 keV/u	E/T	1107
$\mathbf{O^{7+} + He}$	Total Scattering	3.5-75 MeV	Th	1112
$\mathbf{O^{7+} + He}$	Ionization	3.5-75 MeV	Th	1112
$\mathbf{O^{2+} + H}$	Charge Transfer	0.001-10,000 eV	Th	1122
$\mathbf{O^{+} + H_2}$	Charge Transfer	10-10,000 eV	Th	1126
$\mathbf{O^{+} + H_2}$	Interchange reaction	0.01-6.0 eV	Th	1127
$\mathbf{O^{+} + HD}$	Interchange reaction	0.01-6.0 eV	Th	1127
$\mathbf{O^{+} + D_2}$	Interchange reaction	0.01-6.0 eV	Th	1127
$\mathbf{O + H_2}$	Interchange reaction	0-0.6 eV	Th	1136
$\mathbf{O^{+} + H_2}$	Interchange reaction	0.00-0.75 eV	Th	1139
$\mathbf{O + H}$	Excitation	1000-10,000 K	Th	1145
$\mathbf{O^{5+} + H_2}$	Charge Transfer	0.5-145 keV	Th	1147
$\mathbf{O^{5+} + La}$	Ionization	35-60 MeV	Exp	1150
$\mathbf{O^{5+} + Ce}$	Ionization	35-60 MeV	Exp	1150
$\mathbf{O^{5+} + Nd}$	Ionization	35-60 MeV	Exp	1150
$\mathbf{O^{5+} + Sm}$	Ionization	35-60 MeV	Exp	1150
$\mathbf{O^{5+} + CO}$	Excitation	2.2 keV/amu	Exp	1158
$\mathbf{O^{8+} + H}$	Charge Transfer	1-100 eV/u	Th	1160
$\mathbf{O^{8+} + H}$	Excitation	1-100 eV/u	Th	1160
$\mathbf{O^{3+} + He}$	Excitation	32 MeV	Exp	1163
$\mathbf{O^{3+} + He}$	Ionization	32 MeV	Exp	1163
$\mathbf{O^{7+} + CO}$	Dissociation	6.7-13.6 MeV/u	Exp	1165
$\mathbf{O^{4+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{4+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{4+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{5+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{5+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{5+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{6+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{6+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{6+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{7+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{7+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{7+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{8+} + H}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{8+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{8+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{8+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T	1188
$\mathbf{O^{3+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{O^{5+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{O^{7+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{O^{8+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{O^{2+} + H}$	Charge Transfer	$10^{-2} - 10^{2}$ eV/amu	Th	1220
$\mathbf{O^{5+} + He}$	Charge Transfer	0.25-2 MeV/u	Th	1230
$\mathbf{O^{5+} + H_2}$	Charge Transfer	0.25-2 MeV/u	Th	1230
$\mathbf{O^{5+} + He}$	Ionization	0.25-2 MeV/u	Th	1230

$\mathbf{O^{5+} + H_2}$	Ionization	0.25-2 MeV/u	Th	1230
$\mathbf{O^{6+} + Na}$	Ionization	2-10 keV/u	Exp	1240
$\mathbf{O^{+} + N_2}$	Charge Transfer	1-5 keV	Exp	1249
$\mathbf{O^{+} + N_2}$	Total Scattering	1-5 keV	Exp	1249
$\mathbf{O + H_2}$	Interchange reaction	$10^{-9} - 0.1$ eV; $10^{-4} - 100$ K	Th	1270
$\mathbf{O^{4+} + Sb}$	Ionization	2-6.25 MeV/u	E/T	1290
$\mathbf{O^{4+} + Au}$	Ionization	2-6.25 MeV/u	E/T	1290
$\mathbf{O^{4+} + Bi}$	Ionization	2-6.25 MeV/u	E/T	1290
$\mathbf{O^{5+} + Sb}$	Ionization	2-6.25 MeV/u	E/T	1290
$\mathbf{O^{5+} + Au}$	Ionization	2-6.25 MeV/u	E/T	1290
$\mathbf{O^{5+} + Bi}$	Ionization	2-6.25 MeV/u	E/T	1290
$\mathbf{O^{7+} + Sb}$	Ionization	2-6.25 MeV/u	E/T	1290
$\mathbf{O^{7+} + Au}$	Ionization	2-6.25 MeV/u	E/T	1290
$\mathbf{O^{7+} + Bi}$	Ionization	2-6.25 MeV/u	E/T	1290
$\mathbf{O^{+} + H}$	Charge Transfer	50-200 keV/amu	Th	1295
$\mathbf{O^{2+} + H}$	Charge Transfer	50-200 keV/amu	Th	1295
$\mathbf{O^{3+} + H}$	Charge Transfer	50-200 keV/amu	Th	1295
$\mathbf{O^{4+} + H}$	Charge Transfer	50-200 keV/amu	Th	1295
$\mathbf{O^{5+} + H}$	Charge Transfer	50-200 keV/amu	Th	1295
$\mathbf{O^{+} + H}$	Excitation	50-200 keV/amu	Th	1295
$\mathbf{O^{2+} + H}$	Excitation	50-200 keV/amu	Th	1295
$\mathbf{O^{3+} + H}$	Excitation	50-200 keV/amu	Th	1295
$\mathbf{O^{4+} + H}$	Excitation	50-200 keV/amu	Th	1295
$\mathbf{O^{5+} + H}$	Excitation	50-200 keV/amu	Th	1295
$\mathbf{O^{+} + H_2}$	Interchange reaction	0.0-1.1 eV	Th	1309
$\mathbf{O^{7+} + O^{5+}}$	Charge Transfer	0.05-16 keV/amu	Th	1322
$\mathbf{O^{8+} + O^{5+}}$	Charge Transfer	0.05-16 keV/amu	Th	1322
$\mathbf{O^{7+} + O^{5+}}$	Excitation	0.05-16 keV/amu	Th	1322
$\mathbf{O^{8+} + O^{5+}}$	Excitation	0.05-16 keV/amu	Th	1322
$\mathbf{O^{5+} + C}$	Charge Transfer	4.3 MeV/amu	Exp	1325
$\mathbf{O^{6+} + C}$	Charge Transfer	4.3 MeV/amu	Exp	1325
$\mathbf{O^{7+} + C}$	Charge Transfer	4.3 MeV/amu	Exp	1325
$\mathbf{O^{5+} + C}$	Ionization	4.3 MeV/amu	Exp	1325
$\mathbf{O^{6+} + C}$	Ionization	4.3 MeV/amu	Exp	1325
$\mathbf{O^{7+} + C}$	Ionization	4.3 MeV/amu	Exp	1325
$\mathbf{O^{+} + He}$	Ionization	25-500 keV/amu	E/T	1334
$\mathbf{O^{2+} + He}$	Ionization	25-500 keV/amu	E/T	1334
$\mathbf{O^{3+} + He}$	Ionization	25-500 keV/amu	E/T	1334
$\mathbf{O^{3+} + H_2}$	Charge Transfer	$10^{-1} - 10^{4}$ eV	Th	1342
$\mathbf{O^{7+} + He}$	Charge Transfer	0.35-20.0 keV	Exp	1344
$\mathbf{O^{7+} + H_2O}$	Charge Transfer	0.35-20.0 keV	Exp	1344
$\mathbf{O^{8+} + He}$	Charge Transfer	0.35-20.0 keV	Exp	1344
$\mathbf{O^{8+} + H_2O}$	Charge Transfer	0.35-20.0 keV	Exp	1344
$\mathbf{F^{2+} + H}$	Charge Transfer	0.02-10 keV/u	Th	1086
$\mathbf{F^{2+} + H}$	Excitation	0.02-10 keV/u	Th	1086
$\mathbf{F + H_2}$	Interchange reaction	1.18-4.00 kcal/mol	Exp	1143
$\mathbf{F + HD}$	Interchange reaction	1.18-4.00 kcal/mol	Exp	1143
$\mathbf{F^{4+} + Pb}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{F^{4+} + Bi}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{F^{5+} + Pb}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{F^{5+} + Bi}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{F^{6+} + Pb}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{F^{6+} + Bi}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{F^{7+} + Pb}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{F^{7+} + Bi}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{F^{8+} + Pb}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{F^{8+} + Bi}$	Dissociation	20-102 MeV	Exp	1193

$\mathbf{F^{9+} + Pb}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{F^{9+} + Bi}$	Dissociation	20-102 MeV	Exp	1193
$\mathbf{F^{4+} + Pb}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{4+} + Bi}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{5+} + Pb}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{5+} + Bi}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{6+} + Pb}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{6+} + Bi}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{7+} + Pb}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{7+} + Bi}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{8+} + Pb}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{8+} + Bi}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{9+} + Pb}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{9+} + Bi}$	Ionization	20-102 MeV	Exp	1193
$\mathbf{F^{-} + Ar}$	Ionization	0.46-1.45 a.u.	Exp	1217
$\mathbf{F^{6+} + He}$	Charge Transfer	0.25-2 MeV/u	Th	1230
$\mathbf{F^{6+} + H_2}$	Charge Transfer	0.25-2 MeV/u	Th	1230
$\mathbf{F^{6+} + He}$	Ionization	0.25-2 MeV/u	Th	1230
$\mathbf{F^{6+} + H_2}$	Ionization	0.25-2 MeV/u	Th	1230
$\mathbf{F^{7+} + H_2O}$	Dissociation	1-14 MeV/u	E/T	1236
$\mathbf{F^{7+} + HDO}$	Dissociation	1-14 MeV/u	E/T	1236
$\mathbf{F^{7+} + H_2O}$	Ionization	1-14 MeV/u	E/T	1236
$\mathbf{F^{7+} + HDO}$	Ionization	1-14 MeV/u	E/T	1236
$\mathbf{F + H_2}$	Interchange reaction	1.30-4.53 kcal/mol	Exp	1304
$\mathbf{F + HD}$	Interchange reaction	1.30-4.53 kcal/mol	Exp	1304
$\mathbf{F + H_2}$	Interchange reaction	5-220 MeV	Th	1306
$\mathbf{F + HD}$	Interchange reaction	5-220 MeV	Th	1306
$\mathbf{F + H_2}$	Interchange reaction	25-50 MeV	Th	1313
$\mathbf{F^{+} + Ar}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{F^{2+} + Ar}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{F^{3+} + Ar}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{F^{4+} + Ar}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{F^{5+} + Ar}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{F^{6+} + Ar}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{F^{7+} + Ar}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{F^{8+} + Ar}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{F^{9+} + Ar}$	Ionization	0.067-11 MeV/u	Th	1333
$\mathbf{Ne^{8+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{Ne^{9+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{Ne^{10+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{Ne^{8+} + C}$	Ionization	100-40,000 keV/u	E/T	1103
$\mathbf{Ne^{9+} + C}$	Ionization	100-40,000 keV/u	E/T	1103
$\mathbf{Ne^{10+} + C}$	Ionization	100-40,000 keV/u	E/T	1103
$\mathbf{Ne^{+} + CF_4}$	Fluorescence	1-5000 eV	Exp	1110
$\mathbf{Ne^{2+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Ne^{2+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Ne^{2+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Ne^{3+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Ne^{3+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Ne^{3+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Ne^{4+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Ne^{4+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Ne^{4+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Ne^{9+} + Ar}$	Charge Transfer	4 keV/u	Exp	1179
$\mathbf{Ne^{10+} + Ar}$	Charge Transfer	4 keV/u	Exp	1179
$\mathbf{Ne + Ne}$	Elastic Scattering	0.2-0.8 mK	Th	1182
$\mathbf{Ne + Ne^{*}}$	Elastic Scattering	0.2-0.8 mK	Th	1182

$Ne^{4+} + H_2O$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{4+} + CH_4$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{4+} + CO_2$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{5+} + H_2O$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{5+} + CH_4$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{5+} + CO_2$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{6+} + H_2O$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{6+} + CH_4$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{6+} + CO_2$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{7+} + H_2O$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{7+} + CH_4$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{7+} + CO_2$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{8+} + H_2O$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{8+} + CH_4$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{8+} + CO_2$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{9+} + Ne$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{9+} + H_2O$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{9+} + CH_4$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{9+} + CO_2$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{10+} + He$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{10+} + Ne$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{10+} + H_2O$	Charge Transfer	1-100,000 eV	E/T	1188
$Ne^{10+} + He$	Charge Transfer	0.01-1000 eV	Th	1214
$Ne^{3+} + H_2O$	Dissociation	1-5 keV	Exp	1231
$Ne^{7+} + H_2O$	Dissociation	1-5 keV	Exp	1231
$Ne^{3+} + H_2O$	Total Scattering	1-5 keV	Exp	1231
$Ne^{7+} + H_2O$	Total Scattering	1-5 keV	Exp	1231
$Ne^{10+} + H$	Charge Transfer	1-2 a.u.; 1 μ m	Th	1276
$Ne^{10+} + H$	Ionization	1-2 a.u.; 1 μ m	Th	1276
$Ne^{2+} + He$	Charge Transfer	$10^{-4} - 10^4$ eV	Th	1278
$Ne^{2+*} + He$	Charge Transfer	$10^{-4} - 10^4$ eV	Th	1278
$Ne^{2+} + He$	Fluorescence	$10^{-4} - 10^4$ eV	Th	1278
$Ne^{2+*} + He$	Fluorescence	$10^{-4} - 10^4$ eV	Th	1278
$Ne^{6+} + C$	Charge Transfer	4.3 MeV/amu	Exp	1325
$Ne^{7+} + C$	Charge Transfer	4.3 MeV/amu	Exp	1325
$Ne^{8+} + C$	Charge Transfer	4.3 MeV/amu	Exp	1325
$Ne^{9+} + C$	Charge Transfer	4.3 MeV/amu	Exp	1325
$Ne^{6+} + C$	Ionization	4.3 MeV/amu	Exp	1325
$Ne^{7+} + C$	Ionization	4.3 MeV/amu	Exp	1325
$Ne^{8+} + C$	Ionization	4.3 MeV/amu	Exp	1325
$Ne^{9+} + C$	Ionization	4.3 MeV/amu	Exp	1325
$Ne^{9+} + He$	Charge Transfer	0.35-20.0 keV	Exp	1344
$Ne^{9+} + H_2O$	Charge Transfer	0.35-20.0 keV	Exp	1344
$Ne^{10+} + He$	Charge Transfer	0.35-20.0 keV	Exp	1344
$Ne^{10+} + H_2O$	Charge Transfer	0.35-20.0 keV	Exp	1344
Na + Na	Association	600-1200 K	Th	1068
Na + Na	Ionization	600-1200 K	Th	1068
Na + Rb	Interaction Potentials	2-14 Å	Exp	1088
Na + Na	Association	420-630 K	E/T	1117
$Na^* + Na$	Association	420-630 K	E/T	1117
Na + He	Line Broadening	158-3000 K	Th	1177
Na + Li	Interaction Potentials	Ultracold	Th	1190
Na + K	Interaction Potentials	Ultracold	Th	1190
$Na^{11+} + H_2$	Charge Transfer		Th	1192
Na + H	Association	1 mK	Th	1199
Na + Hg	Elastic Scattering	0.05-0.5 eV	Th	1225
Na + Hg	Total Scattering	0.05-0.5 eV	Th	1225

Na + Cs	Elastic Scattering	10^{-5} K	E/T	1261
Na + Cs	Interaction Potentials	10^{-5} K	E/T	1261
Na + Cs	Association	$3x10^{-5}$ K	Exp	1263
Na + Cs*	Association	$3x10^{-5}$ K	Exp	1263
Mg^{10+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Mg^{11+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Mg^{12+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Mg^{10+} + C	Ionization	100-40,000 keV/u	E/T	1103
Mg^{11+} + C	Ionization	100-40,000 keV/u	E/T	1103
Mg^{12+} + C	Ionization	100-40,000 keV/u	E/T	1103
Mg^{7+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
Mg^{8+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
Mg^{9+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
Mg^{10+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
Mg^{11+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
Mg^{7+} + C	Ionization	4.3 MeV/amu	Exp	1325
Mg^{8+} + C	Ionization	4.3 MeV/amu	Exp	1325
Mg^{9+} + C	Ionization	4.3 MeV/amu	Exp	1325
Mg^{10+} + C	Ionization	4.3 MeV/amu	Exp	1325
Mg^{11+} + C	Ionization	4.3 MeV/amu	Exp	1325
Al$^-$ + Ar	Total Scattering	0.054-8.8 MeV	Exp	1222
Al$^-$ + Ar	Detachment	0.054-8.8 MeV	Exp	1222
Si^{12+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Si^{13+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Si^{14+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Si^{12+} + C	Ionization	100-40,000 keV/u	E/T	1103
Si^{13+} + C	Ionization	100-40,000 keV/u	E/T	1103
Si^{14+} + C	Ionization	100-40,000 keV/u	E/T	1103
Si^{15+} + H$_2$	Dissociation	6.7-13.6 MeV/u	Exp	1165
Si^{15+} + D$_2$	Dissociation	6.7-13.6 MeV/u	Exp	1165
Si^{3+} + H	Charge Transfer	$10^{-2} - 10^{6}$ eV/u	E/T	1289
Si^{3+} + H	Ionization	$10^{-2} - 10^{6}$ eV/u	E/T	1289
Si^{9+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
Si^{10+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
Si^{11+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
Si^{12+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
Si^{13+} + C	Charge Transfer	4.3 MeV/amu	Exp	1325
Si^{9+} + C	Ionization	4.3 MeV/amu	Exp	1325
Si^{10+} + C	Ionization	4.3 MeV/amu	Exp	1325
Si^{11+} + C	Ionization	4.3 MeV/amu	Exp	1325
Si^{12+} + C	Ionization	4.3 MeV/amu	Exp	1325
Si^{13+} + C	Ionization	4.3 MeV/amu	Exp	1325
Si^{2+} + C$_{60}$	Charge Transfer	2 MeV	Exp	1357
Si^{2+} + C$_{60}$	Ionization	2 MeV	Exp	1357
S^{2+} + He	Charge Transfer	1-10,000 eV	Th	1078
S^{2+} + He	Interaction Potentials	1-10,000 eV	Th	1078
S$^-$ + N	Interaction Potentials	2-6 bohr	Th	1111
S + N$^-$	Interaction Potentials	2-6 bohr	Th	1111
S^{15+} + H$_2$	Dissociation	13.6 MeV/u	Exp	1176
S^{15+} + D$_2$	Dissociation	13.6 MeV/u	Exp	1176
S^{15+} + H$_2$	Excitation	13.6 MeV/u	Exp	1176
S^{15+} + D$_2$	Excitation	13.6 MeV/u	Exp	1176
S^{15+} + H$_2$	Ionization	13.6 MeV/u	Exp	1176
S^{15+} + D$_2$	Ionization	13.6 MeV/u	Exp	1176
S^{7+} + Sb	Ionization	2-6.25 MeV/u	E/T	1290
S^{7+} + Au	Ionization	2-6.25 MeV/u	E/T	1290
S^{7+} + Bi	Ionization	2-6.25 MeV/u	E/T	1290

S^{8+} + Sb	Ionization	2-6.25 MeV/u	E/T	1290
S^{8+} + Au	Ionization	2-6.25 MeV/u	E/T	1290
S^{8+} + Bi	Ionization	2-6.25 MeV/u	E/T	1290
S^{9+} + Sb	Ionization	2-6.25 MeV/u	E/T	1290
S^{9+} + Au	Ionization	2-6.25 MeV/u	E/T	1290
S^{9+} + Bi	Ionization	2-6.25 MeV/u	E/T	1290
S^{10+} + Sb	Ionization	2-6.25 MeV/u	E/T	1290
S^{10+} + Au	Ionization	2-6.25 MeV/u	E/T	1290
S^{10+} + Bi	Ionization	2-6.25 MeV/u	E/T	1290
Cl^{4+} + H_2	Charge Transfer	100-40,000 keV/u	E/T	1103
Ar^{17+} + H	Charge Transfer	80 keV	E/T	1079
Ar^{17+} + D	Charge Transfer	80 keV	E/T	1079
Ar^{13+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Ar^{14+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Ar^{15+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Ar^{16+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Ar^{17+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Ar^{18+} + C	Charge Transfer	100-40,000 keV/u	E/T	1103
Ar^{13+} + C	Ionization	100-40,000 keV/u	E/T	1103
Ar^{14+} + C	Ionization	100-40,000 keV/u	E/T	1103
Ar^{15+} + C	Ionization	100-40,000 keV/u	E/T	1103
Ar^{16+} + C	Ionization	100-40,000 keV/u	E/T	1103
Ar^{17+} + C	Ionization	100-40,000 keV/u	E/T	1103
Ar^{18+} + C	Ionization	100-40,000 keV/u	E/T	1103
Ar^{2+} + H_2	Charge Transfer	0.5-145 keV	Th	1147
Ar^{+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp	1153
Ar^{+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp	1153
Ar^{+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp	1153
Ar^{2+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp	1153
Ar^{2+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp	1153
Ar^{2+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp	1153
Ar^{11+} + H_2	Charge Transfer	1-5 MeV	Exp	1156
Ar^{11+} + D_2	Charge Transfer	1-5 MeV	Exp	1156
Ar^{4+} + N_2	Charge Transfer	200-250 eV	Exp	1157
Ar^{4+} + O_2	Charge Transfer	200-250 eV	Exp	1157
Ar^{4+} + CF_4	Charge Transfer	200-250 eV	Exp	1157
Ar^{5+} + N_2	Charge Transfer	200-250 eV	Exp	1157
Ar^{5+} + O_2	Charge Transfer	200-250 eV	Exp	1157
Ar^{5+} + CF_4	Charge Transfer	200-250 eV	Exp	1157
Ar^{4+} + N_2	Interaction Potentials	200-250 eV	Exp	1157
Ar^{4+} + O_2	Interaction Potentials	200-250 eV	Exp	1157
Ar^{4+} + CF_4	Interaction Potentials	200-250 eV	Exp	1157
Ar^{5+} + N_2	Interaction Potentials	200-250 eV	Exp	1157
Ar^{5+} + O_2	Interaction Potentials	200-250 eV	Exp	1157
Ar^{5+} + CF_4	Interaction Potentials	200-250 eV	Exp	1157
Ar^{17+} + Ar	Charge Transfer	4 keV/u	Exp	1179
Ar^{18+} + Ar	Charge Transfer	4 keV/u	Exp	1179
Ar^{18+} + H_2	Charge Transfer		Th	1192
Ar^{16+} + H	Charge Transfer	30-300 keV/amu	Th	1245
Ar^{17+} + H	Charge Transfer	30-300 keV/amu	Th	1245
Ar^{18+} + H	Charge Transfer	30-300 keV/amu	Th	1245
Ar^{16+} + H	Ionization	30-300 keV/amu	Th	1245
Ar^{17+} + H	Ionization	30-300 keV/amu	Th	1245
Ar^{18+} + H	Ionization	30-300 keV/amu	Th	1245
Ar^{2+} + Ar	Charge Transfer	2-94 keV	Exp	1251
Ar^{3+} + Ar	Charge Transfer	2-94 keV	Exp	1251
Ar^{4+} + Ar	Charge Transfer	2-94 keV	Exp	1251

$\mathbf{Ar^{18+} + He}$	Charge Transfer	5-23 MeV/u	Th	1252
$\mathbf{Ar^{18+} + Li}$	Charge Transfer	5-23 MeV/u	Th	1252
$\mathbf{Ar^{18+} + Be}$	Charge Transfer	5-23 MeV/u	Th	1252
$\mathbf{Ar^{18+} + B}$	Charge Transfer	5-23 MeV/u	Th	1252
$\mathbf{Ar^{18+} + C}$	Charge Transfer	5-23 MeV/u	Th	1252
$\mathbf{Ar + H_2}$	Interaction Potentials	195 K	Th	1292
$\mathbf{Ar^{12+} + Al}$	Fluorescence	180-380 keV	Exp	1299
$\mathbf{Ar^{13+} + Al}$	Fluorescence	180-380 keV	Exp	1299
$\mathbf{Ar^{14+} + Al}$	Fluorescence	180-380 keV	Exp	1299
$\mathbf{Ar^{15+} + Al}$	Fluorescence	180-380 keV	Exp	1299
$\mathbf{Ar^{16+} + Al}$	Fluorescence	180-380 keV	Exp	1299
$\mathbf{Ar^{13+} + C}$	Charge Transfer	4.3 MeV/amu	Exp	1325
$\mathbf{Ar^{14+} + C}$	Charge Transfer	4.3 MeV/amu	Exp	1325
$\mathbf{Ar^{15+} + C}$	Charge Transfer	4.3 MeV/amu	Exp	1325
$\mathbf{Ar^{16+} + C}$	Charge Transfer	4.3 MeV/amu	Exp	1325
$\mathbf{Ar^{17+} + C}$	Charge Transfer	4.3 MeV/amu	Exp	1325
$\mathbf{Ar^{13+} + C}$	Ionization	4.3 MeV/amu	Exp	1325
$\mathbf{Ar^{14+} + C}$	Ionization	4.3 MeV/amu	Exp	1325
$\mathbf{Ar^{15+} + C}$	Ionization	4.3 MeV/amu	Exp	1325
$\mathbf{Ar^{16+} + C}$	Ionization	4.3 MeV/amu	Exp	1325
$\mathbf{Ar^{17+} + C}$	Ionization	4.3 MeV/amu	Exp	1325
$\mathbf{Ar^{13+} + C}$	Ionization	4.3-20 MeV/amu	E/T	1326
$\mathbf{Ar^{14+} + C}$	Ionization	4.3-20 MeV/amu	E/T	1326
$\mathbf{Ar^{15+} + C}$	Ionization	4.3-20 MeV/amu	E/T	1326
$\mathbf{Ar^{16+} + C}$	Ionization	4.3-20 MeV/amu	E/T	1326
$\mathbf{Ar^{17+} + C}$	Ionization	4.3-20 MeV/amu	E/T	1326
$\mathbf{Ar^{18+} + C}$	Ionization	4.3-20 MeV/amu	E/T	1326
$\mathbf{Ar^{4+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330

$\mathbf{Ar^{8+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{4+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{5+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{6+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{7+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330

$\mathbf{Ar^{8+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{8+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{10+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{11+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Ar^{9+} + N_2}$	Dissociation	v=1 a.u.	Exp	1353
$\mathbf{Ar^{9+} + N_2}$	Charge Transfer	v=1 a.u.	Exp	1353
$\mathbf{Ar^{9+} + N_2}$	Ionization	v=1 a.u.	Exp	1353
K + Rb	Association	Ultracold	Exp	1072
K + Rb	Interaction Potentials	Ultracold	Exp	1072
K + He	Line Broadening	158-3000 K	Th	1177
K + Rb	Elastic Scattering	$1x10^{-6}$ K	Exp	1198
K + Hg	Elastic Scattering	0.05-0.5 eV	Th	1225
K + Hg	Total Scattering	0.05-0.5 eV	Th	1225
$\mathbf{K^{+} + Ne}$	Charge Transfer	350-2000 eV	Exp	1323
$\mathbf{K^{+} + Ne}$	Total Scattering	350-2000 eV	Exp	1323
$\mathbf{K^{+} + Ne}$	Ionization	350-2000 eV	Exp	1323
$\mathbf{Ca^{+} + MgH^{+}}$	Energy Transfer	300 K	Th	1272
$\mathbf{Ca^{+} + H_2}$	Energy Transfer	298 K	Exp	1275
$\mathbf{Ca^{+} + D_2}$	Energy Transfer	298 K	Exp	1275
Sc + He	Interaction Potentials		Th	1075
Ti + He	Interaction Potentials		Th	1075
$\mathbf{Ti^{-} + N_2}$	Detachment	7-30 keV	Exp	1362
$\mathbf{Cr^{-} + He}$	Detachment	7-30 keV	Exp	1362
$\mathbf{Cr^{-} + N_2}$	Detachment	7-30 keV	Exp	1362
$\mathbf{Fe^{19+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{Fe^{20+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{Fe^{21+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{Fe^{22+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{Fe^{23+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{Fe^{24+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{Fe^{25+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{Fe^{26+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1103
$\mathbf{Fe^{19+} + C}$	Ionization	100-40,000 keV/u	E/T	1103
$\mathbf{Fe^{20+} + C}$	Ionization	100-40,000 keV/u	E/T	1103
$\mathbf{Fe^{21+} + C}$	Ionization	100-40,000 keV/u	E/T	1103
$\mathbf{Fe^{22+} + C}$	Ionization	100-40,000 keV/u	E/T	1103

Fe^{23+} + C	Ionization	100-40,000 keV/u	E/T	1103
Fe^{24+} + C	Ionization	100-40,000 keV/u	E/T	1103
Fe^{25+} + C	Ionization	100-40,000 keV/u	E/T	1103
Fe^{26+} + C	Ionization	100-40,000 keV/u	E/T	1103
Fe^{24+} + N_2	Charge Transfer	10 eV/amu	Exp	1121
Fe^{25+} + N_2	Charge Transfer	10 eV/amu	Exp	1121
Fe^{12+} + H_2	Charge Transfer		Th	1192
Fe^{20+} + H_2	Charge Transfer		Th	1192
Fe^{-} + He	Detachment	7-30 keV	Exp	1362
Fe^{-} + N_2	Detachment	7-30 keV	Exp	1362
Ni^{25+} + H_2O	Dissociation	11.7 MeV	E/T	1099
Ni^{25+} + HDO	Dissociation	11.7 MeV	E/T	1099
Ni^{25+} + H_2O	Charge Transfer	11.7 MeV	E/T	1099
Ni^{25+} + HDO	Charge Transfer	11.7 MeV	E/T	1099
Ni^{25+} + H_2O	Ionization	11.7 MeV	E/T	1099
Ni^{25+} + HDO	Ionization	11.7 MeV	E/T	1099
Ni^{24+} + CO_2	Dissociation	6.7-13.6 MeV/u	Exp	1165
Ni^{25+} + H_2O	Dissociation	6.7-13.6 MeV/u	Exp	1165
Ni^{25+} + HDO	Dissociation	6.7-13.6 MeV/u	Exp	1165
Cu^{20+} + Ne	Charge Transfer	2.5 MeV	Exp	1229
Cu^{20+} + Ar	Charge Transfer	2.5 MeV	Exp	1229
Cu^{20+} + Kr	Charge Transfer	2.5 MeV	Exp	1229
Cu^{20+} + Xe	Charge Transfer	2.5 MeV	Exp	1229
Cu^{20+} + H_2	Charge Transfer	2.5 MeV	Exp	1229
Cu^{21+} + Ne	Charge Transfer	2.5 MeV	Exp	1229
Cu^{21+} + Ar	Charge Transfer	2.5 MeV	Exp	1229
Cu^{21+} + Kr	Charge Transfer	2.5 MeV	Exp	1229
Cu^{21+} + Xe	Charge Transfer	2.5 MeV	Exp	1229
Cu^{21+} + H_2	Charge Transfer	2.5 MeV	Exp	1229
Cu^{22+} + Ne	Charge Transfer	2.5 MeV	Exp	1229
Cu^{22+} + Ar	Charge Transfer	2.5 MeV	Exp	1229
Cu^{22+} + Kr	Charge Transfer	2.5 MeV	Exp	1229
Cu^{22+} + Xe	Charge Transfer	2.5 MeV	Exp	1229
Cu^{22+} + H_2	Charge Transfer	2.5 MeV	Exp	1229
Cu^{23+} + Ne	Charge Transfer	2.5 MeV	Exp	1229
Cu^{23+} + Ar	Charge Transfer	2.5 MeV	Exp	1229
Cu^{23+} + Kr	Charge Transfer	2.5 MeV	Exp	1229
Cu^{23+} + Xe	Charge Transfer	2.5 MeV	Exp	1229
Cu^{23+} + H_2	Charge Transfer	2.5 MeV	Exp	1229
Cu^{24+} + Ne	Charge Transfer	2.5 MeV	Exp	1229
Cu^{24+} + Ar	Charge Transfer	2.5 MeV	Exp	1229
Cu^{24+} + Kr	Charge Transfer	2.5 MeV	Exp	1229
Cu^{24+} + Xe	Charge Transfer	2.5 MeV	Exp	1229
Cu^{24+} + H_2	Charge Transfer	2.5 MeV	Exp	1229
Cu^{25+} + Ne	Charge Transfer	2.5 MeV	Exp	1229
Cu^{25+} + Ar	Charge Transfer	2.5 MeV	Exp	1229
Cu^{25+} + Kr	Charge Transfer	2.5 MeV	Exp	1229
Cu^{25+} + Xe	Charge Transfer	2.5 MeV	Exp	1229
Cu^{25+} + H_2	Charge Transfer	2.5 MeV	Exp	1229
Cu^{26+} + Ne	Charge Transfer	2.5 MeV	Exp	1229
Cu^{26+} + Ar	Charge Transfer	2.5 MeV	Exp	1229
Cu^{26+} + Kr	Charge Transfer	2.5 MeV	Exp	1229
Cu^{26+} + Xe	Charge Transfer	2.5 MeV	Exp	1229
Cu^{26+} + H_2	Charge Transfer	2.5 MeV	Exp	1229
Cu^{20+} + Ne	Excitation	2.5 MeV	Exp	1229
Cu^{20+} + Ar	Excitation	2.5 MeV	Exp	1229
Cu^{20+} + Kr	Excitation	2.5 MeV	Exp	1229

$\mathbf{Cu^{20+} + Xe}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{20+} + H_2}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{21+} + Ne}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{21+} + Ar}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{21+} + Kr}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{21+} + Xe}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{21+} + H_2}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{22+} + Ne}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{22+} + Ar}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{22+} + Kr}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{22+} + Xe}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{22+} + H_2}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{23+} + Ne}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{23+} + Ar}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{23+} + Kr}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{23+} + Xe}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{23+} + H_2}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{24+} + Ne}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{24+} + Ar}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{24+} + Kr}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{24+} + Xe}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{24+} + H_2}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{25+} + Ne}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{25+} + Ar}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{25+} + Kr}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{25+} + Xe}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{25+} + H_2}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{26+} + Ne}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{26+} + Ar}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{26+} + Kr}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{26+} + Xe}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{26+} + H_2}$	Excitation	2.5 MeV	Exp	1229
$\mathbf{Cu^{-} + He}$	Detachment	7-30 keV	Exp	1362
$\mathbf{Cu^{-} + Ne}$	Detachment	7-30 keV	Exp	1362
$\mathbf{Cu^{-} + Ar}$	Detachment	7-30 keV	Exp	1362
$\mathbf{Cu^{-} + N_2}$	Detachment	7-30 keV	Exp	1362
$\mathbf{Kr^{35+} + H}$	Excitation	0.1-100 GeV/u	Th	1092
$\mathbf{Kr^{35+} + H}$	Ionization	0.1-100 GeV/u	Th	1092
$\mathbf{Kr^{35+} + Ar}$	Charge Transfer	4 keV/u	Exp	1179
$\mathbf{Kr^{36+} + Ar}$	Charge Transfer	4 keV/u	Exp	1179
$\mathbf{Kr^{36+} + H_2}$	Charge Transfer		Th	1192
$\mathbf{Kr^{34+} + H_2}$	Dissociation	60 MeV	Exp	1219
$\mathbf{Kr^{34+} + H_2}$	Charge Transfer	60 MeV	Exp	1219
$\mathbf{Kr^{34+} + H_2}$	Ionization	60 MeV	Exp	1219
$\mathbf{Kr^{+} + Kr}$	Line Broadening		E/T	1238
$\mathbf{Kr^{2+} + Kr}$	Line Broadening		E/T	1238
$\mathbf{Kr^{2+} + Kr}$	Charge Transfer	2-94 keV	Exp	1251
$\mathbf{Kr^{3+} + Kr}$	Charge Transfer	2-94 keV	Exp	1251
$\mathbf{Kr^{4+} + Kr}$	Charge Transfer	2-94 keV	Exp	1251
$\mathbf{Kr^{8+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{9+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330

Kr^{9+} + Ti	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{9+} + Cu	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{9+} + Zr	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{9+} + Ag	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{9+} + Sm	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{9+} + Ta	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Al	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Ti	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Cu	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Zr	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Ag	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Sm	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Ta	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Al	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Ti	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Cu	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Zr	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Ag	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Sm	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Ta	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Al	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Ti	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Cu	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Zr	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Ag	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Sm	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Ta	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Al	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Ti	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Cu	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Zr	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Ag	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Sm	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Ta	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Al	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Ti	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Cu	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Zr	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Ag	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Sm	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Ta	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Al	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Ti	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Cu	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Zr	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Ag	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Sm	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Ta	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Al	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Ti	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Cu	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Zr	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Ag	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Sm	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Ta	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{17+} + Al	Fluorescence	2.5-25 MeV/u	Exp	1330
Kr^{17+} + Ti	Fluorescence	2.5-25 MeV/u	Exp	1330

$\mathbf{Kr^{17+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{17+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{17+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{17+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{17+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{8+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{9+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{9+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{9+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330

Kr^{9+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{9+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{9+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{9+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{10+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{11+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{12+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{13+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{14+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{15+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{16+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{17+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{17+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{17+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Kr^{17+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330

$\mathbf{Kr^{17+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{17+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{17+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{18+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{19+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{20+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{21+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{22+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{23+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Kr^{33+} + He}$	Ionization	60-70 keV/amu	Exp	1343
$\mathbf{Kr^{33+} + H_2}$	Ionization	60-70 keV/amu	Exp	1343
Rb + Li	Interaction Potentials	Ultracold	Th	1190
Rb + K	Interaction Potentials	Ultracold	Th	1190
Rb + Rb	Association	$2x10^{-4}$ K	E/T	1257
$\mathbf{Rb + Rb^*}$	Association	$2x10^{-4}$ K	E/T	1257
Rb + Rb	Interaction Potentials	$2x10^{-4}$ K	E/T	1257
$\mathbf{Rb + Rb^*}$	Interaction Potentials	$2x10^{-4}$ K	E/T	1257
Rb + Fr	Interaction Potentials		Th	1260
$\mathbf{Rb^+ + Rb}$	Interaction Potentials		Th	1260
$\mathbf{Rb^+ + Cs}$	Interaction Potentials		Th	1260
$\mathbf{Rb^+ + Fr}$	Interaction Potentials		Th	1260

Rb + Rb	Association	10^{-4} K	Th	1266
Rb + Rb*	Association	10^{-4} K	Th	1266
Rb + Rb	Association		Th	1268
Rb + Rb*	Association		Th	1268
Rb + Rb	Interaction Potentials	100-10,000 μ K	Th	1273
Rb + He	De-excitation		Exp	1339
Rb* **+ He**	De-excitation		Exp	1339
Sr + He	Line Broadening	660-1390 K	Exp	1060
Sr + Ne	Line Broadening	660-1390 K	Exp	1060
Sr + Ar	Line Broadening	660-1390 K	Exp	1060
Sr + Kr	Line Broadening	660-1390 K	Exp	1060
Sr + Xe	Line Broadening	660-1390 K	Exp	1060
Sr + He	Interaction Potentials	660-1390 K	Exp	1060
Sr + Ne	Interaction Potentials	660-1390 K	Exp	1060
Sr + Ar	Interaction Potentials	660-1390 K	Exp	1060
Sr + Kr	Interaction Potentials	660-1390 K	Exp	1060
Sr + Xe	Interaction Potentials	660-1390 K	Exp	1060
$\mathbf{Sr^+ + H_2}$	Energy Transfer	298 K	Exp	1275
$\mathbf{Sr^+ + D_2}$	Energy Transfer	298 K	Exp	1275
$\mathbf{Ag^- + He}$	Detachment	7-30 keV	Exp	1362
$\mathbf{Ag^- + N_2}$	Detachment	7-30 keV	Exp	1362
$\mathbf{Xe^{3+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Xe^{3+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Xe^{3+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{Xe^{44+} + H_2O}$	Dissociation	6.7-13.6 MeV/u	Exp	1165
$\mathbf{Xe^{2+} + Xe}$	Charge Transfer	2-94 keV	Exp	1251
$\mathbf{Xe^{3+} + Xe}$	Charge Transfer	2-94 keV	Exp	1251
$\mathbf{Xe^{4+} + Xe}$	Charge Transfer	2-94 keV	Exp	1251
Xe + Al	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{13+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{13+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{13+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{13+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{13+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{13+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{13+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{14+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{14+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{14+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{14+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{14+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{14+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{14+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{15+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{15+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{15+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{15+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{15+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{15+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{15+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{16+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{16+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{16+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{16+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{16+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{16+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{16+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp	1330

Xe^{17+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{17+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{17+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{17+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{17+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{17+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{17+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{18+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{18+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{18+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{18+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{18+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{18+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{18+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{19+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{19+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{19+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{19+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{19+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{19+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{19+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{20+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{20+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{20+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{20+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{20+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{20+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{20+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{21+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{21+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{21+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{21+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{21+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{21+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{21+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{22+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{22+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{22+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{22+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{22+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{22+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{22+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{23+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{23+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{23+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{23+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{23+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{23+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{23+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{24+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{24+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{24+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{24+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{24+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{24+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{24+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{25+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330

Xe^{25+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{25+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{25+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{25+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{25+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{25+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{26+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{26+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{26+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{26+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{26+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{26+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{26+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{27+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{27+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{27+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{27+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{27+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{27+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{28+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{28+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{28+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{28+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{28+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{28+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{28+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{29+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{29+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{29+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{29+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{29+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{29+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{29+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{30+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{30+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{30+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{30+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{30+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{30+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{30+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{31+} + **Al**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{31+} + **Ti**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{31+} + **Cu**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{31+} + **Zr**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{31+} + **Ag**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{31+} + **Sm**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe^{31+} + **Ta**	Fluorescence	2.5-25 MeV/u	Exp	1330
Xe + Al	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{13+} + **Al**	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{13+} + **Ti**	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{13+} + **Cu**	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{13+} + **Zr**	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{13+} + **Ag**	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{13+} + **Sm**	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{13+} + **Ta**	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{14+} + **Al**	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{14+} + **Ti**	Ionization	2.5-25 MeV/u	Exp	1330

Xe^{14+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{14+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{14+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{14+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{14+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{15+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{15+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{15+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{15+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{15+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{15+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{15+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{16+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{16+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{16+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{16+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{16+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{16+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{16+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{17+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{17+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{17+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{17+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{17+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{17+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{17+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{18+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{18+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{18+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{18+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{18+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{18+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{18+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{19+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{19+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{19+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{19+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{19+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{19+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{19+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{20+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{20+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{20+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{20+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{20+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{20+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{20+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{21+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{21+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{21+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{21+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{21+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{21+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{21+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{22+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{22+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{22+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330

$\mathbf{Xe^{22+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{22+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{22+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{22+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{23+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{23+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{23+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{23+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{23+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{23+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{23+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{24+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{24+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{24+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{24+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{24+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{24+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{24+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{25+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{25+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{25+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{25+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{25+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{25+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{25+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{26+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{26+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{26+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{26+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{26+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{26+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{26+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{27+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{27+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{27+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{27+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{27+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{27+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{28+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{28+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{28+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{28+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{28+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{28+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{28+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{29+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{29+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{29+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{29+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{29+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{29+} + Sm}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{29+} + Ta}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{30+} + Al}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{30+} + Ti}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{30+} + Cu}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{30+} + Zr}$	Ionization	2.5-25 MeV/u	Exp	1330
$\mathbf{Xe^{30+} + Ag}$	Ionization	2.5-25 MeV/u	Exp	1330

Xe^{30+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{30+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{31+} + Al	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{31+} + Ti	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{31+} + Cu	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{31+} + Zr	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{31+} + Ag	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{31+} + Sm	Ionization	2.5-25 MeV/u	Exp	1330
Xe^{31+} + Ta	Ionization	2.5-25 MeV/u	Exp	1330
Cs + Li	Interaction Potentials	Ultracold	Th	1190
Cs + K	Interaction Potentials	Ultracold	Th	1190
Cs + Ar	De-excitation	60-120 deg C	Exp	1203
Cs^* + Ar	De-excitation	60-120 deg C	Exp	1203
Cs + H	Interaction Potentials	3-80 a.u.	Th	1256
Cs + Fr	Interaction Potentials		Th	1260
Cs^+ + Cs	Interaction Potentials		Th	1260
Cs^+ + Fr	Interaction Potentials		Th	1260
Cs + Cs	Association	$1.5x10^{-4}$ K	Th	1262
Cs + Cs^*	Association	$1.5x10^{-4}$ K	Th	1262
Cs + Rb	Association	$0.5x10^{-4} - 1.5x10^{-4}$ K	Th	1267
Cs + Rb^*	Association	$0.5x10^{-4} - 1.5x10^{-4}$ K	Th	1267
Cs + He	De-excitation		Exp	1339
Cs^* + He	De-excitation		Exp	1339
Ba^+ + H_2	Energy Transfer	298 K	Exp	1275
Ba^+ + D_2	Energy Transfer	298 K	Exp	1275
Ta^{41+} + He	Charge Transfer	10 keV/q	Exp	1196
Ta^{42+} + Xe	Charge Transfer	10 keV/q	Exp	1196
Ta^{43+} + He	Charge Transfer	10 keV/q	Exp	1196
Ta^{43+} + Xe	Charge Transfer	10 keV/q	Exp	1196
Ta^{44+} + He	Charge Transfer	10 keV/q	Exp	1196
Ta^{44+} + Xe	Charge Transfer	10 keV/q	Exp	1196
Ta^{46+} + He	Charge Transfer	10 keV/q	Exp	1196
Ta^{46+} + Xe	Charge Transfer	10 keV/q	Exp	1196
Ta^{49+} + He	Charge Transfer	10 keV/q	Exp	1196
Ta^{49+} + Xe	Charge Transfer	10 keV/q	Exp	1196
Au^{24+} + He	Total Scattering	3.6 MeV/u	Th	1096
Au^{53+} + He	Total Scattering	3.6 MeV/u	Th	1096
Au^{24+} + He	Ionization	3.6 MeV/u	Th	1096
Au^{53+} + He	Ionization	3.6 MeV/u	Th	1096
Au^{24+} + He	Total Scattering	3.6-100 MeV/u	Exp	1221
Au^{53+} + He	Total Scattering	3.6-100 MeV/u	Exp	1221
Au^{24+} + He	Ionization	3.6-100 MeV/u	Exp	1221
Au^{53+} + He	Ionization	3.6-100 MeV/u	Exp	1221
Au^{24+} + He	Total Scattering	3.6-8.3 MeV/amu	E/T	1246
Au^{53+} + He	Total Scattering	3.6-8.3 MeV/amu	E/T	1246
Au^{24+} + He	Ionization	3.6-8.3 MeV/amu	E/T	1246
Au^{53+} + He	Ionization	3.6-8.3 MeV/amu	E/T	1246
Au^{53+} + He	Ionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T	1337
Au^{53+} + He	Ionization	0.075-100 MeV/u	Exp	1338
Au^{53+} + He	Ionization	3.6-100 MeV/u	Th	1356
Pb^{2+} + Pb	Charge Transfer	2-94 keV	Exp	1251
Pb^{3+} + Pb	Charge Transfer	2-94 keV	Exp	1251
Pb^{4+} + Pb	Charge Transfer	2-94 keV	Exp	1251
Bi^{2+} + Bi	Charge Transfer	2-94 keV	Exp	1251
Bi^{3+} + Bi	Charge Transfer	2-94 keV	Exp	1251
Bi^{4+} + Bi	Charge Transfer	2-94 keV	Exp	1251
Fr + Fr	Interaction Potentials		Th	1260

$\mathbf{Fr^+ + Rb}$	Interaction Potentials		Th	1260
$\mathbf{Fr^+ + Fr}$	Interaction Potentials		Th	1260
$\mathbf{U^{91+} + H^+}$	Ionization	1 GeV/u	Th	1104
$\mathbf{U^{92+} + H_2{}^+}$	Ionization	1 GeV/u	Th	1105
$\mathbf{U^{4+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{U^{4+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{U^{4+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{U^{6+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{U^{6+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{U^{6+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{U^{10+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{U^{10+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{U^{10+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1153
$\mathbf{U^{73+} + Au}$	Excitation	69 MeV/u	Exp	1164
$\mathbf{U^{86+} + Au}$	Excitation	69 MeV/u	Exp	1164
$\mathbf{U^{88+} + Au}$	Excitation	69 MeV/u	Exp	1164
$\mathbf{U^{91+} + Au}$	Excitation	69 MeV/u	Exp	1164
$\mathbf{U^{89+} + N_2}$	Ionization	98-398 MeV/u	Exp	1211
$\mathbf{U^{10+} + Ar}$	Ionization	1.4-6.5 MeV/u	Th	1233
$\mathbf{U^{28+} + Ar}$	Ionization	1.4-6.5 MeV/u	Th	1233
$\mathbf{U^{28+} + N_2}$	Ionization	1.4-6.5 MeV/u	Th	1233
$\mathbf{U^{88+} + N_2}$	Ionization	990 MeV/amu	Exp	1297
$\mathbf{U^{92+} + N_2}$	Charge Transfer	20-400 MeV/amu	Exp	1349
$\mathbf{U^{92+} + N_2}$	Excitation	20-400 MeV/amu	Exp	1349
$\mathbf{H_2 + O}$	Interaction Potentials		Th	1073
$\mathbf{H_2 + H_2}$	Interchange reaction	0.0-6.0 eV	Th	1132
$\mathbf{H_2 + CO}$	Excitation	$10^{-6} - 15,000\ cm^{-1}$	Th	1137
$\mathbf{H_2 + C_2H}$	Interchange reaction	0-1.0 eV	Th	1142
$\mathbf{H_2{}^+ + H}$	Charge Transfer	0.5-100 eV	Th	1149
$\mathbf{H_2{}^- + H_2}$	Detachment	4.2 keV	Exp	1205
$\mathbf{H_2{}^+ + H^-}$	Recombination	0.05-5 keV/u	E/T	1247
$\mathbf{H_2 + H_2O}$	Excitation	5-20 K	Th	1282
$\mathbf{H_2 + HC_3N}$	Excitation	5-100 K	Th	1285
$\mathbf{H_2 + H_2}$	Interchange reaction	0.0-2.0 eV	Th	1302
$\mathbf{H_2{}^+ + He}$	Ionization	0.075-100 MeV/u	Exp	1338
$\mathbf{H_2{}^+ + Ne}$	Dissociation	0.1-4 MeV/amu	E/T	1347
$\mathbf{H_2{}^+ + Ne}$	Ionization	0.1-4 MeV/amu	E/T	1347
$\mathbf{H_2 + H_2}$	Dissociation	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_2{}^+ + H_2}$	Dissociation	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_2 + H_2}$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_2 + H_2}$	Charge Transfer	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_2{}^+ + H_2}$	Charge Transfer	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_2{}^+ + H_2}$	Interchange reaction	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_2 + H_2}$	Excitation	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_2{}^+ + H_2}$	Excitation	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_2 + H_2}$	Ionization	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_2{}^+ + H_2}$	Ionization	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_3{}^+ + He}$	Dissociation	1-5 keV	Exp	1170
$\mathbf{H_3{}^+ + He}$	Total Scattering	1-5 keV	Exp	1170
$\mathbf{H_3{}^+ + He}$	Dissociation	60 keV/u	Exp	1189
$\mathbf{H_3{}^+ + O_2}$	Association	30 mK	Exp	1202
$\mathbf{H_3{}^+ + H_2}$	Dissociation	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_3{}^+ + H_2}$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_3{}^+ + H_2}$	Charge Transfer	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_3{}^+ + H_2}$	Excitation	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{H_3{}^+ + H_2}$	Ionization	$10^{-2} - 10^5$ eV	E/T	1358
$\mathbf{HD^- + H_2}$	Detachment	4.2 keV	Exp	1205

$HD_2^+ + He$	Dissociation	1-5 keV	Exp	1170
$HD_2^+ + He$	Total Scattering	1-5 keV	Exp	1170
$H_2O + He$	Line Broadening	300 K	Exp	1178
$H_2O + H_2O$	Line Broadening	300 K	Exp	1178
$H_2O + N_2$	Line Broadening	300 K	Exp	1178
$H_2O + SF_6$	Line Broadening	300 K	Exp	1178
$D^+ + H_2$	Interchange reaction	0.0-2.0 eV	Th	1128
$D + OH$	Interchange reaction	0-500 K	Th	1129
$D^+ + H$	Interaction Potentials		Th	1241
$D^+ + D$	Interaction Potentials		Th	1241
$D^+ + Mg$	Charge Transfer	1-100 keV	Th	1298
$D^+ + Ca$	Charge Transfer	1-100 keV	Th	1298
$D^+ + Mg$	Total Scattering	1-100 keV	Th	1298
$D^+ + Ca$	Total Scattering	1-100 keV	Th	1298
$D + HD$	Interchange reaction	0-1000 K	E/T	1310
$D + NH$	Interchange reaction	0-1000 K	E/T	1310
$D + CH_4$	Interchange reaction	250-400 K	Th	1311
$D^- + H_2$	Interchange reaction	0.2-2.4 eV	Th	1332
$D_2^- + H_2$	Detachment	4.2 keV	Exp	1205
$D_3^+ + He$	Dissociation	1-5 keV	Exp	1170
$D_3^+ + He$	Total Scattering	1-5 keV	Exp	1170
$He_2^+ + He$	Interchange reaction	$10^{-6} - 10^{-1}$ eV	Th	1191
$CH + H_3$	Interaction Potentials		Th	1073
$CH^+ + O^-$	Interchange reaction	0.01-10.00 eV	Exp	1140
$CH_4 + CH_4$	Interchange reaction	163-297 K	Th	1082
$CH_4 + CH_4$	Energy Transfer	163-297 K	Th	1082
$CH_4 + CH_4$	Interaction Potentials		Th	1184
$CO + H_2$	Excitation	1-520 cm^{-1}	Th	1118
$CO + H$	De-excitation	$10^{-5} - 10$ cm^{-1}	Th	1271
$CO + He$	De-excitation	$10^{-5} - 10$ cm^{-1}	Th	1271
$CO + H_2$	De-excitation	$10^{-5} - 10$ cm^{-1}	Th	1271
$CO^+ + He$	Dissociation	5 keV	Exp	1300
$N_2^+ + He$	De-excitation	$10^{-6} - 2000$ cm^{-1}	Th	1081
$N_2^+ + He$	Dissociation	1-5 keV	Exp	1161
$N_2^+ + Ar$	Dissociation	1-5 keV	Exp	1161
$N_2^+ + He$	Total Scattering	1-5 keV	Exp	1161
$N_2^+ + Ar$	Total Scattering	1-5 keV	Exp	1161
$N_2 + N_2$	Line Broadening	300 K	Exp	1178
$N_2^+ + N_2$	Charge Transfer	0-3 eV	Th	1350
$NH + NH$	Elastic Scattering	10^{-6} K	Th	1355
$NH + NH$	Energy Transfer	10^{-6} K	Th	1355
$NO + Ar$	Excitation	516 cm^{-1}	Exp	1341
$O_2^+ + O_2$	Charge Transfer	0-3 eV	Th	1350
$Ne_2 + H_2$	Line Broadening	300 K	Exp	1106
$Ne_2^* + H_2$	Line Broadening	300 K	Exp	1106
$Ne_2 + H_2$	Dissociation	300 K	Exp	1106
$Ne_2^* + H_2$	Dissociation	300 K	Exp	1106
$Ne_2 + H_2$	Energy Transfer	300 K	Exp	1106
$Ne_2^* + H_2$	Energy Transfer	300 K	Exp	1106
$Ne_2 + H_2$	Excitation	300 K	Exp	1106
$Ne_2^* + H_2$	Excitation	300 K	Exp	1106
$CN + C_2H_2$	Excitation	300 K	Exp	1314
$SiH_4 + H$	Interchange reaction	200-1000 K	Th	1312
$OH + H$	Interchange reaction	100-1000 K	Th	1135
$OH + D$	Interchange reaction	100-1000 K	Th	1135
$OH^- + C_2H_2$	Interchange reaction	0.37-1.40 eV	E/T	1138
$OH + He$	De-excitation	$10^{-5} - 10^{-3}$ cm^{-1}	Th	1185

OH + He	Excitation	$10^{-5} - 10^{-3}\ cm^{-1}$	Th	1185
OH^- + He	De-excitation	$10^{-9} - 0.1\ cm^{-1}$	Th	1269
OH^+ + C_3H_6	Interchange reaction	0.21-0.92 eV	E/T	1321
OD^+ + C_3H_6	Interchange reaction	0.21-0.92 eV	E/T	1321
${H_4}^+$ + He	Dissociation	60 keV/u	Exp	1189
${C_3}^+$ + He	Ionization	v=2.6 a.u.	Exp	1076
${C_5}^+$ + He	Ionization	v=2.6 a.u.	Exp	1076
${C_8}^+$ + He	Ionization	v=2.6 a.u.	Exp	1076
${C_{10}}^+$ + He	Ionization	v=2.6 a.u.	Exp	1076
${C_4}^+$ + He	Ionization	v=2.6 a.u.	Exp	1076
${Al_2}^-$ + Ar	Total Scattering	0.054-8.8 MeV	Exp	1222
${Al_2}^-$ + Ar	Detachment	0.054-8.8 MeV	Exp	1222
${H_{27}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${Al_3}^-$ + Ar	Total Scattering	0.054-8.8 MeV	Exp	1222
${Al_3}^-$ + Ar	Detachment	0.054-8.8 MeV	Exp	1222
${Al_4}^-$ + Ar	Total Scattering	0.054-8.8 MeV	Exp	1222
${Al_4}^-$ + Ar	Detachment	0.054-8.8 MeV	Exp	1222
${C_7}^+$ + He	Ionization	v=2.6 a.u.	Exp	1076
${H_5}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_7}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_9}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{11}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${C_9}^+$ + He	Ionization	v=2.6 a.u.	Exp	1076
${H_{13}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${C_6}^+$ + He	Ionization	v=2.6 a.u.	Exp	1076
${H_6}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_8}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{10}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{12}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{14}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{15}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{16}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{17}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{18}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{19}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{20}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{21}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{22}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{23}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{24}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{25}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{26}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{28}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{29}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{30}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{31}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{32}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{33}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{34}}^+$ + He	Dissociation	60 keV/u	Exp	1189
${H_{35}}^+$ + He	Dissociation	60 keV/u	Exp	1189

2.3 Surface Interactions

H^+ + Al	Secondary Electron Emission	100 keV	Th	1363
H^+ + Al	Reflection	98 keV	E/T	1364

H^+ + W	Trapping, Detrapping	20-40 keV	Exp	1370
H^- + Pd	Neutraliz., Ioniz., Dissoc.	1 keV	Th	1387
H^- + Ag	Neutraliz., Ioniz., Dissoc.	1 keV	Th	1387
H^+ + Si	Surface Interactions	210-420 keV	Exp	1392
H^+ + Ti	Trapping, Detrapping	1.7-5.0 keV	Exp	1402
H^+ + V	Trapping, Detrapping	1.7-5.0 keV	Exp	1402
H^+ + Cr	Trapping, Detrapping	1.7-5.0 keV	Exp	1402
H^+ + Ti	Trapping, Detrapping		Th	1403
H^+ + V	Trapping, Detrapping		Th	1403
H^+ + Cr	Trapping, Detrapping		Th	1403
H^+ + Si	Reflection	100 keV	E/T	1404
H^+ + Y	Reflection	100 keV	E/T	1404
H^+ + Cu	Reflection	6 eV; 5 keV	E/T	1427
H^- + Cu	Neutraliz., Ioniz., Dissoc.	6 eV; 5 keV	E/T	1427
H + Si	Reflection	1-4 keV	Th	1431
H^+ + Mg	Secondary Electron Emission	10-100 eV	Th	1437
H^- + Na	Neutraliz., Ioniz., Dissoc.	1 keV	Th	1442
H^- + Al	Neutraliz., Ioniz., Dissoc.	1 keV	Th	1442
H^- + Cu	Neutraliz., Ioniz., Dissoc.	1 keV	Th	1442
H^+ + Cu	Reflection	100 keV	Exp	1445
H^+ + Cu	Secondary Electron Emission	100 keV	Exp	1445
H + C	Sputtering	5-10 eV	Th	1446
H + C	Trapping, Detrapping	5-10 eV	Th	1446
H^+ + C	Sputtering	5-100 eV	Exp	1447
H^+ + W	Trapping, Detrapping	500 eV	Exp	1448
H^+ + W	Trapping, Detrapping	500 eV	Exp	1449
H^+ + C	Sputtering	10-1000 eV	Th	1450
H^+ + W	Trapping, Detrapping	200 eV	Exp	1451
H^+ + Re	Trapping, Detrapping	200 eV	Exp	1451
H^+ + W	Trapping, Detrapping	500 eV	Exp	1452
H^+ + C	Sputtering	0.2-1.0 keV	Th	1460
H^+ + Fe	Sputtering	0.2-1.0 keV	Th	1460
H^+ + W	Sputtering	0.2-1.0 keV	Th	1460
H + Ti	Reflection	0.7-2 keV	E/T	1461
H + V	Reflection	0.7-2 keV	E/T	1461
H + Cr	Reflection	0.7-2 keV	E/T	1461
H^+ + CsI	Secondary Electron Emission	2-48 MeV	Exp	1464
H^+ + GaN	Secondary Electron Emission	2-48 MeV	Exp	1464
H^+ + ZnO	Secondary Electron Emission	2-48 MeV	Exp	1464
H^+ + Ar	Reflection	50-500 eV	E/T	1479
H^+ + Kr	Reflection	50-500 eV	E/T	1479
H^+ + Xe	Reflection	50-500 eV	E/T	1479
H^+ + Si	Sputtering	380 keV	Exp	1485
H^+ + Al	Secondary Electron Emission	25-3000 keV	Th	1490
H^+ + C	Secondary Electron Emission	1 MeV/amu	Exp	1498
H^+ + H_2O	Secondary Electron Emission	1 MeV	Th	1503
H^+ + LiF	Reflection	100 keV	Th	1509
H^+ + LiF	Secondary Electron Emission	100 keV	Th	1509
H^+ + Ar	Reflection	500 eV	Th	1510
H^+ + Mg	Reflection		Th	1514
H^+ + Al	Reflection		Th	1514
H^+ + Mg	Neutraliz., Ioniz., Dissoc.		Th	1514
H^+ + Al	Neutraliz., Ioniz., Dissoc.		Th	1514
H^+ + C	Sputtering	5-300 eV	Exp	1528
H + C	Sputtering	7.5-60 eV	Exp	1530
H^+ + W	Reflection	30-1000 eV	Exp	1532
H^+ + K	Reflection	100 keV	E/T	1533

H^+ + Rb	Reflection	100 keV	E/T	1533
H^+ + Cs	Reflection	100 keV	E/T	1533
H^+ + O_2	Sputtering	25-240 keV	Exp	1536
H^+ + Be	Chemical Reactions	3-10 keV	Exp	1539
H^+ + C	Chemical Reactions	3-10 keV	Exp	1539
H^+ + BeO	Chemical Reactions	3-10 keV	Exp	1539
H^+ + WO_3	Chemical Reactions	3-10 keV	Exp	1539
H^+ + WC	Chemical Reactions	3-10 keV	Exp	1539
H^+ + Be	Trapping, Detrapping	3-10 keV	Exp	1539
H^+ + C	Trapping, Detrapping	3-10 keV	Exp	1539
H^+ + BeO	Trapping, Detrapping	3-10 keV	Exp	1539
H^+ + WO_3	Trapping, Detrapping	3-10 keV	Exp	1539
H^+ + WC	Trapping, Detrapping	3-10 keV	Exp	1539
H^+ + Al	Secondary Electron Emission	100 keV	Exp	1545
H + C	Sputtering	100-300 eV	Exp	1547
H^+ + C	Sputtering	100-300 eV	Exp	1547
H^+ + C	Sputtering	30 eV	Exp	1548
H^+ + SiC	Sputtering	30 eV	Exp	1548
H^+ + TiC_4	Sputtering	30 eV	Exp	1548
H^+ + VC_4	Sputtering	30 eV	Exp	1548
H^+ + WC_4	Sputtering	30 eV	Exp	1548
H^+ + ZrC_4	Sputtering	30 eV	Exp	1548
H^+ + C	Sputtering	2-5 keV	E/T	1549
H^+ + C	Sputtering	10-1000 eV	E/T	1551
H^+ + C	Sputtering	$1-10^4$ eV	Exp	1552
H^+ + C	Sputtering	3-13 eV	Exp	1553
H^+ + C	Sputtering	1-100 eV	Th	1554
H^+ + C	Sputtering	10-150 eV	Th	1555
H^+ + C	Surface Interactions	150-1500 eV	Exp	1556
H^+ + W	Surface Interactions	150-1500 eV	Exp	1556
H^+ + C	Trapping, Detrapping	150-1500 eV	Exp	1556
H^+ + W	Trapping, Detrapping	150-1500 eV	Exp	1556
H^+ + C	Sputtering	5-180 eV	E/T	1557
H^+ + W	Trapping, Detrapping	5-30 keV	Exp	1558
H^+ + Be	Trapping, Detrapping	1 keV	Exp	1560
H + W	Adsorption, Desorption	$3x10^{-3} - 10$ eV	Th	1562
H^+ + H_2O	Adsorption, Desorption	0-4 eV	Th	1565
H^+ + H_2O	Desorption	0-4 eV	Th	1565
H^+ + H_2O	Sputtering	0-4 eV	Th	1565
H + Pt	Neutraliz., Ioniz., Dissoc.		Th	1567
H + D + Ni	Neutraliz., Ioniz., Dissoc.		Th	1567
H + D + Pt	Neutraliz., Ioniz., Dissoc.		Th	1567
H^+ + Ni	Neutraliz., Ioniz., Dissoc.		Th	1567
H + Pt	Trapping, Detrapping		Th	1567
H + D + Ni	Trapping, Detrapping		Th	1567
H + D + Pt	Trapping, Detrapping		Th	1567
H^+ + Ni	Trapping, Detrapping		Th	1567
H^- + Cu	Reflection	50 eV	Th	1568
H^- + Cu	Neutraliz., Ioniz., Dissoc.	50 eV	Th	1568
H^+ + Al	Neutraliz., Ioniz., Dissoc.	0.1-0.5 keV	Th	1574
H^+ + Al	Sputtering	0.1-0.5 keV	Th	1574
He^+ + Al	Secondary Electron Emission	15-500 eV	Th	1367
He^+ + Cu	Secondary Electron Emission	15-500 eV	Th	1367
He^+ + Au	Secondary Electron Emission	15-500 eV	Th	1367
He^+ + Al	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th	1367
He^+ + Cu	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th	1367
He^+ + Au	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th	1367

He^+ + W	Trapping, Detrapping	1.3 MeV	Exp	1369
He^+ + W	Trapping, Detrapping	20-40 keV	Exp	1370
He^+ + W	Trapping, Detrapping	1.3 MeV	Exp	1371
He^+ + H_2O	Sputtering	15 keV	Exp	1384
He^+ + KCl	Secondary Electron Emission	2 MeV	Exp	1395
He^+ + SiO_2	Sputtering	250-550 keV	Exp	1400
He^+ + Ti	Trapping, Detrapping	1.7-5.0 keV	Exp	1402
He^+ + V	Trapping, Detrapping	1.7-5.0 keV	Exp	1402
He^+ + Cr	Trapping, Detrapping	1.7-5.0 keV	Exp	1402
He^+ + SiC	Trapping, Detrapping		Th	1403
He^+ + Ar	Sputtering	0-10 keV	E/T	1425
He^+ + CH_4	Sputtering	0-10 keV	E/T	1425
He^+ + N_2	Sputtering	0-10 keV	E/T	1425
He^+ + SiH	Reflection	3 keV	Exp	1426
He^+ + SiH	Secondary Electron Emission	3 keV	Exp	1426
He^+ + Xe	Reflection	10-500 eV	Exp	1434
He^+ + Xe	Secondary Electron Emission	10-500 eV	Exp	1434
He + Al	Neutraliz., Ioniz., Dissoc.	1-10,000 keV/u	Th	1439
He + Zn	Neutraliz., Ioniz., Dissoc.	1-10,000 keV/u	Th	1439
He^+ + Al	Neutraliz., Ioniz., Dissoc.	1-10,000 keV/u	Th	1439
He^+ + Zn	Neutraliz., Ioniz., Dissoc.	1-10,000 keV/u	Th	1439
He + C	Sputtering	5-10 eV	Th	1446
He + C	Trapping, Detrapping	5-10 eV	Th	1446
He^+ + W	Trapping, Detrapping	500 eV	Exp	1449
He^+ + W	Trapping, Detrapping	500 eV	Exp	1452
He^+ + SiC	Trapping, Detrapping	1-1.3 keV	Exp	1455
He^+ + W	Trapping, Detrapping	12-20 keV	Exp	1457
He + Ti	Reflection	0.7-2 keV	E/T	1461
He + V	Reflection	0.7-2 keV	E/T	1461
He + Cr	Reflection	0.7-2 keV	E/T	1461
He^+ + Ni	Reflection	80-120 keV	Exp	1471
He^+ + Cu	Reflection	80-120 keV	Exp	1471
He^+ + Ag	Reflection	1-2 keV	Th	1472
He^+ + Ag	Neutraliz., Ioniz., Dissoc.	1-2 keV	Th	1472
He^+ + Mg	Reflection	15-60 eV	Exp	1475
He^+ + Mg	Secondary Electron Emission	15-60 eV	Exp	1475
He^+ + Mg	Neutraliz., Ioniz., Dissoc.	15-60 eV	Exp	1475
He + C	Secondary Electron Emission	0.2-2.0 MeV	Th	1476
He^+ + C	Secondary Electron Emission	0.2-2.0 MeV	Th	1476
He^{2+} + C	Secondary Electron Emission	0.2-2.0 MeV	Th	1476
He^+ + Al_2O_3	Reflection	390-1210 eV	Exp	1480
He^+ + Cr	Reflection	0.7-2.0 keV	Exp	1481
He^+ + Cr	Neutraliz., Ioniz., Dissoc.	0.7-2.0 keV	Exp	1481
He + Al	Secondary Electron Emission	3-16 keV	Exp	1487
He^{2+} + C	Secondary Electron Emission	1 MeV/amu	Exp	1498
He^+ + H_2O	Reflection	15 keV	Exp	1499
He^+ + CH_4	Reflection	15 keV	Exp	1499
He^+ + NH_3	Reflection	15 keV	Exp	1499
He^+ + H_2O	Sputtering	15 keV	Exp	1499
He^+ + CH_4	Sputtering	15 keV	Exp	1499
He^+ + NH_3	Sputtering	15 keV	Exp	1499
He^+ + Si	Reflection	270 keV	Th	1500
He^+ + Ta	Reflection	270 keV	Th	1500
He^+ + ZrO_2	Reflection	270 keV	Th	1500
He + Al	Reflection	0-20 keV	Exp	1506
He^+ + Al	Reflection	0-20 keV	Exp	1506
He^+ + NaCl	Reflection	1000 eV	Exp	1507

He^+ + NaCl	Neutraliz., Ioniz., Dissoc.	1000 eV	Exp	1507
He^+ + Cu	Reflection	1.9-3.0 keV	Exp	1508
He^+ + Cu	Neutraliz., Ioniz., Dissoc.	1.9-3.0 keV	Exp	1508
He^+ + Cu	Reflection	1-100 keV	Th	1511
He^+ + Cu	Reflection	1.8-88.0 keV	Exp	1512
He^+ + Si	Reflection	4 keV	Th	1513
He + Al	Reflection		Th	1515
He + Al	Reflection	1.2-12 keV	Th	1517
He + Al	Secondary Electron Emission	1.2-12 keV	Th	1517
He^+ + Ar	Secondary Electron Emission	10-500 eV	Exp	1521
He^+ + Kr	Secondary Electron Emission	10-500 eV	Exp	1521
He^+ + Xe	Secondary Electron Emission	10-500 eV	Exp	1521
He^{2+} + Fe	Secondary Electron Emission	100 eV	Exp	1524
He^{2+} + Ni	Secondary Electron Emission	100 eV	Exp	1524
He^+ + Ag	Reflection		E/T	1534
He^+ + Ag	Neutraliz., Ioniz., Dissoc.		E/T	1534
He^+ + Ag	Reflection	4 keV	Th	1537
He^+ + Ag	Neutraliz., Ioniz., Dissoc.	4 keV	Th	1537
He^+ + C	Sputtering	100-300 eV	Exp	1547
He^+ + C	Sputtering	10-1000 eV	E/T	1551
He + Fe	Secondary Electron Emission		Exp	1570
Li^+ + Li	Sputtering	200-1000 eV	Th	1382
Li^{3+} + C	Secondary Electron Emission	1 MeV/amu	Exp	1498
C^+ + U	Chemical Reactions	33 keV	Exp	1429
C^+ + CsI	Secondary Electron Emission	2-48 MeV	Exp	1464
C^+ + GaN	Secondary Electron Emission	2-48 MeV	Exp	1464
C^+ + ZnO	Secondary Electron Emission	2-48 MeV	Exp	1464
C^+ + Al_2O_3	Reflection	390-1210 eV	Exp	1480
C^+ + C	Sputtering	100-300 eV	Exp	1547
C + C	Reflection	0.01-10 eV	Th	1550
C + C	Adsorption, Desorption	$1-10^4$ eV	Exp	1552
C^{5+} + Al	Neutraliz., Ioniz., Dissoc.	v=10^{-5} - 1 a.u.	Th	1576
N^+ + Pt	Reflection	1 MeV	Th	1473
N^+ + H_2O	Sputtering	1.7 MeV	E/T	1491
N^+ + H_2O	Reflection	15 keV	Exp	1499
N^+ + CH_4	Reflection	15 keV	Exp	1499
N^+ + NH_3	Reflection	15 keV	Exp	1499
N^+ + H_2O	Sputtering	15 keV	Exp	1499
N^+ + CH_4	Sputtering	15 keV	Exp	1499
N^+ + NH_3	Sputtering	15 keV	Exp	1499
N^{6+} + Ni	Secondary Electron Emission		Th	1525
N^{6+} + Al	Neutraliz., Ioniz., Dissoc.	v=10^{-5} - 1 a.u.	Th	1576
O^{8+} + C	Secondary Electron Emission	2 keV/amu	Exp	1386
O^{8+} + Si	Secondary Electron Emission	2 keV/amu	Exp	1386
O^{8+} + Au	Secondary Electron Emission	2 keV/amu	Exp	1386
O^{8+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp	1386
O + Ti	Reflection	0.7-2 keV	E/T	1461
O + V	Reflection	0.7-2 keV	E/T	1461
O + Cr	Reflection	0.7-2 keV	E/T	1461
O^+ + Al_2O_3	Reflection	390-1210 eV	Exp	1480
O^+ + TiO_2	Surface Interactions	10-30 keV	Exp	1482
O^{2+} + KCl	Reflection	3 MeV	Exp	1497
O^{2+} + KCl	Sputtering	3 MeV	Exp	1497
O^+ + C	Sputtering	100-300 eV	Exp	1547
O^{7+} + Al	Neutraliz., Ioniz., Dissoc.	v=10^{-5} - 1 a.u.	Th	1576
F^+ + NaCl	Reflection	1000 eV	Exp	1507
F^+ + NaCl	Neutraliz., Ioniz., Dissoc.	1000 eV	Exp	1507

$\mathbf{F^{7+} + Au}$	Reflection	4-5 keV	Exp	1546
$\mathbf{F^{7+} + RbI}$	Reflection	4-5 keV	Exp	1546
$\mathbf{F^{7+} + Au}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp	1546
$\mathbf{F^{7+} + RbI}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp	1546
$\mathbf{Ne^{+} + Mg}$	Reflection	100-400 eV	Exp	1366
$\mathbf{Ne^{+} + Al}$	Reflection	100-400 eV	Exp	1366
$\mathbf{Ne^{+} + Si}$	Reflection	100-400 eV	Exp	1366
$\mathbf{Ne^{+} + P}$	Reflection	100-400 eV	Exp	1366
$\mathbf{Ne^{+} + Mg}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp	1366
$\mathbf{Ne^{+} + Al}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp	1366
$\mathbf{Ne^{+} + Si}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp	1366
$\mathbf{Ne^{+} + P}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp	1366
$\mathbf{Ne^{+} + PERT}$	Sputtering	1-5 keV	Exp	1380
$\mathbf{Ne^{+} + Mg}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Al}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Si}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Ti}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Y}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Zr}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Nb}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Te}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Nd}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Gd}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Dy}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Ta}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Au}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + Hf}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + At}$	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1394
$\mathbf{Ne^{+} + MgO}$	Secondary Electron Emission	0-2000 eV	Exp	1401
$\mathbf{Ne + Al}$	Secondary Electron Emission	3-5 keV	Exp	1406
$\mathbf{Ne^{7+} + SiO_2}$	Reflection	7 keV	Exp	1440
$\mathbf{Ne + C}$	Sputtering	5-10 eV	Th	1446
$\mathbf{Ne + C}$	Trapping, Detrapping	5-10 eV	Th	1446
$\mathbf{Ne^{+} + Ni}$	Reflection	2-12 keV	Exp	1474
$\mathbf{Ne^{+} + Ni}$	Neutraliz., Ioniz., Dissoc.	2-12 keV	Exp	1474
$\mathbf{Ne^{+} + Al_2O_3}$	Reflection	390-1210 eV	Exp	1480
$\mathbf{Ne + Al}$	Secondary Electron Emission	3-16 keV	Exp	1487
$\mathbf{Ne^{+} + Al}$	Secondary Electron Emission	1.0-10 keV	Exp	1504
$\mathbf{Ne^{+} + NaCl}$	Reflection	1000 eV	Exp	1507
$\mathbf{Ne^{+} + NaCl}$	Neutraliz., Ioniz., Dissoc.	1000 eV	Exp	1507
$\mathbf{Ne + Al}$	Reflection	1.2-12 keV	Th	1517
$\mathbf{Ne + Al}$	Secondary Electron Emission	1.2-12 keV	Th	1517
$\mathbf{Ne^{8+} + Au}$	Reflection	4-5 keV	Exp	1546
$\mathbf{Ne^{8+} + RbI}$	Reflection	4-5 keV	Exp	1546
$\mathbf{Ne^{8+} + Au}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp	1546
$\mathbf{Ne^{8+} + RbI}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp	1546
$\mathbf{Ne^{+} + C}$	Sputtering	10-1000 eV	E/T	1551
$\mathbf{Na^{+} + Ru}$	Secondary Electron Emission	50 eV	Exp	1411
$\mathbf{Na^{+} + Au}$	Sputtering	50 eV	Exp	1411
$\mathbf{Na^{+} + CeO_2}$	Reflection	1-4.5 keV	Exp	1433
$\mathbf{Na^{+} + Al}$	Secondary Electron Emission	474 keV	Th	1489
$\mathbf{Na^{+} + Al}$	Secondary Electron Emission	1.0-10 keV	Exp	1504
$\mathbf{Na^{+} + Al}$	Secondary Electron Emission	300 eV	Exp	1519
$\mathbf{Na^{+} + Al}$	Secondary Electron Emission	150-4000 eV	Exp	1535
$\mathbf{Na^{+} + Al}$	Neutraliz., Ioniz., Dissoc.	150-4000 eV	Exp	1535
$\mathbf{Si^{+} + Al}$	Sputtering	1-5 keV	E/T	1413
$\mathbf{P^{5+} + C}$	Secondary Electron Emission	35-400 keV	Exp	1488

$\mathbf{P^{6+} + C}$	Secondary Electron Emission	35-400 keV	Exp	1488
$\mathbf{P^{7+} + C}$	Secondary Electron Emission	35-400 keV	Exp	1488
$\mathbf{P^{8+} + C}$	Secondary Electron Emission	35-400 keV	Exp	1488
$\mathbf{P^{9+} + C}$	Secondary Electron Emission	35-400 keV	Exp	1488
$\mathbf{P^{10+} + C}$	Secondary Electron Emission	35-400 keV	Exp	1488
$\mathbf{P^{11+} + C}$	Secondary Electron Emission	35-400 keV	Exp	1488
$\mathbf{P^{13+} + C}$	Secondary Electron Emission	35-400 keV	Exp	1488
$\mathbf{Cl^{+} + Al_2O_3}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Cl^{+} + Si_3N_4}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Cl^{+} + TiO_2}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Cl^{+} + SiO_2}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Cl^{+} + SrTiO_3}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Cl^{+} + MgO}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Cl^{+} + ZrO_2}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Cl^{+} + AlN}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Cl^{+} + CeO_2}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Cl^{+} + ZnO}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Cl^{+} + Y_2O_3}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Cl^{+} + MgAl_2O_4}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Ar^{+} + PERT}$	Sputtering	1-5 keV	Exp	1380
$\mathbf{Ar^{+} + H_2O}$	Sputtering	15 keV	Exp	1384
$\mathbf{Ar^{+} + Ni}$	Sputtering	2 keV	Th	1388
$\mathbf{Ar^{+} + Cu}$	Sputtering	2 keV	Th	1388
$\mathbf{Ar^{15+} + Be}$	Reflection		Exp	1390
$\mathbf{Ar^{16+} + Be}$	Reflection		Exp	1390
$\mathbf{Ar^{17+} + Be}$	Reflection		Exp	1390
$\mathbf{Ar^{18+} + Be}$	Reflection		Exp	1390
$\mathbf{Ar^{+} + Ge}$	Sputtering	1-5 keV	Exp	1391
$\mathbf{Ar^{+} + GeH_4}$	Sputtering	1-5 keV	Exp	1391
$\mathbf{Ar^{+} + SiH_4}$	Sputtering	1-5 keV	Exp	1391
$\mathbf{Ar + Si}$	Reflection	3 keV	Th	1393
$\mathbf{Ar^{+} + C}$	Sputtering	10 keV	Exp	1398
$\mathbf{Ar + Al}$	Secondary Electron Emission	3-5 keV	Exp	1406
$\mathbf{Ar^{+} + Si}$	Sputtering	3 keV	E/T	1409
$\mathbf{Ar^{+} + Ge}$	Sputtering	3 keV	E/T	1409
$\mathbf{Ar^{+} + H_2O}$	Sputtering	100 keV	Exp	1410
$\mathbf{Ar^{+} + Ni}$	Sputtering	4 keV	Exp	1412
$\mathbf{Ar^{+} + NiAl}$	Sputtering	4 keV	Exp	1412
$\mathbf{Ar^{+} + Ni_3Al}$	Sputtering	4 keV	Exp	1412
$\mathbf{Ar^{+} + Pt}$	Reflection	5 keV	Th	1428
$\mathbf{Ar^{+} + Pt}$	Sputtering	5 keV	Th	1428
$\mathbf{Ar^{+} + NiAl}$	Sputtering	4 keV	Exp	1435
$\mathbf{Ar^{+} + Ni_3Al}$	Sputtering	4 keV	Exp	1435
$\mathbf{Ar + C}$	Sputtering	5-10 eV	Th	1446
$\mathbf{Ar + C}$	Trapping, Detrapping	5-10 eV	Th	1446
$\mathbf{Ar^{+} + Si}$	Sputtering	1-20 keV	Th	1466
$\mathbf{Ar^{+} + Ge}$	Sputtering	1-20 keV	Th	1466
$\mathbf{Ar + Si}$	Sputtering	500 eV	Th	1467
$\mathbf{Ar + Cu}$	Sputtering	0.1-5.0 keV	Th	1470
$\mathbf{Ar^{+} + Al_2O_3}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Ar^{+} + Si_3N_4}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Ar^{+} + TiO_2}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Ar^{+} + SiO_2}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Ar^{+} + SrTiO_3}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Ar^{+} + MgO}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Ar^{+} + ZrO_2}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Ar^{+} + AlN}$	Sputtering	55-200 MeV	Exp	1484

$Ar^{+} + CeO_2$	Sputtering	55-200 MeV	Exp	1484
$Ar^{+} + ZnO$	Sputtering	55-200 MeV	Exp	1484
$Ar^{+} + Y_2O_3$	Sputtering	55-200 MeV	Exp	1484
$Ar^{+} + MgAl_2O_4$	Sputtering	55-200 MeV	Exp	1484
$Ar + Al$	Secondary Electron Emission	3-16 keV	Exp	1487
$Ar^{+} + Si$	Sputtering	160-400 keV	Exp	1492
$Ar^{11+} + Si$	Sputtering	160-400 keV	Exp	1492
$Ar^{13+} + Si$	Sputtering	160-400 keV	Exp	1492
$Ar^{15+} + Si$	Sputtering	160-400 keV	Exp	1492
$Ar^{16+} + Si$	Sputtering	160-400 keV	Exp	1492
$Ar^{+} + Al_2O_3$	Sputtering	20 keV	Exp	1493
$Ar^{+} + MgO$	Sputtering	20 keV	Exp	1493
$Ar^{+} + C$	Secondary Electron Emission	30 keV	Exp	1495
$Ar^{11+} + Au$	Secondary Electron Emission	2.2-4.2 keV/amu	Exp	1496
$Ar^{17+} + Au$	Secondary Electron Emission	2.2-4.2 keV/amu	Exp	1496
$Ar^{+} + H_2O$	Reflection	15 keV	Exp	1499
$Ar^{+} + CH_4$	Reflection	15 keV	Exp	1499
$Ar^{+} + NH_3$	Reflection	15 keV	Exp	1499
$Ar^{+} + H_2O$	Sputtering	15 keV	Exp	1499
$Ar^{+} + CH_4$	Sputtering	15 keV	Exp	1499
$Ar^{+} + NH_3$	Sputtering	15 keV	Exp	1499
$Ar^{+} + Al$	Secondary Electron Emission	130-1000 eV	Th	1502
$Ar + Al$	Reflection	1.2-12 keV	Th	1517
$Ar + Al$	Secondary Electron Emission	1.2-12 keV	Th	1517
$Ar^{16+} + Be$	Surface Interactions	204-450 keV	Exp	1523
$Ar^{17+} + Be$	Surface Interactions	204-450 keV	Exp	1523
$Ar^{18+} + Be$	Surface Interactions	204-450 keV	Exp	1523
$Ar^{16+} + Be$	Neutraliz., Ioniz., Dissoc.	204-450 keV	Exp	1523
$Ar^{17+} + Be$	Neutraliz., Ioniz., Dissoc.	204-450 keV	Exp	1523
$Ar^{18+} + Be$	Neutraliz., Ioniz., Dissoc.	204-450 keV	Exp	1523
$Ar + Si$	Sputtering	11 keV	Exp	1527
$Ar^{2+} + Au$	Reflection	4-5 keV	Exp	1546
$Ar^{2+} + RbI$	Reflection	4-5 keV	Exp	1546
$Ar^{11+} + Au$	Reflection	4-5 keV	Exp	1546
$Ar^{11+} + RbI$	Reflection	4-5 keV	Exp	1546
$Ar^{2+} + Au$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp	1546
$Ar^{2+} + RbI$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp	1546
$Ar^{11+} + Au$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp	1546
$Ar^{11+} + RbI$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp	1546
$Ar^{+} + C$	Sputtering	100-300 eV	Exp	1547
$Ar^{+} + Al$	Secondary Electron Emission	130-1000 eV	Th	1569
$Ar^{+} + Si$	Sputtering	20-30 keV	E/T	1575
$Ar^{+} + Ti$	Sputtering	20-30 keV	E/T	1575
$Ar^{17+} + Al$	Neutraliz., Ioniz., Dissoc.	v=10^{-5} - 1 a.u.	Th	1576
$K + Na$	Adsorption, Desorption	300 deg K; 200 eV	Exp	1417
$K + SiO_2$	Adsorption, Desorption	300 deg K; 200 eV	Exp	1417
$Fe^{+} + Fe$	Surface Interactions	10 keV	Th	1462
$Ni^{+} + Al_2O_3$	Sputtering	55-200 MeV	Exp	1484
$Ni^{+} + Si_3N_4$	Sputtering	55-200 MeV	Exp	1484
$Ni^{+} + TiO_2$	Sputtering	55-200 MeV	Exp	1484
$Ni^{+} + SiO_2$	Sputtering	55-200 MeV	Exp	1484
$Ni^{+} + SrTiO_3$	Sputtering	55-200 MeV	Exp	1484
$Ni^{+} + MgO$	Sputtering	55-200 MeV	Exp	1484
$Ni^{+} + ZrO_2$	Sputtering	55-200 MeV	Exp	1484
$Ni^{+} + AlN$	Sputtering	55-200 MeV	Exp	1484
$Ni^{+} + CeO_2$	Sputtering	55-200 MeV	Exp	1484
$Ni^{+} + ZnO$	Sputtering	55-200 MeV	Exp	1484

Ni^{+} + Y_2O_3	Sputtering	55-200 MeV	Exp	1484
Ni^{+} + $MgAl_2O_4$	Sputtering	55-200 MeV	Exp	1484
Ni^{14+} + C	Secondary Electron Emission	20-100 MeV/u	Exp	1494
Ni^{19+} + C	Secondary Electron Emission	20-100 MeV/u	Exp	1494
Kr^{+} + Al	Sputtering	20-160 keV	Exp	1383
Kr^{+} + Be	Surface Interactions	5 keV	Exp	1399
Kr^{+} + BeO	Surface Interactions	5 keV	Exp	1399
Kr^{+} + Be	Sputtering	5 keV	Exp	1399
Kr^{+} + BeO	Sputtering	5 keV	Exp	1399
Kr^{+} + Al	Secondary Electron Emission	1-8 keV	Exp	1407
Kr^{+} + Al	Secondary Electron Emission	474 keV	Th	1489
Kr^{32+} + C	Secondary Electron Emission	20-100 MeV/u	Exp	1494
Kr^{34+} + C	Secondary Electron Emission	20-100 MeV/u	Exp	1494
Ag^{25+} + LiF	Sputtering	120 MeV	Exp	1483
I^{34+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{35+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{36+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{37+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{38+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{39+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{40+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{41+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{42+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{43+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{44+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{45+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{46+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{47+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{48+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{49+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{50+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{51+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{52+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{53+} + Si	Surface Interactions	119-186 keV	Exp	1443
I^{34+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{35+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{36+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{37+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{38+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{39+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{40+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{41+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{42+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{43+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{44+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{45+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{46+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{47+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{48+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{49+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{50+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{51+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{52+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{53+} + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp	1443
I^{50+} + Si	Sputtering	150 keV	Exp	1526
I^{50+} + SiO_2	Sputtering	150 keV	Exp	1526
Xe^{+} + Mo	Sputtering	30-125 eV	Exp	1378

$\mathbf{Xe^{+} + Ta}$	Sputtering	30-125 eV	Exp	1378
$\mathbf{Xe^{+} + W}$	Sputtering	30-125 eV	Exp	1378
$\mathbf{Xe^{+} + PERT}$	Sputtering	1-5 keV	Exp	1380
$\mathbf{Xe^{+} + Au}$	Sputtering	0.1-200 keV	Th	1381
$\mathbf{Xe^{12+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{12+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{12+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{12+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{20+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{20+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{20+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{20+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{24+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{24+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{24+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{24+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{26+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{26+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{26+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{26+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{28+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{28+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{28+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{28+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{30+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{30+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{30+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{30+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{34+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{34+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{34+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{34+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{38+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{38+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{38+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{38+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{40+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{40+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{40+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{40+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{44+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{44+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{44+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{44+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{48+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{48+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{48+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{48+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{52+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{52+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{52+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{52+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1386
$\mathbf{Xe^{6+} + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{6+} + H + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{10+} + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{10+} + H + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{11+} + Si}$	Desorption	30 keV	Exp	1397

$\mathbf{Xe^{11+} + H + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{14+} + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{14+} + H + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{19+} + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{19+} + H + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{20+} + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{20+} + H + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{22+} + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{22+} + H + Si}$	Desorption	30 keV	Exp	1397
$\mathbf{Xe^{6+} + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{6+} + H + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{10+} + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{10+} + H + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{11+} + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{11+} + H + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{14+} + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{14+} + H + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{19+} + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{19+} + H + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{20+} + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{20+} + H + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{22+} + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{22+} + H + Si}$	Sputtering	30 keV	Exp	1397
$\mathbf{Xe^{26+} + Si}$	Desorption	520-1000 keV	Exp	1424
$\mathbf{Xe^{26+} + H_2 + Si}$	Desorption	520-1000 keV	Exp	1424
$\mathbf{Xe^{34+} + Si}$	Desorption	520-1000 keV	Exp	1424
$\mathbf{Xe^{34+} + H_2 + Si}$	Desorption	520-1000 keV	Exp	1424
$\mathbf{Xe^{44+} + Si}$	Desorption	520-1000 keV	Exp	1424
$\mathbf{Xe^{44+} + H_2 + Si}$	Desorption	520-1000 keV	Exp	1424
$\mathbf{Xe^{50+} + Si}$	Desorption	520-1000 keV	Exp	1424
$\mathbf{Xe^{50+} + H_2 + Si}$	Desorption	520-1000 keV	Exp	1424
$\mathbf{Xe^{26+} + Si}$	Sputtering	520-1000 keV	Exp	1424
$\mathbf{Xe^{26+} + H_2 + Si}$	Sputtering	520-1000 keV	Exp	1424
$\mathbf{Xe^{34+} + Si}$	Sputtering	520-1000 keV	Exp	1424
$\mathbf{Xe^{34+} + H_2 + Si}$	Sputtering	520-1000 keV	Exp	1424
$\mathbf{Xe^{44+} + Si}$	Sputtering	520-1000 keV	Exp	1424
$\mathbf{Xe^{44+} + H_2 + Si}$	Sputtering	520-1000 keV	Exp	1424
$\mathbf{Xe^{50+} + Si}$	Sputtering	520-1000 keV	Exp	1424
$\mathbf{Xe^{50+} + H_2 + Si}$	Sputtering	520-1000 keV	Exp	1424
$\mathbf{Xe + Al}$	Neutraliz., Ioniz., Dissoc.	0.005-0.01 a.u.	Th	1441
$\mathbf{Xe^{*} + Al}$	Neutraliz., Ioniz., Dissoc.	0.005-0.01 a.u.	Th	1441
$\mathbf{Xe + Si}$	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp	1477
$\mathbf{Xe + Si}$	Sputtering	300 deg K	Exp	1477
$\mathbf{Xe^{+} + Al_2O_3}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{+} + Si_3N_4}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{+} + TiO_2}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{+} + SiO_2}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{+} + SrTiO_3}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{+} + MgO}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{+} + ZrO_2}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{+} + AlN}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{+} + CeO_2}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{+} + ZnO}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{+} + Y_2O_3}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{+} + MgAl_2O_4}$	Sputtering	55-200 MeV	Exp	1484
$\mathbf{Xe^{34+} + C}$	Secondary Electron Emission	35-400 keV	Exp	1488
$\mathbf{Xe^{35+} + C}$	Secondary Electron Emission	35-400 keV	Exp	1488

Xe^{36+} + **C**	Secondary Electron Emission	35-400 keV	Exp	1488
Xe^{37+} + **C**	Secondary Electron Emission	35-400 keV	Exp	1488
Xe^{38+} + **C**	Secondary Electron Emission	35-400 keV	Exp	1488
Xe^{39+} + **C**	Secondary Electron Emission	35-400 keV	Exp	1488
Xe^{40+} + **C**	Secondary Electron Emission	35-400 keV	Exp	1488
Xe^{41+} + **C**	Secondary Electron Emission	35-400 keV	Exp	1488
Xe^{42+} + **C**	Secondary Electron Emission	35-400 keV	Exp	1488
Xe^{43+} + **C**	Secondary Electron Emission	35-400 keV	Exp	1488
Xe^{44+} + **C**	Secondary Electron Emission	35-400 keV	Exp	1488
Xe^{26+} + **Au**	Secondary Electron Emission	2.2-4.2 keV/amu	Exp	1496
Xe^{32+} + **Au**	Secondary Electron Emission	2.2-4.2 keV/amu	Exp	1496
Xe^{36+} + **Au**	Secondary Electron Emission	2.2-4.2 keV/amu	Exp	1496
Xe^{40+} + **Au**	Secondary Electron Emission	2.2-4.2 keV/amu	Exp	1496
Xe^{44+} + **Au**	Secondary Electron Emission	2.2-4.2 keV/amu	Exp	1496
Xe^{48+} + **Au**	Secondary Electron Emission	2.2-4.2 keV/amu	Exp	1496
Xe^{50+} + **Au**	Secondary Electron Emission	2.2-4.2 keV/amu	Exp	1496
Xe + Au	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp	1516
Xe^{10+} + UO_2	Secondary Electron Emission	0.03-81 keV	Exp	1520
Xe^{15+} + UO_2	Secondary Electron Emission	0.03-81 keV	Exp	1520
Xe^{25+} + UO_2	Secondary Electron Emission	0.03-81 keV	Exp	1520
Xe^{10+} + UO_2	Sputtering	0.03-81 keV	Exp	1520
Xe^{15+} + UO_2	Sputtering	0.03-81 keV	Exp	1520
Xe^{25+} + UO_2	Sputtering	0.03-81 keV	Exp	1520
Xe^{28+} + **Be**	Surface Interactions	204-450 keV	Exp	1523
Xe^{29+} + **Be**	Surface Interactions	204-450 keV	Exp	1523
Xe^{30+} + **Be**	Surface Interactions	204-450 keV	Exp	1523
Xe^{28+} + **Be**	Neutraliz., Ioniz., Dissoc.	204-450 keV	Exp	1523
Xe^{29+} + **Be**	Neutraliz., Ioniz., Dissoc.	204-450 keV	Exp	1523
Xe^{30+} + **Be**	Neutraliz., Ioniz., Dissoc.	204-450 keV	Exp	1523
Xe^{10+} + UO_2	Sputtering	8-81 keV	Exp	1543
Xe^{15+} + UO_2	Sputtering	8-81 keV	Exp	1543
Xe^{25+} + UO_2	Sputtering	8-81 keV	Exp	1543
Xe^{15+} + **Al**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{15+} + **Si**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{15+} + **Ni**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{15+} + **Cu**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{27+} + **Al**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{27+} + **Si**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{27+} + **Ni**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{27+} + **Cu**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{28+} + **Al**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{28+} + **Si**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{28+} + **Ni**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{28+} + **Cu**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{31+} + **Al**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{31+} + **Si**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{31+} + **Ni**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{31+} + **Cu**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{35+} + **Al**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{35+} + **Si**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{35+} + **Ni**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{35+} + **Cu**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{40+} + **Al**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{40+} + **Si**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{40+} + **Ni**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{40+} + **Cu**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573
Xe^{44+} + **Al**	Sputtering	300 keV; $80-10^4$ keV	Exp	1573

Xe^{44+} + Si	Sputtering	300 keV; $80 - 10^4$ keV	Exp	1573
Xe^{44+} + Ni	Sputtering	300 keV; $80 - 10^4$ keV	Exp	1573
Xe^{44+} + Cu	Sputtering	300 keV; $80 - 10^4$ keV	Exp	1573
Cs^+ + TiH_2	Sputtering	14.5 keV	Exp	1438
Cs^+ + TiD_2	Sputtering	14.5 keV	Exp	1438
Cs^+ + H_2 + H	Sputtering	14.5 keV	Exp	1438
W + W	Sputtering	0.1-5.0 keV	Th	1470
Au^{52+} + C	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{52+} + Si	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{52+} + Au	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{52+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{58+} + C	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{58+} + Si	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{58+} + Au	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{58+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{64+} + C	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{64+} + Si	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{64+} + Au	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{64+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{69+} + C	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{69+} + Si	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{69+} + Au	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^{69+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp	1386
Au^+ + ZnS	Sputtering	2 MeV	Exp	1396
Au + Au	Sputtering	0.16-64 keV	Th	1469
Au^{24+} + Al	Secondary Electron Emission	11 MeV/u	Exp	1518
Pb^{4+} + Si	Sputtering	160-400 keV	Exp	1492
Pb^{20+} + Si	Sputtering	160-400 keV	Exp	1492
Pb^{24+} + Si	Sputtering	160-400 keV	Exp	1492
Pb^{30+} + Si	Sputtering	160-400 keV	Exp	1492
Pb^{32+} + Si	Sputtering	160-400 keV	Exp	1492
Pb^{35+} + Si	Sputtering	160-400 keV	Exp	1492
hν + H_2O	Desorption	0.32-0.42 eV	Exp	1372
hν + Si	Desorption	98-690 eV	Exp	1373
hν + TiO_2	Desorption	98-690 eV	Exp	1373
hν + SiO_2	Desorption	98-690 eV	Exp	1373
hν + H_2O + Si	Desorption	98-690 eV	Exp	1373
hν + H_2O + SiO_2	Desorption	98-690 eV	Exp	1373
hν + Pt	Desorption		Th	1374
hν + NO + Pt	Desorption		Th	1374
hν + C	Desorption	150-600 eV	Exp	1375
hν + H + C	Desorption	150-600 eV	Exp	1375
hν + D + C	Desorption	150-600 eV	Exp	1375
hν + RbI	Desorption	4-6 eV	Exp	1376
hν + Ne	Desorption	16-22 eV	Exp	1377
hν + Ar	Desorption	16-22 eV	Exp	1377
hν + Kr	Desorption	16-22 eV	Exp	1377
hν + Ti	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1379
hν + V	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1379
hν + Zr	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1379
hν + MgO	Desorption	4.7 eV	E/T	1418
hν + C	Desorption	3.5 eV	Exp	1419
hν + NO + C	Desorption	3.5 eV	Exp	1419
hν + Si	Desorption	108 eV	Exp	1420
hν + O + Si	Desorption	108 eV	Exp	1420
hν + H_2O + Ne	Desorption	6-1000 eV	Exp	1421
hν + H_2O + Ar	Desorption	6-1000 eV	Exp	1421

hν + H_2O + Kr	Desorption	6-1000 eV	Exp	1421
hν + H_2O + Xe	Desorption	6-1000 eV	Exp	1421
hν + H_2O	Desorption	525-555 eV	Exp	1422
hν + D_2O	Desorption	525-555 eV	Exp	1422
hν + SiO_2	Desorption	390-450 eV	Exp	1423
hν + N_2O + SiO_2	Desorption	390-450 eV	Exp	1423
e + Ti	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1379
e + V	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1379
e + Zr	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1379
e + BeO	Secondary Electron Emission	0-10 keV	E/T	1389
e + SiO_2	Secondary Electron Emission	0-10 keV	E/T	1389
e + LiF	Secondary Electron Emission	0-10 keV	E/T	1389
e + BaF_2	Secondary Electron Emission	0-10 keV	E/T	1389
e + MgO	Secondary Electron Emission	0-10 keV	E/T	1389
e + KCl	Secondary Electron Emission	0-10 keV	E/T	1389
e + KBr	Secondary Electron Emission	0-10 keV	E/T	1389
e + KI	Secondary Electron Emission	0-10 keV	E/T	1389
e + Al	Reflection	300-2000 eV	Th	1405
e + Au	Reflection	300-2000 eV	Th	1405
e + C	Secondary Electron Emission	1-30 keV	Exp	1414
e + Ga	Secondary Electron Emission	1-30 keV	Exp	1414
e + H_2O	Desorption	100 eV	Exp	1415
e + LiF	Desorption	300-600 eV	Exp	1416
e + NaCl	Desorption	300-600 eV	Exp	1416
e + Na + SiO_2	Desorption	300 deg K; 200 eV	Exp	1417
e + K + SiO_2	Desorption	300 deg K; 200 eV	Exp	1417
e + Ba + SiO_2	Desorption	300 deg K; 200 eV	Exp	1417
e + Ge	Sputtering	0-150 eV	Exp	1430
e + W	Sputtering	0-150 eV	Exp	1430
e + Cs + Ge	Sputtering	0-150 eV	Exp	1430
e + Cs + W	Sputtering	0-150 eV	Exp	1430
e + Al	Reflection	200-1000 eV	Th	1463
e + Cu	Reflection	200-1000 eV	Th	1463
e + Ag	Reflection	200-1000 eV	Th	1463
e + Au	Reflection	200-1000 eV	Th	1463
e + Au	Reflection	100-4000 eV	Th	1501
e + Si	Desorption	20-30 eV	Exp	1541
e + Cl	Desorption	20-30 eV	Exp	1541
e + Cl + Si	Desorption	20-30 eV	Exp	1541
e + SiO_2	Reflection	250-1000 eV	Th	1566
e + TiN	Secondary Electron Emission	0.5-5.0 keV	Exp	1571
e + Al_2O_3	Secondary Electron Emission	0.5-5.0 keV	Exp	1572
e + TiN	Secondary Electron Emission	0.5-5.0 keV	Exp	1572
H_2^+ + C	Sputtering	10-250 eV	Exp	1368
H_2 + UO_2	Trapping, Detrapping	700 deg K	Exp	1385
H_2^+ + Si	Surface Interactions	210-420 keV	Exp	1392
H_2 + W	Neutraliz., Ioniz., Dissoc.	4.5 eV	Exp	1432
H_2^+ + C	Sputtering	5-100 eV	Exp	1447
H_2^+ + C	Trapping, Detrapping	1 keV	Exp	1453
H_2^+ + W	Trapping, Detrapping	1 keV	Exp	1453
H_2^+ + B	Trapping, Detrapping	1 keV	Exp	1454
H_2^+ + C	Trapping, Detrapping	1-1.3 keV	Exp	1455
H_2^+ + Si	Trapping, Detrapping	1-1.3 keV	Exp	1455
H_2^+ + Fe	Trapping, Detrapping	1.7 keV	Exp	1456
H_2^+ + SS	Trapping, Detrapping	1.7 keV	Exp	1456
H_2^+ + W	Trapping, Detrapping	12-20 keV	Exp	1457
H_2^+ + C	Sputtering	90-3000 eV	Exp	1458

$\mathbf{H_2 + C}$	Chemical Reactions	7.5-60 eV	Th	1468
$\mathbf{H_2 + C}$	Sputtering	7.5-60 eV	Th	1468
$\mathbf{H_2{}^+ + Al_2O_3}$	Reflection	390-1210 eV	Exp	1480
$\mathbf{H_2{}^+ + C}$	Sputtering	5-300 eV	Exp	1528
$\mathbf{H_2 + C}$	Sputtering	7.5-60 eV	Exp	1530
$\mathbf{H_2{}^+ + W}$	Reflection	30-1000 eV	Exp	1532
$\mathbf{H_2 + Nb}$	Adsorption, Desorption		Exp	1538
$\mathbf{H_2{}^+ + C}$	Trapping, Detrapping	200 eV	Exp	1540
$\mathbf{H_2 + Pd}$	Reflection	100-150 MeV	E/T	1544
$\mathbf{H_2{}^+ + C}$	Sputtering	3-13 eV	Exp	1553
$\mathbf{H_2{}^+ + C}$	Sputtering	5-180 eV	E/T	1557
$\mathbf{H_2{}^+ + W}$	Trapping, Detrapping	76 eV	Exp	1559
$\mathbf{H_3{}^+ + H_2O}$	Sputtering	15 keV	Exp	1384
$\mathbf{H_3{}^+ + C}$	Sputtering	5-100 eV	Exp	1447
$\mathbf{H_3{}^+ + W}$	Sputtering	9-12 keV	Exp	1459
$\mathbf{H_3{}^+ + W}$	Trapping, Detrapping	9-12 keV	Exp	1459
$\mathbf{H_3{}^+ + H_2O}$	Reflection	15 keV	Exp	1499
$\mathbf{H_3{}^+ + CH_4}$	Reflection	15 keV	Exp	1499
$\mathbf{H_3{}^+ + NH_3}$	Reflection	15 keV	Exp	1499
$\mathbf{H_3{}^+ + H_2O}$	Sputtering	15 keV	Exp	1499
$\mathbf{H_3{}^+ + CH_4}$	Sputtering	15 keV	Exp	1499
$\mathbf{H_3{}^+ + NH_3}$	Sputtering	15 keV	Exp	1499
$\mathbf{H_3{}^+ + C}$	Sputtering	5-300 eV	Exp	1528
$\mathbf{H_3{}^+ + C}$	Sputtering	1-1.3 eV	Exp	1529
$\mathbf{H_3{}^+ + W}$	Reflection	30-1000 eV	Exp	1532
$\mathbf{H_3{}^+ + C}$	Sputtering	3-13 eV	Exp	1553
$\mathbf{H_3{}^+ + C}$	Sputtering	5-180 eV	E/T	1557
$\mathbf{H_3{}^+ + C}$	Sputtering	30-600 eV	Exp	1561
$\mathbf{D^+ + W}$	Trapping, Detrapping	20-40 keV	Exp	1370
$\mathbf{D^+ + Ti}$	Trapping, Detrapping	1.7-5.0 keV	Exp	1402
$\mathbf{D^+ + V}$	Trapping, Detrapping	1.7-5.0 keV	Exp	1402
$\mathbf{D^+ + Cr}$	Trapping, Detrapping	1.7-5.0 keV	Exp	1402
$\mathbf{D^+ + C}$	Sputtering	5-100 eV	Exp	1447
$\mathbf{D^+ + W}$	Trapping, Detrapping	500 eV	Exp	1448
$\mathbf{D^+ + W}$	Trapping, Detrapping	500 eV	Exp	1449
$\mathbf{D^+ + C}$	Sputtering	10-1000 eV	Th	1450
$\mathbf{D^+ + W}$	Trapping, Detrapping	200 eV	Exp	1451
$\mathbf{D^+ + Re}$	Trapping, Detrapping	200 eV	Exp	1451
$\mathbf{D^+ + W}$	Trapping, Detrapping	500 eV	Exp	1452
$\mathbf{D^+ + C}$	Sputtering	0.2-1.0 keV	Th	1460
$\mathbf{D^+ + Fe}$	Sputtering	0.2-1.0 keV	Th	1460
$\mathbf{D^+ + W}$	Sputtering	0.2-1.0 keV	Th	1460
$\mathbf{D^+ + C}$	Sputtering	5-300 eV	Exp	1528
$\mathbf{D + C}$	Sputtering	7.5-60 eV	Exp	1530
$\mathbf{D^+ + Be}$	Chemical Reactions	3-10 keV	Exp	1539
$\mathbf{D^+ + C}$	Chemical Reactions	3-10 keV	Exp	1539
$\mathbf{D^+ + BeO}$	Chemical Reactions	3-10 keV	Exp	1539
$\mathbf{D^+ + WO_3}$	Chemical Reactions	3-10 keV	Exp	1539
$\mathbf{D^+ + WC}$	Chemical Reactions	3-10 keV	Exp	1539
$\mathbf{D^+ + Be}$	Trapping, Detrapping	3-10 keV	Exp	1539
$\mathbf{D^+ + C}$	Trapping, Detrapping	3-10 keV	Exp	1539
$\mathbf{D^+ + BeO}$	Trapping, Detrapping	3-10 keV	Exp	1539
$\mathbf{D^+ + WO_3}$	Trapping, Detrapping	3-10 keV	Exp	1539
$\mathbf{D^+ + WC}$	Trapping, Detrapping	3-10 keV	Exp	1539
$\mathbf{D^+ + C}$	Sputtering	100-300 eV	Exp	1547
$\mathbf{D^+ + C}$	Sputtering	30 eV	Exp	1548
$\mathbf{D^+ + SiC}$	Sputtering	30 eV	Exp	1548

$\mathbf{D^+ + TiC_4}$	Sputtering	30 eV	Exp	1548
$\mathbf{D^+ + VC_4}$	Sputtering	30 eV	Exp	1548
$\mathbf{D^+ + WC_4}$	Sputtering	30 eV	Exp	1548
$\mathbf{D^+ + ZrC_4}$	Sputtering	30 eV	Exp	1548
$\mathbf{D^+ + C}$	Sputtering	2-5 keV	E/T	1549
$\mathbf{D^+ + C}$	Sputtering	10-1000 eV	E/T	1551
$\mathbf{D^+ + C}$	Sputtering	$1-10^4$ eV	Exp	1552
$\mathbf{D^+ + C}$	Sputtering	3-13 eV	Exp	1553
$\mathbf{D^+ + C}$	Sputtering	1-100 eV	Th	1554
$\mathbf{D^+ + C}$	Sputtering	10-150 eV	Th	1555
$\mathbf{D^+ + C}$	Surface Interactions	150-1500 eV	Exp	1556
$\mathbf{D^+ + W}$	Surface Interactions	150-1500 eV	Exp	1556
$\mathbf{D^+ + C}$	Trapping, Detrapping	150-1500 eV	Exp	1556
$\mathbf{D^+ + W}$	Trapping, Detrapping	150-1500 eV	Exp	1556
$\mathbf{D^+ + C}$	Sputtering	5-180 eV	E/T	1557
$\mathbf{D^+ + W}$	Trapping, Detrapping	5-30 keV	Exp	1558
$\mathbf{D^+ + Be}$	Trapping, Detrapping	1 keV	Exp	1560
$\mathbf{D_2{}^+ + C}$	Sputtering	10-250 eV	Exp	1368
$\mathbf{D_2 + UO_2}$	Trapping, Detrapping	700 deg K	Exp	1385
$\mathbf{D_2 + LiF}$	Reflection	300 deg K	Exp	1408
$\mathbf{D_2{}^+ + C}$	Sputtering	5-100 eV	Exp	1447
$\mathbf{D_2{}^+ + C}$	Trapping, Detrapping	1 keV	Exp	1453
$\mathbf{D_2{}^+ + W}$	Trapping, Detrapping	1 keV	Exp	1453
$\mathbf{D_2{}^+ + WC}$	Trapping, Detrapping	1 keV	Exp	1453
$\mathbf{D_2{}^+ + B}$	Trapping, Detrapping	1 keV	Exp	1454
$\mathbf{D_2{}^+ + C}$	Trapping, Detrapping	1-1.3 keV	Exp	1455
$\mathbf{D_2{}^+ + Si}$	Trapping, Detrapping	1-1.3 keV	Exp	1455
$\mathbf{D_2{}^+ + SiC}$	Trapping, Detrapping	1-1.3 keV	Exp	1455
$\mathbf{D_2{}^+ + Fe}$	Trapping, Detrapping	1.7 keV	Exp	1456
$\mathbf{D_2{}^+ + SS}$	Trapping, Detrapping	1.7 keV	Exp	1456
$\mathbf{D_2{}^+ + W}$	Trapping, Detrapping	12-20 keV	Exp	1457
$\mathbf{D_2{}^+ + C}$	Sputtering	90-3000 eV	Exp	1458
$\mathbf{D_2 + C}$	Chemical Reactions	7.5-60 eV	Th	1468
$\mathbf{D_2 + C}$	Sputtering	7.5-60 eV	Th	1468
$\mathbf{D_2{}^+ + C}$	Sputtering	5-300 eV	Exp	1528
$\mathbf{D_2 + C}$	Sputtering	7.5-60 eV	Exp	1530
$\mathbf{D_2{}^+ + C}$	Sputtering	3-13 eV	Exp	1553
$\mathbf{D_2{}^+ + C}$	Sputtering	5-180 eV	E/T	1557
$\mathbf{D_2{}^+ + W}$	Trapping, Detrapping	76 eV	Exp	1559
$\mathbf{D_3{}^+ + C}$	Sputtering	5-100 eV	Exp	1447
$\mathbf{D_3{}^+ + W}$	Sputtering	9-12 keV	Exp	1459
$\mathbf{D_3{}^+ + W}$	Trapping, Detrapping	9-12 keV	Exp	1459
$\mathbf{D_3{}^+ + C}$	Sputtering	5-300 eV	Exp	1528
$\mathbf{D_3{}^+ + C}$	Sputtering	1-1.3 eV	Exp	1529
$\mathbf{D_3{}^+ + C}$	Sputtering	3-13 eV	Exp	1553
$\mathbf{D_3{}^+ + C}$	Sputtering	5-180 eV	E/T	1557
$\mathbf{D_3{}^+ + C}$	Sputtering	30-600 eV	Exp	1561
$\mathbf{T^+ + C}$	Sputtering	10-1000 eV	Th	1450
$\mathbf{T^+ + C}$	Sputtering	10-1000 eV	E/T	1551
$\mathbf{T^+ + C}$	Sputtering	10-150 eV	Th	1555
$\mathbf{CH + C}$	Reflection	0.01-10 eV	Th	1550
$\mathbf{CH + C}$	Adsorption, Desorption	$1-10^4$ eV	Exp	1552
$\mathbf{CH_2 + C}$	Reflection	0.01-10 eV	Th	1550
$\mathbf{CH_2 + C}$	Adsorption, Desorption	$1-10^4$ eV	Exp	1552
$\mathbf{CH_3{}^+ + W}$	Adsorption, Desorption	0-100 eV	Exp	1531
$\mathbf{CH_3 + C}$	Reflection	0.01-10 eV	Th	1550
$\mathbf{CH_3 + C}$	Adsorption, Desorption	$1-10^4$ eV	Exp	1552

$\mathbf{CH_4 + C}$	Reflection	0.01-10 eV	Th	1550
$\mathbf{CH_4 + C}$	Adsorption, Desorption	$1 - 10^4$ eV	Exp	1552
$\mathbf{CH_4 + Ni}$	Neutraliz., Ioniz., Dissoc.		Th	1563
$\mathbf{CD_3{}^+ + W}$	Adsorption, Desorption	0-100 eV	Exp	1531
$\mathbf{CO + H_2O}$	Desorption	0.1-0.9 eV	Exp	1542
$\mathbf{CO + H_2O}$	Reflection	0.1-0.9 eV	Exp	1542
$\mathbf{CO + Rh}$	Adsorption, Desorption		E/T	1564
$\mathbf{N_2{}^+ + C}$	Secondary Electron Emission	100-400 keV/u	Th	1365
$\mathbf{N_2{}^+ + H_2O}$	Sputtering	15 keV	Exp	1384
$\mathbf{N_2{}^+ + C}$	Secondary Electron Emission	30 keV	Exp	1436
$\mathbf{N_2 + Cu}$	Reflection	150 MeV	Exp	1444
$\mathbf{N_2{}^+ + C}$	Secondary Electron Emission		Th	1478
$\mathbf{N_2{}^+ + C}$	Sputtering	30 keV	Exp	1486
$\mathbf{N_2{}^+ + C}$	Secondary Electron Emission	30 keV	Exp	1495
$\mathbf{N_2{}^+ + H_2O}$	Reflection	15 keV	Exp	1499
$\mathbf{N_2{}^+ + CH_4}$	Reflection	15 keV	Exp	1499
$\mathbf{N_2{}^+ + NH_3}$	Reflection	15 keV	Exp	1499
$\mathbf{N_2{}^+ + H_2O}$	Sputtering	15 keV	Exp	1499
$\mathbf{N_2{}^+ + CH_4}$	Sputtering	15 keV	Exp	1499
$\mathbf{N_2{}^+ + NH_3}$	Sputtering	15 keV	Exp	1499
$\mathbf{N_2{}^+ + C}$	Secondary Electron Emission	30 keV	Exp	1522
$\mathbf{NO + Rh}$	Adsorption, Desorption		E/T	1564
$\mathbf{O_2{}^+ + Cu}$	Sputtering	1 keV	Th	1465
$\mathbf{C_2H_2 + C}$	Reflection	0.01-10 eV	Th	1550
$\mathbf{C_2H_5 + C}$	Adsorption, Desorption	$1 - 10^4$ eV	Exp	1552
$\mathbf{HCl + Au}$	Reflection	0.59-1.37 eV	Exp	1505
$\mathbf{C_2{}^- + W}$	Sputtering	9-12 keV	Exp	1459
$\mathbf{C_2{}^- + W}$	Trapping, Detrapping	9-12 keV	Exp	1459
$\mathbf{C_2 + C}$	Reflection	0.01-10 eV	Th	1550
$\mathbf{C_2H + C}$	Reflection	0.01-10 eV	Th	1550
$\mathbf{C_2H + C}$	Adsorption, Desorption	$1 - 10^4$ eV	Exp	1552
$\mathbf{C_2H_3 + C}$	Reflection	0.01-10 eV	Th	1550
$\mathbf{C_2H_3 + C}$	Adsorption, Desorption	$1 - 10^4$ eV	Exp	1552

2.4 Data Collection, Bibliographic and Progress Report

A + A + Al	Data Collection, Bibliography		Th	1577

2.5 Fusion Research of General Interest

$\mathbf{e + H_3{}^+ + Al}$	Fusion Research of Gen. Interest	130-300 K	Exp	1578
$\mathbf{e + D_3{}^+ + Al}$	Fusion Research of Gen. Interest	130-300 K	Exp	1578
$\mathbf{e + H_5{}^+ + Al}$	Fusion Research of Gen. Interest	130-300 K	Exp	1578
$\mathbf{e + D_5{}^+ + Al}$	Fusion Research of Gen. Interest	130-300 K	Exp	1578

2.6 Particle Beam-Matter Interactions

$\mathbf{H^+ + Al + Al}$	Part. Beam-Matter Interaction	100 keV	Th	1579
$\mathbf{H^+ + Al + Al}$	Part. Beam-Matter Interaction	98 keV	E/T	1580
$\mathbf{H^+ + Na + Al}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th	1582
$\mathbf{H^+ + Mg + Al}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th	1582
$\mathbf{H^+ + K + Al}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th	1582

$H^+ + Al + Al$	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1592
$H^+ + Ag + Al$	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1592
$H^+ + H_2O + Al$	Part. Beam-Matter Interaction	1.7-2.0 MeV	Exp	1601
$H + Al + Al$	Part. Beam-Matter Interaction	2-10 eV	Th	1603
$H^+ + H_2O + Al$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1604
$H^+ + N_2 + Al$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1604
$H^+ + O_2 + Al$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1604
$H^+ + H_2O + Al$	Part. Beam-Matter Interaction	$10^{-3} - 1$ MeV	E/T	1606
$H^+ + C + Al$	Part. Beam-Matter Interaction	10-10,000 keV/amu	Th	1607
$H^+ + Ni + Al$	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp	1610
$H^+ + H_2O + Al$	Part. Beam-Matter Interaction	50-10,000 keV	Th	1611
$H^+ + Ti + Al$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
$H^+ + Fe + Al$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
$H^+ + Ge + Al$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
$H^+ + Pd + Al$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
$H^+ + LiF + Al$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
$H^+ + Si_3N_4 + Al$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
$H^+ + Au + Al$	Part. Beam-Matter Interaction	0.33-10 keV	Exp	1618
$H^+ + Al + Al$	Part. Beam-Matter Interaction	10 keV	Exp	1624
$H^+ + Au + Al$	Part. Beam-Matter Interaction	10 keV	Exp	1624
$H^+ + LiF + Al$	Part. Beam-Matter Interaction	100-400 keV	Th	1626
$H^+ + C + Al$	Part. Beam-Matter Interaction		E/T	1628
$H^+ + Al + Al$	Part. Beam-Matter Interaction		E/T	1628
$H^+ + Si + Al$	Part. Beam-Matter Interaction		E/T	1628
$H^+ + NdF_3 + Al$	Part. Beam-Matter Interaction	0.5-0.7 MeV	Exp	1634
$H^+ + SmF_3 + Al$	Part. Beam-Matter Interaction	0.5-0.7 MeV	Exp	1634
$H^+ + GdF_3 + Al$	Part. Beam-Matter Interaction	0.5-0.7 MeV	Exp	1634
$H^+ + HoF_3 + Al$	Part. Beam-Matter Interaction	0.5-0.7 MeV	Exp	1634
$H^+ + Si + Al$	Part. Beam-Matter Interaction	150 MeV	Th	1637
$H^+ + Ar + Al$	Part. Beam-Matter Interaction	50-500 eV	E/T	1639
$H^+ + Kr + Al$	Part. Beam-Matter Interaction	50-500 eV	E/T	1639
$H^+ + Xe + Al$	Part. Beam-Matter Interaction	50-500 eV	E/T	1639
$H^+ + A + Al$	Part. Beam-Matter Interaction		Th	1640
$H^+ + C_2H_5OH + Al$	Part. Beam-Matter Interaction	2 MeV	E/T	1641
$H^+ + H_2O + Al$	Part. Beam-Matter Interaction		Th	1643
$H^+ + CH_4 + Al$	Part. Beam-Matter Interaction		Th	1643
$H^+ + Bi + Al$	Part. Beam-Matter Interaction	3-9 keV	Exp	1644
$H^+ + C + Al$	Part. Beam-Matter Interaction		Th	1646
$H^+ + Ag + Al$	Part. Beam-Matter Interaction	$10^2 - 10^5$ keV/amu	Th	1647
$H^+ + C + Al$	Part. Beam-Matter Interaction	1 MeV/amu	Exp	1649
$H^+ + Al + Al$	Part. Beam-Matter Interaction	1-50 MeV	Th	1654
$H^+ + Ni + Al$	Part. Beam-Matter Interaction		Th	1655
$H^+ + Gd + Al$	Part. Beam-Matter Interaction		Th	1655
$He^+ + Al_2O_3 + Al$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584
$He^+ + SiO_2 + Al$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584
$He^+ + ZrO_2 + Al$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584
$He^+ + Al + Al$	Part. Beam-Matter Interaction	0.1-3.0 MeV	Exp	1587
$He^+ + Al_2O_3 + Al$	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp	1588
$He^{2+} + He + Al$	Part. Beam-Matter Interaction	25-500 eV	Th	1590
$He^{2+} + Ne + Al$	Part. Beam-Matter Interaction	25-500 eV	Th	1590
$He^{2+} + Ar + Al$	Part. Beam-Matter Interaction	25-500 eV	Th	1590
$He^+ + Al + Al$	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1591
$He^+ + Ag + Al$	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1591
$He + C + Al$	Part. Beam-Matter Interaction		Th	1598
$He^+ + ZrO_2 + Al$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1609
$He^+ + Ta_2O_5 + Al$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1609
$He^+ + Nb_2O_5 + Al$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1609

He^{2+} + Ni + Al	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp	1610
He^{+} + Ti + Al	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
He^{+} + Fe + Al	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
He^{+} + Ge + Al	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
He^{+} + Pd + Al	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
He^{+} + LiF + Al	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
He^{+} + Si_3N_4 + Al	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1612
He^{+} + Al + Al	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1613
He^{+} + Ti + Al	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1613
He^{+} + Co + Al	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1613
He^{+} + Cu + Al	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1613
He^{+} + Ag + Al	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1613
He^{+} + Ta + Al	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1613
He^{+} + Au + Al	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1613
He^{+} + C + Al	Part. Beam-Matter Interaction	1.4-4.0 MeV	Exp	1615
He^{+} + H + Al	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp	1616
He^{+} + C + Al	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp	1616
He^{2+} + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
He^{2+} + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
He^{2+} + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
He + Al + Al	Part. Beam-Matter Interaction	1-10,000 keV/u	Th	1622
He + Zn + Al	Part. Beam-Matter Interaction	1-10,000 keV/u	Th	1622
He^{+} + Al + Al	Part. Beam-Matter Interaction	1-10,000 keV/u	Th	1622
He^{+} + Zn + Al	Part. Beam-Matter Interaction	1-10,000 keV/u	Th	1622
He^{+} + Al + Al	Part. Beam-Matter Interaction	10 keV	Exp	1624
He^{+} + Au + Al	Part. Beam-Matter Interaction	10 keV	Exp	1624
He^{+} + Ta_2O_5 + Al	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T	1629
He^{+} + Nb_2O_5 + Al	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T	1629
He^{+} + Ag + Al	Part. Beam-Matter Interaction	$10^2 - 10^5$ keV/amu	Th	1647
He^{2+} + C + Al	Part. Beam-Matter Interaction	1 MeV/amu	Exp	1649
Li^{2+} + Al_2O_3 + Al	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584
Li^{2+} + SiO_2 + Al	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584
Li^{2+} + ZrO_2 + Al	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584
Li^{+} + Al + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1591
Li^{+} + Ag + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1591
Li^{+} + Al + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1592
Li^{+} + Ag + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1592
Li^{+} + C + Al	Part. Beam-Matter Interaction		Th	1598
Li^{+} + Ag + Al	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1604
Li^{+} + H_2O + Al	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1604
Li^{+} + N_2 + Al	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1604
Li^{+} + O_2 + Al	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1604
Li^{+} + Al + Al	Part. Beam-Matter Interaction		Th	1614
Li^{+} + H + Al	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp	1616
Li^{+} + C + Al	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp	1616
Li^{+} + Ta_2O_5 + Al	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T	1629
Li^{+} + Nb_2O_5 + Al	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T	1629
Li^{3+} + C + Al	Part. Beam-Matter Interaction	1 MeV/amu	Exp	1649
Li^{+} + SiN + Al	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp	1650
Li + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656

Li + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Li + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be^+ + SiC + Al	Part. Beam-Matter Interaction	40-680 keV/u	E/T	1593
Be^+ + Ta_2O_5 + Al	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T	1629
Be^+ + Nb_2O_5 + Al	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T	1629
Be^+ + He + Al	Part. Beam-Matter Interaction	2-31 MeV	Exp	1653
Be + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Be + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B^{4+} + Al_2O_3 + Al	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584

B^{4+} + SiO_2 + Al	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584
B^{4+} + ZrO_2 + Al	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584
B^{+} + Al + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1591
B^{+} + Ag + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1591
B^{+} + Al + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1592
B^{+} + Ag + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1592
B^{+} + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
B^{+} + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
B^{+} + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
B^{+} + SiN + Al	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp	1650
B + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
B + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C^{4+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
C^{5+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
C^{6+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
C^{+} + Al_2O_3 + Al	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp	1588
C^{+} + C + Al	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1604
C^{+} + ZrO_2 + Al	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1609
C^{+} + Si + Al	Part. Beam-Matter Interaction	1.8 MeV/amu	Exp	1620
C^{+} + GaAs + Al	Part. Beam-Matter Interaction	0.5-1 MeV	Exp	1625
C^{2+} + C + Al	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp	1630
C^{+} + Ge + Al	Part. Beam-Matter Interaction	0-60 MeV	Exp	1632
C^{+} + Au + Al	Part. Beam-Matter Interaction	0-60 MeV	Exp	1632
C^{+} + Au + Al	Part. Beam-Matter Interaction	1-1000 keV	Th	1642
C^{+} + SiN + Al	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp	1650
C^{+} + C + Al	Part. Beam-Matter Interaction	1-2 MeV	Th	1651
C^{+} + Al + Al	Part. Beam-Matter Interaction	1-2 MeV	Th	1651
C^{2+} + C + Al	Part. Beam-Matter Interaction	2.65-6.0 MeV/u	Exp	1652
C + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656

C + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
C + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{C + H_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{C + H_2O + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{C + CH_4 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{C + CO_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{C + N_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{C + O_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{C + Al_2O_3 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{N^{6+} + Al_2O_3 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584
$\mathbf{N^{6+} + SiO_2 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584
$\mathbf{N^{6+} + ZrO_2 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1584
$\mathbf{N^{+} + Ge + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp	1632
$\mathbf{N^{+} + Ag + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp	1632
$\mathbf{N^{+} + Au + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp	1632
N + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656

N + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
N + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O^+ + Al_2O_3 + Al	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp	1588
O^+ + Al + Al	Part. Beam-Matter Interaction		Th	1614
O^+ + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
O^+ + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
O^+ + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
O^+ + GaAs + Al	Part. Beam-Matter Interaction	0.5-1 MeV	Exp	1625
O^+ + Ta_2O_5 + Al	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T	1629
O^+ + Nb_2O_5 + Al	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T	1629
O^{3+} + C + Al	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp	1630
O^+ + Ge + Al	Part. Beam-Matter Interaction	0-60 MeV	Exp	1632
O^+ + Au + Al	Part. Beam-Matter Interaction	0-60 MeV	Exp	1632
O^+ + SiN + Al	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp	1650
O^{3+} + C + Al	Part. Beam-Matter Interaction	2.65-6.0 MeV/u	Exp	1652
O + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
O + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F^+ + Ta_2O_5 + Al	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1609
F^+ + Nb_2O_5 + Al	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1609
F^+ + Ge + Al	Part. Beam-Matter Interaction	0-60 MeV	Exp	1632
F^+ + Ag + Al	Part. Beam-Matter Interaction	0-60 MeV	Exp	1632
F^+ + Au + Al	Part. Beam-Matter Interaction	0-60 MeV	Exp	1632
F + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656

F + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
F + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{F + H_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{F + H_2O + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{F + CH_4 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{F + CO_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{F + N_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{F + O_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{F + Al_2O_3 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Ne^{8+} + C + Al}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Ne^{9+} + C + Al}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Ne^{10+} + C + Al}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Ne^{7+} + C + Al}$	Part. Beam-Matter Interaction	2 MeV/u	Th	1600
$\mathbf{Ne^{8+} + C + Al}$	Part. Beam-Matter Interaction	2 MeV/u	Th	1600
$\mathbf{Ne^{9+} + C + Al}$	Part. Beam-Matter Interaction	2 MeV/u	Th	1600
$\mathbf{Ne^{10+} + C + Al}$	Part. Beam-Matter Interaction	2 MeV/u	Th	1600
$\mathbf{Ne^{4+} + C + Al}$	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp	1630
$\mathbf{Ne^{4+} + C + Al}$	Part. Beam-Matter Interaction	2.65-6.0 MeV/u	Exp	1652
Ne + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656

Ne + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ne + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Na + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg^{10+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
Mg^{11+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
Mg^{12+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
Mg^{5+} + C + Al	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp	1630
Mg + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656

Mg + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Mg + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Mg + H_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Mg + H_2O + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Mg + CH_4 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Mg + CO_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Mg + N_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Mg + O_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Mg + Al_2O_3 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Al^+ + Al_2O_3 + Al}$	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp	1588
$\mathbf{Al^+ + Fe + Al}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
$\mathbf{Al^+ + Ag + Al}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
$\mathbf{Al^+ + Au + Al}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
Al + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Al + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Al + H_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Al + H_2O + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Al + CH_4 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Al + CO_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Al + N_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Al + O_2 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Al + Al_2O_3 + Al}$	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Si^{12+} + C + Al}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Si^{13+} + C + Al}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Si^{14+} + C + Al}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Si^+ + Al_2O_3 + Al}$	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp	1588
$\mathbf{Si^+ + Fe + Al}$	Part. Beam-Matter Interaction	84-237 MeV	Exp	1594

Si^{+} + Ga + Al	Part. Beam-Matter Interaction	84-237 MeV	Exp	1594
Si^{+} + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
Si^{+} + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
Si^{+} + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
Si^{5+} + C + Al	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp	1630
Si^{5+} + C + Al	Part. Beam-Matter Interaction	2.65-6.0 MeV/u	Exp	1652
Si + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Si + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656

P + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
P + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S^+ + Fe + Al	Part. Beam-Matter Interaction	84-237 MeV	Exp	1594
S^+ + Ga + Al	Part. Beam-Matter Interaction	84-237 MeV	Exp	1594
S^{6+} + C + Al	Part. Beam-Matter Interaction	2 MeV/u	Exp	1636
S^{7+} + C + Al	Part. Beam-Matter Interaction	2 MeV/u	Exp	1636
S^{8+} + C + Al	Part. Beam-Matter Interaction	2 MeV/u	Exp	1636
S^+ + SiN + Al	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp	1650
S + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
S + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656

Cl + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Cl + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar^{13+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
Ar^{14+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
Ar^{15+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
Ar^{16+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
Ar^{17+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
Ar^{18+} + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
Ar^{18+} + C + Al	Part. Beam-Matter Interaction	13.6 MeV/u	Exp	1623
Ar^{8+} + C + Al	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp	1630
Ar^{13+} + C + Al	Part. Beam-Matter Interaction	4.3-20 MeV/amu	E/T	1631
Ar^{14+} + C + Al	Part. Beam-Matter Interaction	4.3-20 MeV/amu	E/T	1631
Ar^{15+} + C + Al	Part. Beam-Matter Interaction	4.3-20 MeV/amu	E/T	1631
Ar^{16+} + C + Al	Part. Beam-Matter Interaction	4.3-20 MeV/amu	E/T	1631
Ar^{17+} + C + Al	Part. Beam-Matter Interaction	4.3-20 MeV/amu	E/T	1631
Ar^{18+} + C + Al	Part. Beam-Matter Interaction	4.3-20 MeV/amu	E/T	1631
Ar^{+} + C + Al	Part. Beam-Matter Interaction	400 MeV/amu	E/T	1633
Ar^{+} + Al + Al	Part. Beam-Matter Interaction	400 MeV/amu	E/T	1633
Ar^{+} + Cu + Al	Part. Beam-Matter Interaction	400 MeV/amu	E/T	1633
Ar^{+} + Sn + Al	Part. Beam-Matter Interaction	400 MeV/amu	E/T	1633
Ar^{+} + Pb + Al	Part. Beam-Matter Interaction	400 MeV/amu	E/T	1633
Ar + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656

Ar + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + $\mathbf{H_2}$ **+ Al**	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + $\mathbf{H_2O}$ **+ Al**	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + $\mathbf{CH_4}$ **+ Al**	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + $\mathbf{CO_2}$ **+ Al**	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + $\mathbf{N_2}$ **+ Al**	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + $\mathbf{O_2}$ **+ Al**	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
Ar + $\mathbf{Al_2O_3}$ **+ Al**	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T	1656
$\mathbf{Ca^{15+}}$ **+** $\mathbf{SiO_2}$ **+ Al**	Part. Beam-Matter Interaction	11.4 MeV/u	Exp	1583
$\mathbf{Ca^{16+}}$ **+** $\mathbf{SiO_2}$ **+ Al**	Part. Beam-Matter Interaction	11.4 MeV/u	Exp	1583
$\mathbf{Ca^{17+}}$ **+** $\mathbf{SiO_2}$ **+ Al**	Part. Beam-Matter Interaction	11.4 MeV/u	Exp	1583
$\mathbf{Ca^{18+}}$ **+** $\mathbf{SiO_2}$ **+ Al**	Part. Beam-Matter Interaction	11.4 MeV/u	Exp	1583
$\mathbf{Ca^{19+}}$ **+** $\mathbf{SiO_2}$ **+ Al**	Part. Beam-Matter Interaction	11.4 MeV/u	Exp	1583
$\mathbf{Ca^{+}}$ **+ SiC + Al**	Part. Beam-Matter Interaction	40-680 keV/u	E/T	1593
$\mathbf{Ca^{+}}$ **+ C + Al**	Part. Beam-Matter Interaction	5-250 MeV	Exp	1617
$\mathbf{Ca^{+}}$ **+ Ni + Al**	Part. Beam-Matter Interaction	5-250 MeV	Exp	1617
$\mathbf{Ca^{+}}$ **+ Au + Al**	Part. Beam-Matter Interaction	5-250 MeV	Exp	1617
$\mathbf{Ca^{6+}}$ **+ C + Al**	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp	1630
$\mathbf{Ti^{+}}$ **+ SiC + Al**	Part. Beam-Matter Interaction	40-680 keV/u	E/T	1593
$\mathbf{Fe^{19+}}$ **+ C + Al**	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Fe^{20+}}$ **+ C + Al**	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Fe^{21+}}$ **+ C + Al**	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Fe^{22+}}$ **+ C + Al**	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Fe^{23+}}$ **+ C + Al**	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Fe^{24+}}$ **+ C + Al**	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Fe^{25+}}$ **+ C + Al**	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Fe^{26+}}$ **+ C + Al**	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1585
$\mathbf{Fe^{+}}$ **+ Fe + Al**	Part. Beam-Matter Interaction	10 keV	Th	1627
$\mathbf{Fe^{9+}}$ **+ C + Al**	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp	1630
$\mathbf{Fe^{+}}$ **+ SiN + Al**	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp	1650
$\mathbf{Ni^{13+}}$ **+ C + Al**	Part. Beam-Matter Interaction	1 MeV/u	Th	1596
$\mathbf{Ni^{17+}}$ **+ C + Al**	Part. Beam-Matter Interaction	1 MeV/u	Th	1596
$\mathbf{Ni^{22+}}$ **+ C + Al**	Part. Beam-Matter Interaction	1 MeV/u	Th	1596
$\mathbf{Ni^{14+}}$ **+ C + Al**	Part. Beam-Matter Interaction	20-100 MeV/u	Exp	1648
$\mathbf{Ni^{19+}}$ **+ C + Al**	Part. Beam-Matter Interaction	20-100 MeV/u	Exp	1648
$\mathbf{Cu^{+}}$ **+** $\mathbf{H_2}$ **+ Al**	Part. Beam-Matter Interaction	100 keV/u	E/T	1605
$\mathbf{Cu^{+}}$ **+** $\mathbf{N_2}$ **+ Al**	Part. Beam-Matter Interaction	100 keV/u	E/T	1605
$\mathbf{Cu^{+}}$ **+ Fe + Al**	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
$\mathbf{Cu^{+}}$ **+ Ag + Al**	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
$\mathbf{Cu^{+}}$ **+ Au + Al**	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
$\mathbf{Zn^{+}}$ **+** $\mathbf{SiO_2}$ **+ Al**	Part. Beam-Matter Interaction	60 keV	Exp	1621
$\mathbf{Kr^{+}}$ **+ Al + Al**	Part. Beam-Matter Interaction	20-160 keV	Exp	1589
$\mathbf{Kr^{32+}}$ **+ C + Al**	Part. Beam-Matter Interaction	20-100 MeV/u	Exp	1648
$\mathbf{Kr^{34+}}$ **+ C + Al**	Part. Beam-Matter Interaction	20-100 MeV/u	Exp	1648
$\mathbf{Xe^{+}}$ **+ C + Al**	Part. Beam-Matter Interaction	$0.1-10^3$ MeV/u	Th	1597
$\mathbf{Ba^{+}}$ **+ Fe + Al**	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
$\mathbf{Ba^{+}}$ **+ Ag + Al**	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
$\mathbf{Ba^{+}}$ **+ Au + Al**	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
$\mathbf{Au^{+}}$ **+ C + Al**	Part. Beam-Matter Interaction	$0.1-10^3$ MeV/u	Th	1597
$\mathbf{Au^{+}}$ **+ C + Al**	Part. Beam-Matter Interaction	1-1000 keV	Th	1608
$\mathbf{Au^{+}}$ **+ Fe + Al**	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
$\mathbf{Au^{+}}$ **+ Ag + Al**	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
$\mathbf{Au^{+}}$ **+ Au + Al**	Part. Beam-Matter Interaction	6-86 MeV	Exp	1619
$\mathbf{Au^{+}}$ **+ C + Al**	Part. Beam-Matter Interaction	1-1000 keV	Th	1642
$\mathbf{Pb^{56+}}$ **+ Si + Al**	Part. Beam-Matter Interaction	29 MeV/u	E/T	1595

Pb^+ + C + Al	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th	1597
U^{91+} + Si + Al	Part. Beam-Matter Interaction	29 MeV/u	E/T	1595
U^+ + C + Al	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th	1597
U^{81+} + B + Al	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1599
U^{81+} + C + Al	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1599
U^{81+} + Ne + Al	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1599
U^{81+} + Si + Al	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1599
U^{81+} + Cl + Al	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1599
U^{81+} + Ti + Al	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1599
U^{81+} + Cu + Al	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1599
U^{81+} + Br + Al	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1599
U^{81+} + Pd + Al	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1599
U^{81+} + Xe + Al	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1599
U^{81+} + Au + Al	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1599
e + Ar + Al	Part. Beam-Matter Interaction	$10^2 - 10^5$ eV	E/T	1586
e + Al + Al	Part. Beam-Matter Interaction	0.01-10 MeV	Th	1602
e + Si + Al	Part. Beam-Matter Interaction	0.01-10 MeV	Th	1602
e + C + Al	Part. Beam-Matter Interaction	500 eV	Th	1635
${H_2}^+$ + C + Al	Part. Beam-Matter Interaction	0.5 MeV/amu	Th	1645
D^+ + Ni + Al	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp	1610
D^+ + Au + Al	Part. Beam-Matter Interaction	0.33-10 keV	Exp	1618
${N_2}^+$ + C + Al	Part. Beam-Matter Interaction	100-400 keV/u	Th	1581
${N_2}^+$ + C + Al	Part. Beam-Matter Interaction		Th	1638
${O_2}^+$ + GaAs + Al	Part. Beam-Matter Interaction	0.5-1 MeV	Exp	1625
${O_2}^{3+}$ + GaAs + Al	Part. Beam-Matter Interaction	0.5-1 MeV	Exp	1625
A^+ + A + Al	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1604
${C_2}^+$ + Si + Al	Part. Beam-Matter Interaction	1.8 MeV/amu	Exp	1620
${C_2}^+$ + GaAs + Al	Part. Beam-Matter Interaction	0.5-1 MeV	Exp	1625
${C_2}^+$ + C + Al	Part. Beam-Matter Interaction	1-2 MeV	Th	1651
${C_2}^+$ + Al + Al	Part. Beam-Matter Interaction	1-2 MeV	Th	1651
He + He Z= ?-? + Al	Part. Beam-Matter Interaction	25-500 eV	Th	1590
Ne + He Z= ?-? + Al	Part. Beam-Matter Interaction	25-500 eV	Th	1590
Al + He Z= ?-? + Al	Part. Beam-Matter Interaction	25-500 eV	Th	1590

2.7 Interactions of Atomic Particles with Fields

H + Al	Atom Field Interaction	0.001-0.009 a.u.	Th	1664
H^* + Al	Atom Field Interaction	0.001-0.009 a.u.	Th	1664
H + Al	Atom Field Interaction	8.9-36 GHz	Th	1666
H + Al	Atom Field Interaction	$10^{-3} - 0.2$ a.u.	Th	1667
H + Al	Atom Field Interaction	$0 - 10^{13}$ Ga	Th	1668
H + Al	Atom Field Interaction		Th	1669
H + Al	Atom Field Interaction	1.93 eV	Th	1672
H + Al	Atom Field Interaction		Th	1676
H^* + Al	Atom Field Interaction		Th	1676
H^+ + H + Al	Atom Field Interaction	1.21 keV	Th	1683
H + Al	Atom Field Interaction		Th	1687
H^* + Al	Atom Field Interaction		Th	1687
H^- + Al	Atom Field Interaction	0.75-1.05 eV	Th	1688
H^- + Al	Atom Field Interaction	0-500 cm^{-1}	Th	1693
H + Al	Atom Field Interaction	10^8 V/m	Th	1695
H + Al	Atom Field Interaction		Th	1704
H + Al	Atom Field Interaction		Th	1706
H^- + Al	Atom Field Interaction		Th	1710
H + Al	Atom Field Interaction		Th	1710

H + Al	Atom Field Interaction		Exp	1715
H + Li* + Al	Atom Field Interaction	1 mK	Th	1723
H$^+$ + H + Al	Atom Field Interaction	10 a.u.	Th	1730
H + Al	Atom Field Interaction	1-10 T	Th	1733
H + Al	Atom Field Interaction	0-60,000 cm^{-1}	Th	1740
He + Al	Atom Field Interaction	810 nm	E/T	1671
He + Al	Atom Field Interaction	11.2-49.50 eV	Th	1674
He* + Al	Atom Field Interaction	11.2-49.50 eV	Th	1674
He + Al	Atom Field Interaction	2-30 eV	Th	1675
He + Al	Atom Field Interaction	318.8 nm	Exp	1677
He^{2+} + H + Al	Atom Field Interaction	1 keV	Th	1689
He + Al	Atom Field Interaction	85-90 eV	Th	1696
He + Al	Atom Field Interaction	41.85-51.15 eV	Th	1709
He$^-$ + Al	Atom Field Interaction		Th	1710
He$^+$ + He + Al	Atom Field Interaction		Exp	1711
He + He + Al	Atom Field Interaction	1.9-2.7 mK	E/T	1720
He + He* + Al	Atom Field Interaction	1.9-2.7 mK	E/T	1720
He^{2+} + H + Al	Atom Field Interaction	10 a.u.	Th	1730
He + Al	Atom Field Interaction	5000 $\AA$	Th	1731
He + Al	Atom Field Interaction	1-6 kV/cm	Exp	1737
He + Al	Atom Field Interaction		Exp	1747
He + Al	Atom Field Interaction		Th	1749
Li + Al	Atom Field Interaction	8.9-36 GHz	Th	1666
Li + Al	Atom Field Interaction		Th	1670
Li + H + Al	Atom Field Interaction	1 mK	Th	1682
Li + H + Al	Atom Field Interaction	1 mK	Th	1723
Li + Cs + Al	Atom Field Interaction	10^{-4} K	Exp	1724
Li + Al	Atom Field Interaction	-E - E E=1/3$n_0{}^5$	Th	1734
Li$^+$ + Al	Atom Field Interaction		Th	1749
B + Al	Atom Field Interaction		Th	1676
C^{6+} + H + Al	Atom Field Interaction	1 MeV/u	Th	1718
C^{6+} + H + Al	Atom Field Interaction	10 a.u.	Th	1730
C^{5+} + Al	Atom Field Interaction	1-10 T	Th	1733
C + He + Al	Atom Field Interaction	0.2-2.5 eV	E/T	1735
O^{7+} + Al	Atom Field Interaction	1-10 T	Th	1733
F$^-$ + Al	Atom Field Interaction		Th	1676
Ne + Al	Atom Field Interaction	800 nm	Exp	1660
Ne + Al	Atom Field Interaction		Th	1676
Ne + Al	Atom Field Interaction	871.7 eV	Th	1707
Ne + Al	Atom Field Interaction		Th	1714
Na + Al	Atom Field Interaction	8.9-36 GHz	Th	1666
Na + H + Al	Atom Field Interaction	1 mK	Th	1682
Na + Cs + Al	Atom Field Interaction	$3x10^{-5}$ K	Exp	1722
Na + Cs* + Al	Atom Field Interaction	$3x10^{-5}$ K	Exp	1722
Na + Al	Atom Field Interaction	-E - E E=1/3$n_0{}^5$	Th	1734
Al^{11+} + Al	Atom Field Interaction		Th	1717
S^{15+} + Al	Atom Field Interaction	1-10 T	Th	1733
Ar + Al	Atom Field Interaction	800 nm	Exp	1660
Ar + H$_2$ + Al	Atom Field Interaction	195 K	Th	1739
Ar + Al	Atom Field Interaction	1-2 10^{14} W/cm^2	Th	1741
Ar + Al	Atom Field Interaction		Th	1744
K + Al	Atom Field Interaction	0-1 T	Th	1662
K + Rb + Al	Atom Field Interaction	$1x10^{-6}$ K	Exp	1681
K + Al	Atom Field Interaction	-E - E E=1/3$n_0{}^5$	Th	1734
Ca$^+$ + MgH$^+$ + Al	Atom Field Interaction	300 K	Th	1728
Ca^{19+} + Al	Atom Field Interaction	1-10 T	Th	1733
Ti$^+$ + Al	Atom Field Interaction	5000-50,000 K	Th	1752

Ti^{2+} + Al	Atom Field Interaction	5000-50,000 K	Th	1752
V + Al	Atom Field Interaction		Th	1729
Cr^{23+} + Al	Atom Field Interaction	1-10 T	Th	1733
Cr^{+} + Al	Atom Field Interaction	5,000-100,000 K	Th	1748
Ni + Al	Atom Field Interaction		Th	1729
Ge^{31+} + Al	Atom Field Interaction	1-10 T	Th	1733
Kr + Al	Atom Field Interaction	800 nm	Th	1697
Rb + Al	Atom Field Interaction	0-1 T	Th	1662
Rb + Rb + Al	Atom Field Interaction	10 cm/s	Exp	1665
Rb + Rb^{*} + Al	Atom Field Interaction	10 cm/s	Exp	1665
Rb + Al	Atom Field Interaction	8.9-36 GHz	Th	1666
Rb + Rb + Al	Atom Field Interaction	$2x10^{-4}$ K	E/T	1719
Rb + Rb^{*} + Al	Atom Field Interaction	$2x10^{-4}$ K	E/T	1719
Rb + Rb + Al	Atom Field Interaction	10^{-4} K	Th	1725
Rb + Rb^{*} + Al	Atom Field Interaction	10^{-4} K	Th	1725
Rb + Rb + Al	Atom Field Interaction		Th	1727
Rb + Rb^{*} + Al	Atom Field Interaction		Th	1727
Rb + Al	Atom Field Interaction	-E - E E=1/$3n_0{}^5$	Th	1734
Nb + Al	Atom Field Interaction		Th	1729
Pd + Al	Atom Field Interaction		Th	1729
I^{-} + Al	Atom Field Interaction		Th	1676
Xe + Al	Atom Field Interaction	1.93 eV	Th	1672
Xe + Al	Atom Field Interaction		Th	1676
Xe + Al + Al	Atom Field Interaction	0.005-0.01 a.u.	Th	1684
Xe^{*} + Al + Al	Atom Field Interaction	0.005-0.01 a.u.	Th	1684
Xe^{+} + Al	Atom Field Interaction		Exp	1712
Xe^{53+} + Al	Atom Field Interaction	1-10 T	Th	1733
Xe + Al	Atom Field Interaction	1-2 10^{14} W/cm^2	Th	1741
Xe + Al	Atom Field Interaction	1.55 eV	Exp	1745
Xe + Al	Atom Field Interaction	0-4000 V/cm	E/T	1751
Xe^{*} + Al	Atom Field Interaction	0-4000 V/cm	E/T	1751
Cs + Al	Atom Field Interaction	0-1 T	Th	1662
Cs + Al	Atom Field Interaction	0.001-0.009 a.u.	Th	1664
Cs^{*} + Al	Atom Field Interaction	0.001-0.009 a.u.	Th	1664
Cs + Cs + Al	Atom Field Interaction	$1.5x10^{-4}$ K	Th	1721
Cs + Cs^{*} + Al	Atom Field Interaction	$1.5x10^{-4}$ K	Th	1721
Cs + Rb + Al	Atom Field Interaction	$0.5x10^{-4} - 1.5x10^{-4}$ K	Th	1726
Cs + Rb^{*} + Al	Atom Field Interaction	$0.5x10^{-4} - 1.5x10^{-4}$ K	Th	1726
Cs + Al	Atom Field Interaction	-E - E E=1/$3n_0{}^5$	Th	1734
Ba^{+} + Al	Atom Field Interaction	0-1 T	Th	1662
Ba + Al	Atom Field Interaction	50-70 GHz	Exp	1680
Ba^{*} + Al	Atom Field Interaction	50-70 GHz	Exp	1680
Ta + Al	Atom Field Interaction		Th	1729
Au + Al	Atom Field Interaction	0-1 T	Th	1662
Au^{+} + Al	Atom Field Interaction		Exp	1673
Tl + Al	Atom Field Interaction	0-1 T	Th	1662
Pb^{2+} + Al	Atom Field Interaction	25,200 K	Exp	1732
Pb^{81+} + Al	Atom Field Interaction	1-10 T	Th	1733
Bi^{82+} + Al	Atom Field Interaction	1-10 T	Th	1733
Fr + Al	Atom Field Interaction	0-1 T	Th	1662
U^{91+} + Al	Atom Field Interaction	1-10 T	Th	1733
e + He + Al	Atom Field Interaction	4-22 eV	Th	1658
e + He^{+} + Al	Atom Field Interaction	200-500 eV	Th	1663
e + H + Al	Atom Field Interaction		Th	1706
e + C^{6+} + Al	Atom Field Interaction	$10^{-5} - 10^{0}$ eV	E/T	1738
e + $H_2{}^{+}$ + Al	Atom Field Interaction	800-1850 nm	Th	1742
H_2 + Al	Atom Field Interaction	2-30 eV	Th	1675

H_2 + Al	Atom Field Interaction	758 nm	Th	1686
H_2^+ + Al	Atom Field Interaction	758 nm	Th	1686
H_2^+ + Al	Atom Field Interaction	0.043 a.u.	Th	1692
H_2 + Al	Atom Field Interaction	800 nm	Th	1694
H_2^+ + Al	Atom Field Interaction	790 nm	E/T	1701
H_2^+ + Al	Atom Field Interaction	10^{14} W/cm^2	Th	1703
H_2 + Al	Atom Field Interaction	41.7 eV	Exp	1708
H_2^+ + Al	Atom Field Interaction	2-2000 10^5 T	Th	1713
H_2^+ + Al	Atom Field Interaction		Th	1716
H_2^+ + Al	Atom Field Interaction	0-60 U_p	Th	1736
H_2 + Al	Atom Field Interaction		Th	1746
H_2^+ + Al	Atom Field Interaction		Exp	1747
H_3^{2+} + Al	Atom Field Interaction		Th	1657
H_3 + Al	Atom Field Interaction		Th	1702
H_2O + Al	Atom Field Interaction	1 K	Exp	1691
D_2 + Al	Atom Field Interaction	800 nm	Th	1694
D_2 + Al	Atom Field Interaction	41.7 eV	Exp	1708
D_2O + Al	Atom Field Interaction	1 K	Exp	1691
He_2^{2+} + Al	Atom Field Interaction	0-4 a.u.	Th	1743
CH_4 + Al	Atom Field Interaction	163-297 K	Th	1661
CO_2^+ + Al	Atom Field Interaction	$3x10^{13} - 6x10^{16}$ W/cm^2	Exp	1699
N_2 + Al	Atom Field Interaction	790 nm	Exp	1685
N_2 + Al	Atom Field Interaction	400-1200 nm	Exp	1690
N_2 + Al	Atom Field Interaction	800 nm	Th	1694
N_2 + Al	Atom Field Interaction	1-2 10^{14} W/cm^2	Th	1741
NH + NH + Al	Atom Field Interaction	10^{-6} K	Th	1750
O_2 + Al	Atom Field Interaction	550-1800 nm	Exp	1659
O_2 + Al	Atom Field Interaction	800 nm	Th	1694
O_2 + Al	Atom Field Interaction	1-2 10^{14} W/cm^2	Th	1741
Li_2 + Al	Atom Field Interaction	12,500 cm^{-1}	E/T	1679
OH + Al	Atom Field Interaction		E/T	1678
CH_3I + Al	Atom Field Interaction	$10^{12} - 10^{13}$ W/cm^2	Exp	1700
CH_3Cl + Al	Atom Field Interaction	$10^{12} - 10^{13}$ W/cm^2	Exp	1700
CH_3Br + Al	Atom Field Interaction	$10^{12} - 10^{13}$ W/cm^2	Exp	1700
Na_2 + Al	Atom Field Interaction	2.5-7.5, 10^{11} W/cm^2	Th	1705
HI + Al	Atom Field Interaction	10^{13} W/cm^2	Th	1698
CH_3F + Al	Atom Field Interaction	$10^{12} - 10^{13}$ W/cm^2	Exp	1700

Chapter 3

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$\mathbf{O}^{5+}$	Energy Levels, Wavelengths	Exp
$\mathbf{S}^{12+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	Exp
$\mathbf{K}^{15+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ca}^{13+-16+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{7+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{10+-11+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{14+-17+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{22+-23+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Co}^{15+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{16+}$	Energy Levels, Wavelengths	Exp

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$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Th
$\mathbf{Fe}^{24+}$	Energy Levels, Wavelengths	Th
$\mathbf{Zn}^{28+}$	Energy Levels, Wavelengths	Th
$\mathbf{Zr}^{38+}$	Energy Levels, Wavelengths	Th
$\mathbf{Sn}^{48+}$	Energy Levels, Wavelengths	Th
$\mathbf{Nd}^{58+}$	Energy Levels, Wavelengths	Th
$\mathbf{Yb}^{68+}$	Energy Levels, Wavelengths	Th
$\mathbf{Hg}^{78+}$	Energy Levels, Wavelengths	Th
$\mathbf{U}^{90+}$	Energy Levels, Wavelengths	Th
$^{238}\mathbf{U}^{91+}$	Energy Levels, Wavelengths	Th
$\mathbf{U}^{91+}$	Energy Levels, Wavelengths	Th

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$\mathbf{Ne}^{+}$	Energy Levels, Wavelengths	Th

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$\mathbf{W}^{64+}$	Energy Levels, Wavelengths	Th
$\mathbf{U}^{82+}$	Energy Levels, Wavelengths	Th

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$\mathbf{Yb}^{24+}$	Energy Levels, Wavelengths	Th
$\mathbf{Hg}^{34+}$	Energy Levels, Wavelengths	Th
$\mathbf{Th}^{44+}$	Energy Levels, Wavelengths	Th
$\mathbf{U}^{46+}$	Energy Levels, Wavelengths	Th

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$\mathbf{Pb^{21+}}$	Energy Levels, Wavelengths	Exp

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Pm Z= 74-92	Energy Levels, Wavelengths	E/T
$\mathbf{W^{13+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Au^{18+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{U^{31+}}$	Energy Levels, Wavelengths	E/T

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Zn Z= 41-42	Energy Levels, Wavelengths	Th
Zn Z= 44-50	Energy Levels, Wavelengths	Th
Zn Z= 51-55	Energy Levels, Wavelengths	Th
Zn Z= 82-83	Energy Levels, Wavelengths	Th
$\mathbf{Se^{4+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Kr^{6+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Xe^{24+}}$	Energy Levels, Wavelengths	Th
$\mathbf{La^{27+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Nd^{30+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Eu^{33+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Gd^{34+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Dy^{36+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Er^{38+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Yb^{40+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Yb^{41+}}$	Energy Levels, Wavelengths	Th
$\mathbf{W^{45+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Os^{46+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Os^{47+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Au^{49+}}$	Energy Levels, Wavelengths	Th

Au^{50+}	Energy Levels, Wavelengths	Th
Th^{60+}	Energy Levels, Wavelengths	Th
Th^{61+}	Energy Levels, Wavelengths	Th
U^{62+}	Energy Levels, Wavelengths	Th
U^{63+}	Energy Levels, Wavelengths	Th

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Ni Z= 34-67	Energy Levels, Wavelengths	Th

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Hyperfine Structure of S States in Li and Be^+
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^7Li	Energy Levels, Wavelengths	Th
Li	Energy Levels, Wavelengths	Th
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Be^+	Energy Levels, Wavelengths	Th

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Dy	Energy Levels, Wavelengths	Th
Ho	Energy Levels, Wavelengths	Th
Yb^{+--2+}	Energy Levels, Wavelengths	Th
Au	Energy Levels, Wavelengths	Th
Hg^+	Energy Levels, Wavelengths	Th

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^9Be	Energy Levels, Wavelengths	Th
Be	Energy Levels, Wavelengths	Th
^{25}Mg	Energy Levels, Wavelengths	Th
Mg	Energy Levels, Wavelengths	Th
^{43}Ca	Energy Levels, Wavelengths	Th
Ca	Energy Levels, Wavelengths	Th
^{87}Sr	Energy Levels, Wavelengths	Th
Sr	Energy Levels, Wavelengths	Th

22. P. H. Mokler, J. R. Crespo López-Urrutia, F. J. Currell, N. Nakamura, S. Ohtani, C. J. Osborne, J. Ullrich, H. Watanabe
Two-Electron QED Contributions to the Ground-State Binding Energy in He-like Kr^{34+} Ions
Phys. Rev. A 77, 012506 (2008)

$\mathbf{Kr^{34+}}$	Energy Levels, Wavelengths	Exp

23. F. L. Yang, Y.-G. Yi
Electric Quadrupole Transitions of K-like Ions (Z=22-42)
Acta Phys. Sin. 57-3, 1622-1625 (2008)

K Z= 22-42	Energy Levels, Wavelengths	Th

24. H.-L. Li, P. Li, Z. Cheng, H.-R. Ma
Relativistic Configuration Interaction Calculations on Kα X-ray Satellites of Manganese
Commun. Theor. Phys. 49-1, 217-220 (2008)

$\mathbf{Mn^{16+-23+}}$	Energy Levels, Wavelengths	Th

25. U. Feldman, J. E. Seely, E. Landi, Yu. Ralchenko
Bright EUV Lines Emitted by Highly Ionized Tungsten Ions as Diagnostic Indicators of the Tungsten Transport in ITER Core Plasmas ($T_e > 7$ keV)
Nucl. Fusion 48, 045004 (2008)

$\mathbf{W^{58+-71+}}$	Energy Levels, Wavelengths	Th

26. J. Bieroń, C. Froese Fischer, P. Jönsson, P. Pyykkö
Comment on the Magnetic Dipole Hyperfine Interaction in the Gold Atom Ground State
J. Phys. B 41, 115002 (2008)

Au	Energy Levels, Wavelengths	Th

27. A. Z. Msezane, Z. Felfli, D. Sokolovski
Near-Threshold Resonances in Electron Elastic Scattering Cross Sections for Au and Pt Atoms: Identification of Electron Affinities
J. Phys. B 41, 105201 (2008)

$\mathbf{Pt^{-}}$	Energy Levels, Wavelengths	Th
$\mathbf{Au^{-}}$	Energy Levels, Wavelengths	Th

28. N. C. Deb, A. Hibbert
E1 Transitions Among the Levels of the $3d^5$, $3d^4 4s$ and $3d^4 4p$ Configurations in Fe IV
J. Phys. B 41, 081007 (2008)

$\mathbf{Fe^{3+}}$	Energy Levels, Wavelengths	E/T

29. J. J. Zhu, B. C. Gou, Y. D. Wang
Energies, Fine Structure, Hyperfine Structure and Auger Widths of the Core-Excited States for the Li Isoelectronic Sequence
J. Phys. B 41, 065702 (2008)

Li Z= 10-20	Energy Levels, Wavelengths	Th
$\mathbf{^{19}Ne^{7+}}$	Energy Levels, Wavelengths	Th
$\mathbf{^{23}Na^{8+}}$	Energy Levels, Wavelengths	Th
$\mathbf{^{25}Mg^{9+}}$	Energy Levels, Wavelengths	Th
$\mathbf{^{27}Al^{10+}}$	Energy Levels, Wavelengths	Th
$\mathbf{^{29}Si^{11+}}$	Energy Levels, Wavelengths	Th
$\mathbf{^{31}P^{12+}}$	Energy Levels, Wavelengths	Th
$\mathbf{^{33}S^{13+}}$	Energy Levels, Wavelengths	Th
$\mathbf{^{35}Cl^{14+}}$	Energy Levels, Wavelengths	Th
$\mathbf{^{35}Ar^{15+}}$	Energy Levels, Wavelengths	Th
$\mathbf{^{39}K^{16+}}$	Energy Levels, Wavelengths	Th
$\mathbf{^{40}Ca^{17+}}$	Energy Levels, Wavelengths	Th

30. S. Mandal, G. Dixit, B. K. Sahoo, R. K. Chaudhuri, S. Majumder
Theoretical Spectroscopic Studies of the Atomic Transitions and Lifetimes of Low-Lying States in Ti IV
J. Phys. B 41, 055701 (2008)

Ti^{3+}	Energy Levels, Wavelengths	Th

31. T. Kato, H. Funaba, K. Sato, D. Kato, M.-Y. Song, N. Yamamoto, H. Tanuma, H. Ohashi, A. Sasaki, F. Koike, K. Nishihara, K. Fahy, G. O'Sullivan
EUV Spectroscopy of Xe Ions from the Large Helical Device at the National Institute for Fusion Science for Stable Plasmas and Plasmas Undergoing Radiation Collapse
J. Phys. B 41, 035703 (2008)

Xe^{9+}	Energy Levels, Wavelengths	Exp
Xe^{16+}–$^{18+}$	Energy Levels, Wavelengths	Exp
Xe^{23+}	Energy Levels, Wavelengths	Exp

32. M. A. Baig, M. Hanif, M. Aslam
Laser-Optogalvanic Studies of the $4p^5$ns and nd Autoionizing Resonances in Krypton
J. Phys. B 41, 035004 (2008)

Kr	Energy Levels, Wavelengths	Exp

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EUV Spectra of Highly-Charged Ions W^{54+}-W^{63+} Relevant to ITER Diagnostics
J. Phys. B 41, 021003 (2008)

Hf^{59+}–$^{61+}$	Energy Levels, Wavelengths	Exp
Ta^{60+}–$^{62+}$	Energy Levels, Wavelengths	Exp
W^{54+}–$^{63+}$	Energy Levels, Wavelengths	Exp
Au^{66+}–$^{68+}$	Energy Levels, Wavelengths	Exp

34. Z.-W. Wang, X.-R. Li, M.-H. Hu, Y. Liu, Y.-N. Wang
Transition Energy and Oscillator Strength of $1s^22p$–$1s^2nd$ for Fe^{23+} Ion
Chin. Phys. Lett. 25, 2004-2007 (2008)

Fe^{23+}	Energy Levels, Wavelengths	Th

35. M. Ascoli, E. E. Eyler, D. Kawall, D. DeMille
High-Resolution Saturation Spectroscopy of Singly-Ionized Iron with a Pulsed UV Laser
Meas. Sci. Technol. 19, 045602 (2008)

Fe^{+}	Energy Levels, Wavelengths	Exp

36. M.-H. Hu, Z.-W. Wang
Behaviours of the Excited States $1s^2np$ Along Lithium Isoelectronic Sequence from Z = 11 to 20
Chin. Phys. B 17-3, 908-914 (2008)

Li Z= 11-20	Energy Levels, Wavelengths	Th

37. M. Huttula, K. Jänkälä, A. Mäkinen, H. Aksela, S. Aksela
Core Shell Electron Spectroscopy on High Temperature Vapors: 2s Photoionization and Auger Decay of Atomic Aluminium
New J. Phys. 10, 013009 (2008)

Al	Energy Levels, Wavelengths	Exp

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Properties of Halo Nuclei from Atomic Isotope Shifts
Nucl. Phys. A790, 151-160 (2007)

He Z= 2-5	Energy Levels, Wavelengths	Th
He	Energy Levels, Wavelengths	Th
Li^{0+-2+}	Energy Levels, Wavelengths	Th

39. D. Lukić, M. Schnell, D. W. Savin, C. Brandau, E. W. Schmidt, S. Böhm, A. Müller, S. Schippers, M. Lestinsky, F. Sprenger, A. Wolf, Z. Altun, N. R. Badnell
Dielectronic Recombination of Fe XV Forming Fe XIV: Laboratory Measurements and Theoretical Calculations
Astrophys. J. 664, 1244-1252 (2007)

Fe^{13+}	Energy Levels, Wavelengths	Exp

40. M. F. Gu, P. Beiersdorfer, G. V. Brown, H. Chen, D. B. Thorn, S. M. Kahn
Wavelength Measurements of Ni L-Shell Lines Between 9 and 15 Å
Astrophys. J. 657, 1172-1177 (2007)

Ni$^{18+-25+}$	Energy Levels, Wavelengths	Exp

41. L. T. Hudson, J. D. Gillaspy, J. M. Pomeroy, C. I. Szabo, J. N. Tan, B. Radics, E. Takacs, C. T. Chander, J. A. Kimpton, M. N. Kinnane, L. F. Smale
Detection of Faint X-ray Spectral Features Using Wavelength, Energy, and Spatial Discrimination Techniques
Nucl. Instrum. Methods Phys. Res. A 580, 33-36 (2007)

Fe^{19+}	Energy Levels, Wavelengths	Exp

42. K. M. Aggarwal, F. P. Keenan
Energy Levels, Radiative Rates and Excitation Rates for Transitions in Ni XI
Astron. Astrophys. 475, 393-399 (2007)

Ni^{10+}	Energy Levels, Wavelengths	Th

43. C. Lovis, F. Pepe
A New List of Thorium and Argon Spectral Lines in the Visible
Astron. Astrophys. 468, 1115-1121 (2007)

Ar^{0+-+}	Energy Levels, Wavelengths	Exp
Th^{0+-2+}	Energy Levels, Wavelengths	Exp

44. M. Aldenius, S. G. Johansson
Accurate Ritz Wavelengths of Parity-Forbidden [Fe II], [Ti II], and [Cr II] Infrared Lines of Astrophysical Interest
Astron. Astrophys. 467, 753-760 (2007)

Ti^{+}	Energy Levels, Wavelengths	Exp
Cr^{+}	Energy Levels, Wavelengths	Exp
Fe^{+}	Energy Levels, Wavelengths	Exp

45. K. M. Aggarwal, F. P. Keenan
Energy Levels and Radiative Rates for Inner Shell Transitions of Fe XVI
Astron. Astrophys. 463-1, 399-404 (2007)

Fe^{15+}	Energy Levels, Wavelengths	Th

46. F. P. Keenan, D. B. Jess, K. M. Aggarwal, R. J. Thomas, J. W. Brosius, J. M. Davila
Fe XIII Emission Lines in Active Region Spectra Obtained with the Solar Extreme-Ultraviolet Research Telescope and Spectrograph
Mon. Not. R. Astron. Soc. 376-1, 205-214 (2007)

Fe^{12+}	Energy Levels, Wavelengths	Exp

47. X. B. Ding, C. Z. Dong, F. Koike, T. Kato
Importance of Spectator Satellites in 3d-4f X-ray Spectra from Highly Charged Xenon Atomic Ions
Phys. Lett. A 371, 124-127 (2007)

$Xe^{24+--29+}$	Energy Levels, Wavelengths	E/T

48. G. W. F. Drake, D. C. Morton
A Multiplet Table for Neutral Helium (^{4}He I) with Transition Rates
Astrophys. J., Suppl. Ser. 170, 251-260 (2007)

^4He	Energy Levels, Wavelengths	E/T
He	Energy Levels, Wavelengths	E/T

49. M. F. Gu
Many-Body Perturbation Theory Wavelengths of High-n X-ray Transitions of Fe and Ni L-Shell Ions
Astrophys. J., Suppl. Ser. 169-1, 154-158 (2007)

$Fe^{16+--23+}$	Energy Levels, Wavelengths	Th
$Ni^{18+--25+}$	Energy Levels, Wavelengths	Th

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Laboratory Measurements of High-n Iron L-Shell X-ray Lines
Astrophys. J., Suppl. Ser. 168-2, 319-336 (2007)

$Fe^{17+--23+}$	Energy Levels, Wavelengths	E/T

51. S. Osmekhin, J. Nikkinen, R. Sankari, M. Määttä, E. Kukk, A. Huttula, S. Heinäsmäki, H. Aksela, S. Aksela
Electron Correlation in the $4d^{-1}6p \rightarrow 5s^{-2}6p$ and $5s^{-1}5p^{-1}6p$ Resonance Auger Transitions of Xe
J. Electron Spectrosc. Relat. Phenom. 161, 105-108 (2007)

Xe	Energy Levels, Wavelengths	E/T

52. C. J. Sansonetti
Comment on "Argon I Lines Produced in a Hollow Cathode Source, 332 nm to 5865 nm"
J. Res. Nat. Inst. Stand. Technol. 112, 297-302 (2007)

Ar	Energy Levels, Wavelengths	Exp

53. K. Alnama, J.-H. Fillion, D. Gauyacq
Rydberg Transitions in Neon Observed by Optogalvanic Effect in the 830-870 and 380-420 nm Regions
J. Quant. Spectrosc. Radiat. Transfer 105, 139-147 (2007)

Ne	Energy Levels, Wavelengths	Exp

54. E. P. Ivanova
Energy Levels of Ions of Silver and Rhodium Isoelectronic Sequences with Z < 86
Opt. Spectrosc. 103, 733-740 (2007)

Rh Z= 55-85 step 5	Energy Levels, Wavelengths	Th
Pd Z= 60-83	Energy Levels, Wavelengths	Th
Ag Z= 52-86	Energy Levels, Wavelengths	Th

55. L. Özdemir, G. Ürer
Transition Energies, Wavelengths, Oscillator Strengths and Transition Probabilities Between 1s^2, 1sns and 1snp ($2 \leq n \leq 9$) States for He-like Silicon
J. Quant. Spectrosc. Radiat. Transfer 103, 281-301 (2007)

Si^{12+}	Energy Levels, Wavelengths	Th

56. P. Mueller, I. A. Sulai, A. C. C. Villari, J. A. Alcántara-Núñez, R. Alves-Condé, K. Bailey, G. W. F. Drake, M. Dubois, C. Eléon, G. Gaubert, R. J. Holt, R. V. F. Janssens, N. Lecesne, Z.-T. Lu, T. P. O'Connor, M.-G. Saint-Laurent, J.-C. Thomas, L.-B. Wang
Nuclear Charge Radius of ^{8}He
Phys. Rev. Lett. 99, 252501 (2007)

He	Energy Levels, Wavelengths	Exp

57. H. Nakatsuji, H. Nakashima, Y. Kurokawa, A. Ishikawa
Solving the Schrödinger Equation of Atoms and Molecules Without Analytical Integration Based on the Free Iterative-Complement-Interaction Wave Function
Phys. Rev. Lett. 99, 240402 (2007)

He	Energy Levels, Wavelengths	Th
Li^{0+--+}	Energy Levels, Wavelengths	Th
Be^{0+--+}	Energy Levels, Wavelengths	Th
B^{0+--+}	Energy Levels, Wavelengths	Th

58. H. Bruhns, J. Braun, K. Kubiček, J. R. Crespo López-Urrutia, J. Ullrich
Testing QED Screening and Two-Loop Contributions with He-like Ions
Phys. Rev. Lett. 99, 113001 (2007)

Cl^{16+}	Energy Levels, Wavelengths	Exp
Ar^{16+}	Energy Levels, Wavelengths	Exp

59. M. Stanke, D. Kędziera, S. Bubin, L. Adamowicz
Lowest Excitation Energy of ^{9}Be
Phys. Rev. Lett. 99, 043001 (2007)

^{9}Be	Energy Levels, Wavelengths	Th
Be	Energy Levels, Wavelengths	Th

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Soft X-ray Laser Spectroscopy on Trapped Highly Charged Ions at FLASH
Phys. Rev. Lett. 98, 183001 (2007)

Fe^{23+}	Energy Levels, Wavelengths	Exp

61. A. N. Artemyev, V. M. Shabaev, I. I. Tupitsyn, G. Plunien, V. A. Yerokhin
QED Calculation of the $2p_{3/2} - 2p_{1/2}$ Transition Energy in Boronlike Argon
Phys. Rev. Lett. 98, 173004 (2007)

Ar^{13+}	Energy Levels, Wavelengths	Th

62. H. Elo
A Simple Formula for Calculating the Ionization Potential of Two-Electron Ions
Naturwissenschaften 94-9, 779-780 (2007)

He Z= 3-29	Energy Levels, Wavelengths	Th

63. J. Huang, Q. Zhao, G. Jiang
Energy Levels, Transition Probabilities, and Electron Impact Excitation Collision Strengths for Xe XXVII
At. Data Nucl. Data Tables 93, 864-906 (2007)

Xe^{26+}	Energy Levels, Wavelengths	Th

64. U. Feldman, G. A. Doschek
Improved Low-Lying Energy Levels Determined From Solar Coronal Forbidden and Spin-Forbidden Lines in the 500-1500 Å Range
At. Data Nucl. Data Tables 93, 779-806 (2007)

Be Z= 10-14	Energy Levels, Wavelengths	Exp
B Z= 10-16	Energy Levels, Wavelengths	Exp
B Z= 24-26	Energy Levels, Wavelengths	Exp
C Z= 12-14	Energy Levels, Wavelengths	Exp
C Z= 16-18	Energy Levels, Wavelengths	Exp
N Z= 13-14	Energy Levels, Wavelengths	Exp
N Z= 16-20	Energy Levels, Wavelengths	Exp
N Z= 24-26	Energy Levels, Wavelengths	Exp
O Z= 18-20	Energy Levels, Wavelengths	Exp
O Z= 24-26	Energy Levels, Wavelengths	Exp
F Z= 24-27	Energy Levels, Wavelengths	Exp
Ne^{4+}	Energy Levels, Wavelengths	Exp
Ne^{4+-6+}	Energy Levels, Wavelengths	Exp
Na^{5+-7+}	Energy Levels, Wavelengths	Exp
Mg^{4+-8+}	Energy Levels, Wavelengths	Exp
Al^{5+-9+}	Energy Levels, Wavelengths	Exp
Si^{6+}	Energy Levels, Wavelengths	Exp
Si^{6+-10+}	Energy Levels, Wavelengths	Exp
S^{8+}	Energy Levels, Wavelengths	Exp
S^{8+-12+}	Energy Levels, Wavelengths	Exp
S^{11+}	Energy Levels, Wavelengths	Exp
Cl^{9+-11+}	Energy Levels, Wavelengths	Exp
Ar^{6+}	Energy Levels, Wavelengths	Exp
$Ar^{10+-12+}$	Energy Levels, Wavelengths	Exp
$K^{11+-13+}$	Energy Levels, Wavelengths	Exp
Ca^{8+}	Energy Levels, Wavelengths	Exp
$Ca^{12+-14+}$	Energy Levels, Wavelengths	Exp
$Ti^{14+-15+}$	Energy Levels, Wavelengths	Exp
$Cr^{15+-17+}$	Energy Levels, Wavelengths	Exp
Cr^{19+}	Energy Levels, Wavelengths	Exp
$Mn^{16+-18+}$	Energy Levels, Wavelengths	Exp
Mn^{20+}	Energy Levels, Wavelengths	Exp
$Fe^{10+-12+}$	Energy Levels, Wavelengths	Exp
$Fe^{16+-22+}$	Energy Levels, Wavelengths	Exp
Fe^{20+}	Energy Levels, Wavelengths	Exp
Fe^{22+}	Energy Levels, Wavelengths	Exp
$Ni^{12+-14+}$	Energy Levels, Wavelengths	Exp

$\mathbf{Ni^{18+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni^{20+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni^{22+}}$	Energy Levels, Wavelengths	Exp

65. P. Quinet, É. Biémont, P. Palmeri, E. Träbert
Relativistic Atomic Data for EUV and X-ray Lines in the Highly Charged Zn-like Ions from $\mathbf{Yb^{40+}}$ to $\mathbf{U^{62+}}$
At. Data Nucl. Data Tables 93, 711-729 (2007)

Zn Z= 70-92	Energy Levels, Wavelengths	Th

66. K. M. Aggarwal, V. Tayal, G. P. Gupta, F. P. Keenan
Energy Levels and Radiative Rates for Transitions in Mg-like Iron, Cobalt and Nickel
At. Data Nucl. Data Tables 93, 615-710 (2007)

$\mathbf{Fe^{14+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Co^{15+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Ni^{16+}}$	Energy Levels, Wavelengths	Th

67. P. Palmeri, P. Quinet, É. Biémont, E. Träbert
Wavelengths and Transition Probabilities for n=4 $\rightarrow$ n$'$=4 Transitions in Heavy Cu-like Ions (70$\leq$Z$\leq$92)
At. Data Nucl. Data Tables 93-3, 537-547 (2007)

Cu Z= 70-92	Energy Levels, Wavelengths	Th

68. G. Liang, G. Zhao, J. Zeng
Electron Impact Collision Strengths in Si IX, Si X, and Si XI
At. Data Nucl. Data Tables 93-3, 375-536 (2007)

$\mathbf{Si^{8+}}$–$^{10+}$	Energy Levels, Wavelengths	Th

69. P. Palmeri, P. Quinet, É. Biémont, E. Träbert
Wavelengths and Transition Probabilities in Heavy Ge-like Ions (70$\leq$Z$\leq$92)
At. Data Nucl. Data Tables 93-3, 355-374 (2007)

Ge Z= 70-92	Energy Levels, Wavelengths	Th

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Atomic Data and Spectral Line Intensities for Si XI
At. Data Nucl. Data Tables 93, 275-353 (2007)

$\mathbf{Si^{10+}}$	Energy Levels, Wavelengths	Th

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Multiconfiguration Dirac-Fock Wavelengths and Transition Rates in the X-ray Spectra of Highly Charged Ga-like Ions from $\mathbf{Yb^{39+}}$ to $\mathbf{U^{61+}}$
At. Data Nucl. Data Tables 93, 167-182 (2007)

Ga Z= 70-92	Energy Levels, Wavelengths	Th

72. M. Mohan, A. K. Singh, A. K. S. Jha, P. Jha
Level Energies, Oscillator Strengths, and Lifetimes for Transitions in Ti VI
At. Data Nucl. Data Tables 93, 105-126 (2007)

$\mathbf{Ti^{5+}}$	Energy Levels, Wavelengths	E/T

73. G. V. Shpatakovskaya
Ionization Potentials and Partition Functions of Ions in a Semiclassical Model
JETP Letters 86-1, 9-13 (2007)

$\mathbf{Al}^{0+-12+}$	Energy Levels, Wavelengths	Th
$\mathbf{Fe}^{0+-25+}$	Energy Levels, Wavelengths	Th

74. D. F. A. Winters, M. Vogel, D. M. Segal, R. C. Thompson, W. Nörtershäuser
Laser Spectroscopy of Hyperfine Structure in Highly Charged Ions: A Test of QED at High Fields
Can. J. Phys. 85, 403-408 (2007)

$^{35}\mathbf{Cl}^{+}$	Energy Levels, Wavelengths	Th
$\mathbf{Cl}^{+}$	Energy Levels, Wavelengths	Th
$^{37}\mathbf{Ar}^{2+}$	Energy Levels, Wavelengths	Th
$\mathbf{Ar}^{2+}$	Energy Levels, Wavelengths	Th
$^{207}\mathbf{Pb}^{+}$	Energy Levels, Wavelengths	Th
$\mathbf{Pb}^{+}$	Energy Levels, Wavelengths	Th
$^{207}\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th
$\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th
$^{209}\mathbf{Bi}^{80+}$	Energy Levels, Wavelengths	Th
$\mathbf{Bi}^{80+}$	Energy Levels, Wavelengths	Th
$\mathbf{Bi}^{82+}$	Energy Levels, Wavelengths	Th
$^{231}\mathbf{Pa}^{40+}$	Energy Levels, Wavelengths	Th
$\mathbf{Pa}^{40+}$	Energy Levels, Wavelengths	Th
$^{231}\mathbf{Pa}^{88+}$	Energy Levels, Wavelengths	Th
$\mathbf{Pa}^{88+}$	Energy Levels, Wavelengths	Th

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Xenon Ion Laser-Induced Fluorescence Using a Visible Tunable Diode Laser Near 680 nm
Rev. Sci. Instrum. 78-11, 116105 (2007)

$\mathbf{Xe}^{+}$	Energy Levels, Wavelengths	Exp

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Coupled-Cluster Single-Double Calculations of the Relativistic Energy Shifts in C IV, Na I, Mg II, Al III, Si IV, Ca II, and Zn II
Phys. Rev. A 76, 062510 (2007)

$\mathbf{C}^{3+}$	Energy Levels, Wavelengths	Th
Na	Energy Levels, Wavelengths	Th
$\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Th
$\mathbf{Al}^{2+}$	Energy Levels, Wavelengths	Th
$\mathbf{Si}^{3+}$	Energy Levels, Wavelengths	Th
$\mathbf{Ca}^{+}$	Energy Levels, Wavelengths	Th
$\mathbf{Zn}^{+}$	Energy Levels, Wavelengths	Th

77. S. Kotochigova, K. P. Kirby, I. Tupitsyn
Ab Initio Fully Relativistic Calculations of X-ray Spectra of Highly Charged Ions
Phys. Rev. A 76, 052513 (2007)

$\mathbf{Fe}^{18+}$	Energy Levels, Wavelengths	Th

78. R. Soria Orts, J. R. Crespo López Urrutia, H. Bruhns, A. J. González Martínez, Z. Harman, U. D. Jentschura, C. H. Keitel, A. Lapierre, H. Tawara, I. I. Tupitsyn, J. Ullrich, A. V. Volotka
Zeeman Splitting and g Factor of the $\mathbf{1s^2 2s^2 2p\ ^2P_{3/2}}$ and $\mathbf{^2P_{1/2}}$ Levels in $\mathbf{Ar}^{13+}$
Phys. Rev. A 76, 052501 (2007)

$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	E/T

79. C. T. Chantler, J. M. Laming, D. D. Dietrich, W. A. Hallett, R. McDonald, J. D. Silver
Hydrogenic Lamb Shift in Iron $\mathbf{Fe}^{25+}$ and Fine-Structure Lamb Shift
Phys. Rev. A 76, 042116 (2007)

$\mathbf{Fe}^{24+-25+}$	Energy Levels, Wavelengths	E/T

80. E. W. Schmidt, D. Bernhardt, A. Müller, S. Schippers, S. Fritzsche, J. Hoffmann, A. S. Jaroshevich, C. Krantz, M. Lestinsky, D. A. Orlov, A. Wolf, D. Lukić, D. W. Savin
Electron-Ion Recombination of Si IV Forming Si III: Storage-Ring Measurement and Multiconfiguration Dirac-Fock Calculations
Phys. Rev. A 76, 032717 (2007)

$\mathbf{Si}^{2+}$	Energy Levels, Wavelengths	E/T

81. N. Berrah, R. C. Bilodeau, I. Dumitriu, J. D. Bozek, N. D. Gibson, C. W. Walter, G. D. Ackerman, O. Zatsarinny, T. W. Gorczyca
Shape Resonances in the Absolute K-Shell Photodetachment of $\mathbf{B}^-$
Phys. Rev. A 76, 032713 (2007)

$\mathbf{B}^-$	Energy Levels, Wavelengths	E/T

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Beryllium doubly excited autoionizing resonances between the 2p and 3p thresholds
Phys. Rev. A 76, 032701 (2007)

Be	Energy Levels, Wavelengths	Exp

83. A. Sankari, S. Alitalo, S. Fritzsche, J. Nikkinen, A. Kivimäki, S. Aksela, H. Aksela
Excitation-Energy Dependence of the Resonant Auger Transitions to the $\mathbf{4p^4(^1D)np}$ (n=5,6) States Across the $\mathbf{3d^{-1}_{3/2}5p}$ and $\mathbf{3d^{-1}_{5/2}6p}$ Resonances in Kr
Phys. Rev. A 76, 069902 (2007)

Kr	Energy Levels, Wavelengths	E/T

84. V. A. Korol, M. G. Kozlov
Relativistic Corrections to the Isotope Shift in Light Ions
Phys. Rev. A 76, 022103 (2007)

Li	Energy Levels, Wavelengths	Th
$\mathbf{B}^+$	Energy Levels, Wavelengths	Th
$\mathbf{C}^{+-3+}$	Energy Levels, Wavelengths	Th
$\mathbf{N}^{4+}$	Energy Levels, Wavelengths	Th
$\mathbf{O}^{5+}$	Energy Levels, Wavelengths	Th
Na	Energy Levels, Wavelengths	Th
$\mathbf{Mg}^{0+-+}$	Energy Levels, Wavelengths	Th
$\mathbf{Al}^{2+}$	Energy Levels, Wavelengths	Th
$\mathbf{Si}^{3+}$	Energy Levels, Wavelengths	Th

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A Critical Compilation of Energy Levels and Spectral Lines of Neutral Boron
Phys. Scr. 76, 544-557 (2007)

$^{10}\mathbf{B}$	Energy Levels, Wavelengths	E/T
$^{11}\mathbf{B}$	Energy Levels, Wavelengths	E/T
B	Energy Levels, Wavelengths	E/T

86. F. Peng, S. Q. Song, G. Jiang
Transition Properties of the Kα X-ray from Al through Al XII
Phys. Scr. 76, 501-509 (2007)

$\mathbf{Al}^{0+-11+}$	Energy Levels, Wavelengths	Th

87. G. P. Gupta, A. Msezane
Fine-Structure Energy Levels, Oscillator Strengths and Lifetimes in Mn XIII
Phys. Scr. 76, 225-232 (2007)

$\mathbf{Mn}^{12+}$	Energy Levels, Wavelengths	Th

88. J. C. Wang, M. Lu, D. Esteves, M. Habibi, G. Alna'washi, R. A. Phaneuf, A. L. D. Kilcoyne
Photoionization and Electron-Impact Ionization of $\mathbf{Ar}^{5+}$
Phys. Rev. A 75, 062712 (2007)

$\mathbf{Ar}^{5+}$	Energy Levels, Wavelengths	Exp

89. V. A. Yerokhin, A. N. Artemyev, V. M. Shabaev
QED Treatment of Electron Correlation in Li-like Ions
Phys. Rev. A 75, 062501 (2007)

Li Z= 3-92	Energy Levels, Wavelengths	Th

90. M. Stanke, D. Kędziera, S. Bubin, L. Adamowicz
Ionization Potential of ^{9}Be Calculated Including Nuclear Motion and Relativistic Corrections
Phys. Rev. A 75, 052510 (2007)

$^9\mathbf{Be}$	Energy Levels, Wavelengths	Th
Be	Energy Levels, Wavelengths	Th
$^9\mathbf{Be}^{0+-+}$	Energy Levels, Wavelengths	Th
$\mathbf{Be}^{0+-+}$	Energy Levels, Wavelengths	Th

91. V. A. Dzuba, V. V. Flambaum
Core-Valence Correlations for Atoms with Open Shells
Phys. Rev. A 75, 052504 (2007)

$\mathbf{Xe}^{0+-7+}$	Energy Levels, Wavelengths	Th

92. N. A. B. Faye, A. S. Ndao, A. Konté, M. Biaye, A. Wague
Energy Levels in the Resonant Photoionization of Heliumlike $\mathbf{Ne}^{8+}$
Phys. Rev. A 75, 042713 (2007)

$\mathbf{Ne}^{8+}$	Energy Levels, Wavelengths	Th

93. S. R. Lundeen, C. W. Fehrenbach
Polarizability of $\mathbf{Kr}^{6+}$ from High-L $\mathbf{Kr}^{5+}$ Fine-Structure Measurements
Phys. Rev. A 75, 032523 (2007)

$\mathbf{Kr}^{5+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Kr}^{6+}$	Energy Levels, Wavelengths	Exp

94. K. Fahy, E. Sokell, G. O'Sullivan, A. Aguilar, J. M. Pomeroy, J. N. Tan, J. D. Gillaspy
Extreme-Ultraviolet Spectroscopy of Highly Charged Xenon Ions Created Using an Electron-Beam Ion Trap
Phys. Rev. A 75, 032520 (2007)

$\mathbf{Xe}^{6+\text{--}9+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{23+\text{--}26+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{35+\text{--}43+}$	Energy Levels, Wavelengths	Exp

95. L. E. Wright, E. L. Snow, S. R. Lundeen, W. G. Sturrus
Optical Spectroscopy of High-L Rydberg States of Argon
Phys. Rev. A 75, 022503 (2007)

Ar	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{+}$	Energy Levels, Wavelengths	Exp

96. T. Trickl, A. H. Kung, Y. T. Lee
Krypton Atom and Testing the Limits of Extreme-Ultraviolet Tunable-Laser Spectroscopy
Phys. Rev. A 75, 022501 (2007)

$^{78}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp
$^{80}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp
$^{82}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp
$^{83}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp
$^{84}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp
$^{86}\mathbf{Kr}$	Energy Levels, Wavelengths	Exp
Kr	Energy Levels, Wavelengths	Exp

97. Z. Zhou, S.-I Chu
Spin-Dependent Localized Hartree-Fock Density-Functional Approach for the Accurate Treatment of Inner-Shell Excitation of Closed-Shell Atoms
Phys. Rev. A 75, 014501 (2007)

Be	Energy Levels, Wavelengths	Th
$\mathbf{B}^{+}$	Energy Levels, Wavelengths	Th
Ne	Energy Levels, Wavelengths	Th
Mg	Energy Levels, Wavelengths	Th

98. S. Fritzsche, J. Nikkinen, S.-M. Huttula, H. Aksela, M. Huttula, S. Aksela
Interferences in the $\mathbf{3p^4nl}$ Satellite Emission Following the Excitation of Argon across the $\mathbf{2p^5_{1/2}4s}$ and $\mathbf{2p^5_{3/2}3d}$ J=1 Resonances
Phys. Rev. A 75, 012501 (2007)

Ar	Energy Levels, Wavelengths	E/T

99. C. J. Sansonetti, M. B. Greene
Infrared Spectrum and Revised Energy Levels for Neutral Krypton
Phys. Scr. 75-5, 577-603 (2007)

Kr	Energy Levels, Wavelengths	Exp

100. K. Pachucki
Helium Energy Levels Including mα^6 Corrections
Phys. Rev. A 74, 062510 (2007)

$^{4}\mathbf{He}$	Energy Levels, Wavelengths	Th
He	Energy Levels, Wavelengths	Th

101. D. S. Kim, Y. S. Kim
Resonant Structures of Overlapping Autoionization Rydberg Series in Photoionization of the $\mathbf{N^{3+}}$ Ion
J. Korean Phys. Soc. 51-1, 312-317 (2007)

N^{5+}	Energy Levels, Wavelengths	E/T

102. V. Tayal, G. P. Gupta
Fine-Structure Energy Levels, Oscillator Strengths and Lifetimes in Mg-like Chromium
Eur. Phys. J. D 44, 449-457 (2007)

Cr^{12+}	Energy Levels, Wavelengths	Th

103. J. P. Marques, F. Parente, P. Indelicato
Hyperfine Quenching of the 4s4p $^3P_0$ Level in Zn-like Ions
Eur. Phys. J. D 41, 457-465 (2007)

Zn Z= 30-92	Energy Levels, Wavelengths	Th

104. T. Kessler, K. Brück, C. Baktash, J. R. Beene, Ch. Geppert, C. C. Havener, H. F. Krause, Y. Liu, D. R. Schultz, D. W. Stracener, C. R. Vane, K. Wendt
Three-Step Resonant Photoionization Spectroscopy of Ni and Ge: Ionization Potential and Odd-Parity Rydberg Levels
J. Phys. B 40, 4413-4432 (2007)

Ni	Energy Levels, Wavelengths	Exp
Ge	Energy Levels, Wavelengths	Exp

105. Z. Zhou, S.-I Chu
Inner-Shell Excitation of Open-Shell Atoms: A Spin-Dependent Localized Hartree-Fock Density-Functional Approach
J. Phys. B 40, 4379-4389 (2007)

Li	Energy Levels, Wavelengths	Th
B	Energy Levels, Wavelengths	Th
Ne^{+-3+}	Energy Levels, Wavelengths	Th
Na	Energy Levels, Wavelengths	Th

106. T. Kaneyasu, Y. Hikosaka, E. Shigemasa, F. Penent, P. Lablanquie, T. Aoto, K. Ito
Autoionization of the Ne^+ Rydberg States Formed via Valence Photoemission
J. Phys. B 40, 4047-4060 (2007)

Ne^+	Energy Levels, Wavelengths	Exp

107. Yu. Ralchenko, J. Reader, J. M. Pomeroy, J. N. Tan, J. D. Gillaspy
Spectra of W^{39+}–W^{47+} in the 12–20 nm Region Observed with an EBIT Light Source
J. Phys. B 40, 3861-3875 (2007)

$W^{39+-47+}$	Energy Levels, Wavelengths	Exp

108. L. Partanen, M. Huttula, H. Aksela, S. Aksela
The $M_{4,5}$N–NNN Auger Transitions in Kr
J. Phys. B 40, 3795-3805 (2007)

Kr	Energy Levels, Wavelengths	E/T

109. L. Argenti, R. Moccia
^{3}S, $^3P^{o,e}$, $^3D^{e,o}$ Resonance Series in Helium
J. Phys. B 40, 3655-3675 (2007)

He	Energy Levels, Wavelengths	Th

110. K. Jänkälä, S. Fritzsche, M. Huttula, J. Schulz, S. Urpelainen, S. Heinäsmäki, S. Aksela, H. Aksela
Many-Electron Effects in 2p Photoionization and Auger Decay of Atomic Aluminium
J. Phys. B 40, 3435-3451 (2007)

Al	Energy Levels, Wavelengths	Exp

111. A. E. Kingston, A. Hibbert
Transitions from the $3p^6 3d$ Ground State of Potassium-like Vanadium
J. Phys. B 40, 3389-3399 (2007)

$\mathbf{V^{4+}}$	Energy Levels, Wavelengths	Th

112. P. Oliver, A. Hibbert
Breit-Pauli Oscillator Strengths for Transitions Among Fine-Structure Levels of Cl I
J. Phys. B 40, 2847-2870 (2007)

Cl	Energy Levels, Wavelengths	Th

113. A. Jarosz, D. Stefańska, M. Elantkowska, J. Ruczkowski, A. Buczek, B. Furmann, P. Glowacki, A. Krzykowski, Ł. Piątkowski, E. Stachowska, J. Dembczyński
High Precision Investigations of the Hyperfine Structure of Metastable Levels in a Chromium Atom
J. Phys. B 40, 2785-2797 (2007)

$^{53}\mathbf{Cr}$	Energy Levels, Wavelengths	E/T
Cr	Energy Levels, Wavelengths	E/T

114. H. Yoshii, T. Aoto, Y. Morioka, T. Hayaishi
Satellite Structures of Kr and Xe Studied by High-Resolution Threshold Photoelectron Spectroscopy
J. Phys. B 40, 2765-2783 (2007)

$\mathbf{Kr^{+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe^{+}}$—$^{2+}$	Energy Levels, Wavelengths	Exp

115. I. Orban, E. Lindroth, P. Glans, R. Schuch
Spectroscopic Study of Doubly Excited States in Mg-like Si Using Dielectronic Recombination
J. Phys. B 40, 1063-1080 (2007)

$\mathbf{Si^{2+}}$	Energy Levels, Wavelengths	E/T

116. M. Gallardo, M. Raineri, J. Reyna Almandos, S. Padilla, J. M. Luque Raigón
New Classified Lines and Energy Levels in the Ne IV Spectrum
Spectrosc. Lett. 40-6, 879-891 (2007)

$\mathbf{Ne^{3+}}$	Energy Levels, Wavelengths	Exp

117. D. R. Beck
Ab Initio Electric Dipole f Values for Fe II $(3d+4s)^7$ J=9/2 → $(3d+4s)^6 4p$ J=11/2 Transitions
J. Phys. B 40, 651-657 (2007)

$\mathbf{Fe^{+}}$	Energy Levels, Wavelengths	Th

118. S. Song, G. Wang, A. Ye, G. Jiang
Multi-Configuration Dirac-Fock Calculations of the Hyperfine Structure Constants A and B of Neutral Cu, Ag and Au
J. Phys. B 40, 475-484 (2007)

^{63}**Cu**	Energy Levels, Wavelengths	Th
^{65}**Cu**	Energy Levels, Wavelengths	Th
^{66}**Cu**	Energy Levels, Wavelengths	Th
Cu	Energy Levels, Wavelengths	Th
^{107}**Ag**	Energy Levels, Wavelengths	Th
^{108}**Ag**	Energy Levels, Wavelengths	Th
^{109}**Ag**	Energy Levels, Wavelengths	Th
^{110}**Ag**	Energy Levels, Wavelengths	Th
Ag	Energy Levels, Wavelengths	Th
^{195}**Au**	Energy Levels, Wavelengths	Th
^{197}**Au**	Energy Levels, Wavelengths	Th
^{199}**Au**	Energy Levels, Wavelengths	Th
Au	Energy Levels, Wavelengths	Th

119. Q. Wu, G. W. F. Drake
Hyperfine Structure of the 2 ^{3}P State of ^{3}He With and Without an External Magnetic Field
J. Phys. B 40, 393-402 (2007)

^{3}**He**	Energy Levels, Wavelengths	Th
He	Energy Levels, Wavelengths	Th

120. Yu. Ralchenko
Density Dependence of the Forbidden Lines in Ni-like Tungsten
J. Phys. B 40, F175-F180 (2007)

$\mathbf{W}^{46+}$	Energy Levels, Wavelengths	E/T

121. F. O. Borges, G. H. Cavalcanti, E. E. Farias, A. G. Trigueiros
The Study of 3s3p^4 Configuration in the P-Sequence, Co XIII–Ni XIV, by Laser-Produced Plasmas
Braz. J. Phys. 37-2A, 335-336 (2007)

$\mathbf{Co}^{12+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{13+}$	Energy Levels, Wavelengths	Exp

122. T. Shirai, J. Reader, A. E. Kramida, J. Sugar
Spectral Data for Gallium: Ga I through Ga XXXI
J. Phys. Chem. Ref. Data 36-2, 509-615 (2007)

$\mathbf{Ga}^{0+-3+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ga}^{0+-6+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ga}^{4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ga}^{5+-12+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ga}^{12+-25+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ga}^{13+-28+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ga}^{28+-30+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ga}^{29+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ga}^{30+}$	Energy Levels, Wavelengths	E/T

123. E. B. Saloman
Energy Levels and Observed Spectral Lines of Krypton, Kr I through Kr XXXVI
J. Phys. Chem. Ref. Data 36-1, 215-386 (2007)

^{84}**Kr**	Energy Levels, Wavelengths	E/T
^{86}**Kr**	Energy Levels, Wavelengths	E/T
Kr^{0+-2+}	Energy Levels, Wavelengths	E/T
Kr^{0+-9+}	Energy Levels, Wavelengths	E/T
Kr^{3+-6+}	Energy Levels, Wavelengths	E/T
Kr^{7+-8+}	Energy Levels, Wavelengths	E/T
Kr^{9+-17+}	Energy Levels, Wavelengths	E/T
Kr$^{10+-16+}$	Energy Levels, Wavelengths	E/T
Kr$^{11+-34+}$	Energy Levels, Wavelengths	E/T
Kr$^{18+-32+}$	Energy Levels, Wavelengths	E/T
Kr^{33+}	Energy Levels, Wavelengths	E/T
Kr$^{33+-35+}$	Energy Levels, Wavelengths	E/T

124. S.-H. Chen, X.-Y. Han, X.-L. Wang, J.-M. Li
Theoretical Study of Relativistic Retardation Effects: The Abnormal Fine Structure of O II
Chin. Phys. Lett. 24, 1214-1216 (2007)

O^{+}	Energy Levels, Wavelengths	Th

125. X.-L. Wu, K.-Z. Yu, B.-C. Gou, M. Zhang
Calculations on the Hyperfine Constants of the Ground States for Lithium-like System
Chin. Phys. 16, 2389-2393 (2007)

Li Z= 3-9	Energy Levels, Wavelengths	Th
^{7}**Li**	Energy Levels, Wavelengths	Th
^{9}**Be**$^{+}$	Energy Levels, Wavelengths	Th
^{11}**B**$^{2+}$	Energy Levels, Wavelengths	Th
^{13}**C**$^{3+}$	Energy Levels, Wavelengths	Th
^{15}**N**$^{4+}$	Energy Levels, Wavelengths	Th
^{17}**O**$^{5+}$	Energy Levels, Wavelengths	Th
^{19}**F**$^{6+}$	Energy Levels, Wavelengths	Th

126. G.-L. Wang, X.-X. Zhou
K-Shell Photoionization of Boron-like Carbon Ions: Analysis of 1s-2p Resonances
Chin. Phys. 16, 2361-2366 (2007)

C^{+}	Energy Levels, Wavelengths	Th

127. A. Iwamae, M. Atake, A. Sakaue, R. Katai, M. Goto, S. Morita
Polarization Separated Zeeman Spectra from Magnetic Dipole Transitions in Highly Charged Argon in the Large Helical Device
Phys. Plasmas 14-4, 042504 (2007)

Ar^{9+}	Energy Levels, Wavelengths	Exp
Ar^{10+}	Energy Levels, Wavelengths	Exp
Ar^{13+}	Energy Levels, Wavelengths	Exp
Ar^{14+}	Energy Levels, Wavelengths	Exp

128. R. Radtke, C. Biedermann, G. Fussmann, J. L. Schwob, P. Mandelbaum, R. Doron
Measured Line Spectra and Calculated Atomic Physics Data for Highly Charged Tungsten Ions
Atomic and Plasma-Material Interaction Data for Fusion, Vol. 13, International Atomic Energy Agency, (2007)

W$^{25+-45+}$	Energy Levels, Wavelengths	E/T
W$^{28+-45+}$	Energy Levels, Wavelengths	E/T

129. K. J. Öberg
Development of Experimental Methods, Data Analysis and Standards in Atomic Spectroscopy
Thesis of Univ. Lund , (2007)

Ne$^{+–2+}$	Energy Levels, Wavelengths	Exp
Y^{2+}	Energy Levels, Wavelengths	Exp

130. P. R. Young, A. K. Dupree, B. R. Espey, S. J. Kenyon
High-Ionization Forbidden Lines in the UV Spectrum of AG Draconis
Astrophys. J. 650, 1091-1095 (2006)

Mg$^{4+–6+}$	Energy Levels, Wavelengths	Exp
Si^{6+}	Energy Levels, Wavelengths	Exp
Ca^{6+}	Energy Levels, Wavelengths	Exp
Fe^{6+}	Energy Levels, Wavelengths	Exp

131. F. P. Keenan, J. J. Drake, S. Chung, N. S. Brickhouse, K. M. Aggarwal, A. Msezane, R. S. I. Ryans, D. S. Bloomfield
Soft X-ray Emission Lines of Fe XV in Solar Flare Observations and the Chandra Spectrum of Capella
Astrophys. J. 645-1, 597-604 (2006)

Fe^{14+}	Energy Levels, Wavelengths	Exp

132. D. W. Savin, G. Gwinner, M. Grieser, R. Repnow, M. Schnell, D. Schwalm, A. Wolf, S.-G. Zhou, S. Kieslich, A. Müller, S. Schippers, J. Colgan, S. D. Loch, N. R. Badnell, M. H. Chen, M. F. Gu
Dielectronic Recombination of Fe XXIII Forming Fe XXII: Laboratory Measurements and Theoretical Calculations
Astrophys. J. 642-2, 1275-1285 (2006)

Fe^{21+}	Energy Levels, Wavelengths	Exp

133. M. F. Gu, T. Holczer, E. Behar, S. M. Kahn
Inner-Shell Absorption Lines of Fe VI–Fe XVI: A Many-Body Perturbation Theory Approach
Astrophys. J. 641-2, 1227-1232 (2006)

Fe$^{5+–15+}$	Energy Levels, Wavelengths	Th

134. E. Landi, M. F. Gu
Atomic Data for High-Energy Configurations in Fe XVII-XXIII
Astrophys. J. 640-2, 1171-1179 (2006)

Fe$^{16+–22+}$	Energy Levels, Wavelengths	Th

135. K. M. Aggarwal, F. P. Keenan
Energy Levels and Radiative Rates for Transitions in Ni XIX
Astron. Astrophys. 460-3, 959-965 (2006)

Ni^{18+}	Energy Levels, Wavelengths	Th

136. K. M. Aggarwal, F. P. Keenan, T. Kato, I. Murakami
Energy Levels and Radiative Rates for Transitions in Fe IX
Astron. Astrophys. 460-1, 331-337 (2006)

Fe^{8+}	Energy Levels, Wavelengths	Th

137. G. Del Zanna
Benchmarking Atomic Data for Astrophysics: Fe XVIII
Astron. Astrophys. 459-1, 307-316 (2006)

Fe^{17+}	Energy Levels, Wavelengths	E/T

138. V. Jonauskas, P. Bogdanovich, F. P. Keenan, R. Kisielius, M. E. Foord, R. F. Heeter, S. J. Rose, G. J. Ferland, P. H. Norrington
Energy Levels and Transition Probabilities for Boron-like Fe XXII
Astron. Astrophys. 455-3, 1157-1160 (2006)

Fe^{21+}	Energy Levels, Wavelengths	Th

139. G. Del Zanna
Benchmarking Atomic Data for Astrophysics: Fe XXIV
Astron. Astrophys. 447-2, 761-768 (2006)

Fe^{23+}	Energy Levels, Wavelengths	E/T

140. R. J. Blackwell-Whitehead, H. Lundberg, G. Nave, J. C. Pickering, H. R. A. Jones, Y. Lyubchik, Y. V. Pavlenko, S. Viti
Experimental Ti I Oscillator Strengths and Their Application to Cool Star Analysis
Mon. Not. R. Astron. Soc. 373-4, 1603-1609 (2006)

Ti	Energy Levels, Wavelengths	Exp

141. M. Aldenius, S. G. Johansson, M. T. Murphy
Accurate Laboratory Ultraviolet Wavelengths for Quasar Absorption-Line Constraints on Varying Fundamental Constants
Mon. Not. R. Astron. Soc. 370-1, 444-452 (2006)

Mg^{0+}–$^{+}$	Energy Levels, Wavelengths	Exp
Ti^{+}	Energy Levels, Wavelengths	Exp
Cr^{+}	Energy Levels, Wavelengths	Exp
Mn^{+}	Energy Levels, Wavelengths	Exp
Fe^{+}	Energy Levels, Wavelengths	Exp
Zn^{+}	Energy Levels, Wavelengths	Exp

142. C. Z. Dong, T. Kato, S. Fritzsche, F. Koike
Lifetimes and Branching Fractions of the High Angular Momentum States of Aluminium-like Iron Group Elements
Mon. Not. R. Astron. Soc. 369-4, 1735-1740 (2006)

Al Z= 24-32 step 2	Energy Levels, Wavelengths	Th

143. U. I. Safronova, T. E. Cowan, M. S. Safronova
Relativistic Many-Body Calculations of Energies, E2, and M1 Transition Rates of $4s^24p$ States in Ga-like Ions
Phys. Lett. A 348, 293-298 (2006)

Ga Z= 31-92	Energy Levels, Wavelengths	Th
Ga Z= 31-98	Energy Levels, Wavelengths	Th

144. K. Kawatsura, K. Takahiro, M. Sataka, M. Imai, K. Komaki, H. Sugai, H. Shibata
Ejected-Electron Spectra from Rydberg States in High-Energy Collisions of O^{3+} Ions with He
Nucl. Instrum. Methods Phys. Res. B 245, 44-46 (2006)

O^{3+}	Energy Levels, Wavelengths	Exp

145. E. Träbert
Atomic Spectroscopy of Trapped, Highly Charged, Heavy Ions
Hyperfine Interact. 173, 13-18 (2006)

B Z= 14-54	Energy Levels, Wavelengths	Exp

146. G. W. F. Drake, Z.-C. Yan
Studies of Light Halo Nuclei by the Isotope Shift Method
Hyperfine Interact. 172, 141-147 (2006)

He	Energy Levels, Wavelengths	E/T

147. E. Landi, K. J. H. Phillips
Chianti - an Atomic Database for Emission Lines. VIII. Comparison with Solar Flare Spectra from the Solar Maximum Mission Flat Crystal Spectrometer
Astrophys. J., Suppl. Ser. 166-1, 421-440 (2006)

$Fe^{17+--21+}$	Energy Levels, Wavelengths	Exp

148. N. Verma, A. K. S. Jha, M. Mohan
New Relativistic Atomic Data for Fe IX
Astrophys. J., Suppl. Ser. 164-1, 297-305 (2006)

Fe^{8+}	Energy Levels, Wavelengths	Th

149. S. G. Karshenboim, S. I. Eidelman, P. Fendel, V. G. Ivanov, N. N. Kolachevsky, V. A. Shelyuto, T. W. Hänsch
Study of Hyperfine Structure in Simple Atoms and Precision Tests of the Bound State QED
Nucl. Phys. B - Proc. Suppl. 162, 260-263 (2006)

^{1}H	Energy Levels, Wavelengths	Th
H	Energy Levels, Wavelengths	Th
$^{3}He^{+}$	Energy Levels, Wavelengths	Th
He^{+}	Energy Levels, Wavelengths	Th
D	Energy Levels, Wavelengths	Th
T	Energy Levels, Wavelengths	Th

150. M. Raineri, M. Gallardo, J. G. Reyna Almandos
Spectral Analysis of the $4d^{9}6s$ Configuration in Eight Times Ionized Xenon, Xe IX
J. Quant. Spectrosc. Radiat. Transfer 102, 391-395 (2006)

Xe^{8+}	Energy Levels, Wavelengths	E/T

151. J. Zeng, G. Zhao, J. Yuan
Configuration Interaction Effects on the Energy Levels and Oscillator Strengths of Lowly Charged Gold Ions: Au^{11+} as an Example
J. Quant. Spectrosc. Radiat. Transfer 102, 172-180 (2006)

Au^{11+}	Energy Levels, Wavelengths	Th

152. M. E. Foord, R. F. Heeter, H.-K. Chung, P. A. M. van Hoof, J. E. Bailey, M. E. Cuneo, D. A. Liedahl, K. B. Fournier, V. Jonauskas, R. Kisielius, C. Ramsbottom, P. T. Springer, F. P. Keenan, S. J. Rose, W. H. Goldstein
Study of X-ray Photoionized Fe Plasma and Comparisons with Astrophysical Modeling Codes
J. Quant. Spectrosc. Radiat. Transfer 99, 712-729 (2006)

$\mathbf{Fe^{15+}–^{17+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Fe^{17+}}$	Energy Levels, Wavelengths	E/T

153. G. X. Chen, K. Kirby, E. Silver, N. S. Brickhouse, J. D. Gillaspy, J. N. Tan, J. M. Pomeroy, J. M. Laming
The 3C/3D Line Ratio in Ni XIX: New Ab Initio Theory and Experimental Results
Phys. Rev. Lett. 99, 109902 (2006)

$\mathbf{Ni^{18+}}$	Energy Levels, Wavelengths	Exp

154. R. Soria Orts, Z. Harman, J. R. Crespo López-Urrutia, A. N. Artemyev, H. Bruhns, A. J. González Martínez, U. D. Jentschura, C. H. Keitel, A. Lapierre, V. Mironov, V. M. Shabaev, H. Tawara, I. I. Tupitsyn, J. Ullrich, A. V. Volotka
Exploring Relativistic Many-Body Recoil Effects in Highly Charged Ions
Phys. Rev. Lett. 97, 103002 (2006)

$\mathbf{Ar^{13+}–^{14+}}$	Energy Levels, Wavelengths	E/T

155. K. Pachucki
Improved Theory of Helium Fine Structure
Phys. Rev. Lett. 97, 013002 (2006)

He	Energy Levels, Wavelengths	Th

156. A. G. Trigueiros, F. O. Borges, G. H. Cavalcanti, E. E. Farias
Extended Analysis of the 3s3p^3 Configuration in the Si I Sequence (V X–Cu XVI) by Laser-Produced Plasmas
J. Quant. Spectrosc. Radiat. Transfer 97, 29-33 (2006)

Si Z= 23-29	Energy Levels, Wavelengths	Exp
Si Z= 25-29	Energy Levels, Wavelengths	Exp

157. K. C. Prince, M. Coreno, R. Richter, M. de Simone, V. Feyer, A. Kivimäki, A. Mihelič, M. Žitnik
Detection of the ^{1}P^e Series of Doubly Excited Helium States Below N=2 via the Stark Effect
Phys. Rev. Lett. 96, 093001 (2006)

He	Energy Levels, Wavelengths	Exp

158. C. Froese Fischer, G. I. Tachiev, A. Irimia
Relativistic Energy Levels, Lifetimes, and Transition Probabilities for the Sodium-like to Argon-like Sequences
At. Data Nucl. Data Tables 92, 607-812 (2006)

Na Z= 11-26	Energy Levels, Wavelengths	Th
Mg Z= 12-26	Energy Levels, Wavelengths	Th
Al Z= 13-26	Energy Levels, Wavelengths	Th
Si Z= 14-26	Energy Levels, Wavelengths	Th
P Z= 15-26	Energy Levels, Wavelengths	Th
S Z= 16-26	Energy Levels, Wavelengths	Th
Cl Z= 17-26	Energy Levels, Wavelengths	Th
Ar Z= 18-26	Energy Levels, Wavelengths	Th

159. E. Landi, A. K. Bhatia
Atomic Data and Spectral Line Intensities for Ar XI
At. Data Nucl. Data Tables 92, 305-374 (2006)

$\mathbf{Ar}^{10+}$	Energy Levels, Wavelengths	Th

160. W. O. Younis, S. H. Allam, Th. M. El-Sherbini
Fine-Structure Calculations of Energy Levels, Oscillator Strengths, and Transition Probabilities for Sodium-like Ions (Co XVII–Kr XXVI)
At. Data Nucl. Data Tables 92, 187-205 (2006)

Na Z= 27-36	Energy Levels, Wavelengths	Th

161. F. Wang, B. C. Gou
Relativistic Energy, Fine Structure, and Hyperfine-Structure Studies of the High-Lying Core-Excited States ^{5}P(n) (n=1-3) and ^{5}S°(m) (m=1-3) for the Be-like Isoelectronic Sequence
At. Data Nucl. Data Tables 92, 176-185 (2006)

Be Z= 7-10	Energy Levels, Wavelengths	Th
$^{14}\mathbf{N}^{3+}$	Energy Levels, Wavelengths	Th
$^{17}\mathbf{O}^{4+}$	Energy Levels, Wavelengths	Th
$^{20}\mathbf{F}^{5+}$	Energy Levels, Wavelengths	Th
$^{22}\mathbf{Ne}^{6+}$	Energy Levels, Wavelengths	Th

162. U. I. Safronova, A. S. Safronova, S. M. Hamasha, P. Beiersdorfer
Relativistic Many-Body Calculations of Multipole (E1, M1, E2, M2, E3, and M3) Transition Wavelengths and Rates Between $3\ell^{-1}4\ell'$ Excited and Ground States in Nickel-like Ions
At. Data Nucl. Data Tables 92, 47-104 (2006)

Ni Z= 36-92	Energy Levels, Wavelengths	Th

163. L. M. He, W. Cao
Many-Body Calculation of Helium ^{1}D–^{3}D Term Intervals for 1snd (n=12 $\sim$ 20) High Rydberg States
Can. J. Phys. 84, 1097-1106 (2006)

He	Energy Levels, Wavelengths	Th

164. D. C. Morton, Q. Wu, G. W. F. Drake
Energy Levels for the Stable Isotopes of Atomic Helium (^{4}He I and ^{3}He I)
Can. J. Phys. 84-2, 83-105 (2006)

$^{3}\mathbf{He}$	Energy Levels, Wavelengths	Th
$^{4}\mathbf{He}$	Energy Levels, Wavelengths	Th
He	Energy Levels, Wavelengths	Th

165. P. Beiersdorfer, M. Bitter, L. Roquemore, J. K. Lepson, M.-F. Cu
Grazing-Incidence Spectrometer for Soft X-ray and Extreme Ultraviolet Spectroscopy on the National Spherical Torus Experiment
Rev. Sci. Instrum. 77-10, 10F306 (2006)

$\mathbf{B}^{3+}$	Energy Levels, Wavelengths	Exp
$\mathbf{B}^{4+}$	Energy Levels, Wavelengths	Exp
$\mathbf{C}^{4+}$	Energy Levels, Wavelengths	Exp
$\mathbf{C}^{5+}$	Energy Levels, Wavelengths	Exp
$\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp
$\mathbf{N}^{6+}$	Energy Levels, Wavelengths	Exp
$\mathbf{O}^{6+}$	Energy Levels, Wavelengths	Exp
$\mathbf{O}^{7+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{8+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{16+-18+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{18+}$	Energy Levels, Wavelengths	Exp

166. K. T. Cheng, M. H. Chen
A Large-Scale Relativistic Configuration-Interaction Calculation for the 4s-4p Transition Energies of Copperlike Heavy Ions
Radiat. Phys. Chem. 75-11, 1753-1756 (2006)

$\mathbf{W}^{45+}$	Energy Levels, Wavelengths	Th
$\mathbf{Au}^{50+}$	Energy Levels, Wavelengths	Th
$\mathbf{Pb}^{53+}$	Energy Levels, Wavelengths	Th
$\mathbf{Th}^{61+}$	Energy Levels, Wavelengths	Th
$\mathbf{U}^{63+}$	Energy Levels, Wavelengths	Th

167. M. N. Kinnane, J. A. Kimpton, C. T. Chantler
A Status Report on Experimental Tests of QED in Medium-Z Systems
Radiat. Phys. Chem. 75-11, 1744-1748 (2006)

$\mathbf{Ti}^{19+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ti}^{20+}$	Energy Levels, Wavelengths	Exp

168. N. Berrah, R. C. Bilodeau, J. D. Bozek, C. W. Walter, N. D. Gibson, G. D. Ackerman
Double-Auger Decay, Feshbach and Shape Resonances in Negative Ions
Radiat. Phys. Chem. 75-11, 1447-1450 (2006)

$\mathbf{He}^{-}$	Energy Levels, Wavelengths	Exp

169. M. Lu, G. Alna'washi, M. Habibi, M. F. Gharaibeh, R. A. Phaneuf, A. L. D. Kilcoyne, E. Levenson, A. S. Schlachter, C. Cisneros, G. Hinojosa
Photoionization and Electron-Impact Ionization of $\mathbf{Kr}^{3+}$
Phys. Rev. A 74, 062701 (2006)

$^{84}\mathbf{Kr}^{3+}$	Energy Levels, Wavelengths	Exp
$^{86}\mathbf{Kr}^{3+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Kr}^{3+}$	Energy Levels, Wavelengths	Exp

170. M. Schäfer, F. Merkt
Millimeter-Wave Spectroscopy and Multichannel Quantum-Defect-Theory Analysis of High Rydberg States of Krypton: The Hyperfine Structure of $^{83}\mathbf{Kr}^{+}$
Phys. Rev. A 74, 062506 (2006)

$^{83}\mathbf{Kr}$	Energy Levels, Wavelengths	E/T
$^{84}\mathbf{Kr}$	Energy Levels, Wavelengths	E/T
$\mathbf{Kr}$	Energy Levels, Wavelengths	E/T
$^{83}\mathbf{Kr}^{0+--+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Kr}^{0+--+}$	Energy Levels, Wavelengths	E/T

171. T. Nakamura, M. Wada, K. Okada, A. Takamine, Y. Ishida, Y. Yamazaki, T. Kambara, Y. Kanai, T. M. Kojima, Y. Nakai, N. Oshima, A. Yoshida, T. Kubo, S. Ohtani, K. Noda, I. Katayama, V. Lioubimov, H. Wollnik, V. Varentsov, H. A. Schuessler
Laser Spectroscopy of $^{7,10}\mathbf{Be}^{+}$ in an Online Ion Trap
Phys. Rev. A 74, 052503 (2006)

$^{7}\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Exp
$^{10}\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Exp

172. M. L. Bissell, K. Baczynska, J. Billowes, P. Campbell, B. Cheal, T. Eronen, D. H. Forest, M. D. Gardner, I. D. Moore, B. Tordoff, G. Tungate, J. Äystö
Model Independent Determination of the Spin of the $^{180}\mathbf{Ta}$ Naturally Occurring Isomer
Phys. Rev. C 74, 047301 (2006)

^{180}**Ta**	Energy Levels, Wavelengths	E/T
^{181}**Ta**	Energy Levels, Wavelengths	E/T
Ta	Energy Levels, Wavelengths	E/T

173. Y. Ralchenko, J. N. Tan, J. D. Gillaspy, J. M. Pomeroy, E. Silver
Accurate Modeling of Benchmark X-ray Spectra from Highly Charged Ions of Tungsten
Phys. Rev. A 74, 042514 (2006)

$\mathbf{W}^{45+}$	Energy Levels, Wavelengths	E/T
$\mathbf{W}^{46+}$	Energy Levels, Wavelengths	E/T

174. M. H. Chen, K. T. Cheng, W. R. Johnson, J. Sapirstein
QED Corrections to the 4p-4d Transition Energies of Copperlike Heavy Ions
Phys. Rev. A 74, 042510 (2006)

Cu Z= 70-92	Energy Levels, Wavelengths	Th

175. B. A. deHarak, J. G. Childers, N. L. S. Martin
Ejected Electron Spectrum of He Below the N=2 Threshold
Phys. Rev. A 74, 032714 (2006)

He	Energy Levels, Wavelengths	Exp

176. K. Pachucki
α^4**R Corrections to Singlet States of Helium**
Phys. Rev. A 74, 022512 (2006)

He	Energy Levels, Wavelengths	Th

177. H. C. Ho, W. R. Johnson, S. A. Blundell, M. S. Safronova
Third-Order Many-Body Perturbation Theory Calculations for the Beryllium and Magnesium Isoelectronic Sequences
Phys. Rev. A 74, 022510 (2006)

Be Z= 4-7	Energy Levels, Wavelengths	E/T
$\mathbf{P}^{3+}$	Energy Levels, Wavelengths	E/T

178. P. Bogdanovich, D. Majus, T. Pakhomova
Investigation of Accuracy of Configuration Interaction for the Oxygen Isoelectronic Sequence
Phys. Scr. 74, 558-562 (2006)

$\mathbf{Mg}^{4+}$	Energy Levels, Wavelengths	Th
$\mathbf{Si}^{6+}$	Energy Levels, Wavelengths	Th
$\mathbf{Cl}^{9+}$	Energy Levels, Wavelengths	Th
$\mathbf{Ca}^{12+}$	Energy Levels, Wavelengths	Th
$\mathbf{Cr}^{16+}$	Energy Levels, Wavelengths	Th

179. S. N. Nahar, A. K. Pradhan
Dielectronic Satellite Spectra of Heliumlike Iron and Nickel from the Unified Recombination Method
Phys. Rev. A 73, 062718 (2006)

$\mathbf{Fe}^{23+}$	Energy Levels, Wavelengths	Th
$\mathbf{Ni}^{25+}$	Energy Levels, Wavelengths	Th

180. F. Yoshida, L. Matsuoka, R. Takashima, T. Nagata, Y. Azuma, S. Obara, F. Koike, S. Hasegawa
Analysis of 1s(2s2p ^{3}P)nl Rydberg States in the K-Shell Photoionization of the Be Atom
Phys. Rev. A 73, 062709 (2006)

$\mathbf{Be}^{0+-+}$	Energy Levels, Wavelengths	Exp

181. C. W. Walter, N. D. Gibson, R. C. Bilodeau, N. Berrah, J. D. Bozek, G. D. Ackerman, A. Aguilar
Shape Resonance in K-Shell Photodetachment from C^-
Phys. Rev. A 73, 062702 (2006)

$\mathbf{C}^-$	Energy Levels, Wavelengths	Exp

182. U. D. Jentschura, V. A. Yerokhin
Quantum Electrodynamic Corrections to the Hyperfine Structure of Excited S States
Phys. Rev. A 73, 062503 (2006)

$^1\mathbf{H}$	Energy Levels, Wavelengths	Th
H	Energy Levels, Wavelengths	Th

183. D. L. Moskovkin, V. M. Shabaev
Zeeman Effect of the Hyperfine-Structure Levels in Hydrogenlike Ions
Phys. Rev. A 73, 052506 (2006)

H	Energy Levels, Wavelengths	Th
$^{13}\mathbf{C}^{5+}$	Energy Levels, Wavelengths	Th
$\mathbf{C}^{5+}$	Energy Levels, Wavelengths	Th
$^{17}\mathbf{O}^{7+}$	Energy Levels, Wavelengths	Th
$\mathbf{O}^{7+}$	Energy Levels, Wavelengths	Th
$^{33}\mathbf{S}^{15+}$	Energy Levels, Wavelengths	Th
$\mathbf{S}^{15+}$	Energy Levels, Wavelengths	Th
$^{43}\mathbf{Ca}^{19+}$	Energy Levels, Wavelengths	Th
$\mathbf{Ca}^{19+}$	Energy Levels, Wavelengths	Th
$^{53}\mathbf{Cr}^{23+}$	Energy Levels, Wavelengths	Th
$\mathbf{Cr}^{23+}$	Energy Levels, Wavelengths	Th
$^{73}\mathbf{Ge}^{31+}$	Energy Levels, Wavelengths	Th
$\mathbf{Ge}^{31+}$	Energy Levels, Wavelengths	Th
$^{129}\mathbf{Xe}^{53+}$	Energy Levels, Wavelengths	Th
$^{131}\mathbf{Xe}^{53+}$	Energy Levels, Wavelengths	Th
$\mathbf{Xe}^{53+}$	Energy Levels, Wavelengths	Th
$^{207}\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th
$\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th
$^{209}\mathbf{Bi}^{82+}$	Energy Levels, Wavelengths	Th
$\mathbf{Bi}^{82+}$	Energy Levels, Wavelengths	Th
$^{235}\mathbf{U}^{91+}$	Energy Levels, Wavelengths	Th
$\mathbf{U}^{91+}$	Energy Levels, Wavelengths	Th

184. E. Takács, B. Blagojević, K. Makónyi, E.-O. Le Bigot, C. I. Szabó, Y.-K. Kim, J. D. Gillaspy
Direct Observation of the $^2D_{3/2}$–$^2D_{5/2}$ Ground-State Splitting in Xe^{9+}
Phys. Rev. A 73, 052505 (2006)

$\mathbf{Xe}^{9+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{31+}$	Energy Levels, Wavelengths	Exp

185. K. Pachucki, J. Komasa
Excitation Energy of ^{9}Be
Phys. Rev. A 73, 052502 (2006)

^{9}**Be**	Energy Levels, Wavelengths	E/T
Be	Energy Levels, Wavelengths	E/T

186. F. Yoshida, L. Matsuoka, H. Osaki, S. Kikkawa, Yu. Fukushima, T. Nagata, Y. Azuma, S. Obara, S. Hasegawa
Observation of Perturbed 3snp Double Photoexcited Ryberg Series of Beryllium Atoms
Phys. Rev. A 73, 042709 (2006)

Be	Energy Levels, Wavelengths	Exp

187. D. C. Morton, Q. Wu, G. W. F. Drake
Nuclear Charge Radius for ^{3}He
Phys. Rev. A 73, 034502 (2006)

^{3}**He**	Energy Levels, Wavelengths	E/T
He	Energy Levels, Wavelengths	E/T

188. A. Aguilar, J. D. Gillaspy, G. F. Gribakin, R. A. Phaneuf, M. F. Gharaibeh, M. G. Kozlov, J. D. Bozek, A. L. D. Kilcoyne
Absolute Photoionization Cross Sections for Xe^{4+}, Xe^{5+}, and Xe^{6+} Near 13.5 nm: Experiment and Theory
Phys. Rev. A 73, 032717 (2006)

Xe^{4+-6+}	Energy Levels, Wavelengths	E/T

189. R. Silwal, J. R. Brandenberger
Hyperfine Structure in the $4p^{5}5d$ States of ^{83}Kr
Phys. Rev. A 73, 032508 (2006)

^{83}**Kr**	Energy Levels, Wavelengths	Exp
Kr	Energy Levels, Wavelengths	Exp

190. W. M. Itano
Quadrupole Moments and Hyperfine Constants of Metastable States of Ca+, Sr^{+}, Ba^{+}, Yb^{+}, Hg^{+}, and Au
Phys. Rev. A 73, 022510 (2006)

^{43}**Ca**$^{+}$	Energy Levels, Wavelengths	Th
Ca^{+}	Energy Levels, Wavelengths	Th
^{87}**Sr**$^{+}$	Energy Levels, Wavelengths	Th
Sr^{+}	Energy Levels, Wavelengths	Th
^{137}**Ba**$^{+}$	Energy Levels, Wavelengths	Th
Ba^{+}	Energy Levels, Wavelengths	Th
^{173}**Yb**$^{+}$	Energy Levels, Wavelengths	Th
Yb^{+}	Energy Levels, Wavelengths	Th
^{197}**Au**	Energy Levels, Wavelengths	Th
Au	Energy Levels, Wavelengths	Th
^{201}**Hg**$^{+}$	Energy Levels, Wavelengths	Th
Hg^{+}	Energy Levels, Wavelengths	Th

191. E. Träbert, P. Beiersdorfer, G. V. Brown, K. Boyce, R. L. Kelley, C. A. Kilbourne, F. S. Porter, A. Szymkowiak
Time-Resolved Soft-X-ray Spectroscopy of a Magnetic Octupole Transition in Nickel-like Xenon, Cesium, and Barium Ions
Phys. Rev. A 73, 022508 (2006)

Xe^{26+}	Energy Levels, Wavelengths	Exp
Ba^{28+}	Energy Levels, Wavelengths	Exp

192. J. C. Berengut, V. V. Flambaum, M. G. Kozlov
Calculation of Isotope Shifts and Relativistic Shifts in C I, C II, C III, and C IV
Phys. Rev. A 73, 012504 (2006)

C^{0+-3+}	Energy Levels, Wavelengths	Th

193. J. Sapirstein, K. T. Cheng
Hydrogenic and Screened Self-Energies for d States
Phys. Rev. A 73, 012503 (2006)

H Z= 10-100	Energy Levels, Wavelengths	Th
Li Z= 10-100	Energy Levels, Wavelengths	Th
Na Z= 20-100	Energy Levels, Wavelengths	Th
Cu Z= 40-100	Energy Levels, Wavelengths	Th

194. L. Pan, D. R. Beck
Mo VI J=3/2, 5/2 Energy Levels, Oscillator Strengths and Landé g-Values
Phys. Scr. 73, 607-613 (2006)

Mo^{5+}	Energy Levels, Wavelengths	Th

195. W. Wang, X. L. Cheng, X. D. Yang
Calculation of Wavelengths and Oscillator Strengths for the Magnesium Isoelectronic Sequence from I^{41+} to Ce^{46+}
Phys. Scr. 73, 565-570 (2006)

Mg Z= 53-58	Energy Levels, Wavelengths	Th

196. G. P. Gupta, A. Msezane
Oscillator Strengths and Lifetimes in Kr XXV
Phys. Scr. 73, 556-564 (2006)

Kr^{24+}	Energy Levels, Wavelengths	Th

197. R. R. Kildiyarova, S. S. Churilov
Revised and Extended Analysis of the $3d^24f$ Configuration in Ni VIII
Phys. Scr. 73, 421-428 (2006)

Ni^{7+}	Energy Levels, Wavelengths	E/T

198. R. R. Kildiyarova, S. S. Churilov, Y. N. Joshi, A. N. Ryabtsev
Analysis of the $3d^44f$ Configuration in Ni VI
Phys. Scr. 73, 249-262 (2006)

Ni^{5+}	Energy Levels, Wavelengths	E/T
Cu^{6+}	Energy Levels, Wavelengths	E/T
Zn^{7+}	Energy Levels, Wavelengths	E/T

199. U. I. Safronova, Yu. Ralchenko, I. Murakami, T. Kato, D. Kato
Atomic Data for Dielectronic Recombination into C-like Oxygen
Phys. Scr. 73, 143-159 (2006)

O^{2+}	Energy Levels, Wavelengths	Th

200. Z.-H. Yang, S.-B. Du, X.-T. Zeng, S.-T. Ren, Z.-Y. Song, H. Su, Y.-D. Wang
Research on EUV Spectra of Highly Ionized Titanium
Acta Phys. Sin. 55-5, 2206-2209 (2006)

$\mathbf{Ti}^{11+—12+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ti}^{14+—18+}$	Energy Levels, Wavelengths	Exp

201. Z. Cheng, P. Li, X.-H. Deng
Energy Levels of Highly Ionized Ar XIV
Commun. Theor. Phys. 46-4, 723-726 (2006)

$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	Th

202. I. D. Petrov, T. Peters, T. Halfmann, S. Aloïse, P. O'Keeffe, M. Meyer, V. L. Sukhorukov, H. Hotop
Lineshapes of the Even $\mathbf{mp^5_{1/2}n(p'/f')}$ Autoionizing Resonances of Ar, Kr and Xe
Eur. Phys. J. D 40, 181-193 (2006)

Ne	Energy Levels, Wavelengths	E/T
Ar	Energy Levels, Wavelengths	E/T
Kr	Energy Levels, Wavelengths	E/T
Xe	Energy Levels, Wavelengths	E/T

203. R. M. Jennerich, A. N. Keiser, D. A. Tate
Hyperfine Structure and Isotope Shifts in Near-Infrared Transitions of Atomic Nitrogen
Eur. Phys. J. D 40, 81-89 (2006)

$^{14}\mathbf{N}$	Energy Levels, Wavelengths	Exp
$^{15}\mathbf{N}$	Energy Levels, Wavelengths	Exp
N	Energy Levels, Wavelengths	Exp

204. L. Partanen, M. Huttula, S.-M. Huttula, H. Aksela, S. Aksela
Effects of Electron Correlation on the $\mathbf{M_{4,5}NN_{4,5}}$ Auger Transitions in Xenon
J. Phys. B 39, 4515-4524 (2006)

Xe	Energy Levels, Wavelengths	E/T

205. U. I. Safronova, A. S. Safronova, P. Beiersdorfer
Multipole (E1, M1, E2, M2, E3, M3) Transition Wavelengths and Rates Between $\mathbf{3\ell^{-1}5\ell'}$ Excited and Ground States in Nickel-like Ions
J. Phys. B 39, 4491-4513 (2006)

Ni Z= 28-100	Energy Levels, Wavelengths	Th

206. M. Andersson, P. Jönsson, H. Sabel
Hyperfine Induced Interference Effects in the 4s4d $\mathbf{^3D_2}$–4s4f $\mathbf{^3F_{2,3}}$ Transitions in Ga II
J. Phys. B 39, 4239-4247 (2006)

$\mathbf{Ga}^{+}$	Energy Levels, Wavelengths	Th

207. M. A. Baig, M. Hanif, M. Aslam, S. A. Bhatti
Laser Optogalvanic Observations and MQDT Analysis of $\mathbf{mp^5}$nd J=3 Autoionizing Resonances in Ar, Kr and Xe
J. Phys. B 39, 4221-4229 (2006)

Ar	Energy Levels, Wavelengths	Exp
Kr	Energy Levels, Wavelengths	Exp
Xe	Energy Levels, Wavelengths	Exp

208. A. Caló, S. Atanassova, R. Sankari, A. Kivimäki, H. Aksela, S. Aksela
The Kr Valence Photoelectron Satellite Lines in the Photon Energy Region Below the 3d Threshold
J. Phys. B 39, 4169-4177 (2006)

Kr	Energy Levels, Wavelengths	Exp

209. I. D. Petrov, V. L. Sukhorukov, T. Peters, A. Zehnder, H. J. Wörner, F. Merkt, H. Hotop
Autoionizing Even $2p^5_{1/2}n\ell'[K']_{0,1,2}$ (ℓ'=1,3) Rydberg Series of Ne: A Comparison of Many-Electron Theory and Experiment
J. Phys. B 39, 3159-3176 (2006)

Ne	Energy Levels, Wavelengths	Exp

210. Y. Liu, R. Hutton, Y. Zou, M. Andersson, T. Brage
MCDF Calculations for the Lowest Excited States in the Zn-like Sequence
J. Phys. B 39, 3147-3158 (2006)

Zn Z= 30-47	Energy Levels, Wavelengths	Th

211. C. Z. Dong, D. H. Zhang, Th. Stöhlker, S. Fritzsche, B. Fricke
Relativity, Electron Correlation and QED Effects in the $1s2s^2$ $^2S_{1/2}$ State of Highly Charged Li-like Ions
J. Phys. B 39, 3121-3129 (2006)

Li Z= 15-92	Energy Levels, Wavelengths	Th
Ar^{15+}	Energy Levels, Wavelengths	Th
Fe^{23+}	Energy Levels, Wavelengths	Th
Kr^{33+}	Energy Levels, Wavelengths	Th
Au^{76+}	Energy Levels, Wavelengths	Th
Hg^{77+}	Energy Levels, Wavelengths	Th
Bi^{80+}	Energy Levels, Wavelengths	Th
U^{89+}	Energy Levels, Wavelengths	Th

212. I. Murakami, T. Kato, D. Kato, U. I. Safronova, T. E. Cowan, Yu. Ralchenko
Large-Scale Calculation of Dielectronic Recombination Parameters for Mg-like Fe
J. Phys. B 39, 2917-2937 (2006)

Fe^{14+}	Energy Levels, Wavelengths	Th

213. M. Andersson, T. Brage, R. Hutton, I. Kink, L. Engström
Systematic Studies of Highly Excited Rydberg States in Ions with Two Valance Electrons
J. Phys. B 39, 2815-2826 (2006)

O^{4+}	Energy Levels, Wavelengths	E/T
S^{4+}	Energy Levels, Wavelengths	E/T
Cl^{5+}	Energy Levels, Wavelengths	E/T
Ar^{6+}	Energy Levels, Wavelengths	E/T

214. M. J. Vilkas, Y. Ishikawa, E. Träbert
Relativistic Multireference Many-Body Perturbation Theory Calculations on F-, Ne-, Na-, Mg-, Al-, Si- and P-like Xenon Ions
J. Phys. B 39, 2195-2216 (2006)

Xe^{39+}–$^{45+}$	Energy Levels, Wavelengths	E/T

215. I. Savukov, A. A. Markhotok
Ab Initio Calculations with CI+MBPT of Large Number of Energy Levels for Beryllium-like Neon
J. Phys. B 39, 2115-2125 (2006)

Ne^{6+}	Energy Levels, Wavelengths	Th

216. S. Song, F. Peng, G. Jiang
Properties of the Kα and Kβ X-ray Transitions in Cu XX through Cu XXVIII
J. Phys. B 39, 2087-2093 (2006)

Cu^{19+}–$^{27+}$	Energy Levels, Wavelengths	Th

217. P. Jönsson, M. Andersson, H. Sabel, T. Brage
Oscillator Strengths and Hypertine Structures in Ga II from Multiconfiguration Dirac-Hartree-Fock Calculations
J. Phys. B 39, 1813-1824 (2006)

Ga^{+}	Energy Levels, Wavelengths	Th

218. M. Schäfer, M. Andrist, H. Schmutz, F. Lewen, G. Winnewisser, F. Merkt
A 240-380 GHz Millimetre Wave Source for Very High Resolution Spectroscopy of High Rydberg States
J. Phys. B 39, 831-845 (2006)

^{84}Kr	Energy Levels, Wavelengths	Exp
Kr	Energy Levels, Wavelengths	Exp

219. U. I. Safronova, T. E. Cowan, M. S. Safronova
Excitation Energies, Hyperfine Constants, E1 Transition Rates and Lifetimes of $4s^2nl$ States in Neutral Gallium
J. Phys. B 39, 749-764 (2006)

^{69}Ga	Energy Levels, Wavelengths	Th
^{71}Ga	Energy Levels, Wavelengths	Th
Ga	Energy Levels, Wavelengths	Th

220. W. Wang, X. L. Cheng, X. D. Yang, X. M. Tan
Calculation of Wavelengths and Oscillator Strengths in High-Z Mg-like Ions
J. Phys. B 39, 519-527 (2006)

Mg Z= 60-62	Energy Levels, Wavelengths	Th

221. A. B. Borisov, X. Song, P. Zhang, J. C. McCorkindale, S. F. Khan, R. DeJonghe, S. Poopalasingam, J. Zhao, K. Boyer, C. K. Rhodes
Single-Pulse Characteristics of the Xe(L) Amplifier on the Xe^{35+} (3d → 2p) Transition Array at Lambda ≈2.86 Å
J. Phys. B 39, L313-L321 (2006)

Xe^{35+}	Energy Levels, Wavelengths	Exp

222. L.-R. Wang, J.-T. Hsiao, K.-N. Huang
Doubly Excited States of the Be Atom in the MCRRPA
J. Phys. B 39, L217-L224 (2006)

Be	Energy Levels, Wavelengths	Th

223. J. P. Santos, G. C. Rodrigues, J. P. Marques, F. Parente, J. P. Desclaux, P. Indelicato
Relativistic Correlation Correction to the Binding Energies of the Ground Configuration of Beryllium-like, Neon-like, Magnesium-like and Argon-like Ions
Eur. Phys. J. D 37, 201-207 (2006)

Be Z= 4-95	Energy Levels, Wavelengths	Th
Ne Z= 10-105	Energy Levels, Wavelengths	Th
Mg Z= 12-95	Energy Levels, Wavelengths	Th
Ar Z= 18-95	Energy Levels, Wavelengths	Th
Be	Energy Levels, Wavelengths	Th
$\mathbf{Rh}^{40+}$	Energy Levels, Wavelengths	Th
$\mathbf{At}^{80+}$	Energy Levels, Wavelengths	Th

224. M. Imai, M. Sataka, K. Kawatsura, K. Takahiro, K. Komaki, H. Shibata
High Resolution Zero Degree Electron Spectroscopy of Argon Ions through Carbon Foil
Braz. J. Phys. 36-2B, 541-545 (2006)

$\mathbf{Ar}^{13+-14+}$	Energy Levels, Wavelengths	Exp

225. J. Fuhr, W. L. Wiese
A Critical Compilation of Atomic Transition Probabilities for Neutral and Singly Ionized Iron
J. Phys. Chem. Ref. Data 35-4, 1669-1809 (2006)

$\mathbf{Fe}^{0+-+}$	Energy Levels, Wavelengths	Exp

226. U. Kentsch, G. Zschornack, F. Grossmann, V. P. Ovsyannikov, F. Ullmann, S. Fritzsche
L X-ray Transitions in F-like to Na-like Xenon Ions Determined at a Room Temperature Electron Beam Ion Trap
X-Ray Spectrom. 35-1, 71-78 (2006)

$\mathbf{Xe}^{43+-45+}$	Energy Levels, Wavelengths	E/T

227. J. Huang, G. Jiang, Q. Zhao
Ground-State Ionization Potentials for Lithium through Neon Isoelectronic Sequences with Z=37-82
Chin. Phys. Lett. 23, 69-72 (2006)

Li Z= 37-82	Energy Levels, Wavelengths	Th
Ne Z= 37-82	Energy Levels, Wavelengths	Th
F Z= 37-82	Energy Levels, Wavelengths	Th
O Z= 37-82	Energy Levels, Wavelengths	Th
N Z= 37-82	Energy Levels, Wavelengths	Th
C Z= 37-82	Energy Levels, Wavelengths	Th
B Z= 37-82	Energy Levels, Wavelengths	Th
Be Z= 37-82	Energy Levels, Wavelengths	Th

228. Z. Xiong, N. C. Bacalis
Analytic Variationally Optimized Internally Orthogonalized Modified Laguerre Orbitals in Accurate Atomic Configuration Interaction Calculation
Chin. Phys. 15, 992-997 (2006)

He Z= 2-10	Energy Levels, Wavelengths	Th

229. O. Scharf, G. Gaigalas
Large Scale Multi-Configuration Hartree-Fock Calculation of the Hyperfine Structure of the Ground State of Vanadium
Cent. Eur. J. Phys. 4-1, 42-57 (2006)

^{51}V	Energy Levels, Wavelengths	Th
V	Energy Levels, Wavelengths	Th

230. P. Quinet, É. Biémont, P. Palmeri, E. Träbert
Relativistic Atomic Data for EUV and X-ray Lines in the Highly Charged Zn-like Ions (Yb^{40+} to U^{62+})
Lawrence Livermore Lab., Univ. California, Technical Report, (2006)

Zn Z= 70-92	Energy Levels, Wavelengths	Th

231. F. P. Keenan, K. M. Aggarwal, R. S. I. Ryans, R. O. Milligan, D. S. Bloomfield, J. W. Brosius, J. M. Davila, R. J. Thomas
Fe XI Emission Lines in a High-Resolution Extreme-Ultraviolet Active Region Spectrum Obtained by the Solar Extreme Ultraviolet Research Telescope and Spectrograph
Astrophys. J. 624, 428-435 (2005)

Fe^{10+}	Energy Levels, Wavelengths	Exp

232. J. L. Friar, G. L. Payne
The Nuclear Physics of Hyperfine Structure in Hydrogenic Atoms
Phys. Lett. B 618, 68-76 (2005)

H	Energy Levels, Wavelengths	Th
^{3}He	Energy Levels, Wavelengths	Th
He	Energy Levels, Wavelengths	Th
D	Energy Levels, Wavelengths	Th
T	Energy Levels, Wavelengths	Th

233. S. Parenti, J.-C. Vial, P. Lemaire
Prominence Atlas in the SUMER Range 800-1250 Å II. Line Profile Properties and Ions Identifications
Astron. Astrophys. 443-2, 679-684 (2005)

H	Energy Levels, Wavelengths	Exp
He^{0+}–$^{+}$	Energy Levels, Wavelengths	Exp
C^{0+}–$^{2+}$	Energy Levels, Wavelengths	Exp
N	Energy Levels, Wavelengths	Exp
N^{2+}	Energy Levels, Wavelengths	Exp
O^{5+}	Energy Levels, Wavelengths	Exp
Ne^{4+}–$^{6+}$	Energy Levels, Wavelengths	Exp
Al^{6+}	Energy Levels, Wavelengths	Exp
Si^{+}	Energy Levels, Wavelengths	Exp
Si^{4+}	Energy Levels, Wavelengths	Exp
Si^{6+}–$^{7+}$	Energy Levels, Wavelengths	Exp
S^{0+}–$^{4+}$	Energy Levels, Wavelengths	Exp
S^{9+}	Energy Levels, Wavelengths	Exp
Ar^{11+}	Energy Levels, Wavelengths	Exp
Ca^{9+}	Energy Levels, Wavelengths	Exp
Ca^{12+}	Energy Levels, Wavelengths	Exp
Fe^{+}–$^{2+}$	Energy Levels, Wavelengths	Exp

234. J.-M. Bizau, J.-P. Champeaux, D. Cubaynes, F. J. Wuilleumier, F. Folkmann, T. S. Jacobsen, F. Penent, C. Blancard, H. Kjeldsen
Absolute Cross Sections for L-Shell Photoionization of the Ions N^{2+}, N^{3+}, O^{3+}, O^{4+}, F^{3+}, F^{4+} and Ne^{4+}
Astron. Astrophys. 439-1, 387-399 (2005)

N^{2+}–$^{3+}$	Energy Levels, Wavelengths	Exp
O^{3+}–$^{4+}$	Energy Levels, Wavelengths	Exp
F^{3+}–$^{4+}$	Energy Levels, Wavelengths	Exp
Ne^{4+}	Energy Levels, Wavelengths	Exp

235. S. G. Karshenboim
Precision Physics of Simple Atoms: QED Tests, Nuclear Structure and Fundamental Constants
Phys. Rep. 422-1-2, 1-63 (2005)

H	Energy Levels, Wavelengths	E/T
^{3}**He**$^{+}$	Energy Levels, Wavelengths	E/T
^{4}**He**$^{+}$	Energy Levels, Wavelengths	E/T
He^{+}	Energy Levels, Wavelengths	E/T
^{10}**Be**$^{3+}$	Energy Levels, Wavelengths	E/T
Be^{3+}	Energy Levels, Wavelengths	E/T
^{12}**C**$^{5+}$	Energy Levels, Wavelengths	E/T
C^{5+}	Energy Levels, Wavelengths	E/T
^{16}**O**$^{7+}$	Energy Levels, Wavelengths	E/T
^{18}**O**$^{7+}$	Energy Levels, Wavelengths	E/T
O^{7+}	Energy Levels, Wavelengths	E/T
D	Energy Levels, Wavelengths	E/T
T	Energy Levels, Wavelengths	E/T

236. T. W. Hänsch, J. Alnis, P. Fendel, M. Fischer, C. Gohle, M. Herrmann, R. Holzwarth, N. Kolachevsky, Th. Udem, M. Zimmermann
Precision Spectroscopy of Hydrogen and Femtosecond Laser Frequency Combs
Philos. Trans. R. Soc. London, Ser. A 363, 2155-2163 (2005)

^{1}**H**	Energy Levels, Wavelengths	Exp
H	Energy Levels, Wavelengths	Exp

237. R. J. Blackwell-Whitehead, H. L. Xu, J. C. Pickering, G. Nave, H. Lundberg
Experimental Oscillator Strengths for the Spectrum of Neutral Manganese
Mon. Not. R. Astron. Soc. 361, 1281-1286 (2005)

Mn	Energy Levels, Wavelengths	Exp

238. S. Witte, R. Th. Zinkstok, W. Ubachs, W. Hogervorst, K. S. E. Eikema
Deep-Ultraviolet Quantum Interference Metrology with Ultrashort Laser Pulses
Science 307-5708, 400-403 (2005)

^{80}**Kr**	Energy Levels, Wavelengths	Exp
^{82}**Kr**	Energy Levels, Wavelengths	Exp
^{83}**Kr**	Energy Levels, Wavelengths	Exp
^{84}**Kr**	Energy Levels, Wavelengths	Exp
^{86}**Kr**	Energy Levels, Wavelengths	Exp
Kr	Energy Levels, Wavelengths	Exp

239. H. Merabet, S. Kondagari, R. Bruch, S. Fülling, S. Hahto, K.-L. Leung, J. Reijonen, A. L. Godunov, V. A. Schipakov
EUV Emission from Xenon in the 10-80 nm Wavelength Range Using a Compact ECR Ion Source
Nucl. Instrum. Methods Phys. Res. B 241, 23-29 (2005)

Xe^{2+}–$^{10+}$	Energy Levels, Wavelengths	E/T

240. P. Bogdanovich, V. Jonauskas, O. Rancova
Solving Quasi-Relativistic Equations for Hydrogen-like Ions with Account of the Finite Size of a Nucleus
Nucl. Instrum. Methods Phys. Res. B 235, 145-148 (2005)

$\mathbf{Ne}^{9+}$	Energy Levels, Wavelengths	Th
$\mathbf{Nd}^{59+}$	Energy Levels, Wavelengths	Th

241. J. R. Crespo López-Urrutia, A. Artemyev, J. Braun, G. Brenner, H. Bruhns, I. N. Draganič, A. J. González-Martínez, A. Lapierre, V. Mironov, J. Scofield, R. Soria Orts, H. Tawara, M. Trinczek, I. Tupitsin, J. Ullrich
High Precision Measurements of Forbidden Transitions in Highly Charged Ions at the Heidelberg EBIT
Nucl. Instrum. Methods Phys. Res. B 235, 85-91 (2005)

$\mathbf{Ar}^{13+-17+}$	Energy Levels, Wavelengths	Exp

242. T. J. M. Zouros, E. P. Benis, M. Zamkov, C.-D. Lin, T. G. Lee, P. Richard, T. W. Gorczyca, T. Morishita
Investigation of Triply Excited States of Li-like Ions in Fast Ion-Atom Collisions by Zero-Degree Auger Projectile Electron Spectroscopy
Nucl. Instrum. Methods Phys. Res. B 233, 161-171 (2005)

Li Z= 5-9	Energy Levels, Wavelengths	Exp

243. E. Landi, K. J. H. Phillips
Spectral Atlas of X-ray Lines Emitted During Solar Flares Based on CHIANTI
Astrophys. J., Suppl. Ser. 160, 286-311 (2005)

$\mathbf{O}^{6+-7+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ne}^{8+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Na}^{9+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Mg}^{9+-11+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Al}^{10+-11+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{16+-23+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{17+-23+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{18+-19+}$	Energy Levels, Wavelengths	Exp

244. J. García, C. Mendoza, M. A. Bautista, T. W. Gorczyca, T. R. Kallman, P. Palmeri
K-Shell Photoabsorption of Oxygen Ions
Astrophys. J., Suppl. Ser. 158-1, 68-79 (2005)

$\mathbf{O}^{0+-6+}$	Energy Levels, Wavelengths	Th
$\mathbf{O}^{+-4+}$	Energy Levels, Wavelengths	Th

245. M. R. Went, M. Vos
Electron-Induced KLL Auger Electron Spectroscopy of Fe, Cu and Ge
J. Electron Spectrosc. Relat. Phenom. 148, 107-114 (2005)

Fe	Energy Levels, Wavelengths	Exp
Cu	Energy Levels, Wavelengths	Exp
Ge	Energy Levels, Wavelengths	Exp

246. A. S. Schlachter, S. W. J. Scully, R. A. Phaneuf, E. D. Emmons, A. Aguilar, D. Leitner, M. S. Lubell, A. M. Covington, R. Puettner, A. Mueller, M. Halka, J. C. Levin, B. M. McLaughlin
K-Shell Photoionization of C^{2+} Ions: Experiment and Theory
J. Electron Spectrosc. Relat. Phenom. 144-147, 53-54 (2005)

C^{2+}	Energy Levels, Wavelengths	Exp

247. K. C. Prince, L. Avaldi, R. Sankari, R. Richter, M. de Simone, M. Coreno
Photoabsorption and Resonant Photoemission in the Region of Ne 1s Double Excitations
J. Electron Spectrosc. Relat. Phenom. 144-147, 43-46 (2005)

Ne	Energy Levels, Wavelengths	Exp

248. I. D. Petrov, Ph. V. Demekhin, B. M. Lagutin, V. L. Sukhorukov, S. Kammer, S. Mickat, K.-H. Schartner, A. Ehresmann, S. Klumpp, L. Werner, H. Schmoranzer
Strongly Perturbed Rydberg Series Originating from Kr II $4p^4 5s$ Ionic States
J. Electron Spectrosc. Relat. Phenom. 144-147, 35-38 (2005)

Kr^{+}	Energy Levels, Wavelengths	Exp

249. N. Berrah, R. C. Bilodeau, J. D. Bozek, G. Turri, G. D. Ackerman
Double Photodetachment in He^{-}: Feshbach and Triply Excited Resonances
J. Electron Spectrosc. Relat. Phenom. 144-147, 19-21 (2005)

He^{-}	Energy Levels, Wavelengths	Exp

250. S. Pruss-Hunzinger, F. Stary, M. Mattes, M. Sorg
Relativistic Ionization Energies of the Helium-like Ions
Nuovo Cimento B 120-5, 467-506 (2005)

He Z= 2-100	Energy Levels, Wavelengths	Th

251. P. Beiersdorfer
Highly Charged Ion Research at the Livermore Electron Beam Ion Traps
Phys. Scr. T120, 40-46 (2005)

Ar^{8+}	Energy Levels, Wavelengths	Exp

252. M. G. von Hellermann, G. Bertschinger, W. Biel, C. Giroud, R. Jaspers, C. Jupen, O. Marchuk, M. O'Mullane, H. P. Summers, A. Whiteford, K.-D. Zastrow
Complex Spectra in Fusion Plasmas
Phys. Scr. T120, 19-29 (2005)

Be^{+}	Energy Levels, Wavelengths	Exp
C^{+}	Energy Levels, Wavelengths	Exp
C^{2+}	Energy Levels, Wavelengths	Exp
C^{5+}	Energy Levels, Wavelengths	Exp
N^{+}	Energy Levels, Wavelengths	Exp
N^{6+}	Energy Levels, Wavelengths	Exp
$Ne^{3+–5+}$	Energy Levels, Wavelengths	Exp
Ar^{5+}	Energy Levels, Wavelengths	Exp
Ar^{15+}	Energy Levels, Wavelengths	Exp
Ar^{16+}	Energy Levels, Wavelengths	Exp

253. V. A. Yerokhin, A. N. Artemyev, V. M. Shabaev, G. Plunien, G. Soff
Screened Self-Energy Correction to the $2p_{3/2}$–2s Transition Energy in Li-like Ions
Opt. Spectrosc. 99-1, 12-17 (2005)

Li Z= 12-100	Energy Levels, Wavelengths	Th
Bi^{80+}	Energy Levels, Wavelengths	Th
Th^{87+}	Energy Levels, Wavelengths	Th
U^{89+}	Energy Levels, Wavelengths	Th

254. U. D. Jentschura, S. Kotochigova, E.-O. Le Bigot, P. J. Mohr, B. N. Taylor
Precise Calculation of Transition Frequencies of Hydrogen and Deuterium Based on a Least-Squares Analysis
Phys. Rev. Lett. 95, 163003 (2005)

H	Energy Levels, Wavelengths	Th
D	Energy Levels, Wavelengths	Th

255. M. Gallardo, M. Raineri, M. Giuliani, C. Lagorio, S. Padilla, R. Sarmiento, J. G. Reyna Almandos
New Study on the Xe VIII Spectrum
J. Quant. Spectrosc. Radiat. Transfer 95, 365-372 (2005)

$\mathbf{Xe}^{7+}$	Energy Levels, Wavelengths	E/T

256. A. S. Alnaser, A. L. Landers, J. A. Tanis
Electron Correlation in the Formation of Hollow States Along the Li-like Isoelectronic Sequence
Phys. Rev. Lett. 94, 023201 (2005)

Li Z= 4-6	Energy Levels, Wavelengths	Exp
$\mathbf{F}^{6+}$	Energy Levels, Wavelengths	Exp

257. J. Y. Zhong, J. Zhang, J. L. Zeng, G. Zhao, M. F. Gu
Energy Levels, Transition Probabilities, and Electron Impact Excitations for Possible X-ray Line Emissions of Ni-like Tantalum Ions
At. Data Nucl. Data Tables 89, 101-138 (2005)

$\mathbf{Ta}^{45+}$	Energy Levels, Wavelengths	Th

258. K. W. Kukla, A. E. Livingston, C. M. Vogel Vogt, H. G. Berry, R. W. Dunford, L. J. Curtis, S. Cheng
Extreme-Ultraviolet Wavelength and Lifetime Measurements in Highly Ionized Krypton
Can. J. Phys. 83-11, 1127-1139 (2005)

$\mathbf{Kr}^{31+-33+}$	Energy Levels, Wavelengths	Exp

259. J. R. Crespo López-Urrutia, J. Braun, G. Brenner, H. Bruhns, I. N. Draganič, A. J. González Martínez, A. Lapierre, V. Mironov, C. Osborne, G. Sikler, R. Soria Orts, H. Tawara, J. Ullrich, I. I. Tupitsyn, V. M. Shabaev
High-Precision Measurements in Few-Electron Highly Charged Ions at the Heidelberg Electron Beam Ion Trap (EBIT)
Can. J. Phys. 83-4, 387-393 (2005)

$\mathbf{Ar}^{13+-14+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp

260. B. Blagojević, E.-O. Le Bigot, K. Fahy, A. Aguilar, K. Makonyi, E. Takács, J. N. Tan, J. M. Pomeroy, J. H. Burnett, J. D. Gillaspy, J. R. Roberts
A High Efficiency Ultrahigh Vacuum Compatible Flat Field Spectrometer for Extreme Ultraviolet Wavelengths
Rev. Sci. Instrum. 76, 083102 (2005)

$\mathbf{Ne}^{3+-7+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{8+-10+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{8+-10+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{12+-13+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{15+}$	Energy Levels, Wavelengths	Exp

261. J. Braun, H. Bruhns, M. Trinczek, J. R. Crespo López-Urrutia, J. Ullrich
Novel Technique for High-Precision Bragg-Angle Determination in Crystal X-ray Spectroscopy
Rev. Sci. Instrum. 76-7, 073105 (2005)

$\mathbf{Ar^{16+}}$	Energy Levels, Wavelengths	Exp

262. V. A. Yerokhin, A. N. Artemyev, V. M. Shabaev, G. Plunien
All-Order Results for the One-Loop QED Correction to the Hyperfine Structure in Light H-like Atoms
Phys. Rev. A 72, 052510 (2005)

H Z= 1-30	Energy Levels, Wavelengths	Th
$\mathbf{^{3}He^{+}}$	Energy Levels, Wavelengths	Th

263. P. Beiersdorfer, M. Bitter, M. Marion, R. E. Olson
Charge-Exchange-Produced K-Shell X-ray Emission from $\mathbf{Ar^{16+}}$ in a Tokamak Plasma with Neutral-Beam Injection
Phys. Rev. A 72, 032725 (2005)

$\mathbf{Ar^{15+—16+}}$	Energy Levels, Wavelengths	Exp

264. M. J. Vilkas, Y. Ishikawa
Relativistic Multireference Many-Body Perturbation Calculations on Multi-Valence-Electron Systems: Benchmarks on Zn-like Ions
Phys. Rev. A 72, 032512 (2005)

Zn Z= 56-57	Energy Levels, Wavelengths	Th
Zn Z= 60-70 step 2	Energy Levels, Wavelengths	Th
Zn Z= 73-74	Energy Levels, Wavelengths	Th
Zn Z= 82-83	Energy Levels, Wavelengths	Th
$\mathbf{Xe^{24+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Os^{46+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Au^{49+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Th^{60+}}$	Energy Levels, Wavelengths	Th
$\mathbf{U^{62+}}$	Energy Levels, Wavelengths	Th

265. J. L. Friar, G. L. Payne
Nuclear Corrections to Hyperfine Structure in Light Hydrogenic Atoms
Phys. Rev. C 72, 014002 (2005)

H	Energy Levels, Wavelengths	Th
$\mathbf{^{3}He^{+}}$	Energy Levels, Wavelengths	Th
$\mathbf{He^{+}}$	Energy Levels, Wavelengths	Th
D	Energy Levels, Wavelengths	Th
T	Energy Levels, Wavelengths	Th

266. E. D. Emmons, A. Aguilar, M. F. Gharaibeh, S. W. J. Scully, R. Phaneuf, A. L. D. Kilcoyne, A. S. Schlachter, I. Álvarez, C. Cisneros, G. Hinojosa
Photoionization and Electron-Impact Ionization of $\mathbf{Xe^{3+}}$
Phys. Rev. A 71, 042704 (2005)

$\mathbf{Xe^{3+}}$	Energy Levels, Wavelengths	Exp

267. S. B. Hansen, K. B. Fournier, A. Ya. Faenov, A. I. Magunov, T. A. Pikuz, I. Yu. Skobelev, Y. Fukuda, Y. Akahane, M. Aoyama, N. Inoue, H. Ueda, K. Yamakawa
Measurement of 21-nl′ X-ray Transitions from ≈1 μm Kr Clusters Irradiated by High-Intensity Femtosecond Laser Pulses
Phys. Rev. E 71, 016408 (2005)

Kr^{23+}–$^{27+}$	Energy Levels, Wavelengths	Exp

268. K. M. Aggarwal, F. P. Keenan
Radiative Rates, Collision Strengths and Effective Collision Strengths for Transitions in Mo XXXIV
Phys. Scr. 71, 251-260 (2005)

Mo^{33+}	Energy Levels, Wavelengths	Th

269. M. Biaye, A. Konté, A. S. Ndao, N. A. B. Faye, A. Wagué
The Singlet Doubly Excited $(nl)^2$ States of Helium-like Systems
Phys. Scr. 71, 39-42 (2005)

He Z= 2-12	Energy Levels, Wavelengths	Th

270. Y.-X. Zhu, L.-M. He, W. Cao, Z.-M. Ge
The Magnetic Fine Structure Calculation of Helium 10G–10M Rydberg States
Acta Phys. Sin. 54-11, 5082-5088 (2005)

He	Energy Levels, Wavelengths	Th

271. L.-M. He, W. Cao, X.-Q. Chen, Y.-X. Zhu
Calculation of Helium ^1D–^3D Term Intervals for 1snd (n = 4–11) States
Acta Phys. Sin. 54-11, 5077-5081 (2005)

He	Energy Levels, Wavelengths	Th

272. Z.-D. Mu, Q.-Y. Wei
Theoretical Calculation of Wavelengths and Transition Probabilities for Magnesium-like Cu XVIII
Acta Phys. Sin. 54-6, 2614-2619 (2005)

Cu^{17+}	Energy Levels, Wavelengths	Th

273. C. Chen, Z.-W. Wang
Energies of $1s^2ng$ and $1s^2nh$ (n = 5, 6, 7, and 8) States for Lithium Isoelectronic Sequence
Commun. Theor. Phys. 43-5, 886-890 (2005)

Li Z= 3-8	Energy Levels, Wavelengths	Th

274. C. Sur, R. K. Chaudhuri, B. P. Das, D. Mukherjee
Comparative Studies Using Coupled-Cluster and Unitary Coupled-Cluster Methods: Nuclear Quadrupole Moment, Hyperfine Constants and Transition Properties of ^{27}Al
J. Phys. B 38, 4185-4194 (2005)

^{27}Al	Energy Levels, Wavelengths	Th
Al	Energy Levels, Wavelengths	Th

275. L. Pan, D. R. Beck, S. M. O'Malley
Removal or Excitation of a 1s Electron in Kr II and Kr III
J. Phys. B 38, 3721-3738 (2005)

Kr^{+}–$^{2+}$	Energy Levels, Wavelengths	Th

276. M. Zhang, B. C. Gou, L. L. Cui
Energies, Auger Width and Branching Ratios of the Core-Excited Triplet $1s2p^3$ $^3P^\circ$ and $^3D^\circ$ Resonances for a Beryllium-like System
J. Phys. B 38, 3567-3579 (2005)

Be Z= 4-10	Energy Levels, Wavelengths	Th

277. Ph. V. Demekhin, I. D. Petrov, B. M. Lagutin, V. L. Sukhorukov, F. Vollweiler, S. Klumpp, A. Ehresmann, K.-H. Schartner, H. Schmoranzer
Interaction Between Resonances through Autoionization Continua Near the 4s-Threshold in Kr II
J. Phys. B 38, 3129-3145 (2005)

Kr	Energy Levels, Wavelengths	E/T

278. K. Okada, M. Kosugi, A. Fujii, S. Nagaoka, T. Ibuki, S. Samori, Y. Tamenori, H. Ohashi, I. H. Suzuki, K. Ohno
Variation in Resonant Auger Yields into the $^1G_4 \cdot nl$ States of Kr Across the L_3 Threshold
J. Phys. B 38, 421-431 (2005)

Kr^+	Energy Levels, Wavelengths	Exp

279. A. Aguilar, E. D. Emmons, M. F. Gharaibeh, A. M. Covington, J. D. Bozek, G. Ackerman, S. Canton, B. Rude, A. S. Schlachter, G. Hinojosa, I. Álvarez, C. Cisneros, B. M. McLaughlin, R. A. Phaneuf
Photoionization of Ions of the Nitrogen Isoelectronic Sequence: Experiment and Theory for F^{2+} and Ne^{3+}
J. Phys. B 38, 343-361 (2005)

F^{2+}	Energy Levels, Wavelengths	Exp
Ne^{3+}	Energy Levels, Wavelengths	Exp

280. E. J. Salumbides, J. P. Sprengers, E. Reinhold, W. Ubachs
High Precision Frequency Calibration of N I Lines in the XUV Domain
J. Phys. B 38, L383-L387 (2005)

^{14}N	Energy Levels, Wavelengths	Exp
^{15}N	Energy Levels, Wavelengths	Exp
N	Energy Levels, Wavelengths	Exp

281. V. Jonauskas, F. P. Keenan, R. Kisielius, P. A. M. van Hoof, M. E. Foord, R. F. Heeter, S. J. Rose, G. J. Ferland, P. H. Norrington
Relativistic Analogues of Nonrelativistic Integrals in R-Matrix Calculations
J. Phys. B 38, L79-L85 (2005)

C^{2+}	Energy Levels, Wavelengths	Th
Fe^{22+}	Energy Levels, Wavelengths	Th
W^{70+}	Energy Levels, Wavelengths	Th

282. T. Peters, T. Halfmann, U. Even, A. Wünnenberg, I. D. Petrov, V. L. Sukhorukov, H. Hotop
Experimental and Theoretical Investigation of Even $mp^5_{1/2}np'$ Autoionizing Resonances of Rare Gas Atoms
J. Phys. B 38, S51-S64 (2005)

Ne	Energy Levels, Wavelengths	Exp
Ar	Energy Levels, Wavelengths	Exp
Kr	Energy Levels, Wavelengths	Exp
Xe	Energy Levels, Wavelengths	Exp

283. M. Hanif, M. Aslam, M. Riaz, S. A. Bhatti, M. A. Baig
Laser Optogalvanic Measurements and Line-Shape Analysis of $5p^57p$ and $5p^54$-$5f$ Autoionizing Resonances in Xenon
J. Phys. B 38, S65-S75 (2005)

Xe	Energy Levels, Wavelengths	Exp

284. D. Kilbane, E. T. Kennedy, J.-P. Mosnier, P. van Kampen, J. T. Costello
On the 3p-Subshell Photoabsorption Spectra of Iron-Group Ions: The Case of Mn^{2+}
J. Phys. B 38, L1-L8 (2005)

Mn^{2+}	Energy Levels, Wavelengths	Exp

285. J. E. Sansonetti, W. C. Martin
Handbook of Basic Atomic Spectroscopic Data
J. Phys. Chem. Ref. Data 34-4, 1559-2259 (2005)

H	Energy Levels, Wavelengths	E/T
He^{0+}–$^{+}$	Energy Levels, Wavelengths	E/T
Li-Ge	Energy Levels, Wavelengths	E/T
Li-Es	Energy Levels, Wavelengths	E/T
Li-Ar^{+}	Energy Levels, Wavelengths	E/T
Li-Bi^{+}	Energy Levels, Wavelengths	E/T
K^{+}	Energy Levels, Wavelengths	E/T
Ca-Zr^{+}	Energy Levels, Wavelengths	E/T
As	Energy Levels, Wavelengths	E/T
Se-Mo	Energy Levels, Wavelengths	E/T
Nb-Tc^{+}	Energy Levels, Wavelengths	E/T
Tc	Energy Levels, Wavelengths	E/T
Ru-Sb	Energy Levels, Wavelengths	E/T
Ru^{+}	Energy Levels, Wavelengths	E/T
Rh-Pd^{+}	Energy Levels, Wavelengths	E/T
Ag-Sb^{+}	Energy Levels, Wavelengths	E/T
Te	Energy Levels, Wavelengths	E/T
Te^{+}	Energy Levels, Wavelengths	E/T
I-Po	Energy Levels, Wavelengths	E/T
I-Ba^{+}	Energy Levels, Wavelengths	E/T
La^{+}	Energy Levels, Wavelengths	E/T
Ce^{+}	Energy Levels, Wavelengths	E/T
Pr-Sm^{+}	Energy Levels, Wavelengths	E/T
Eu^{+}	Energy Levels, Wavelengths	E/T
Gd-Ho^{+}	Energy Levels, Wavelengths	E/T
Er^{+}	Energy Levels, Wavelengths	E/T
Tm^{+}	Energy Levels, Wavelengths	E/T
Yb^{+}	Energy Levels, Wavelengths	E/T
Lu-Hf^{+}	Energy Levels, Wavelengths	E/T
W^{+}	Energy Levels, Wavelengths	E/T
Pt-Bi^{+}	Energy Levels, Wavelengths	E/T
Rn-Ra	Energy Levels, Wavelengths	E/T
Ra-Es^{+}	Energy Levels, Wavelengths	E/T
Ra^{+}	Energy Levels, Wavelengths	E/T
Ac	Energy Levels, Wavelengths	E/T
Ac^{+}	Energy Levels, Wavelengths	E/T
Th^{0+}–$^{+}$	Energy Levels, Wavelengths	E/T
Pa	Energy Levels, Wavelengths	E/T
U-Cm	Energy Levels, Wavelengths	E/T

U^{+}	Energy Levels, Wavelengths	E/T
Pu^{+}	Energy Levels, Wavelengths	E/T
Bk	Energy Levels, Wavelengths	E/T
Cf	Energy Levels, Wavelengths	E/T
Cf^{+}	Energy Levels, Wavelengths	E/T
Es	Energy Levels, Wavelengths	E/T
Es^{+}	Energy Levels, Wavelengths	E/T

286. C. Blondel, W. Chaibi, C. Delsart, C. Drag, F. Goldfarb, S. Kröger
The Electron Affinities of O, Si, and S Revisited with the Photodetachment Microscope
Eur. Phys. J. D 33, 335-342 (2005)

O^{-}	Energy Levels, Wavelengths	Exp
Si^{-}	Energy Levels, Wavelengths	Exp
S^{-}	Energy Levels, Wavelengths	Exp

287. J.-L. Zeng, G. Zhao, J.-M. Yuan
X-ray Emission Spectra of Ni-like Gold Ions Under Coronal Plasma Condition
Chin. Phys. Lett. 22, 1972-1975 (2005)

Au^{51+}	Energy Levels, Wavelengths	Th

288. R. Soria Orts
Isotopic Effect in B-like and Be-like Argon Ions
Thesis of University of Frankfurt , (2005)

Ar^{13+}	Energy Levels, Wavelengths	Exp
Ar^{14+}	Energy Levels, Wavelengths	Exp

289. T. Pütterich
Investigations on Spectroscopic Diagnostic of High-Z Elements in Fusion Plasmas
Thesis of Augsburg Univ. , (2005)

Hf$^{40+--46+}$	Energy Levels, Wavelengths	E/T
Ta$^{41+--46+}$	Energy Levels, Wavelengths	E/T
W$^{39+--45+}$	Energy Levels, Wavelengths	E/T
Re$^{43+--48+}$	Energy Levels, Wavelengths	E/T
Au$^{47+--52+}$	Energy Levels, Wavelengths	E/T

290. U. Feldman, E. Landi, W. Curdt
Newly Identified Forbidden Transitions Within the Ground Configuration of Ions of Very Low Abundance P, Cl, K, and Co
Astrophys. J. 607, 1039-1045 (2004)

P^{7+}	Energy Levels, Wavelengths	Exp
P^{8+}	Energy Levels, Wavelengths	Exp
Cl$^{9+--11+}$	Energy Levels, Wavelengths	Exp
Cl^{10+}	Energy Levels, Wavelengths	Exp
K$^{11+--13+}$	Energy Levels, Wavelengths	Exp
K^{12+}	Energy Levels, Wavelengths	Exp
Cr^{9+}	Energy Levels, Wavelengths	Exp
Cr^{10+}	Energy Levels, Wavelengths	Exp
Mn^{10+}	Energy Levels, Wavelengths	Exp
Mn^{11+}	Energy Levels, Wavelengths	Exp
Co^{11+}	Energy Levels, Wavelengths	Exp
Co^{12+}	Energy Levels, Wavelengths	Exp

291. R. H. Rubin, G. J. Ferland, E. E. Chollet, R. Horstmeyer
$^{12}C/^{13}C$ Ratio in Planetary Nebulae from the IUE Archives
Astrophys. J. 605, 784-792 (2004)

$^{13}\mathbf{C}^{2+}$	Energy Levels, Wavelengths	Exp
$\mathbf{C}^{2+}$	Energy Levels, Wavelengths	Exp

292. E. Silver, H. Schnopper, G. Austin, R. Ingram, G. Guth, S. Murray, N. Madden, D. Landis, J. Beeman, E. E. Haller, Th. Stöhlker
Using a Microcalorimeter to Measure the Lamb Shift in Hydrogenic Gold and Uranium on Cooled, Decelerated Ion Beams
Nucl. Instrum. Methods Phys. Res. A 520, 60-62 (2004)

$\mathbf{Au}^{78+}$	Energy Levels, Wavelengths	Exp

293. W. Curdt, E. Landi, U. Feldman
The SUMER Spectral Atlas of Solar Coronal Features
Astron. Astrophys. 427-3, 1045-1054 (2004)

$\mathbf{N}^{4+}$	Energy Levels, Wavelengths	Exp
$\mathbf{O}^{5+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ne}^{5+-7+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Na}^{6+-9+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Mg}^{5+-10+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Al}^{6+-10+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Si}^{5+-12+}$	Energy Levels, Wavelengths	Exp
$\mathbf{P}^{8+}$	Energy Levels, Wavelengths	Exp
$\mathbf{S}^{5+-12+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cl}^{6+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cl}^{10+-11+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{6+-8+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{10+-12+}$	Energy Levels, Wavelengths	Exp
$\mathbf{K}^{8+}$	Energy Levels, Wavelengths	Exp
$\mathbf{K}^{10+-12+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ca}^{6+-9+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ca}^{11+-14+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ti}^{14+-15+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cr}^{9+-10+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cr}^{15+-17+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cr}^{19+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Mn}^{16+-17+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Mn}^{19+-20+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{6+-7+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{16+-22+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Co}^{11+-12+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Co}^{18+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{13+-14+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{18+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{20+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{22+}$	Energy Levels, Wavelengths	Exp

294. K. Werner, T. Rauch, E. Reiff, J. W. Kruk, R. Napiwotzki
Identification of Neon in FUSE and VLT Spectra of Extremely Hot Hydrogen-Deficient (Pre-) White Dwarfs
Astron. Astrophys. 427, 685-695 (2004)

$\mathbf{Ne}^{6+}$	Energy Levels, Wavelengths	Exp

295. F. Castelli, S. Hubrig
A Spectroscopic Atlas of the HgMn Star HD 175640 (B9 V) $\lambda\lambda$ 3040-10000 Å
Astron. Astrophys. 425, 263-270 (2004)

C	Energy Levels, Wavelengths	Exp
Ti^{+}	Energy Levels, Wavelengths	Exp
Cr^{+}	Energy Levels, Wavelengths	Exp
Mn^{+}	Energy Levels, Wavelengths	Exp
Ga^{+}	Energy Levels, Wavelengths	Exp
Ba^{+}	Energy Levels, Wavelengths	Exp
Pt^{+}	Energy Levels, Wavelengths	Exp
Hg^{0+}–$^{+}$	Energy Levels, Wavelengths	Exp

296. P. Petitjean, B. Aracil
The Ratio of the C IV $\lambda\lambda$1548,1550 Rest-Wavelengths from High-Redshift QSO Absorption Lines
Astron. Astrophys. 422, 523-526 (2004)

C^{3+}	Energy Levels, Wavelengths	Exp

297. C. Mendoza, T. R. Kallman, M. A. Bautista, P. Palmeri
Decay Properties of K-Vacancy States in Fe X-Fe XVII
Astron. Astrophys. 414-1, 377-388 (2004)

Fe^{9+}–$^{16+}$	Energy Levels, Wavelengths	Th

298. G. Pandey, D. L. Lambert, N. K. Rao, B. Gustafsson, N. Ryde, D. Yong
The R Coronae Borealis Stars: Carbon Abundances from Forbidden Carbon Lines
Mon. Not. R. Astron. Soc. 353-1, 143-152 (2004)

C	Energy Levels, Wavelengths	Exp

299. S. Heinäsmäki, H. Aksela, J. Nikkinen, E. Kukk, A. Kivimäki, S. Aksela, S. Fritzsche
Lifetime and Auger Decay of Strongly Correlated 4p Hole States of Xenon
J. Electron Spectrosc. Relat. Phenom. 137-40, 281-285 (2004)

Xe	Energy Levels, Wavelengths	E/T

300. I. B. Khriplovich, A. I. Milstein
Corrections to Deuterium Hyperfine Structure due to Deuteron Excitations
JETP 98-2, 181-185 (2004)

H	Energy Levels, Wavelengths	Th
D	Energy Levels, Wavelengths	Th

301. V. A. Zilitis
Determination of the D and F° Rydberg Energy Levels of Rubidium-like Ions by the Method of Interpolation of Relativistic Quantum Defects
Opt. Spectrosc. 97-6, 849-853 (2004)

Rb Z= 37-39	Energy Levels, Wavelengths	E/T
Rb Z= 37-87	Energy Levels, Wavelengths	E/T
Nb^{4+}	Energy Levels, Wavelengths	E/T

302. A. V. Andreev
On the Theory of Hyperfine Structure of Atomic Levels
Opt. Spectrosc. 96-5, 645-649 (2004)

H	Energy Levels, Wavelengths	Th

303. V. A. Zilitis
Determination of the S and P° Rydberg Energy Levels of Rubidium-like Ions by the Method of Interpolation of Relativistic Quantum Defects
Opt. Spectrosc. 96-4, 482-485 (2004)

Rb Z= 37-87	Energy Levels, Wavelengths	E/T
Rb	Energy Levels, Wavelengths	E/T
Sr^{+}	Energy Levels, Wavelengths	E/T
Y^{2+}	Energy Levels, Wavelengths	E/T
Nb^{4+}	Energy Levels, Wavelengths	E/T

304. I. I. Tupitsyn, A. V. Loginov
Calculation of the Magnetic Dipole Constant of the Hyperfine Structure of the $^6S_{5/2}$ ($3d^54s^2$) Term in the Atomic Spectrum of Manganese
Opt. Spectrosc. 96-3, 324-327 (2004)

Mn	Energy Levels, Wavelengths	Th

305. L.-B. Wang, P. Mueller, K. Bailey, G. W. F. Drake, J. P. Greene, D. Henderson, R. J. Holt, R. V. F. Janssens, C. L. Jiang, Z.-T. Lu, T. P. O'Connor, R. C. Pardo, K. E. Rehm, J. P. Schiffer, X. D. Tang
Laser Spectroscopic Determination of the ^{6}He Nuclear Charge Radius
Phys. Rev. Lett. 93, 142501 (2004)

He	Energy Levels, Wavelengths	Exp

306. G. C. Rodrigues, P. Indelicato, J. P. Santos, P. Patté, F. Parente
Systematic Calculation of Total Atomic Energies of Ground State Configurations
At. Data Nucl. Data Tables 86, 117-233 (2004)

Li Z= 3-109	Energy Levels, Wavelengths	Th
U Z= 92-109	Energy Levels, Wavelengths	Th
Pa Z= 91-109	Energy Levels, Wavelengths	Th
Th Z= 90-109	Energy Levels, Wavelengths	Th
Ac Z= 89-109	Energy Levels, Wavelengths	Th
Ra Z= 88-109	Energy Levels, Wavelengths	Th
Fr Z= 87-109	Energy Levels, Wavelengths	Th
Rn Z= 86-109	Energy Levels, Wavelengths	Th
At Z= 85-109	Energy Levels, Wavelengths	Th
Po Z= 84-109	Energy Levels, Wavelengths	Th
Bi Z= 83-109	Energy Levels, Wavelengths	Th
Pb Z= 82-109	Energy Levels, Wavelengths	Th
Tl Z= 81-109	Energy Levels, Wavelengths	Th
Hg Z= 80-109	Energy Levels, Wavelengths	Th
Au Z= 79-109	Energy Levels, Wavelengths	Th
Pt Z= 78-109	Energy Levels, Wavelengths	Th
Ir Z= 77-109	Energy Levels, Wavelengths	Th
Os Z= 76-109	Energy Levels, Wavelengths	Th
Re Z= 75-109	Energy Levels, Wavelengths	Th
W Z= 74-109	Energy Levels, Wavelengths	Th
Ta Z= 73-109	Energy Levels, Wavelengths	Th
Hf Z= 72-109	Energy Levels, Wavelengths	Th
Lu Z= 71-109	Energy Levels, Wavelengths	Th
Yb Z= 70-109	Energy Levels, Wavelengths	Th
Tm Z= 69-109	Energy Levels, Wavelengths	Th

Er Z= 68-109	Energy Levels, Wavelengths	Th
Ho Z= 67-109	Energy Levels, Wavelengths	Th
Dy Z= 66-109	Energy Levels, Wavelengths	Th
Tb Z= 65-109	Energy Levels, Wavelengths	Th
Gd Z= 64-109	Energy Levels, Wavelengths	Th
Eu Z= 63-109	Energy Levels, Wavelengths	Th
Sm Z= 62-109	Energy Levels, Wavelengths	Th
Pm Z= 61-109	Energy Levels, Wavelengths	Th
Nd Z= 60-109	Energy Levels, Wavelengths	Th
Pr Z= 59-109	Energy Levels, Wavelengths	Th
Ce Z= 58-109	Energy Levels, Wavelengths	Th
La Z= 57-109	Energy Levels, Wavelengths	Th
Ba Z= 56-109	Energy Levels, Wavelengths	Th
Cs Z= 55-109	Energy Levels, Wavelengths	Th
Xe Z= 54-109	Energy Levels, Wavelengths	Th
I Z= 53-109	Energy Levels, Wavelengths	Th
Te Z= 52-109	Energy Levels, Wavelengths	Th
Sb Z= 51-109	Energy Levels, Wavelengths	Th
Sn Z= 50-109	Energy Levels, Wavelengths	Th
In Z= 49-109	Energy Levels, Wavelengths	Th
Cd Z= 48-109	Energy Levels, Wavelengths	Th
Ag Z= 47-109	Energy Levels, Wavelengths	Th
Pd Z= 46-109	Energy Levels, Wavelengths	Th
Rh Z= 45-109	Energy Levels, Wavelengths	Th
Ru Z= 44-109	Energy Levels, Wavelengths	Th
Tc Z= 43-109	Energy Levels, Wavelengths	Th
Mo Z= 42-109	Energy Levels, Wavelengths	Th
Nb Z= 41-109	Energy Levels, Wavelengths	Th
Zr Z= 40-109	Energy Levels, Wavelengths	Th
Y Z= 39-109	Energy Levels, Wavelengths	Th
Sr Z= 38-109	Energy Levels, Wavelengths	Th
Rb Z= 37-109	Energy Levels, Wavelengths	Th
Kr Z= 36-109	Energy Levels, Wavelengths	Th
Br Z= 35-109	Energy Levels, Wavelengths	Th
Se Z= 34-109	Energy Levels, Wavelengths	Th
As Z= 33-109	Energy Levels, Wavelengths	Th
Ge Z= 32-109	Energy Levels, Wavelengths	Th
Ga Z= 31-109	Energy Levels, Wavelengths	Th
Zn Z= 30-109	Energy Levels, Wavelengths	Th
Cu Z= 29-109	Energy Levels, Wavelengths	Th
Ni Z= 28-109	Energy Levels, Wavelengths	Th
Co Z= 27-109	Energy Levels, Wavelengths	Th
Fe Z= 26-109	Energy Levels, Wavelengths	Th
Mn Z= 25-109	Energy Levels, Wavelengths	Th
Cr Z= 24-109	Energy Levels, Wavelengths	Th
V Z= 23-109	Energy Levels, Wavelengths	Th
Ti Z= 22-109	Energy Levels, Wavelengths	Th
Sc Z= 21-109	Energy Levels, Wavelengths	Th
Ca Z= 20-109	Energy Levels, Wavelengths	Th
K Z= 19-109	Energy Levels, Wavelengths	Th
Ar Z= 18-109	Energy Levels, Wavelengths	Th
Cl Z= 17-109	Energy Levels, Wavelengths	Th
S Z= 16-109	Energy Levels, Wavelengths	Th
P Z= 15-109	Energy Levels, Wavelengths	Th
Si Z= 14-109	Energy Levels, Wavelengths	Th
Al Z= 13-109	Energy Levels, Wavelengths	Th
Mg Z= 12-109	Energy Levels, Wavelengths	Th

Na Z= 11-109	Energy Levels, Wavelengths	Th
Ne Z= 10-109	Energy Levels, Wavelengths	Th
F Z= 9-109	Energy Levels, Wavelengths	Th
O Z= 8-109	Energy Levels, Wavelengths	Th
N Z= 7-109	Energy Levels, Wavelengths	Th
C Z= 6-109	Energy Levels, Wavelengths	Th
B Z= 5-109	Energy Levels, Wavelengths	Th
Be Z= 4-109	Energy Levels, Wavelengths	Th

307. M. J. Conneely, L. Lipsky
Energy Levels and Classifications of Triply Excited States of N^{4+}, O^{5+}, F^{6+}, and Ne^{7+}
At. Data Nucl. Data Tables 86, 35-116 (2004)

Li Z= 7-10	Energy Levels, Wavelengths	Th

308. P. Neill, C. Harris, A. S. Safronova, S. Hamasha, S. Hansen, U. I. Safronova, P. Beiersdorfer
The Study of X-ray M-Shell Spectra of W Ions from the Lawrence Livermore National Laboratory Electron Beam Ion Trap
Can. J. Phys. 82, 931-942 (2004)

$\mathbf{W}^{40+-–50+}$	Energy Levels, Wavelengths	Exp

309. F. S. Porter, G. V. Brown, K. R. Boyce, R. L. Kelley, C. A. Kilbourne, P. Beiersdorfer, H. Chen, S. Terracol, S. M. Kahn, A. E. Szymkowiak
The Astro-E2 X-ray Spectrometer/EBIT Microcalorimeter X-ray Spectrometer
Rev. Sci. Instrum. 75-10, 3772-3774 (2004)

$\mathbf{Ni}^{26+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{27+}$	Energy Levels, Wavelengths	Exp

310. P. Beiersdorfer, G. V. Brown, R. Goddard, B. J. Wargelin
High-Resolution Crystal Spectrometer for the 10–60 Å Extreme Ultraviolet Region
Rev. Sci. Instrum. 75-10, 3720-3722 (2004)

$\mathbf{Ar}^{8+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp

311. M. I. Eides, V. A. Shelyuto
Three-Loop Reducible Radiative Photon Contributions to Lamb Shift and Hyperfine Splitting
Phys. Rev. A 70, 022506 (2004)

H Z= 1-108	Energy Levels, Wavelengths	Th

312. E. Lindroth, J. L. Sanz-Vicario
Photodetachment of Few-Electron Negative Ions
Radiat. Phys. Chem. 70-1-3, 387-405 (2004)

$\mathbf{H}^{-}$	Energy Levels, Wavelengths	Th
$\mathbf{He}^{-}$	Energy Levels, Wavelengths	Th
$\mathbf{Li}^{-}$	Energy Levels, Wavelengths	Th
$\mathbf{Be}^{-}$	Energy Levels, Wavelengths	Th

313. S. Gheysen, G. Neyens, J. Odeurs
Calculated Hyperfine Spectra for In-Source Laser Spectroscopy and Deduced Magnetic Moments and Isomer Shifts of ^{68}Cu and ^{70}Cu Isomeric States
Phys. Rev. C 69, 064310 (2004)

^{65}**Cu**	Energy Levels, Wavelengths	E/T
^{68}**Cu**	Energy Levels, Wavelengths	E/T
^{70}**Cu**	Energy Levels, Wavelengths	E/T
Cu	Energy Levels, Wavelengths	E/T

314. E. P. Benis, T. J. M. Zouros, T. W. Gorczyca, A. D. González, P. Richard
Elastic Resonant and Nonresonant Differential Scattering of Quasifree Electrons from B^{4+}(1s) and B^{3+}(1s^2) Ions
Phys. Rev. A 73, 029901 (2004)

Li Z= 5-9	Energy Levels, Wavelengths	E/T
B^{2+}	Energy Levels, Wavelengths	E/T
B^{3+}	Energy Levels, Wavelengths	E/T

315. K. M. Aggarwal, F. P. Keenan
Electron Impact Excitation of Mo XXXIV
Phys. Scr. 69, 176-188 (2004)

Mo^{33+}	Energy Levels, Wavelengths	Th

316. Z.-D. Mu, Q.-Y. Wei
Calculation of Wavelengths and Oscillator Strengths of Transition 3d^{10}4s–3d^{9}4s4p for Ions from Mo XIV–Ru XVI
Acta Phys. Sin. 53-6, 1742-1748 (2004)

Cu Z= 42-44	Energy Levels, Wavelengths	Th

317. Z.-M. Ge, Z.-W. Wang, Y.-J. Zhou
Theoretical Calculation of Ionization Potential and Term Energy of the Ground States 1s^{2}2s of Lithium-like Systems from Z = 21 to 30
Acta Phys. Sin. 53-1, 42-47 (2004)

Li Z= 21-30	Energy Levels, Wavelengths	Th

318. A. Natarajan, L. Natarajan
Kβ X-ray Satellites of Highly Ionized Iron
J. Phys. B 37, 4789-4801 (2004)

Fe^{19+}–$^{24+}$	Energy Levels, Wavelengths	Th

319. T. van Zoest, H. Knopp, J. Jacobi, S. Schippers, R. A. Phaneuf, A. Müller
Electron-Impact Ionization of Ti^{3+} Ions
J. Phys. B 37, 4387-4395 (2004)

Ti^{3+}	Energy Levels, Wavelengths	Exp

320. S. F. Dyubko, V. A. Efremov, V. G. Gerasimov, K. B. MacAdam
Microwave Spectroscopy of Al I Atoms in $\ell = 0$ to 4 Rydberg States: Comprehensive Quantum-Defect Analysis
J. Phys. B 37, 1967-1978 (2004)

Al	Energy Levels, Wavelengths	Exp

321. S. Schippers, A. Müller, R. A. Phaneuf, T. van Zoest, I. Álvarez, C. Cisneros, E. D. Emmons, M. F. Gharaibeh, G. Hinojosa, A. S. Schlachter, S. W. J. Scully
Threshold Truncation of a 'Giant' Dipole Resonance in Photoionization of Ti^{3+}
J. Phys. B 37, L209-L216 (2004)

Ti^{3+}	Energy Levels, Wavelengths	Exp

322. D. Nikolić, E. Lindroth
Intermediate Hamiltonian to Avoid Intruder State Problems for Doubly Excited States
J. Phys. B 37, L285-L291 (2004)

He	Energy Levels, Wavelengths	Th

323. E. B. Saloman, C. J. Sansonetti
Wavelengths, Energy Level Classifications, and Energy Levels for the Spectrum of Neutral Neon
J. Phys. Chem. Ref. Data 33-4, 1113-1158 (2004)

Ne	Energy Levels, Wavelengths	Exp

324. R. Şchiopu, Z. Harman, W. Scheid, N. Grün
Isotope Shifts of Dielectronic Resonances for Heavy Few-Electron Ions
Eur. Phys. J. D 31, 21-25 (2004)

H Z= 54-94	Energy Levels, Wavelengths	Th
Li Z= 54-94	Energy Levels, Wavelengths	Th
He Z= 54-94	Energy Levels, Wavelengths	Th

325. G.-Y. Liang, G. Zhao, J.-R. Shi, J.-L. Zeng, X. Bian
Identification of Three Weak Lines and Their Influences on Diagnostics of Electron Temperature and Density in Astrophysical Plasmas
Chin. Phys. Lett. 21-10, 2063-2066 (2004)

Ne^{8+}	Energy Levels, Wavelengths	Exp
$Ar^{14+--15+}$	Energy Levels, Wavelengths	Exp
$Fe^{16+--18+}$	Energy Levels, Wavelengths	Exp

326. M. Verschl, M. Mattes, M. Sorg
Relativistic Effects in Bound Two-Particle Systems
Eur. Phys. J. A 20, 211-231 (2004)

Ge^{30+}	Energy Levels, Wavelengths	Th
Xe^{52+}	Energy Levels, Wavelengths	Th
Dy^{64+}	Energy Levels, Wavelengths	Th
W^{72+}	Energy Levels, Wavelengths	Th
Bi^{81+}	Energy Levels, Wavelengths	Th

327. B. Gou, Y. Lu, F. Wang
Electron Correlation Effects for Doubly-Excited States of Be-like Ar^{14+} Ion
Int. J. Mod. Phys. B 18-17-19, 2590-2594 (2004)

Ar^{14+}	Energy Levels, Wavelengths	Th

328. F. Kerber, M. R. Rosa, C. J. Sansonetti, J. Reader, G. Nave, P. Bristow, M. Fiorentino, G. Lercher
Spectral Characterization of HST Calibration Lamps: New Pt/Cr-Ne Line Catalogues and Ageing Test
UV and Gamma Ray Space Telescope Systems, Proc. SPIE 5488, Editors: G. Hasinger and M. J. L. Turner, (2004)

C	Energy Levels, Wavelengths	Exp
N	Energy Levels, Wavelengths	Exp
Ne^{0+-2+}	Energy Levels, Wavelengths	Exp
Al^{+}	Energy Levels, Wavelengths	Exp
Cl	Energy Levels, Wavelengths	Exp
Cr^{0+-+}	Energy Levels, Wavelengths	Exp
Cr^{+}	Energy Levels, Wavelengths	Exp
Pt^{0+-+}	Energy Levels, Wavelengths	Exp

329. J. D. Gillaspy, B. Blagojevic, A. Dalgarno, K. Fahey, V. Kharchenko, J. M. Laming, E.-O. Le Bigot, L. Lugosi, K. Makonyi, L. P. Ratliff, H. W. Schnopper, E. H. Silver, E. Takács, J. N. Tan, H. Tawara, K. Tokési
Visible, EUV, and X-ray Spectroscopy at the NIST EBIT Facility
Atomic Processes in Plasmas, 14th APS Topical Conference, AIP Conf. Proc. 730, AIP Press, (2004)

Xe^{9+}	Energy Levels, Wavelengths	Exp
Xe^{31+}	Energy Levels, Wavelengths	Exp

330. W. R. Johnson, K. T. Cheng, M. H. Chen
Accurate Relativistic Calculations Including QED Contributions for Few-Electron Systems
Relativistic Electronic Structure Theory, Elsevier Science B.V., (2004)

Li Z= 10-92	Energy Levels, Wavelengths	Th
He	Energy Levels, Wavelengths	Th
Li	Energy Levels, Wavelengths	Th
U$^{79+-81+}$	Energy Levels, Wavelengths	Th
U^{89+}	Energy Levels, Wavelengths	Th

331. M. Matranga, M. Barbera, A. Maggio, G. Peres, S. Serio, E. Takács, E. Silver, J. Gillaspy, H. Schnopper, M. Laming, J. Beeman, E. Haller, N. Madden
EBIT Diagnostics Using X-ray Spectra of Highly Ionized Ne
Nucl. Instrum. Methods Phys. Res. B 205, 244-249 (2003)

Ne^{8+-9+}	Energy Levels, Wavelengths	Exp

332. P. Beiersdorfer, J. H. Scofield, A. L. Osterheld
X-ray-Line Diagnostic of Magnetic Field Strength for High-Temperature Plasmas
Phys. Rev. Lett. 90, 235003 (2003)

Ar^{8+}	Energy Levels, Wavelengths	Exp

333. S. Mazouffre, E. Pawelec, N. Tran Bich, N. Sadeghi
Doppler-Free Spectroscopy Measurements of Isotope Shifts and Hyperfine Components of Near-IR Xenon Lines
Plasma 2005, AIP Conference Proceedings 812, AIP Press, (2006)

^{129}**Xe**$^{0+-+}$	Energy Levels, Wavelengths	Exp
^{131}**Xe**$^{0+-+}$	Energy Levels, Wavelengths	Exp
Xe^{0+-+}	Energy Levels, Wavelengths	Exp

334. J. E. Rice, K. B. Fournier, E. S. Marmar, J. L. Terry, U. I. Safronova
X-Ray Spectroscopy of High n Transitions of He- and Ne-Like Ions in Alcator C-Mod Plasmas
Nuclear Fusion Research: Understanding Plasma-Surface Interactions, Springer Series in Chemical Physics, Springer-Verlag, (2005)

Ar^{15+}	Energy Levels, Wavelengths	Exp
Ar^{16+}	Energy Levels, Wavelengths	Exp
$Kr^{24+-27+}$	Energy Levels, Wavelengths	Exp
$Mo^{30+-33+}$	Energy Levels, Wavelengths	Exp

335. A. Farrag, S. A. H. Abou Steit, A. I. Refaie
Theoretical Level Structure and Decay Dynamics for the Be-like Ti Ion
Modern Trends in Physics Research, AIP Conference Proceedings 748, AIP Press, (2005)

Ti^{18+}	Energy Levels, Wavelengths	Th

336. P. Cancio, G. Giusfredi, C. de Mauro, V. Krachmalnicoff, D. Mazzotti, P. de Natale, M. Inguscio
Precision Spectroscopy of Helium
Atomic Physics 19, AIP Conference Proceedings 770, AIP Press, (2005)

^{3}He	Energy Levels, Wavelengths	Exp
^{4}He	Energy Levels, Wavelengths	Exp
He	Energy Levels, Wavelengths	Exp

337. I. Lindgren, S. Salomonson, B. Åsén, A.-M. Mårtensson-Pendrill
Quasi-Degeneracy in Bound-State QED. Fine Structure of Heliumlike Ions
Electromagnetic Probes of Fundamental Physics, World Scientific, (2003)

Ne^{8+}	Energy Levels, Wavelengths	Th
Ar^{16+}	Energy Levels, Wavelengths	Th

338. R. Butzbach, H. Daido, E. Förster, Y. Gu, G. Huang, Y. Kato, F. Koike, S. Sebban, H. Tang, I. Uschmann, M. Vollbrecht, S. Wang
Spatially Resolved High Resolution Spectroscopy of 4f-3d Emission Lines of Ni- and Co-like Ions from Yb, Hf, Ta, and W X-ray Laser Plasmas
Inst. Phys. Conf. Ser. No. 159, IOP Publishing, Ltd., (1999)

Ni Z= 72-74	Energy Levels, Wavelengths	Exp

339. R. G. Dall, K. G. H. Baldwin, L. J. Byron, A. G. Truscott
Experimental determination of the helium 2 $^{3}P_{1}$-1 $^{1}S_{0}$ transition rate
Phys. Rev. Lett. 100-2, 023001 (2008)

He	Trans. prob., Oscill. Strengths	Exp

340. D. E. Kelleher, L. I. Podobedova
Atomic transition probabilities of sodium and magnesium. A critical compilation
J. Phys. Chem. Ref. Data 37, 267-706 (2008)

Na^{0+-7+}	Trans. prob., Oscill. Strengths	E/T
Na^{0+-9+}	Trans. prob., Oscill. Strengths	E/T
Mg^{0+-8+}	Trans. prob., Oscill. Strengths	E/T
Mg^{0+-10+}	Trans. prob., Oscill. Strengths	E/T

341. J. S. Sobeck, J. E. Lawler, C. Sneden
Improved laboratory transition probabilities for neutral chromium and redetermination of the chromium abundance for the sun and three stars
Astrophys. J. 667, 1267-1282 (2007)

Cr	Trans. prob., Oscill. Strengths	Exp

342. K. M. Aggarwal, F. P. Keenan
Energy levels, radiative rates and excitation rates for transitions in Ni XI
Astron. Astrophys. 475, 393-399 (2007)

$\mathbf{Ni^{10+}}$	Trans. prob., Oscill. Strengths	Th

343. R. Blackwell-Whitehead, M. Bergemann
A revision of the solar manganese abundance using new and remeasured laboratory oscillator strengths
Astron. Astrophys. 472, L43-L46 (2007)

Mn	Trans. prob., Oscill. Strengths	Exp

344. F. P. Keenan, D. B. Jess, K. M. Aggarwal, R. J. Thomas, J. W. Brosius, J. M. Davila
Fe XIII emission lines in active region spectra obtained with the solar extreme-ultraviolet research telescope and spectrograph
Mon. Not. R. Astron. Soc. 376, 205-214 (2007)

$\mathbf{Fe^{12+}}$	Trans. prob., Oscill. Strengths	Th

345. G. Dixit, B. K. Sahoo, P. C. Deshmukh, R. K. Chaudhuri, S. Majumder
Accurate estimates of circumstellar and interstellar lines of quadruply ionized vanadium using the coupled cluster approach
Astrophys. J., Suppl. Ser. 172, 645-648 (2007)

$\mathbf{V^{4+}}$	Trans. prob., Oscill. Strengths	Th

346. S. S. Tayal
Oscillator strengths and electron collision rates for fine-structure transitions in O II
Astrophys. J., Suppl. Ser. 171, 331-348 (2007)

$\mathbf{O^{+}}$	Trans. prob., Oscill. Strengths	Th

347. A. Bacławski, J. Musielok
Testing recent calculations of astrophysical relevant infrared N I line strengths by arc emission measurements
Eur. Phys. J. Spec. Top. 144, 221-225 (2007)

N	Trans. prob., Oscill. Strengths	Exp

348. G. Çelik, E. Akin, H. Ş. Kiliç
Comparison of transition probabilities calculated using different parameters on WBEPM theory for some p-d and d-p transitions in excited atomic nitrogen
Int. J. Quantum Chem. 107, 495-500 (2007)

N	Trans. prob., Oscill. Strengths	Th

349. E. Träbert, P. Beiersdorfer, G. V. Brown
Observation of hyperfine mixing in measurements of a magnetic octupole decay in isotopically pure nickel-like ^{129}Xe and ^{132}Xe ions
Phys. Rev. Lett. 98, 263001 (2007)

$\mathbf{Xe^{26+}}$	Trans. prob., Oscill. Strengths	Exp

350. A. K. Bhatia, E. Landi
Atomic data and spectral line intensities for Mg IX
At. Data Nucl. Data Tables 93, 742-778 (2007)

Mg^{8+} Trans. prob., Oscill. Strengths Th

351. P. Quinet, É. Biémont, P. Palmeri, E. Träbert
Relativistic atomic data for EUV and X-ray lines in the highly charged Zn-like ions from Yb^{40+} to U^{62+}
At. Data Nucl. Data Tables 93, 711-729 (2007)

Zn Z= 70-92 Trans. prob., Oscill. Strengths Th

352. K. M. Aggarwal, V. Tayal, G. P. Gupta, F. P. Keenan
Energy levels and radiative rates for transitions in Mg-like iron, cobalt and nickel
At. Data Nucl. Data Tables 93, 615-710 (2007)

Mg Z= 26-28 Trans. prob., Oscill. Strengths Th

353. P. Palmeri, P. Quinet, É. Biémont, E. Träbert
Wavelengths and transition probabilities for n=4→n′=4 transitions in heavy Cu-like ions (70 ≤ Z ≤ 92)
At. Data Nucl. Data Tables 93, 537-547 (2007)

Cu Z= 70-92 Trans. prob., Oscill. Strengths Th

354. G. Liang, G. Zhao, J. Zeng
Electron impact collision strengths in Si IX, Si X, and Si XI
At. Data Nucl. Data Tables 93, 375-536 (2007)

Si^{8+-10+} Trans. prob., Oscill. Strengths Th

355. P. Palmeri, P. Quinet, É. Biémont, E. Träbert
Wavelengths and transition probabilities in heavy Ge-like ions (70 ≤ Z ≤ 92)
At. Data Nucl. Data Tables 93, 355-374 (2007)

Ge Z= 70-92 Trans. prob., Oscill. Strengths Th

356. A. K. Bhatia, E. Landi
Atomic data and spectral line intensities for Si XI
At. Data Nucl. Data Tables 93, 275-353 (2007)

Si^{10+} Trans. prob., Oscill. Strengths Th

357. J. Zeng, G. Zhao, J. Yuan
Electron impact collision strengths and oscillator strengths for Ge-, Ga-, Zn-, Cu-, Ni-, and Co-like Au ions
At. Data Nucl. Data Tables 93, 199-273 (2007)

$Au^{47+-52+}$ Trans. prob., Oscill. Strengths Th

358. J. M. Bridges, W. L. Wiese
Experimental study of weak intersystem lines and related strong persistent lines of Ne II
Phys. Rev. A 76, 022513 (2007)

Ne^{+} Trans. prob., Oscill. Strengths Exp

359. G. P. Gupta, A. Z. Msezane
Fine-structure energy levels, oscillator strengths and lifetimes in Mn XIII
Phys. Scr. 76, 225-232 (2007)

$\mathbf{Mn}^{12+}$ Trans. prob., Oscill. Strengths Th

360. K. Fahy, E. Sokell, G. O'Sullivan, A. Aguilar, J. M. Pomeroy, J. N. Tan, J. D. Gillaspy
Extreme-ultraviolet spectroscopy of highly charged xenon ions created using an electron-beam ion trap
Phys. Rev. A 75, 032520 (2007)

$\mathbf{Xe}^{6+-9+}$ Trans. prob., Oscill. Strengths Th

361. V. Tayal, G. P. Gupta
Fine-structure energy levels, oscillator strengths and lifetimes in Mg-like chromium
Eur. Phys. J. D 44, 449-457 (2007)

$\mathbf{Cr}^{12+}$ Trans. prob., Oscill. Strengths Th

362. G. Çelik, Ş. Ateş
The calculation of transition probabilities for atomic oxygen
Eur. Phys. J. D 44, 433-437 (2007)

O Trans. prob., Oscill. Strengths Th

363. A. Baclawski, T. Wujec, J. Musielok
Measurements of selected N I multiplet strength ratios and comparison with recent calculations
Eur. Phys. J. D 44, 427-431 (2007)

N Trans. prob., Oscill. Strengths Exp

364. É. Biémont, M. Clar, V. Fivet, H.-P. Garnir, P. Palmeri, P. Quinet, D. Rostohar
Lifetime and transition probability determination in xenon ions: The cases of Xe VII and Xe VIII
Eur. Phys. J. D 44, 23-33 (2007)

$\mathbf{Xe}^{6+-7+}$ Trans. prob., Oscill. Strengths Th

365. D. R. Beck
Relativistic configuration interaction Fe III $3d^6$ J = 4 → $3d^5 4p$ J = 3,4,5 f-values
J. Phys. B 40, 3505-3514 (2007)

$\mathbf{Fe}^{2+}$ Trans. prob., Oscill. Strengths Th

366. A. E. Kingston, A. Hibbert
Transitions from the $3p^6 3d$ ground state of potassium-like vanadium
J. Phys. B 40, 3389-3399 (2007)

$\mathbf{V}^{4+}$ Trans. prob., Oscill. Strengths Th

367. H. S. Nataraj, B. K. Sahoo, B. P. Das, R. K. Chaudhuri, D. Mukherjee
Theoretical studies of the atomic transitions in boron-like ions: Mg VIII, Si X and S XII
J. Phys. B 40, 3153-3162 (2007)

B Z= 12-16 step 2 Trans. prob., Oscill. Strengths Th

368. P. Oliver, A. Hibbert
Breit-Pauli oscillator strengths for transitions among fine-structure levels of Cl I
J. Phys. B 40, 2847-2870 (2007)

Cl	Trans. prob., Oscill. Strengths	Th

369. S. S. Tayal
Oscillator strengths of allowed and intercombination lines in Si II using non-orthogonal wavefunctions
J. Phys. B 40, 2551-2562 (2007)

Si^{+}	Trans. prob., Oscill. Strengths	Th

370. U. I. Safronova, A. S. Safronova, P. Beiersdorfer
Relativistic many-body calculations of electric-dipole lifetimes, rates and oscillator strengths of Δn=0 transitions between $3\ell^{-1}4\ell'$ states in Ni-like ions
J. Phys. B 40, 955-974 (2007)

Ni Z= 34-100	Trans. prob., Oscill. Strengths	Th
Ni Z= 36-42	Trans. prob., Oscill. Strengths	Th
Ni Z= 46-48	Trans. prob., Oscill. Strengths	Th
Ru^{16+}	Trans. prob., Oscill. Strengths	Th
Sn^{22+}	Trans. prob., Oscill. Strengths	Th
Xe^{26+}	Trans. prob., Oscill. Strengths	Th
Ba^{28+}	Trans. prob., Oscill. Strengths	Th
Eu^{35+}	Trans. prob., Oscill. Strengths	Th
Yb^{42+}	Trans. prob., Oscill. Strengths	Th
Ta^{45+}	Trans. prob., Oscill. Strengths	Th
W^{46+}	Trans. prob., Oscill. Strengths	Th
Os^{48+}	Trans. prob., Oscill. Strengths	Th
Au^{51+}	Trans. prob., Oscill. Strengths	Th
Pb^{54+}	Trans. prob., Oscill. Strengths	Th
Bi^{55+}	Trans. prob., Oscill. Strengths	Th
Th^{62+}	Trans. prob., Oscill. Strengths	Th
U^{64+}	Trans. prob., Oscill. Strengths	Th

371. N. C. Deb, A. Hibbert
Electric dipole transitions among the levels of the $3d^6$, $3d^54s$ and $3d^54p$ configurations in Fe III
J. Phys. B 40, F251-F258 (2007)

Fe^{2+}	Trans. prob., Oscill. Strengths	Th

372. Y. Ralchenko
Density dependence of the forbidden lines in Ni-like tungsten
J. Phys. B 40, F175-F180 (2007)

W^{46+}	Trans. prob., Oscill. Strengths	Th

373. W. L. Wiese, J. R. Fuhr
Improved critical compilations of selected atomic transition probabilities for neutral and singly ionized carbon and nitrogen
J. Phys. Chem. Ref. Data 36, 1737 (2007)

C^{0+-+}	Trans. prob., Oscill. Strengths	E/T
N^{0+-+}	Trans. prob., Oscill. Strengths	E/T

374. J. Fan, T.-y. Zhang, N.-w. Zheng, D.-x. Ma, T. Wang
Calculations for spin-allowed transitions between energy levels above the 3s3p state in Si III
Chin. J. Chem. Phys. 20, 265-272 (2007)

Si^{2+}	Trans. prob., Oscill. Strengths		Th

375. H. Xu, Z. Jiang, H. Lundberg
Lifetime measurements in neutral and singly ionized vanadium
J. Opt. Soc. Am. B 23, 2597-2600 (2006)

V^{0+--+}	Trans. prob., Oscill. Strengths		Exp

3.2 Atomic and Molecular Collisions

3.2.1 Photon Collisions

376. J. Schulz, M. Tchaplyguine, T. Rander, O. Bjoerneholm, S. Svensson, R. Sankari, S. Heinasmaki, H. Aksela, S. Aksela, E. Kukk
Shakedown in core photoelectron spectra from aligned laser-excited Na atoms.
Phys. Rev. A 72, 010702 (2005)

hν + Na	Fluorescence	2.1 eV	Exp

377. S. Jones, J. H. Macek, D. H. Madison
Three-Coulomb-wave Pluvinage model for Compton double ionization of helium in the region of the cross-section maximum.
Phys. Rev. A 72, 012718 (2005)

hν + He	Photoionization	2-20 keV	Th

378. K. L. Ishikawa, K. Midorikawa
Above-threshold double ionization of helium with attosecond intense soft x-ray pulses.
Phys. Rev. A 72, 013407 (2005)

hν + He	Photoionization	91.45 eV	Exp

379. P. Lambropoulos, L.A.A. Nikolopoulos, M. G. Makris
Signatures of direct double ionization under xuv radiation.
Phys. Rev. A 72, 013410 (2005)

hν + He	Photoionization	45 eV	Th

380. S. Ricz, J. Nikkinen, R. Sankari, T. Ricsoka, A. Kover, D. Varga, S. Fritzsche, H. Aksela, S. Aksela
Interference effects in the angular distribution of Ar 3p photoelectrons across the 2p -¿ ns/md resonannces.
Phys. Rev. A 72, 014701 (2005)

hν + Ar	Photoionization	90-330 eV	Exp

381. A. S. Kheifets, I. Bray
Double photoionization of He and H_2 at unequal energy sharing.
Phys. Rev. A 72, 022703 (2005)

hν + He	Photoexcitation		Th
hν + H_2	Photoexcitation		Th
hν + D_2	Photoexcitation		Th
hν + He	Photoionization		Th
hν + H_2	Photoionization		Th
hν + D_2	Photoionization		Th

382. U. Kleiman, M. S. Pindzola, F. Robicheaux
Photoionization with excitation and double photoionization of the Li^+ ground 1 ^1S state and metastable 2 $^{1,3}S$ states.
Phys. Rev. A 72, 022707 (2005)

hν + Li^+	Photoexcitation	200 eV	Th
hν + Li^+	Photoionization	200 eV	Th

383. J. Colgan, M. S. Pindzola, F. Robicheaux
Double and triple photoionization of Li and Be.
Phys. Rev. A 72, 022727 (2005)

hν + Li	Photoionization	200-400 eV	Th
hν + Be	Photoionization	200-400 eV	Th

384. M. Isla, J. A. Alonso
Fragmentation and Coulomb explosion of deuterium clusters by the interaction with intense laser pulses.
Phys. Rev. A 72, 023201 (2005)

hν + $D_3{}^+$	Photodissociation		Th
hν + $D_{13}{}^+$	Photodissociation		Th
hν + $H_{13}{}^+$	Photodissociation		Th

385. A. D. Bandrauk, H.-Z. Lu
Laser-induced electron recollision in H_2 and electron correlation.
Phys. Rev. A 72, 023408 (2005)

hν + H_2	Photoionization	800 nm	Th

386. T. Laarmann, A.R.B. de Castro, P. Gurtler, W. Laasch, J. Schulz, H. Wabnitz, T. Moeller
Photoionization of helium atoms irradiated with intense vacuum ultraviolet free-electron laser light. Part I. Experimental study of multiphoton and single-photon processes.
Phys. Rev. A 72, 023409 (2005)

hν + He	Photoionization	13 eV	Exp

387. A.R.B. de Castro, T. Laarmann, J. Schulz, H. Wabnitz, T. Moeller
Photoionization of helium atoms irradiated with intense vacuum ultraviolet free-electron laser light. Part II. Theoretical modeling of multi-photon and single-photon processes.
Phys. Rev. A 72, 023410 (2005)

hν + He	Photoionization	13 eV	Th

388. D. Pinkham, R. R. Jones
Intense laser ionization of transiently aligned CO.
Phys. Rev. A 72, 023418 (2005)

hν + CO	Photodissociation	780 nm	Exp
hν + CO	Photoionization	780 nm	Exp

389. J. M. Chen, K. T. Lu, J. M. Lee, S. C. Ho, H. W. Chang
Dissociation dynamics of excited neutral fragments of gaseous $SiCl_4$ following Si 2p and Cl 2p core-level excitations.
Phys. Rev. A 72, 032706 (2005)

hν + SiCl$_4$	Photoexcitation	100-225 eV	Exp

390. J. Schulz, M. Tchaplyguine, T. Rander, H. Bergersen, A. Lindblad, G. Oehrwall, S. Svensson, S. Heinasmaki, R. Sankari, S. Osmekhin, S. Aksela, H. Aksela
Final state selection in the 4p photoemission of Rb by combining laser spectroscopy with soft-x-ray photoionization.
Phys. Rev. A 72, 032718 (2005)

hν + Rb	Photoionization	61 eV	Th

391. H.-L. Zhou, S. T. Manson, A. Hibbert, L. Vo Ky, N. Feautrier
Photodetachment of the outer shell of C^- in the excited ^2D state.
Phys. Rev. A 72, 032723 (2005)

hν + C$^-$	Photodetachment	0-11 eV	Th

392. M. Ya. Amusia, A. S. Baltenkov, L. V. Chernysheva, Z. Felfli, A. Z. Msezane
Near-threshold behavior of angular anisotropy parameters in negative-ion photodetachment.
Phys. Rev. A 72, 032727 (2005)

hν + I$^-$	Photodetachment	0-30 eV	Th
hν + Xe	Photoionization	0-30 eV	Th

393. X. X. Zhou, X. M. Tong, Z. X. Zhao, C. D. Lin
Alignment dependence of high-order harmonic generation from N_2 and O_2 molecules in intense laser fields.
Phys. Rev. A 72, 033412 (2005)

hν + N$_2$	Fluorescence	$2-4x10^{14}$ W/cm^2	Th
hν + O$_2$	Fluorescence	$2-4x10^{14}$ W/cm^2	Th
hν + N$_2$	Photoionization	$2-4x10^{14}$ W/cm^2	Th
hν + O$_2$	Photoionization	$2-4x10^{14}$ W/cm^2	Th

394. V. Serov, A. Keller, O. Atabek, H. Figger, D. Pavicic
Intense laser dissociation of ${D_2}^+$: From experiment to theory.
Phys. Rev. A 72, 033413 (2005)

hν + H$_2$$^+$	Photodissociation	10^{14} W/cm^2	E/T
hν + D$_2$$^+$	Photodissociation	10^{14} W/cm^2	E/T

395. J. Sandstroem, I. Alvarez, D. Calabrese, C. Cisneros, A. M. Covington, V. T. Davis, M. S. Gulley, M. Halka, D. Hanstorp, F. S. Schlachter, J. S. Thompson, D. J. Pegg
Triple photodetachment from the Cl^- ion.
Phys. Rev. A 72, 034702 (2005)

hν + Cl$^-$	Photodetachment	38-85 eV	Exp
hν + Cl$^-$	Photoionization	38-85 eV	Exp

396. A. S. Alnaser, M. Zamkov, X. M. Tong, C. M. Maharjan, P. Ranitovic, C. L. Cocke, I. V. Litvinyuk
Resonant excitation during strong-field dissociative ionization.
Phys. Rev. A 72, 041402 (2005)

hν + O$_2$	Photodissociation	550-1800 nm	Exp
nhν + O$_2$	Photodissociation	550-1800 nm	Exp
hν + O$_2$	Photoionization	550-1800 nm	Exp
nhν + O$_2$	Photoionization	550-1800 nm	Exp

397. C. M. Maharjan, A. S. Alnaser, X. M. Tong, B. Ulrich, P. Ranitovic, S. Ghimire, Z. Chang, I. V. Litvinyuk, C. L. Cocke
Momentum imaging of doubly charged ions of Ne and Ar in the sequential ionization region.
Phys. Rev. A 72, 041403 (2005)

hν + Ne	Photoionization	800 nm	Exp
hν + Ar	Photoionization	800 nm	Exp
nhν + Ne	Photoionization	800 nm	Exp
nhν + Ar	Photoionization	800 nm	Exp

398. X. J. Liu, G. Pruemper, E. Kukk, R. Sankari, M. Hoshino, C. Makochekanwa, M. Kitajima, H. Tanaka, H. Yoshida, Y. Tamenori, K. Ueda
Site-selective ion production of the core-excited CH_3F molecule probed by Auger-electron-ion coincidence measurements.
Phys. Rev. A 72, 042704 (2005)

hν + CH_3F	Photoexcitation	288.8-687.8 eV	Exp
hν + CH_3F	Photoionization	288.8-687.8 eV	Exp

399. J. Nikkinen, H. Aksela, S. Fritzsche, S. Heinasmaki, R. Sankari, E. Kukk, N. Berrah, S. Aksela
Photoionization and Auger decay of the 3d vacancy state of atomic strontium: Electron-electron correlations.
Phys. Rev. A 72, 042706 (2005)

hν + Sr	Photoionization	190-210 eV	E/T

400. X. Feng, A. A. Wills, E. Sokell, T. W. Gorczyca, M. Wiedenhoeft, N. Berrah
Investigation of photoelectron recapture in Ar using two-dimensional photoelectron spectroscopy.
Phys. Rev. A 72, 042712 (2005)

hν + Ar	Photoionization	250-253 eV	E/T

401. C. Bouri, P. Selles, L. Malegat, J. M. Teuler, M. Kwato Njock, A. K. Kazansky
Dynamics of the helium atom close to the full fragmentation threshold: Ionization excitation.
Phys. Rev. A 72, 042716 (2005)

hν + He	Photodissociation	79.1 eV	Th
hν + He	Photoexcitation	79.1 eV	Th

402. N. Saito, X.-J. Liu, Y. Morishita, G. Pruemper, M. Machida, M. Oura, H. Yamaoka, Y. Tamenori, I. Koyano, I. H. Suzuki, K. Ueda
Vibrationally resolved molecular-frame angular distribution of O 1s photoelectrons from CO_2 molecules.
Phys. Rev. A 72, 042717 (2005)

hν + CO_2	Photoionization	540.5-546.5 eV	Exp

403. M. K. Inal, A. Surzhykov, S. Fritzsche
Linear polarization of the $2p^5 3s$–¿$2p^6$ lines following the inner-shell photoionization of sodiumlike ions.
Phys. Rev. A 72, 042720 (2005)

hν + Fe^{15+}	Photoionization	1-37 keV	Th
hν + U^{81+}	Photoionization	1-37 keV	Th

404. Y. Morishita, Y. Tamenori, K. Okada, T. Oyama, K. Yamamoto, K. Tabayashi, T. Ibuki, I. H. Suzuki
Shake-off of loosely bound electrons in Auger decays of Kr 2p core hole states.
Phys. Rev. A 72, 044702 (2005)

hν **+ Kr**	Photoionization	1850 eV	Exp

405. M. Uhlmann, T. Kunert, R. Schmidt
Molecular alignment of fragmenting $H_2{}^+$ **and** H_2 **in strong laser fields.**
Phys. Rev. A 72, 045402 (2005)

hν **+** $\mathbf{H_2}$	Photodissociation	266 nm	Th
hν **+** $\mathbf{H_2{}^+}$	Photodissociation	266 nm	Th
nhν **+** $\mathbf{H_2}$	Photodissociation	266 nm	Th
nhν **+** $\mathbf{H_2{}^+}$	Photodissociation	266 nm	Th

406. R. C. Bilodeau, N. D. Gibson, J. D. Bozek, C. W. Walter, G. D. Ackerman, P. Andersson, J. G. Heredia, M. Perri, N. Berrah
High-charge-state formation following inner-shell photodetachment from S^-**.**
Phys. Rev. A 72, 050701 (2005)

hν **+** $\mathbf{S^-}$	Photodetachment	150-240 eV	Exp
hν **+** $\mathbf{S^-}$	Photoionization	150-240 eV	Exp

407. Z. Chen, A. Z. Msezane
Random-phase approximation with exchange for the inner-shell electron transitions.
Phys. Rev. A 72, 050702 (2005)

hν **+ I**	Photoionization	50-200 eV	E/T
hν **+** $\mathbf{I^+}$	Photoionization	50-200 eV	E/T
hν **+** $\mathbf{Xe^+}$	Photoionization	50-200 eV	E/T

408. A. Y. Istomin, A. F. Starace, N. L. Manakov, A. V. Meremianin, A. S. Kheifets, I. Bray
Parametrizations and dynamical analysis of angle-integrated cross sections for double photoionization including nondipole effects.
Phys. Rev. A 72, 052708 (2005)

hν **+ He**	Photoionization	0.1-1 keV	E/T

409. A. K. Kazansky, N. M. Kabachnik
Nonstationary theory for short-pulse near-threshold photoionization of inner atomic shells.
Phys. Rev. A 72, 052714 (2005)

hν **+ Ne**	Photoexcitation	near-threshold	Th
hν **+ Ne**	Photoionization	near-threshold	Th

410. D. Pavicic, T. W. Haensch, H. Figger
Vibrationally resolved strong-field dissociation of $D_2{}^+$ **in ion beams.**
Phys. Rev. A 72, 053413 (2005)

hν **+** $\mathbf{H_2{}^+}$	Photodissociation	785 nm	Exp
hν **+** $\mathbf{D_2{}^+}$	Photodissociation	785 nm	Exp

411. I. I. Tupitsyn, A. V. Volotka, D. A. Glazov, V. M. Shabaev, G. Plunien, J. R. Crespo Lopez-Urrutia, A. Lapierre, J. Ullrich
Magnetic-dipole transition probabilities in B-like and Be-like ions.
Phys. Rev. A 72, 062503 (2005)

hν + S^{11+}	Photoexcitation		Th
hν + S^{12+}	Photoexcitation		Th
hν + Cl^{12+}	Photoexcitation		Th
hν + Cl^{13+}	Photoexcitation		Th
hν + Ar^{13+}	Photoexcitation		Th
hν + Ar^{14+}	Photoexcitation		Th
hν + K^{14+}	Photoexcitation		Th
hν + K^{15+}	Photoexcitation		Th
hν + Ti^{17+}	Photoexcitation		Th
hν + Ti^{18+}	Photoexcitation		Th

412. S. J. Smith, A. Chutjian, J. A. Lozano
Measurement of metastable lifetimes for transitions in Fe^{9+}, Fe^{10+} and Fe^{13+}.
Phys. Rev. A 72, 062504 (2005)

hν + Fe^{9+}	Photoexcitation		Exp
hν + Fe^{10+}	Photoexcitation		Exp
hν + Fe^{13+}	Photoexcitation		Exp

413. H. W. van der Hart, B.J.S. Doherty, J. S. Parker, K. T. Taylor
Benchmark multiphoton ionization rates for He at 390 nm.
J. Phys. B 38, L207 (2005)

hν + He	Photoionization	390 nm	Th
nhν + He	Photoionization	390 nm	Th

414. K. Miculis, W. Meyer
Phototransition of $Na(3p_{3/2})$ into high Rydberg states and the ionization continuum.
J. Phys. B 38, 2097 (2005)

hν + Na	Photoionization	8-10 eV	Th
hν + Na*	Photoionization	8-10 eV	Th

415. A. M. Juarez, E. Sokell, P. Bolognesi, G. C. King, D. Cubric, M. de Simone, M. Coreno
$\beta - parameter$ **measurements of state-selected rotational transitions near the ν^+ = 0 threshold of** $para - H_2$**.**
J. Phys. B 38, 2109 (2005)

hν + H$_2$	Photoionization	15.47-15.75 eV	Exp

416. Y. H. Jiang, R. Puettner, G. Kaindl
Theoretical photoionization partial cross sections and angular distribution parameters of doubly excited helium.
J. Phys. B 38, 2157 (2005)

hν + He	Photoionization	69-76 eV	Th
hν + He*	Photoionization	69-76 eV	Th

417. A. De Fanis, G. Pruemper, U. Hergenhahn, E. Kukk, T. Tanaka, M. Kitajima, H. Tanaka, S. Fritzsche, N. M. Kabachnik, K. Ueda
Investigation of valence inter-multiplet Auger transitions in Ne following 1s photoelectron recapture.
J. Phys. B 38, 2229 (2005)

hν + Ne	Photoexcitation	870 eV	E/T
hν + Ne	Photoionization	870 eV	E/T

418. I. A. Ivanov, A. S. Kheifets
On the use of the Kramers-Henneberger Hamiltonian in multi-photon ionization calculations.
J. Phys. B 38, 2245 (2005)

hν + H	Photoionization	6.5-22 eV	Th
hν + He	Photoionization	6.5-22 eV	Th
nhν + H	Photoionization	6.5-22 eV	Th
nhν + He	Photoionization	6.5-22 eV	Th

419. S. A. Sheinerman
PCI effects in resonant processes of photo double electron emission near the Ne 1s threshold.
J. Phys. B 38, 2279 (2005)

hν + Ne	Photoionization	870 eV	Th

420. Ch. Siedschlag, T. Pattard
Single-photon ionization of the hydrogen molecule.
J. Phys. B 38, 2297 (2005)

hν + H_2	Photodissociation	30-10,000 eV	Th
hν + H_2	Photoionization	30-10,000 eV	Th

421. K. Chakrabarti
A comparison of the triple differential cross sections for double photoionization of H^-, He and Li^+ at low energy.
J. Phys. B 38, 2487 (2005)

hν + H^-	Photoionization		Th
hν + He	Photoionization		Th
hν + Li^+	Photoionization		Th

422. R. J. Pelaez, C. Perez, V. R. Gonzalez, F. Rodriguez, J. A. Aparicio, S. Mar
Experimental measurements of shifts and asymmetries of He II P_α and P_β spectral lines.
J. Phys. B 38, 2505 (2005)

hν + He^+	Fluorescence	1.75 eV	Exp

423. A. D. Bandrauk, H. Lu
Harmonic generation in a 1D model of H_2 with single and double ionization.
J. Phys. B 38, 2529 (2005)

hν + H_2	Photoexcitation	800 nm	Th
hν + H_2	Photoionization	800 nm	Th

424. V. T. Davis, A. Aguilar, A. M. Covington, J. S. Thompson, D. Calabrese, C. Cisneros, M. S. Gulley, M. Halka, D. Hanstorp, J. Sandstroem, B. M. McLaughlin, G. F. Gribakin, D. J. Pegg
Photo-double detachment from the F^- ion.
J. Phys. B 38, 2579 (2005)

hν + F^-	Photodetachment	20-62 eV	E/T
hν + F^-	Photoionization	20-62 eV	E/T

425. P. Q. Wang, A. M. Sayler, K. D. Carnes, J. F. Xia, M. A. Smith, B. D. Esry, I. Ben-Itzhak
Highlighting the angular dependence of bond softening and bond hardening of $H_2{}^+$ in an ultrashort intense laser pulse.
J. Phys. B 38, L251 (2005)

hν + $H_2{}^+$	Photodissociation	$2x10^{14}$ W/cm^2	Exp

426. X. M. Tong, C. D. Lin
Empirical formula for static field ionization rates of atoms and molecules by lasers in the barrier-suppression regime.
J. Phys. B 38, 2593 (2005)

hν + H	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th
hν + He	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th
hν + Ne	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th
hν + Ne^+	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th
hν + Ar	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th
hν + Ar^+	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th
hν + Rb	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th
hν + $H_2{}^+$	Photoionization	$10^{13}-10^{15}$ W/cm^2	Th

427. S. Mickat, K. H. Schartner, Sv. Kammer, R. Schill, L. Werner, S. Klumpp, A. Ehresmann, H. Schmoranzer, V. L. Sukhorukov
Absolute cross sections and branching ratios for the radiative decay of doubly excited helium determined by photon-induced fluorescence spectroscopy.
J. Phys. B 38, 2613 (2005)

hν + He	Fluorescence	64 eV	Exp
hν + He	Photoexcitation	64 eV	Exp

428. G. Hinojosa, M. M. Sant'Anna, A. M. Covington, R. A. Phaneuf, I. R. Covington, I. Dominguez, A. S. Schlachter, I. Alvarez, C. Cisneros
Photofragmentation of ionic carbon monoxide.
J. Phys. B 38, 2701 (2005)

hν + CO^+	Photodissociation	20.5-34.5 eV	Exp
hν + CO^+	Photoionization	20.5-34.5 eV	Exp

429. V. D. Rodriguez, P. Macri, R. Gayet
$H_2{}^+$ ionization by ultra-short electromagnetic pulses investigated through a non-perturbative Coulomb-Volkov approach.
J. Phys. B 38, 2775 (2005)

hν + $H_2{}^+$	Photoionization	1 GeV/u	Th

430. U. Hergenhahn, A. De Fanis, G. Pruemper, A. K. Kazansky, N. M. Kabachnik, K. Ueda
A study of photoelectron recapture due to post-collision interaction in Ne at the 1s photoionization threshold.
J. Phys. B 38, 2843 (2005)

hν + Ne	Photoionization	803-816 eV	E/T

431. M. Glass-Maujean, R. Kneip, E. Flemming, H. Schmoranzer
Photodissociation of doubly excited states of molecular hydrogen studied by polarization measurement of $Lyman-\alpha$ fluorescence.
J. Phys. B 38, 2871 (2005)

hν + H_2	Photodissociation	27-38 eV	E/T
hν + H_2	Fluorescence	27-38 eV	E/T

432. C. Baraldi, E. Casnati, A. Tartari, B. Singh
Measurement of L x-ray emission from elements in 64 ¡ Z ¡ 73 interval stimulated by 59.54 keV photons.
J. Phys. B 38, 2883 (2005)

hν + Gd	Photoionization	59.54 keV	Exp
hν + Dy	Photoionization	59.54 keV	Exp
hν + Er	Photoionization	59.54 keV	Exp
hν + Yb	Photoionization	59.54 keV	Exp
hν + Hf	Photoionization	59.54 keV	Exp
hν + Ta	Photoionization	59.54 keV	Exp

433. L. Gaynor, N. Murphy, D. Kilbane, A. Cummings, G. O'Sullivan, J. T. Costello, P. van Kampen, E. T. Kennedy
EUV photoabsorption of laser produced tellurium plasmas: Te I-Te IV.
J. Phys. B 38, 2895 (2005)

hν + Te	Photoexcitation	50-130 eV	E/T
hν + Te^{+}	Photoexcitation	50-130 eV	E/T
hν + Te^{2+}	Photoexcitation	50-130 eV	E/T
hν + Te^{3+}	Photoexcitation	50-130 eV	E/T

434. C. E. Hudson, J. B. West, K. L. Bell, A. Aguilar, R. A. Phaneuf, F. Folkmann, H. Kjeldsen, J. Bozek, A. S. Schlachter, C. Cisneros
A theoretical and experimental study of the photoionization of Al II.
J. Phys. B 38, 2911 (2005)

hν + Al^{+}	Photoionization	20-160 eV	E/T

435. N. Saito, K. Ueda, A. De Fanis, K. Kubozuka, M. Machida, I. Koyano, R. Doerner, A. Czasch, L. Schmidt, A. Cassimi, K. Wang, B. Zimmermann, V. McKoy
Molecular frame photoelectron angular distribution for oxygen 1s photoemission from CO_2 molecules.
J. Phys. B 38, L277 (2005)

hν + CO_2	Photodissociation	540-580 eV	E/T
hν + CO_2	Photoionization	540-580 eV	E/T

436. S. Vdovic, R. Beuc, D. Aumiler, T. Ban, G. Pichler
Absorption spectrum of Na-K-He mixture: Experiment and theory.
J. Phys. B 38, 3107 (2005)

hν + He	Total Absorption, Scattering	400-850 nm	E/T
hν + Na	Total Absorption, Scattering	400-850 nm	E/T
hν + K	Total Absorption, Scattering	400-850 nm	E/T

437. Ph. V. Demekhin, I. D. Petrov, B. M. Lagutin, V. L. Sukhorukov, F. Vollweiler, S. Klumpp, A. Ehresmann, K. H. Schartner, H. Schmoranzer
Interaction between resonances through autoionization continua near the 4s-threshold in Kr II.
J. Phys. B 38, 3129 (2005)

hν + Kr^{+}	Photoexcitation	82-92 nm	E/T
hν + Kr^{+}	Photoionization	82-92 nm	E/T

438. S. B. Whitfield, K. Caspary, T. Myers, M. Bjelland, R. Wehlitz, J. Jimenez-Mier, P. Olalde-Velasco, M. O. Krause
Valence satellite photoionization of atomic scandium in the region of the 3p -¿ 3d giant resonance.
J. Phys. B 38, 3273 (2005)

hν + Sc	Photoionization	29-41 eV	E/T

439. J. Jha, D. Mathur, M. Krishnamurthy
Enhancement of x-ray yields from heteronuclear cluster plasmas irradiated by intense laser light.
J. Phys. B 38, L291 (2005)

hν + Ar	Fluorescence	806 nm	Exp
hν + Arn	Fluorescence	806 nm	Exp
hν + Arn(H_2O)m	Fluorescence	806 nm	Exp

440. C. Guo
Ellipticity effects on nonsequential double ionization of diatomic molecules in strong laser fields.
J. Phys. B 38, L323 (2005)

hν + N_2	Photoionization	800 nm	Exp
hν + NO	Photoionization	800 nm	Exp
hν + O_2	Photoionization	800 nm	Exp

441. S. Osmekhin, M. Maatta, R. Sankari, J. Nikkinen, E. Kukk, S.-M. Huttula, S. Heinasmaki, H. Aksela, S. Aksela
Ion production by cascade Auger transitions following the Xe $4d^{-1}$ -¿ 6p excitation.
J. Phys. B 38, 3559 (2005)

hν + Xe	Photoionization	64-71 eV	E/T

442. Y. Hikosaka, P. Lablanquie, E. Shigemasa
Efficient production of metastable fragments around the 1s ionization threshold in N_2.
J. Phys. B 38, 3597 (2005)

hν + N_2	Photodissociation	406-412 eV	Exp

443. F. Da Pieve, L. Avaldi, R. Camilloni, M. Coreno, G. Turri, A. Ruocco, S. Fritzsche, N. M. Kabachnik, G. Stefani
Study of electronic correlations in the Auger cascade decay from Ne* $1s^{-1}3p$.
J. Phys. B 38, 3619 (2005)

hν + Ne	Photoionization	867 eV	E/T
hν + Ne*	Photoionization	867 eV	E/T

444. H.-C. Lu, H.-K. Chen, B.-M. Cheng, Y.-P. Kuo, J. F. Ogilvie
Spectra in the vacuum ultraviolet region of CO in gaseous and solid phases and dispersed in solid argon at 10 K.
J. Phys. B 38, 3693 (2005)

hν + CO	Photoexcitation	60,000-96,000 cm^{-1}	Exp

445. L. Pan, D. R. Beck, S. M. O'Malley
Removal or excitation of a 1s electron in Kr II and Kr III.
J. Phys. B 38, 3721 (2005)

hν + Kr$^+$	Photoexcitation		Th
hν + Kr^{2+}	Photoexcitation		Th
hν + Kr$^+$	Photoionization		Th
hν + Kr^{2+}	Photoionization		Th

446. A. V. Golovin, J. Adachi, S. Motoki, M. Takahashi, A. Yagishita
Inner-shell photoelectron angular distributions from fixed-in-space OCS molecules: Comparison between experiment and theory.
J. Phys. B 38, 3755 (2005)

hν + OCS	Photoionization	200 eV	Exp

447. J. Viefhaus, M. Braune, S. Korica, A. Reinkoester, D. Rolles, U. Becker
Auger cascades versus direct double Auger: Relaxation processes following photoionization of the Kr 3d and Xe 4d, 3d inner shells.
J. Phys. B 38, 3885 (2005)

hν + Kr	Photoionization	93.7-783 eV	Exp
hν + Xe	Photoionization	93.7-783 eV	Exp

448. O. Guyetand, M. Gisselbrecht, A. Huetz, P. Agostini, R. Taieb, V. Veniard, A. Maquet, L. Antonucci, O. Boyko, C. Valentin, D. Douillet
Multicolour above-threshold ionization of helium: Quantum interference effects in angular distributions.
J. Phys. B 38, L357 (2005)

hν + He	Photoionization	810 nm	E/T
nhν + He	Photoionization	810 nm	E/T

449. V. A. Pazdzersky, A. V. Koval
Angular photoelectron spectra for atom ionization in an intense two-colour laser field.
J. Phys. B 38, 3945 (2005)

hν + H	Photoionization	1.93 eV	Th
hν + Xe	Photoionization	1.93 eV	Th
nhν + H	Photoionization	1.93 eV	Th
nhν + Xe	Photoionization	1.93 eV	Th

450. M. Madine, H. W. van der Hart
Competition between multi-photon emission of the 1s and the 2s electron from He 1s2s ^1S.
J. Phys. B 38, 3963 (2005)

hν + He	Photoionization	11.2-49.50 eV	Th
hν + He*	Photoionization	11.2-49.50 eV	Th
nhν + He	Photoionization	11.2-49.50 eV	Th
nhν + He*	Photoionization	11.2-49.50 eV	Th

451. M. Awasthi, Y. V. Vanne, A. Saenz
Non-perturbative solution of the time-dependent Schrodinger equation describing H_2 in intense short laser pulses.
J. Phys. B 38, 3973 (2005)

hν + He	Photoionization	2-30 eV	Th
hν + H$_2$	Photoionization	2-30 eV	Th
nhν + He	Photoionization	2-30 eV	Th
nhν + H$_2$	Photoionization	2-30 eV	Th

452. K.-H. Schartner, R. H. Schill, D. Hasselkamp, S. Mickat, S. Kammer, L. Werner, S. Klumpp, A. Ehresmann, H. Schmoranzer, B. M. Lagutin, V. L. Sukhorukov
Partial wave analysis of interfering Kr $3d^95p$ resonant Raman Auger transitions based on measurements of alignment and orientation parameters within the natural line width.
J. Phys. B 38, 4155 (2005)

hν + Kr	Fluorescence	91-92.8 eV	Exp
hν + Kr	Photoexcitation	91-92.8 eV	Exp
hν + Kr	Photoionization	91-92.8 eV	Exp

453. M. A. Lysaght, D. Kilbane, A. Cummings, N. Murphy, P. Dunne, G. O'Sullivan, P. van Kampen, J. T. Costello, E. T. Kennedy
4d photoabsorption spectra of Sn II and Sn IV in the 30-65 eV region.
J. Phys. B 38, 4247 (2005)

hν + Sn^+	Total Absorption, Scattering	30-65 eV	E/T
hν + Sn^{3+}	Total Absorption, Scattering	30-65 eV	E/T

454. R. G. Polozkov, V. K. Ivanov, A. V. Solov'yov
Photoionization of the fullerene ion $C_{60}{}^+$.
J. Phys. B 38, 4341 (2005)

hν + $C_{60}{}^+$	Photoionization	7-50 eV	Th

455. I. I. Beterov, D. B. Tretyakov, I. I. Ryabtsev, N. N. Bezuglov, K. Miculis, A. Ekers, A. N. Klucharev
Collisional and thermal ionization of sodium Rydberg atoms III. Experiment and theory for nS and nD states with n = 8-20 in crossed atomic beams.
J. Phys. B 38, 4349 (2005)

hν + Na	Photoionization	420-630 K	E/T
hν + Na^*	Photoionization	420-630 K	E/T

456. H. Abgrall, E. Roueff
Theoretical calculations of excited rovibrational levels of HD. Term values and transition probabilities of VUV electronic bands.
Astron. Astrophys. 445, 361 (2006)

hν + H_2	Photoexcitation	100,000 cm^{-1}	Th
hν + HD	Photoexcitation	100,000 cm^{-1}	Th

457. H. Nilsson, G. Ljung, H. Lundberg, K. E. Nielsen
The FERRUM project: Improved experimental oscillator strengths in Cr II.
Astron. Astrophys. 445, 1165 (2006)

hν + Cr^+	Photoexcitation	4850-2050 $\AA$	Exp

458. G. Del Zanna
Benchmarking atomic data for astrophysics: Fe XXIV.
Astron. Astrophys. 447, 761 (2006)

hν + Fe^{23+}	Photoexcitation	0-1.4$x10^7$ cm^{-1}	Th

459. M. Lundqvist, H. Nilsson, G. M. Wahlgren, H. Lundberg, H. L. Xu, Z.-K. Jang, D. S. Leckrone
Improved oscillator strengths and wavelengths in Hf II, with applications to stellar elemental abundances.
Astron. Astrophys. 450, 407 (2006)

hν + Hf^+	Photoexcitation	3000 $\AA$	Exp

460. H. L. Xu, Z. W. Sun, Z. W. Dai, Z. K. Jiang, P. Palmeri, P. Quinet, E. Biemont
Radiative lifetimes, branching fractions and oscillator strengths in Pd I and the solar palladium abundance.
Astron. Astrophys. 452, 357 (2006)

hν + Pd	Photoexcitation	400 $\AA$	E/T

461. G. Correge, A. Hibbert
Oscillator strengths of near-infrared lines of Fe II.
Astrophys. J., Part 1 636, 1166 (2005)

hν + Fe^+	Photoexcitation	9000 $\AA$	Th

462. E. B. Jenkins, T. M. Tripp
Measurements of the f-values of the resonance transitions of Ni II at 1317.217 and 1370.132 $\AA$.
Astrophys. J., Part 1 637, 548 (2005)

hν + Ni^+	Photoexcitation	1317 $\AA$	Exp

463. N. Smith, P. Hartigan
Infrared [Fe II] emission from P Cygni's nebula: Atomic data, mass, kinematics, and the 1600 AD outburst.
Astrophys. J., Part 1 638, 1045 (2006)

hν + Fe^+	Photoexcitation	2.0 μ m	Th

464. M. F. Gu, T. Holczer, E. Behar, S. M. Kahn
Inner-shell absorption lines of Fe VI-Fe XVI: A many-body perturbation theory approach.
Astrophys. J., Part 1 641, 1227 (2006)

hν + $Fe^{5+–15+}$	Photoexcitation	16 $\AA$	Th

465. N. Amin, S. Mahmood, M. Anwar-ul-Haq, M. Riaz, M. A. Baig
Measurement of the photoionization cross-section of the 3p $^2P_{1/2,3/2}$ excited levels of sodium.
Eur. Phys. J. D 37, 23 (2006)

hν + Na	Photoionization	355 nm	Th
hν + Na^*	Photoionization	355 nm	Th

466. G. Stark, K. P. Huber, K. Yoshino, P. L. Smith, K. Ito
Oscillator strength and linewidth measurements of dipole-allowed transitions in $^{14}N_2$ between 93.5 and 99.5 nm.
J. Chem. Phys. 123, 214303 (2005)

hν + N_2	Photoexcitation	99.5-93.5 nm	Th

467. M. Ehara, H. Nakatsuji, M. Matsumoto, T. Hatamoto, X. J. Liu, T. Lischke, G. Pruemper, T. Tanaka, C. Makochekanwa, M. Hoshino, H. Tanaka, J. R. Harries, Y. Tamenori, K. Ueda
Symmetry-dependent vibrational excitation in N 1s photoionization of N_2: Experiment and theory.
J. Chem. Phys. 124, 124311 (2006)

hν + N_2	Photoionization	430 eV	E/T

468. V. Jonauskas, P. Bogdanovich, F. P. Keenan, R. Kisielius, M. E. Foord, R. F. Heeter, S. J. Rose, G. J. Ferland, P. H. Norrington
Energy levels and transition probabilities for boron-like Fe XXII.
Astron. Astrophys. 455, 1157 (2006)

hν + **Fe**$^{21+}$	Photoexcitation	5.0 keV	Th

469. B.-M. Cheng, H.-C. Lu, H.-K. Chen, M. Bahou, Y.-P. Lee, A. M. Mebel, L. C. Lee, M.-C. Liang, Y. L. Yung
Absorption cross sections of NH_3, NH_2D, NHD_2, and ND_3 in the spectral range 140-220 nm and implications for planetary isotopic fractionation.
Astrophys. J., Part 1 647, 1535 (2006)

hν + **NH**$_3$	Photoexcitation	140-220 nm	Exp
hν + **ND**$_3$	Photoexcitation	140-220 nm	Exp
hν + **NH**$_2$**D**	Photoexcitation	140-220 nm	Exp
hν + **NHD**$_2$	Photoexcitation	140-220 nm	Exp

470. M. Eidelsberg, Y. Sheffer, S. R. Federman, J. L. Lemaire, J. H. Fillion, F. Rostas, J. Ruiz
Oscillator strengths and predissociation rates for Rydberg transitions in $^{12}C^{16}O$, $^{13}C^{16}O$, and $^{13}C^{18}O$ involving the E $^1\Pi$, B $^1\Sigma^+$, and W $^1\Pi$ states.
Astrophys. J., Part 1 647, 1543 (2006)

hν + **CO**	Photoexcitation	1000 $\AA$	Exp

471. J. B. Bluett, D. Lukic, S. B. Whitfield, R. Wehlitz
Double photoionization near threshold.
Nucl. Instrum. Methods Phys. Res. B 241, 114 (2005)

hν + **He**	Photoionization	0-60 eV	Exp
hν + **Li**	Photoionization	0-60 eV	Exp
hν + **Be**	Photoionization	0-60 eV	Exp
hν + **Na**	Photoionization	0-60 eV	Exp
hν + **H**$_2$	Photoionization	0-60 eV	Exp

472. S. B. Appaji Gowda, T. K. Umesh
Dispersion corrections to the forward Rayleigh scattering amplitudes of tantalum, mercury and lead derived using photon interaction cross sections.
Nucl. Instrum. Methods Phys. Res. B 243, 2 (2005)

hν + **Ta**	Elastic Scattering	24-136 keV	Th
hν + **Hg**	Elastic Scattering	24-136 keV	Th
hν + **Pb**	Elastic Scattering	24-136 keV	Th

473. P. Singh, S. Kumar, J. Goswamy, D. Mehta, N. Singh
Differential cross-section measurements for elastic and inelastic scattering of 17.44 keV photons.
Nucl. Instrum. Methods Phys. Res. B 244, 295 (2005)

hν + **C**	Elastic Scattering	17.5 keV	Exp
hν + **Al**	Elastic Scattering	17.5 keV	Exp
hν + **Si**	Elastic Scattering	17.5 keV	Exp
hν + **S**	Elastic Scattering	17.5 keV	Exp
hν + **Ti**	Elastic Scattering	17.5 keV	Exp
hν + **V**	Elastic Scattering	17.5 keV	Exp
hν + **Co**	Elastic Scattering	17.5 keV	Exp
hν + **Ni**	Elastic Scattering	17.5 keV	Exp

hν + Cu	Elastic Scattering	17.5 keV	Exp
hν + Zn	Elastic Scattering	17.5 keV	Exp
hν + As	Elastic Scattering	17.5 keV	Exp
hν + Se	Elastic Scattering	17.5 keV	Exp
hν + Rb	Elastic Scattering	17.5 keV	Exp
hν + Sr	Elastic Scattering	17.5 keV	Exp
hν + Ru	Elastic Scattering	17.5 keV	Exp
hν + Ag	Elastic Scattering	17.5 keV	Exp
hν + Cd	Elastic Scattering	17.5 keV	Exp
hν + In	Elastic Scattering	17.5 keV	Exp
hν + Sn	Elastic Scattering	17.5 keV	Exp
hν + Sb	Elastic Scattering	17.5 keV	Exp
hν + Ba	Elastic Scattering	17.5 keV	Exp
hν + Nd	Elastic Scattering	17.5 keV	Exp
hν + Eu	Elastic Scattering	17.5 keV	Exp
hν + Gd	Elastic Scattering	17.5 keV	Exp
hν + Dy	Elastic Scattering	17.5 keV	Exp
hν + Ho	Elastic Scattering	17.5 keV	Exp
hν + Tm	Elastic Scattering	17.5 keV	Exp
hν + Yb	Elastic Scattering	17.5 keV	Exp
hν + Lu	Elastic Scattering	17.5 keV	Exp
hν + Ta	Elastic Scattering	17.5 keV	Exp
hν + W	Elastic Scattering	17.5 keV	Exp
hν + Ir	Elastic Scattering	17.5 keV	Exp
hν + Pt	Elastic Scattering	17.5 keV	Exp
hν + Au	Elastic Scattering	17.5 keV	Exp
hν + Hg	Elastic Scattering	17.5 keV	Exp
hν + Tl	Elastic Scattering	17.5 keV	Exp
hν + Pb	Elastic Scattering	17.5 keV	Exp
hν + Bi	Elastic Scattering	17.5 keV	Exp
hν + Th	Elastic Scattering	17.5 keV	Exp

474. G. Apaydin, E. Tirasoglu
Measurements of K shell X-ray production cross sections and fluorescence yields of elements in the atomic number range 65 ¡ Z ¡ 92 at 123.6 keV.
Nucl. Instrum. Methods Phys. Res. B 246, 303 (2006)

hν + Tb	Photoionization	124 keV	Exp
hν + Dy	Photoionization	124 keV	Exp
hν + Ho	Photoionization	124 keV	Exp
hν + Er	Photoionization	124 keV	Exp
hν + Tm	Photoionization	124 keV	Exp
hν + Yb	Photoionization	124 keV	Exp
hν + Lu	Photoionization	124 keV	Exp
hν + Hf	Photoionization	124 keV	Exp
hν + Ta	Photoionization	124 keV	Exp
hν + W	Photoionization	124 keV	Exp
hν + Re	Photoionization	124 keV	Exp
hν + Os	Photoionization	124 keV	Exp
hν + Ir	Photoionization	124 keV	Exp
hν + Pt	Photoionization	124 keV	Exp
hν + Au	Photoionization	124 keV	Exp
hν + Hg	Photoionization	124 keV	Exp
hν + Tl	Photoionization	124 keV	Exp
hν + Pb	Photoionization	124 keV	Exp
hν + Bi	Photoionization	124 keV	Exp
hν + Th	Photoionization	124 keV	Exp

hν + U	Photoionization	124 keV	Exp

475. A. Czasch, M. Schoeffler, M. Hattass, S. Schoessler, T. Jahnke, Th. Weber, A. Staudte, J. Titze, C. Wimmer, S. Kammer, M. Weckenbrock, S. Voss, R. E. Grisenti, O. Jagutzki, L.Ph.H. Schmidt, H. Schmidt-Boecking, R. Doerner, J. M. Rost, T. Schneider, C.-N. Liu, I. Bray, A. S. Kheifets, K. Bartschat
Partial photoionization cross sections and angular distributions for double excitation of helilum up to the N = 13 threshold.
Phys. Rev. Lett. 95, 243003 (2005)

hν + He	Photoexcitation	78 eV	Exp
hν + He	Photoionization	78 eV	Exp

476. M. Gisselbrecht, M. Lavollee, A. Huetz, P. Bolognesi, L. Avaldi, D. P. Seccombe, T. J. Reddish
Photodouble ionization dynamics for fixed-in-space H_2.
Phys. Rev. Lett. 96, 153002 (2006)

hν + H$_2$	Photodissociation	76 eV	Exp
hν + H$_2$	Photoionization	76 eV	Exp

477. X. Liu, D. E. Shemansky
A simple model for N_2 line oscillator strengths of the b' $^1\Sigma_u{}^+(1)$, c_4' $^1\Sigma_u{}^+(0)$, b $^1\Pi_u{}^+(4)$, $b^1\Pi_u{}^+(5)$, and c_3 $^11\Pi_u{}^+(0) - X$ $^1\Sigma_g{}^+(0)$ bands.
Astrophys. J. 645, 1560 (2006)

hν + N$_2$	Photoexcitation	0.5 cm^{-1}	Th

478. J. Guan, F. Wang, T. Ziegler, H. Cox
Time-dependent density functional study of the electornic potential energy curves and excitation spectrum of the oxygen molecule.
J. Chem. Phys. 125, 044314 (2006)

hν + O$_2$	Photoexcitation	0-20 eV	Th

479. A. K. Bhatia
$Electron - He^+$ **P-wave elastic scattering and photoabsorption in two-electron systems.**
Phys. Rev. A 73, 012705 (2006)

hν + H$^-$	Photodetachment	0.9-51 eV; 1000-25,000 K	Th
hν + He	Photoionization	0.9-51 eV; 1000-25,000 K	Th

480. B. J. Claessens, J. P. Ashmore, R. T. Sang, W. R. MacGillivray, H.C.W. Beijerinck, E.J.D. Vredenbregt
Measurement of the photoionization cross section of the (2p)$^5(3p)$ $^3D_3$ state of neon.
Phys. Rev. A 73, 012706 (2006)

hν + Ne	Photoionization	351-364 nm	Exp
hν + Ne*	Photoionization	351-364 nm	Exp

481. X. Feng, A. A. Wills, E. Sokell, M. Wiedenhoeft, N. Berrah
Atomic Auger decay in core-excited HBr by angle-resolved two-dimensional photoelectron spectroscopy.
Phys. Rev. A 73, 012716 (2006)

hν + HBr	Photodissociation	69-74 eV	Exp
hν + HBr	Photoexcitation	69-74 eV	Exp
hν + HBr	Photoionization	69-74 eV	Exp

482. V. K. Dolmatov, S. T. Manson
Photoionization of atoms encapsulated in endohedral ions A@$C_{60}{}^{\pm z}$.
Phys. Rev. A 73, 013201 (2006)

hν + Ne	Photoionization	880-950 eV	Th
hν + $NeC_{60}{}^{-}$	Photoionization	880-950 eV	Th
hν + NeC_{60}	Photoionization	880-950 eV	Th
hν + $NeC_{60}{}^{2+}$	Photoionization	880-950 eV	Th
hν + $NeC_{60}{}^{5+}$	Photoionization	880-950 eV	Th
hν + $NeC_{60}{}^{10+}$	Photoionization	880-950 eV	Th

483. P. Kaminski, R. Wiehle, W. Kamke, H. Helm, B. Witzel
Wavelength dependence of double ionization of xenon in a strong laser field.
Phys. Rev. A 73, 013413 (2006)

hν + Xe	Photoionization	700-1600 nm	Exp

484. J. M. Bizau, C. Blancard, D. Cubaynes, F. Folkmann, D. Kilbane, G. Faussurier, H. Luna, J. L. Lemaire, J. Blieck, F. J. Wuilleumier
Experimental and theoretical studies of the photoionization cross section of Fe^{4+}.
Phys. Rev. A 73, 020707 (2006)

hν + Fe^{4+}	Photoionization	59-140 eV	Exp

485. A. S. Kheifets, I. Bray
Angular correlation in the two-electron continuum.
Phys. Rev. A 73, 020708 (2006)

hν + He	Photoionization	75 eV	Th
hν + Be	Photoionization	75 eV	Th
hν + Ne	Photoionization	75 eV	Th
hν + H_2	Photoionization	75 eV	Th

486. V. O. Nesterenko, P.-G. Reinhard, T. Halfmann, L. I. Pavlov
Two-photon excitation of low-lying electronic quadrupole states in atomic clusters.
Phys. Rev. A 73, 021201 (2006)

hν + $Na_{11}{}^{+}$	Photoexcitation	$2x10^{10} - 2x10^{11}$ W/cm^2	Exp

487. D. Strasser, T. Pfeifer, B. J. Hom, A. M. Mueller, J. Plenge, S. R. Leone
Coherent interaction of femtosecond extreme-uv light with He atoms.
Phys. Rev. A 73, 021805 (2006)

hν + He	Photoionization	400 nm	Exp

488. M. S. Safronova, B. Arora, C. W. Clark
Frequency-dependent polarizabilities of alkali-metal atoms from ultraviolet through infrared spectral regions.
Phys. Rev. A 73, 022505 (2006)

hν + Li	Photoexcitation		Th
hν + Na	Photoexcitation		Th
hν + K	Photoexcitation		Th
hν + Rb	Photoexcitation		Th
hν + Cs	Photoexcitation		Th

489. A. Yiannopoulou, N. Melikechi, S. Gangopadhyay, J. C. Meiners, C. H. Chang, E. E. Eyler
Determinations of EF $^1\Sigma_g{}^+$ ¡- X $^1\Sigma_g{}^+$ transition frequencies in H_2, D_2, and HD.
Phys. Rev. A 73, 022506 (2006)

hν + H$_2$	Photoexcitation	202 nm	Exp
hν + HD	Photoexcitation	202 nm	Exp
hν + D$_2$	Photoexcitation	202 nm	Exp

490. E. P. Kanter, I. Ahmad, R. W. Dunford, D. S. Gemmell, B. Krassig, S. H. Southworth, L. Young
Double K-shell photoionization of silver.
Phys. Rev. A 73, 022708 (2006)

hν + Ag	Photoionization	50-90 keV	E/T

491. U. Hergenhahn, A. De Fanis, G. Pruemper, A. K. Kazansky, N. M. Kabachnik, K. Ueda
Population of individual Ne $1s^{-1}np$ Rydberg states measured across the 1s ionization threshold and the evolution of shake-up into shake-down.
Phys. Rev. A 73, 022709 (2006)

hν + Ne	Photoexcitation		Exp
hν + Ne	Photoionization		Exp

492. O. Zatsarinny, K. Bartschat
Low-energy photodetachment of O^-.
Phys. Rev. A 73, 022714 (2006)

hν + O$^-$	Photodetachment	1-7 eV	Th

493. J. M. Bizau, C. Blancard, D. Cubaynes, F. Folkmann, J. P. Champeaux, J. L. Lemaire, F. J. Wuilleumier
Absolute photoionization cross sections along the Xe isonuclear sequence: Xe^{3+} to Xe^{6+}.
Phys. Rev. A 73, 022718 (2006)

hν + Xe^{3+}	Photoionization	160 eV	Exp
hν + Xe^{4+}	Photoionization	160 eV	Exp
hν + Xe^{5+}	Photoionization	160 eV	Exp
hν + Xe^{6+}	Photoionization	160 eV	Exp

494. K. Jankala, R. Sankari, J. Schulz, M. Huttula, A. Calo, S. Heinasmaki, S. Fritzsche, T. Rander, S. Svensson, S. Aksela, H. Aksela
Laser excitation combined with 2p photoionization and Auger decay of potassium.
Phys. Rev. A 73, 022720 (2006)

hν + K	Photoexcitation	340-400 eV	E/T
hν + K	Photoionization	340-400 eV	E/T

495. C. Bouri, P. Selles, L. Malegat, M. G. Kwato Njock
Dynamics of the helium atom close to the full fragmentation threshold: Double ionization.
Phys. Rev. A 73, 022724 (2006)

hν + He	Photoionization	75 eV	Th

496. I. F. Barna, J. Wang, J. Burgdorfer
Angular distribution in two-photon double ionization of helium by intense attosecond soft-x-ray pulses.
Phys. Rev. A 73, 023402 (2006)

hν + He	Photoionization	91.6 eV	Th
2hν + He	Photoionization	91.6 eV	Th

497. X. Guan, X.-M. Tong, S.-I. Chu
Effect of electron correlation on high-order-harmonic generation of helium atoms in intense laser fields: Time-dependent generalized pseudospectral approach in hyperspherical coordinates.
Phys. Rev. A 73, 023403 (2006)

hν + He	Total Absorption, Scattering	248.6 nm	Th
hν + He	Photoexcitation	248.6 nm	Th
hν + He	Photoionization	248.6 nm	Th

498. X. Dai, E.-B.W. Lerch, S. R. Leone
Coherent control through near-resonant Raman transitions.
Phys. Rev. A 73, 023404 (2006)

hν + Li_2	Elastic Scattering	12,500 cm^{-1}	E/T
hν + Li_2	Fluorescence	12,500 cm^{-1}	E/T
hν + Li_2	Photoexcitation	12,500 cm^{-1}	E/T

499. S. X. Hu, L. A. Collins
Strong-field ionization of molecules in circularly polarized few-cycle pulses.
Phys. Rev. A 73, 023405 (2006)

hν + $H_2{}^+$	Photoionization	800 nm	Th

500. C. C. Chirila, M. Lein
Strong-field approximation for harmonic generation in diatomic molecules.
Phys. Rev. A 73, 023410 (2006)

hν + $H_2{}^+$	Photoexcitation		Th
hν + $H_2{}^+$	Photoionization		Th

501. H. W. van der Hart
Ionization rates for He, Ne, and Ar subjected to laser light with wavelengths between 248.6 and 390 nm .
Phys. Rev. A 73, 023417 (2006)

hν + He	Photoionization	248.6-390 nm	Th
hν + Ne	Photoionization	248.6-390 nm	Th
hν + Ar	Photoionization	248.6-390 nm	Th

502. B. A. Khan, S. Saha, S. S. Bhattacharyya
Kinetic-energy-angle differential distribution of photofragments in multiphoton above-threshold dissociation of $D_2{}^+$ by linearly polarized 400-nm intense laser fields: Effects of highly excited electronic states.
Phys. Rev. A 73, 023423 (2006)

hν + $H_2{}^+$	Photodissociation	400 nm	Th
hν + $D_2{}^+$	Photodissociation	400 nm	Th

503. V. I. Korobov
Bethe logarithm for the hydrogen molecular ion $H_2{}^+$.
Phys. Rev. A 73, 024502 (2006)

hν + $H_2{}^+$	Photoexcitation		Th

504. E. S. Shuman, T. F. Gallagher
Microwave spectroscopy of autoionizing Ba $5d_{3/2}nl$ states.
Phys. Rev. A 73, 032511 (2006)

hν + Ba	Photoexcitation	50-70 GHz	Exp
hν + Ba	Photoionization	50-70 GHz	Exp

505. S. V. Nayak, N. M. Badiger
Measurement of K-shell photoelectric absorption parameters of Hf, Ta, Au, and Pb by an alternative method using a weak $\beta - particle$ source.
Phys. Rev. A 73, 032707 (2006)

hν + Hf	Total Absorption, Scattering	40-140 eV	Exp
hν + Ta	Total Absorption, Scattering	40-140 eV	Exp
hν + Au	Total Absorption, Scattering	40-140 eV	Exp
hν + Pb	Total Absorption, Scattering	40-140 eV	Exp
hν + Hf	Photoionization	40-140 eV	Exp
hν + Ta	Photoionization	40-140 eV	Exp
hν + Au	Photoionization	40-140 eV	Exp
hν + Pb	Photoionization	40-140 eV	Exp

506. A. Aguilar, J. D. Gillaspy, G. F. Gribakin, R. A. Phaneuf, M. F. Gharaibeh, M. G. Kozlov, J. D. Bozek, A.L.D. Kilcoyne
Absolute photoionization cross sections for Xe^{4+}, Xe^{5+}, and Xe^{6+} near 13.5 nm: Experiment and theory.
Phys. Rev. A 73, 032717 (2006)

hν + Xe^{4+}	Photoionization	90-110 eV	E/T
hν + Xe^{5+}	Photoionization	90-110 eV	E/T
hν + Xe^{6+}	Photoionization	90-110 eV	E/T

507. H. Farrokhpour, M. Alagia, M. Coreno, M. de Simone, K. C. Prince, R. Richter, S. Stranges, M. Tabrizchi
Resonant Auger spectroscopy of metastable molecular oxygen.
Phys. Rev. A 73, 032718 (2006)

hν + O_2	Photoionization	110 MeV	Exp

508. R. C. Bilodeau, J. D. Bozek, G. D. Ackerman, A. Aguilar, N. Berrah
Photodetachment of He^- near the 1s threshold: Absolute cross-section measurements and postcollision interactions.
Phys. Rev. A 73, 034701 (2006)

hν + He^-	Photodetachment	38.5-40.5 eV	Exp
hν + He^-	Photoionization	38.5-40.5 eV	Exp

509. L.-F. Zhu, H.-D. Cheng, Z.-S. Yuan, X.-J. Liu, J.-M. Sun, K.-Z. Xu
Generalized oscillator strengths for the valence-shell excitations of argon.
Phys. Rev. A 73, 042703 (2006)

hν + Ar	Photoexcitation	2500 eV	E/T

510. W. Glaz, T. Bancewicz, J.-L. Godet, G. Maroulis, A. Haskopoulos
Hyper-Rayleigh light-scattering spectra determined by ab initio collisional hyperpolarizabilities of He-Ne atomic pairs.
Phys. Rev. A 73, 042708 (2006)

hν + HeNe	Elastic Scattering	95-295 K	Th

511. J. McKenna, M. Suresh, B. Srigengan, I. D. Williams, W. A. Bryan, E.M.L. English, S. L. Stebbings, W. R. Newell, I.C.E. Turcu, J. M. Smith, E. J. Divall, C. J. Hooker, A. J. Langley, J. L. Collier
Ultrafast ionization study of N_2 in intense linearly and circularly polarized laser fields.
Phys. Rev. A 73, 043401 (2006)

hν + $\mathbf{N_2}$	Photodissociation	790 nm	Exp
hν + $\mathbf{N_2}$	Photoionization	790 nm	Exp

512. K. J. LaGattuta
Behavior of ${H_2}^+$ and H_2 in strong laser fields simulated by fermion molecular dynamics.
Phys. Rev. A 73, 043404 (2006)

hν + $\mathbf{H_2}$	Photodissociation	758 nm	Th
hν + $\mathbf{H_2}^+$	Photodissociation	758 nm	Th
hν + $\mathbf{H_2}$	Photoionization	758 nm	Th
hν + $\mathbf{H_2}^+$	Photoionization	758 nm	Th

513. G. Yang, Y. Zheng, X. Chi
Photodetachment of H^- in a static electric field near an elastic wall.
Phys. Rev. A 73, 043413 (2006)

hν + $\mathbf{H^-}$	Photodetachment	0.75-1.05 eV	Th

514. R. N. Coffee, L. Fang, G. N. Gibson
Light-induced potentials ignite dissociation of ${N_2}^{2+}$.
Phys. Rev. A 73, 043417 (2006)

hν + $\mathbf{N_2}$	Photodissociation	400-1200 nm	Exp
hν + $\mathbf{N_2}$	Photoionization	400-1200 nm	Exp

515. C. W. Walter, N. D. Gibson, R. C. Bilodeau, N. Berrah, J. D. Bozek, G. D. Ackerman, A. Aguilar
Shape resonance in K-shell photodetachment from C^-.
Phys. Rev. A 73, 062702 (2006)

hν + $\mathbf{C^-}$	Photodetachment	281.3-282.3 eV	Exp

516. D. Janby, L. B. Madsen, V. N. Ostrovsky
Control of autoionization widths: Doubly excited coherent elliptic states.
Phys. Rev. A 73, 062708 (2006)

hν + He	Photoexcitation		Th

517. F. Yoshida, L. Matsuoka, R. Takashima, T. Nagata, Y. Azuma, S. Obara, F. Koike, S. Hasegawa
Analysis of 1s(2s2p $^3P)nl$ Rydberg states in the K-shell photoionization of the Be atom.
Phys. Rev. A 73, 062709 (2006)

hν + Be	Photoionization	126.5-128 eV	Exp

518. A. K. Kazansky, N. M. Kabachnik
Triple differential cross section for sequential double photoionization of atoms by ultrashort pulses.
Phys. Rev. A 73, 062712 (2006)

hν + Ar	Photoionization	+2 eV	Th
hν + Kr	Photoionization	+2 eV	Th

519. M. P. Hertlein, H. Adaniya, J. Amini, C. Bressler, B. Feinberg, M. Kaiser, N. Neumann, M. H. Prior, A. Belkacem
Inner-shell ionization of potassium atoms ionized by a femtosecond laser.
Phys. Rev. A 73, 062715 (2006)

hν + K	Photoionization	3.6-3.62 keV	Exp

520. M. Ya. Amusia, L. V. Chernysheva, Z. Felfli, A. Z. Msezane
Generalized oscillator strengths for the 3d electrons of Cs, Ba, and Xe: Effects of spin-orbit-activated interchannel coupling.
Phys. Rev. A 73, 062716 (2006)

hν + Xe	Photoexcitation	0-4 a.u.	Th
hν + Cs	Photoexcitation	0-4 a.u.	Th
hν + Ba	Photoexcitation	0-4 a.u.	Th

521. M. S. Pindzola, F. Robicheaux, J. Colgan
Double autoionization of $He^{-}(2s^{2}2p\ ^{2}P)$.
Phys. Rev. A 73, 062720 (2006)

hν + He^{-}	Photoionization		Th

522. J. Schulz, M. Maatta, S. Heinasmaki, M. Huttula, R. Sankari, E. Kukk, T. Rander, S. Svensson, S. Aksela, H. Aksela
5p photoemission from laser-excited cesium atoms.
Phys. Rev. A 73, 062721 (2006)

hν + Cs	Photoexcitation	16-25 eV	Exp

523. M. Lu, M. F. Gharaibeh, G. Alna'washi, R. A. Phaneuf, A.L.D. Kilcoyne, E. Levenson, A. S. Schlachter, A. Mueller, S. Schippers, J. Jacobi, S.W.J. Scully, C. Cisneros
Photoionization and electron-impact ionization of Kr^{5+}.
Phys. Rev. A 74, 012703 (2006)

hν + Kr^{5+}	Photoionization	74-175 eV	E/T

524. J. Schulz, S. Heinasmaki, R. Sankari, T. Rander, A. Lindblad, H. Bergersen, G. Oehrwall, S. Svensson, E. Kukk, S. Aksela, H. Aksela
Characterization of weakly excited final states by shakedown spectroscopy of laser-excited potassium.
Phys. Rev. A 74, 012705 (2006)

hν + K	Photoionization	60 eV	Exp

525. M. Poygin, R. Puettner, M. Martins, V. Pennanen, M. Jurvansuu, Y. H. Jiang, H. Aksela, S. Aksela, G. Kaindl
Detailed study of the S $2p^{-1}$ -¿ X $^{1}S_{1}(2b_{1}{}^{-2})$ normal Auger spectra of H_2S.
Phys. Rev. A 74, 012711 (2006)

hν + H_2S	Photoionization	180-240 eV	Exp

526. R. K. Singh, G. S. Lodha, V. Sharma, I. A. Prajapati, K. P. Subramanian, B. Bapat
Triply charged carbon dioxide molecular ion: Formation and fragmentation.
Phys. Rev. A 74, 022708 (2006)

hν + $CO_2{}^{3+}$	Photodissociation	200 eV	Exp
hν + $CO_2{}^{3+}$	Photoionization	200 eV	Exp

527. S. Hussain, M. Saleem, M. Rafiq, M. A. Baig
Photoionization cross section measurements of the 3p $^{1,3}P$ excited states of helium in the near-threshold region.
Phys. Rev. A 74, 022715 (2006)

hν + He	Photoionization	500 nm	Exp

528. L.-Y. Peng, Q. Wang, A. F. Starace
Photodetachment of H^- by a short laser pulse in crossed static electric and magnetic fields.
Phys. Rev. A 74, 023402 (2006)

hν + H^-	Photodetachment	0-500 cm^{-1}	Th

529. C. B. Madsen, L. B. Madsen
High-order harmonic generation from arbitrarily oriented diatomic molecules including nuclear motion and field-free alignment.
Phys. Rev. A 74, 023403 (2006)

hν + H_2	Fluorescence	800 nm	Th
hν + D_2	Fluorescence	800 nm	Th
hν + N_2	Fluorescence	800 nm	Th
hν + O_2	Fluorescence	800 nm	Th
hν + H_2	Photoexcitation	800 nm	Th
hν + D_2	Photoexcitation	800 nm	Th
hν + N_2	Photoexcitation	800 nm	Th
hν + O_2	Photoexcitation	800 nm	Th
hν + H_2	Photoionization	800 nm	Th
hν + D_2	Photoionization	800 nm	Th
hν + N_2	Photoionization	800 nm	Th
hν + O_2	Photoionization	800 nm	Th

530. T. K. Kjeldsen, L. B. Madsen
Strong-field ionization of atoms and molecules: The two-term saddle-point method.
Phys. Rev. A 74, 023407 (2006)

hν + H	Photoionization	800 nm	Th

531. T. Nakajima, G. Buica
Above-threshold ionization of Mg by linearly and circularly polarized laser fields: Origin of the subpeaks in the photoelectron energy spectra.
Phys. Rev. A 74, 023411 (2006)

hν + Mg	Photoionization	3 eV	Th

532. R. M. Potvliege, S. Vucic
High-order above-threshold ionization of argon: Plateau resonances and the Floquet quasienergy spectrum.
Phys. Rev. A 74, 023412 (2006)

hν + Ar	Photoionization	800 nm	Th

533. X. Guan
Oscillator strength spectrum of hydrogen in strong magnetic and electric fields with arbitrary mutual orientation.
Phys. Rev. A 74, 023413 (2006)

hν + H	Photoexcitation	10^8 V/m	Th

534. L. Bai, J.-Y. Zhang, X. Zhang, Z. Xu
Angular distributions of multiphoton detachment of H^- in various infrared laser fields.
Phys. Rev. A 74, 025402 (2006)

hν + H^-	Photodetachment	2.3 nm	Th

535. P. N. Juranic, J. Nordberg, R. Wehlitz
Single- and double-photoionization data of Na and K corroborate the existence of a universal scaling law for the ratio.
Phys. Rev. A 74, 042707 (2006)

hν + Na	Photoionization	36.5-170 eV	Exp
hν + K	Photoionization	36.5-170 eV	Exp

536. I. A. Ivanov, A. S. Kheifets
Single-photon double ionization of helium in the presence of dc electric field.
Phys. Rev. A 74, 042710 (2006)

hν + He	Photoionization	85-90 eV	Th

537. R. Wehlitz, P. N. Juranic
Resonant double photoionization of lithium studied with medium energy resolution.
Phys. Rev. A 74, 042721 (2006)

hν + Li	Photoionization	148-161 eV	Exp

538. U. Ekstrom, P. Norman
X-ray absorption spectra from the resonant-convergent first-order polarization propagator approach.
Phys. Rev. A 74, 042722 (2006)

hν + H_2O	Total Absorption, Scattering	28-539 eV	Th
hν + CO	Total Absorption, Scattering	28-539 eV	Th
hν + C_6H_6	Total Absorption, Scattering	28-539 eV	Th
hν + C_4H_4N	Total Absorption, Scattering	28-539 eV	Th

539. R. Santra, R. W. Dunford, L. Young
Spin-orbit effect on strong-field ionization of krypton.
Phys. Rev. A 74, 043403 (2006)

hν + Kr	Photoionization	800 nm	Th

540. S.-M. Wang, K.-J. Yuan, Y.-Y. Niu, Y.-C. Han, S.-L. Cong
Phase control of the photofragment branching ratio of the HI molecule in two intense few-cycle laser pulses.
Phys. Rev. A 74, 043406 (2006)

hν + HI	Photodissociation	10^{13} W/cm^2	Th

541. J. McKenna, M. Suresh, B. Srigengan, I. D. Williams, W. A. Bryan, E.M.L. English, S. L. Stebbings, W. R. Newell, I.C.E. Turcu, J. M. Smith, E. J. Divall, C. J. Hooker, A. J. Langley, J. L. Collier
Rescattering-enhanced dissociation of a molecular ion.
Phys. Rev. A 74, 043409 (2006)

hν + $CO_2{}^+$	Photodissociation	$3x10^{13} - 6x10^{16}$ W/cm^2	Exp
hν + $CO_2{}^+$	Photoionization	$3x10^{13} - 6x10^{16}$ W/cm^2	Exp

542. H. Ohmura, F. Ito, M. Tachiya
Phase-sensitive molecular ionization induced by a phase-controlled two-color laser field in methyl halides.
Phys. Rev. A 74, 043410 (2006)

hν + CH_3I	Photodissociation	$10^{12} - 10^{13}$ W/cm^2	Exp
hν + CH_3Cl	Photodissociation	$10^{12} - 10^{13}$ W/cm^2	Exp
hν + CH_3Br	Photodissociation	$10^{12} - 10^{13}$ W/cm^2	Exp
hν + CH_3F	Photodissociation	$10^{12} - 10^{13}$ W/cm^2	Exp
hν + CH_3I	Photoionization	$10^{12} - 10^{13}$ W/cm^2	Exp
hν + CH_3Cl	Photoionization	$10^{12} - 10^{13}$ W/cm^2	Exp
hν + CH_3Br	Photoionization	$10^{12} - 10^{13}$ W/cm^2	Exp
hν + CH_3F	Photoionization	$10^{12} - 10^{13}$ W/cm^2	Exp

543. P. Q. Wang, A. M. Sayler, K. D. Carnes, J. F. Xia, M. A. Smith, B. D. Esry, I. Ben-Itzhak
Dissociation of $H_2{}^+$ in intense femtosecond laser fields studied by coincidence three-dimensional momentum imaging.
Phys. Rev. A 74, 043411 (2006)

hν + $H_2{}^+$	Photodissociation	790 nm	E/T
hν + $H_2{}^+$	Photoionization	790 nm	E/T

544. M. Vafaee, H. Sabzyan, Z. Vafaee, A. Katanforoush
Detailed instantaneous ionization rate of $H_2{}^+$ in an intense laser field.
Phys. Rev. A 74, 043416 (2006)

hν + $H_2{}^+$	Photoionization	10^{14} W/cm^2	Th

545. E. Shchekinova, C. Chandre, T. Uzer
Phase-space structures and ionization dynamics of the hydrogen atom in elliptically polarized microwaves.
Phys. Rev. A 74, 043417 (2006)

hν + H	Photoionization		Th

546. K.-J. Yuan, Z. Sun, S.-L. Cong, N. Lou
Molecular photoelectron spectrum in ultrashort laser fields: Autler-Townes splitting under rotational and aligned effects.
Phys. Rev. A 74, 043421 (2006)

hν + Na_2	Photoionization	2.5-7.5, 10^{11} W/cm^2	Th

547. Y. H. Jiang, R. Puettner, R. Hentges, J. Viefhaus, M. Poygin, C. Cacho, U. Becker, J. M. Rost, G. Kaindl
Partial photoionization cross sections of doubly excited helium below the ionization thresholds I_8 and I_9.
J. Phys. B 39, L9 (2006)

hν + He	Photoionization	77.5-78.3 eV	E/T
hν + He*	Photoionization	77.5-78.3 eV	E/T

548. G. L. Yudin, S. Chelkowski, A. D. Bandrauk
Coulomb continuum effects in molecular interference.
J. Phys. B 39, L17 (2006)

hν + H_2^+	Photoionization	100 eV	Th

549. K. Hosaka, J.-I. Adachi, A. V. Golovin, M. Takahashi, T. Teramoto, N. Watanabe, A. Yagishita, S. K. Semenov, N. A. Cherepkov
Non-dipole effects in the angular distribution of photoelectrons from the K-shell of N_2 molecule.
J. Phys. B 39, L25 (2006)

hν + N_2	Photoionization	500 eV	Exp

550. A. Y. Istomin, A. F. Starace, N. L. Manakov, A. V. Meremianin, A. S. Kheifets, I. Bray
Nondipole effects in double photoionization of He at 450 eV excess energy.
J. Phys. B 39, L35 (2006)

hν + He	Photoionization	450 eV	Th

551. E. Melero Garcia, J. Alvarez Ruiz, S. Menmuir, E. Rachlew, P. Erman, A. Kivimaeki, M. Glass-Maujean, R. Richter, M. Coreno
Fluorescence study of doubly excited states of molecular hydrogen.
J. Phys. B 39, 205 (2006)

hν + H_2	Fluorescence	20-55 eV	Exp

552. B. Lohmann, U. Kleiman
Approaches for calculating alignment and orientation of photoionized open shell atoms.
J. Phys. B 39, 271 (2006)

hν + K	Photoionization	0-8 Ry	Th
hν + Sc	Photoionization	0-8 Ry	Th
hν + Mn	Photoionization	0-8 Ry	Th
hν + In	Photoionization	0-8 Ry	Th
hν + Au	Photoionization	0-8 Ry	Th
hν + Tl	Photoionization	0-8 Ry	Th

553. A. Ehresmann, L. Werner, S. Klumpp, S. Lucht, H. Schmoranzer, S. Mickat, R. Schill, K.-H. Schartner, Ph. V. Demekhin, M. P. Lemeshko, V. L. Sukhorukov
Studying the $N_2{}^+(C^2\Sigma_u{}^+$ -¿ $X^2\Sigma_2{}^+)$ fluorescence excited via the $1s^{-1}\pi$* resonance.
J. Phys. B 39, 283 (2006)

hν + N_2	Fluorescence	135-190 nm	Exp

554. N. Murphy, P. Niga, A. Cummings, P. Dunne, G. O'Sullivan
4d -¿ 5p transitions in the EUV photoabsorption spectrum of Ba IV, Ba V and Ba VI.
J. Phys. B 39, 365 (2006)

hν + Ba^{3+}	Total Absorption, Scattering	75-85 eV	Exp
hν + Ba^{4+}	Total Absorption, Scattering	75-85 eV	Exp
hν + Ba^{5+}	Total Absorption, Scattering	75-85 eV	Exp
hν + Ba^{3+}	Photoexcitation	75-85 eV	Exp
hν + Ba^{4+}	Photoexcitation	75-85 eV	Exp
hν + Ba^{5+}	Photoexcitation	75-85 eV	Exp

555. S. K. Semenov, N. A. Cherepkov, M. Matsumoto, K. Fujiwara, K. Ueda, E. Kukk, F. Tahara, T. Sunami, H. P. Yoshida, T. Tanaka, K. Nakagawa, M. Kitajima, H. Tanaka, A. De Fanis
Vibrationally resolved photoionization of the $1\sigma_g$ and $1\sigma_u$ shells of N_2 molecule.
J. Phys. B 39, 375 (2006)

hν + N_2	Photoionization	410-450 eV	E/T

556. S. Kawazoe, T. Kai, R. Kumar Chauhan, R. Srivastava, S. Nakazaki
Excitation of the 4^1P^0 state of calcium by electron impact.
J. Phys. B 39, 493 (2006)

hν + Ca	Photoexcitation	10-25 eV	Th

557. W. Wang, X. L. Cheng, X. D. Yang, X. M. Tan
Calculation of wavelengths and oscillator strengths in high-Z Mg-like ions.
J. Phys. B 39, 519 (2006)

hν + Nd^{48+}	Photoexcitation	$10^{-1} - 10$ a.u.	Th
hν + Pm^{49+}	Photoexcitation	$10^{-1} - 10$ a.u.	Th
hν + Sm^{50+}	Photoexcitation	$10^{-1} - 10$ a.u.	Th

558. I. Borges Jr.
Influences on the calculation of accurate and basis set extrapolated oscillator strengths: The A^1B_1 ¡- X^1A_1 transition of H_2O.
J. Phys. B 39, 641 (2006)

hν + H_2O	Photoexcitation	$10^{-2} - 10^{-1}$ a.u.	Th

559. R. Diamant, R. Sharon, W. A. Caliebe, C.-C. Kao, M. Deutsch
Structure of the Co and Fe $K\alpha_{3,4}$ satellite spectra.
J. Phys. B 39, 651 (2006)

hν + Fe	Fluorescence	8.0-10.5 keV	E/T
hν + Co	Fluorescence	8.0-10.5 keV	E/T
hν + Fe	Photoexcitation	8.0-10.5 keV	E/T
hν + Co	Photoexcitation	8.0-10.5 keV	E/T

560. A. K. Kazansky, N. M. Kabachnik
Non-stationary treatment of energy distribution of electrons in resonant double ionization of Ne by ultra-short pulses.
J. Phys. B 39, L53 (2006)

hν + Ne	Photoionization	871.7 eV	Th

561. U. Kleiman, T. Topcu, M. S. Pindzola, F. Robicheaux
The search for oscillations in the near-threshold photo-double ionization cross section of helium.
J. Phys. B 39, L61 (2006)

hν + He	Photoionization	79.1-80.1 eV	Th

562. H. Farrokhpour, M. Alagia, M. Ya. Amusia, L. Avaldi, L. V. Chernysheva, M. Coreno, M. de Simone, R. Richter, S. Stranges, M. Tabrizchi
Observation of the spin-orbit activated interchannel coupling in the 3d photoionization of caesium atoms.
J. Phys. B 39, 765 (2006)

hν + Xe	Photoionization	674-792 eV	Exp
hν + Cs	Photoionization	674-792 eV	Exp

563. K. Hoshina, A. Hishikawa, K. Kato, T. Sako, K. Yamanouchi, E. J. Takahashi, Y. Nabekawa, K. Midorikawa
Dissociative ATI of H_2 and D_2 in intense soft x-ray laser fields.
J. Phys. B 39, 813 (2006)

hν + H$_2$	Photodissociation	41.7 eV	Exp
hν + D$_2$	Photodissociation	41.7 eV	Exp
hν + H$_2$	Photoionization	41.7 eV	Exp
hν + D$_2$	Photoionization	41.7 eV	Exp

564. L.A.A. Nikolopoulos, P. Lambropoulos
Helium double ionization signals under soft-x-ray coherent radiation.
J. Phys. B 39, 883 (2006)

hν + He	Photoionization	41.85-51.15 eV	Th

565. C. Beylerian, S. Saugout, C. Cornaggia
Non-sequential double ionization of H_2 using ultrashort 10 fs laser pulses.
J. Phys. B 39, L105 (2006)

hν + H$_2$	Photoionization	800 nm	Exp

566. A. Ehresmann, L. Werner, S. Klumpp, Ph. V. Demekhin, M. P. Lemeshko, V. L. Sukhorukov, K.-H. Schartner, H. Schmoranzer
Predissociation of the $N_2{}^+(C\ ^2\Sigma_u{}^+)$ state observed via C $^2\Sigma_u{}^+$ -¿ X $^2\Sigma_g{}^+$ fluorescence after resonant $1s^{-1}\pi$* excitation of N_2 molecule.
J. Phys. B 39, L119 (2006)

hν + N$_2$	Photodissociation	400-403 eV	Exp
hν + N$_2$	Fluorescence	400-403 eV	Exp
hν + N$_2$	Photoionization	400-403 eV	Exp

567. M. Murata, T. Odagiri, N. Kouchi
Multiply excited states of molecular nitrogen in the vacuum ultraviolet range as studied by (γ, 2γ) method.
J. Phys. B 39, 1285 (2006)

hν + N$_2$	Fluorescence	28-49 eV	Exp
hν + N$_2$	Photoexcitation	28-49 eV	Exp

568. M. Kitajima, H. P. Yoshida, A. De Fanis, G. Pruemper, U. Hergenhahn, E. Kukk, T. Tanaka, K. Nakagawa, H. Tanaka, S. Fritzsche, I. P. Sazhina, N. M. Kabachnik, K. Ueda
A study of inner-valence Auger transitions in Ne^+ induced by the resonant Auger decay of photoexcited Ne $1s^{-1}np$ states.
J. Phys. B 39, 1299 (2006)

hν + Ne	Photoionization	869 eV	Exp
hν + Ne*	Photoionization	869 eV	Exp

569. Y. Morishita, Y. Tamenori, K. Okada, T. Oyama, K. Yamamoto, K. Tabayashi, T. Ibuki, K. Moribayashi, I. H. Suzuki
Formation mechanisms of multi-charged Kr ions through 2p shell photoionization using a coincidence technique.
J. Phys. B 39, 1323 (2006)

hν + Kr	Photoionization	1660-1780 eV	Exp

570. G. Yu. Kashenock, V. K. Ivanov
Inner-shell resonant photodetachment of C^-: The dramatic role of dynamical relaxation in collective response.
J. Phys. B 39, 1379 (2006)

hν + C^-	Photodetachment	281-284 eV	Th

571. C. Blondel, W. Chaibi, C. Delsart, C. Drag
The fine structure of S and S^- measured with the photodetachment microscope.
J. Phys. B 39, 1409 (2006)

hν + S^-	Photodetachment	614.6-577.1 nm	Exp

572. M. Meyer, D. Cubaynes, F. J. Wuilleumier, E. Heinecke, T. Richter, P. Zimmermann, S. I. Strakhova, A. N. Grum-Grzhimailo
Probing the KII $3p^5 4p$ fine structure by photoelectron spectroscopy of laser-excited potassium.
J. Phys. B 39, L153 (2006)

hν + K	Photoionization	42 eV	E/T

573. D. Zeidler, A. B. Bardon, A. Staudte, D. M. Villeneuve, R. Doerner, P. B. Corkum
Alignment independence of the instantaneous ionization rate for nitrogen molecules.
J. Phys. B 39, L159 (2006)

hν + N_2	Photoionization	0-8 eV	E/T

574. S.-U. Haq, S. Mahmood, N. Amin, Y. Jamil, R. Ali, M. A. Baig
Measurements of photoionization cross sections from the 5s5p $^1P_1$ and 5s6s $^1S_0$ excited states of strontium.
J. Phys. B 39, 1587 (2006)

hν + Sr	Photoionization	355-410 nm	E/T
hν + Sr*	Photoionization	355-410 nm	E/T

575. A. S. Kheifets, I. A. Ivanov
Convergent close-coupling calculations of two-photon double ionization of helium.
J. Phys. B 39, 1731 (2006)

hν + He	Photoionization	40-50 eV	Th

576. M. Hiyama, M. Kosugi
Application of R matrix/MQDT method to valence and core excitations in NO.
J. Phys. B 39, 1797 (2006)

hν + NO	Photodissociation	405-420 eV	Th

577. G. Yang, Y. Zheng, X. Chi
Photodetachment of H^- near an interface.
J. Phys. B 39, 1855 (2006)

hν + H^-	Photodetachment	1 eV	Th

578. J. Colgan, M. S. Pindzola
Energy differential cross sections for the triple photoionization of lithium.
J. Phys. B 39, 1879 (2006)

hν + Li	Photoionization	300 eV	Th

579. P. Bolognesi, A. Kheifets, S. Otranto, M. Coreno, V. Feyer, F. D. Colavecchia, C. R. Garibotti, L. Avaldi
Photodouble ionization studies of the $Ne(2s^2)$ state under unequal energy sharing conditions.
J. Phys. B 39, 1899 (2006)

hν + Ne	Photoionization		Exp

580. M. Kato, Y. Morishita, F. Koike, S. Fritzsche, H. Yamaoka, Y. Tamenori, K. Okada, T. Matsudo, T. Gejo, I. H. Suzuki, N. Saito
High-resolution absolute photoabsorption cross sections for Ne in the 1s2s and 1s2p resonant double excitation.
J. Phys. B 39, 2059 (2006)

hν + Ne	Total Absorption, Scattering	900-940 eV	Exp

581. S. Song, F. Peng, G. Jiang
Properties of the $K\alpha$ and $k\beta$ x-ray transitions in CuXX through CuXXVIII.
J. Phys. B 39, 2087 (2006)

hν + Cu^{19+}	Photoexcitation	5 eV	Th
hν + Cu^{27+}	Photoexcitation	5 eV	Th

582. L.-R. Wang, J.-T. Hsiao, K.-N. Huang
Doubly excited states of the Be atom in the MCRRPA.
J. Phys. B 39, L217 (2006)

hν + Be	Photoexcitation	0.3-0.5 a.u.	Th
hν + Be	Photoionization	0.3-0.5 a.u.	Th

583. O. Zatsarinny, K. Bartschat
B-spline calculations of oscillator strengths in neutral argon.
J. Phys. B 39, 2145 (2006)

hν + Ar	Photoexcitation	$10^{-7} - 10^{-1}$ a.u.	Th

584. C. Froese-Fischer
Some improved transition probabilities for neutral carbon.
J. Phys. B 39, 2159 (2006)

hν + C	Photoexcitation	$10^{-17} - 10^{-1}$ a.u.	Th

585. A. E. Kingston, A. Hibbert
The spectrum of optically allowed transitions from the $3p^6 3d$ ground state of Ti IV.
J. Phys. B 39, 2217 (2006)

hν + Ti^{3+}	Photoexcitation	$10^{-4} - 1$ a.u.	Th

586. S. Mahmood, N. Amin, S.-U. Haq, N. M. Shaikh, S. Hussain, M. A. Baig
Measurements of oscillator strengths of the $2p^5(^2P_{1/2})nd$ J = 2,3 autoionizing resonances in neon.
J. Phys. B 39, 2299 (2006)

hν + Ne	Photoexcitation	$10^{-6} - 10^{-3}$ a.u.	Exp
hν + Ne	Photoionization	$10^{-6} - 10^{-3}$ a.u.	Exp

587. S. K. Semenov, N. A. Cherepkov, M. Matsumoto, T. Hatamoto, X.-J. Liu, G. Pruemper, T. Tanaka, M. Hoashino, H. Tanaka, F. Gel'mukhanov, K. Ueda
Interference modulation in the vibrationally resolved photoionization of the $1\sigma_g$ and $1\sigma_u$ core levels of the N_2 molecule.
J. Phys. B 39, L261 (2006)

hν + N$_2$	Photoionization	440-550 eV	Exp

588. R. F. Fink, A. Eschner, M. Magnuson, O. Bjoerneholm, I. Hjelte, C. Miron, M. Bassler, S. Svensson, M. N. Piancastelli, S. L. Sorensen
Specific production of very long-lived core-excited sulfur atoms by $2p^{-1}\sigma$* excitation of the OCS molecule followed by ultrafast dissociation.
J. Phys. B 39, L269 (2006)

hν + OCS	Photodissociation	135-160 eV	Exp

589. J. D. Hey
On the determination of radial matrix elements for high-n transitions in hydrogenic atoms and ions.
J. Phys. B 39, 2641 (2006)

hν + A	Photoexcitation		Th

590. J. J. Camacho, A. Pardo, E. Martin, J.M.L. Poyato
On the 1(A)$^1\Sigma_u{}^+$ -¿ 1(X)$^1\Sigma_g{}^+$ emission of Na_2 observed following the laser excitation of the 1(B)$^1\Pi_u$ state.
J. Phys. B 39, 2665 (2006)

hν + Na$_2$	Fluorescence	4900-6300 $\AA$	Exp

591. D. Toffoli, P. Decleva
Photoelectron angular distributions beyond the dipole approximation: A computational study on the N_2 molecule.
J. Phys. B 39, 2681 (2006)

hν + N$_2$	Photoionization	10-2000 eV	Th

592. S. Cohen, I. Liontos, A. Bolovinos, A. Lyras, S. Benec'h, H. Bachau
Two-photon ionization spectra of calcium above the $4s_{1/2}$ threshold.
J. Phys. B 39, 2693 (2006)

hν + Ca	Photoionization	374-323 nm	E/T

593. H. Yamaoka, M. Oura, K. Takahiro, K. Kawatsura, S. Ito, M. Mizumaki, H. Oohashi, Y. Ito, T. Mukoyama
The effect of Coster-Kronig transitions on the anisotropy of x-ray emission following Au L-shell photoionization.
J. Phys. B 39, 2747 (2006)

hν + Au	Photoionization	13-15 keV	Exp

594. S. Kammer, K.-H. Schartner, S. Mickat, R. Schill, A. Ehresmann, L. Werner, S. Klumpp, H. Schmoranzer, I. D. Petrov, Ph. V. Demekhin, V. L. Sukhorukov
Cross sections for photoabsorption and $3p^4 4s, 3d$ satellite production at energies of the doubly excited Ar $3p^4(^3P)4s^2P_{3/2,1/2}$ np resonances.
J. Phys. B 39, 2757 (2006)

hν + Ar	Photoexcitation	32.5-33.0 eV	E/T

595. L. Argenti, R. Moccia
K-matrix method with B-splines: σ_{nl}, β_n and resonances in He photoionization below N = 4 threshold.
J. Phys. B 39, 2773 (2006)

hν + He	Photoionization	73.5-75.6 eV	Th

596. O. Zatsarinny, K. Bartschat
Oscillator strengths for allowed and intercombination transitions in neutral sulfur.
J. Phys. B 39, 2861 (2006)

hν + S	Photoexcitation	83,000-830 cm^{-1}	Th

597. A. Emmanouilidou, J. M. Rost
Triple photoionization of lithium near threshold.
J. Phys. B 39, L99 (2006)

hν + Li	Photoionization	0-10 eV	E/T

598. M. Martins, K. Godehusen, T. Richter, P. Wernet, P. Zimmermann
Open shells and multi-electron interactions: Core level photoionization of the 3d metal atoms.
J. Phys. B 39, R79 (2006)

hν + Sc	Total Absorption, Scattering	30-90 eV	E/T
hν + Ti	Total Absorption, Scattering	30-90 eV	E/T
hν + V	Total Absorption, Scattering	30-90 eV	E/T
hν + Cr	Total Absorption, Scattering	30-90 eV	E/T
hν + Mn	Total Absorption, Scattering	30-90 eV	E/T
hν + Fe	Total Absorption, Scattering	30-90 eV	E/T
hν + Co	Total Absorption, Scattering	30-90 eV	E/T
hν + Ni	Total Absorption, Scattering	30-90 eV	E/T
hν + Cu	Total Absorption, Scattering	30-90 eV	E/T
hν + Sc	Photoionization	30-90 eV	E/T
hν + Ti	Photoionization	30-90 eV	E/T
hν + V	Photoionization	30-90 eV	E/T
hν + Cr	Photoionization	30-90 eV	E/T
hν + Mn	Photoionization	30-90 eV	E/T
hν + Fe	Photoionization	30-90 eV	E/T
hν + Co	Photoionization	30-90 eV	E/T
hν + Ni	Photoionization	30-90 eV	E/T
hν + Cu	Photoionization	30-90 eV	E/T

599. A. Kivimaeki, M. Coreno, R. Richter, J. Alvarez Ruiz, E. Melero-Garcia, M. de Simone, V. Feyer, G. Vall-llosera, K. C. Prince
Fluorescence emission following core excitations in the water molecule.
J. Phys. B 39, 1101 (2006)

hν + H_2O	Photodissociation	532-542 eV	Exp
hν + H_2O	Fluorescence	532-542 eV	Exp

600. H. P. Saha
MCHF studies of partial photoionization cross section of atomic fluorine.
J. Phys. B 39, 1209 (2006)

hν + F	Photoionization	20-24 eV	E/T

601. J. Wu, J. Yuan
The resonance structures in the cross sections of slow electron interaction with barium atoms: A fully relativistic R-matrix study.
J. Phys. B 39, 2493 (2006)

hν + Ba	Photodetachment	0-10 ev; 0-2.5 eV	E/T

602. K. Zrost, A. Rudenko, Th. Ergler, B. Feuerstein, V.L.B. de Jesus, C. D. Schroeter, R. Moshammer, J. Ullrich
Multiple ionization of Ne and Ar by intense 25 fs laser pulses: Few-electron dynamics studied with ion momentum spectroscopy.
J. Phys. B 39, S371 (2006)

hν + Ne	Photoionization	795 nm	Exp
hν + Ar	Photoionization	795 nm	Exp

603. E. Gubbini, U. Eichmann, M. Kalashnikov, W. Sandner
Multiple ionization of Kr in an intense circularly polarized laser field.
J. Phys. B 39, S381 (2006)

hν + Kr	Photoionization	815 nm	Exp

604. M. Awasthi, A. Saenz
Internuclear-distance dependence of ionization of H_2 in strong laser fields.
J. Phys. B 39, S389 (2006)

hν + H_2	Photoionization	800 nm	Th

605. E. Foumouo, S. Laulan, B. Piraux, H. Bachau
Dynamics of two-photon double-ionization of helium at the attosecond scale.
J. Phys. B 39, S427 (2006)

hν + He	Photoionization	1.42-2.1 a.u.	Th

606. A. S. Alnaser, I. Litvinyuk, T. Osipov, B. Ulrich, A. Landers, E. Wells, C. M. Maharjan, P. Ranitovic, I. Bochareva, D. Ray, C. L. Cocke
Momentum-imaging investigations of the dissociation of ${D_2}^+$ and the isomerization of acetylene to vinylidene by intense short laser pulses.
J. Phys. B 39, S485 (2006)

hν + H_2	Photodissociation	800 nm	Exp
hν + D_2	Photodissociation	800 nm	Exp
hν + C_2H_2	Photodissociation	800 nm	Exp
hν + H_2	Photoionization	800 nm	Exp
hν + D_2	Photoionization	800 nm	Exp
hν + C_2H_2	Photoionization	800 nm	Exp

607. Th. Ergler, A. Rudenko, B. Feuerstein, K. Zrost, C. D. Schroeter, R. Moshammer, J. Ullrich
Ultrafast mapping of ${H_2}^+$ (${D_2}^+$) nuclear wave packets using time-resolved Coulomb explosion imaging.
J. Phys. B 39, S493 (2006)

hν + H_2	Photodissociation	795 nm	Exp
hν + D_2	Photodissociation	795 nm	Exp
hν + H_2	Photoionization	795 nm	Exp
hν + D_2	Photoionization	795 nm	Exp

608. F. Legare, K. F. Lee, A. D. Bandrauk, D. M. Villeneuve, P. B. Corkum
Laser Coulomb explosion imaging for probing ultra-fast molecular dynamics.
J. Phys. B 39, S503 (2006)

hν + H_2	Photodissociation	810 nm	Exp
hν + D_2	Photodissociation	810 nm	Exp
hν + SO_2	Photodissociation	810 nm	Exp
hν + H_2	Photoionization	810 nm	Exp
hν + D_2	Photoionization	810 nm	Exp
hν + SO_2	Photoionization	810 nm	Exp

609. T. Okino, Y. Furukawa, P. Liu, T. Ichikawa, R. Itakura, K. Hoshina, K. Yamanouchi, H. Nakano
Ejection dynamics of hydrogen molecular ions from methanol in intense laser fields.
J. Phys. B 39, S515 (2006)

hν + CH_3OH	Photodissociation	800 nm	Exp
hν + CH_3OD	Photodissociation	800 nm	Exp
hν + CD_3OH	Photodissociation	800 nm	Exp
hν + CH_3OH	Photoionization	800 nm	Exp
hν + CH_3OD	Photoionization	800 nm	Exp
hν + CD_3OH	Photoionization	800 nm	Exp

610. J.K.G. Watson
A formula for line strengths of hydrogenic atoms.
J. Phys. B 39, L291 (2006)

hν + H	Photoexcitation		Th

611. A. A. Sorokin, S. V. Bobashev, K. Tiedtke, M. Richter
Multi-photon ionization of molecular nitrogen by femtosecond soft x-ray FEL pulses.
J. Phys. B 39, L299 (2006)

hν + N_2	Photoionization	38 eV	Exp

612. M. Uhlmann, T. Kunert, R. Schmidt
Non-adiabatic quantum molecular dynamics: Ionization of many-electron systems.
J. Phys. B 39, 2989 (2006)

hν + H_2	Photodissociation	0.5 a.u.	Th
hν + $H_2{}^+$	Photodissociation	0.5 a.u.	Th
hν + H_2	Photoionization	0.5 a.u.	Th
hν + $H_2{}^+$	Photoionization	0.5 a.u.	Th

613. M. Hoshino, K. Nakagawa, T. Tanaka, M. Kitajima, H. Tanaka, A. De Fanis, K. Wang, B. Zimmermann, V. McKoy, K. Ueda
Vibrationally resolved partial cross sections and asymmetry parameters for carbon K-shell photoionization of the CO_2 molecule.
J. Phys. B 39, 3047 (2006)

hν + CO_2	Photoionization	300-340 eV	E/T

614. X. Liu, C. F. de Morisson Faria, W. Becker, P. B. Corkum
Attosecond electron thermalization by laser-driven electron recollision in atoms.
J. Phys. B 39, L305 (2006)

hν + Ne	Photoionization		Th

615. I. D. Petrov, V. L. Sukhorukov, T. Peters, O. Zehnder, H. J. Woerner, F. Merkt, H. Hotop
Autoionizing even $2p_{1/2}{}^5 n\ell'$[K']$_{0,1,2}$(ℓ' = 1,3) Rydberg series of Ne: A comparison of many-electron theory and experiment.
J. Phys. B 39, 3159 (2006)

hν + Ne	Elastic Scattering	4 eV	E/T
hν + Ne*	Elastic Scattering	4 eV	E/T
hν + Ne	Photoionization	4 eV	E/T
hν + Ne*	Photoionization	4 eV	E/T

616. A. S. Alnaser, C. M. Maharjan, P. Wang, I. V. Litvinyuk
Multi-photon resonant effects in strong-field ionization: Origin of the dip in experimental longitudinal momentum distributions.
J. Phys. B 39, L323 (2006)

hν + Ne	Photoionization	400-800 nm	Exp
hν + Ar	Photoionization	400-800 nm	Exp

617. Y. Hikosaka, T. Aoto, P. Lablanquie, F. Penent, E. Shigemasa, K. Ito
Auger decay of Ne 1s photoionization satellites studied by a multi-electron coincidence method.
J. Phys. B 39, 3457 (2006)

hν + Ne	Photoionization	950 eV	Exp

618. M. Ahmad, P. Lablanquie, F. Penent, J. G. Lambourne, R. I. Hall, J.H.D. Eland
Structure and fragmentation dynamics of $N_2{}^{2+}$ ions in double photoionization experiments.
J. Phys. B 39, 3599 (2006)

hν + N$_2$	Photodissociation	43-46 eV	Exp
hν + N$_2$	Photoionization	43-46 eV	Exp

619. M. Hoshino, K. Nakagawa, T. Tanaka, M. Kitajima, H. Tanaka, A. De Fanis, D. A. Mistrov, X. O. Brykalova, A. A. Pavlychev, T. Hatamoto, K. Ueda
Vibrationally resolved partial cross sections and asymmetry parameters for oxygen K-shell photoionization of the CO_2 molecule.
J. Phys. B 39, 3655 (2006)

hν + CO$_2$	Photoionization	550-570 eV	Exp

620. S. Mar, J. A. del Val, F. Rodriguez, R. J. Pelaez, V. R. Gonzalez, A. B. Gonzalo, A. de Castro, J. A. Aparicio
Measurement of transition probabilities in Kr II UV and visible spectral lines.
J. Phys. B 39, 3709 (2006)

hν + Kr$^+$	Photoexcitation	350-720 nm	Exp

621. J. P. Brichta, W.-K. Liu, A. A. Zaidi, A. Trottier, J. H. Sanderson
Comparison of ADK ionization rates as a diagnostic for selective vibrational level population measurement.
J. Phys. B 39, 3769 (2006)

hν + H$_2$	Photoionization	4.3-8.0 10^{13} W/cm^2	Th
hν + H$_2$*	Photoionization	4.3-8.0 10^{13} W/cm^2	Th
hν + CO$_2$	Photoionization	4.3-8.0 10^{13} W/cm^2	Th
hν + CO$_2$*	Photoionization	4.3-8.0 10^{13} W/cm^2	Th
hν + N$_2$	Photoionization	4.3-8.0 10^{13} W/cm^2	Th
hν + N$_2$*	Photoionization	4.3-8.0 10^{13} W/cm^2	Th

622. J. Wu, H. Zeng, C. Guo
Non-sequential double ionization in slow charge fragmentation of doubly ionized NO.
J. Phys. B 39, 3849 (2006)

hν + NO	Photodissociation	800 nm	Exp
hν + NO	Photoionization	800 nm	Exp

623. S.W.J. Scully, I. Alvarez, C. Cisneros, E. D. Emmons, M. F. Gharaibeh, D. Leitner, M. S. Lubell, A. Mueller, R. A. Phaneuf, R. Puettner, A. S. Schlachter, S. Schippers, W. Shi, C. P. Ballance, B. M. McLaughlin
Doubly excited resonances in the photoionization spectrum of Li^+: Experiment and theory.
J. Phys. B 39, 3957 (2006)

hν + Li$^+$	Photoionization	140-180 eV	Exp

624. M. A. Bautista
Photoionization of Fe V around the 3p -¿ 3d core excitation region.
J. Phys. B 39, L361 (2006)

hν + Fe^{4+}	Photoionization	70-120 eV	Th

625. M. Ya. Amusia, L. V. Chernysheva
Non-dipole angular anisotropy parameters of photoelectrons from semi-filled shell atoms.
J. Phys. B 39, 4627 (2006)

hν + Li	Photoionization	0-120 eV	Th
hν + P	Photoionization	0-120 eV	Th
hν + Cr	Photoionization	0-120 eV	Th
hν + Cr*	Photoionization	0-120 eV	Th
hν + Mn	Photoionization	0-120 eV	Th
hν + Eu	Photoionization	0-120 eV	Th

626. M. Oura, Y. Tamenori, M. Machida, T. Mukoyama
Study of the 2p -¿ np (n = 3-6) excitation processes accompanying 1s photoionization of Ne.
J. Phys. B 39, 4637 (2006)

hν + Ne	Photoexcitation	908-1080 eV	Exp
hν + Ne	Photoionization	908-1080 eV	Exp

627. Y. Zou, M. Oura, R. Hutton, H. Yamaoka, N. Takeshima, K. Takahiro, K. Kawatsura, T. Mukoyama
Study of vacancy decays in the L-shell photoionization of barium in the excitation energy range of 5.6-30 keV: From L_2 edge to energy high above the thresholds of double L-vacancy production.
J. Phys. B 39, 4775 (2006)

hν + Ba	Fluorescence	5.6-30 keV	Exp
hν + Ba	Photoionization	5.6-30 keV	Exp

628. A. M. Juarez, E. Sokell, P. Bolognesi, M.R.F. Siggel-King, G. C. King, M. de Simone, M. Coreno
Observation of an (N^+ - N =4) ro-vibrational transition in the photoionization of D_2.
J. Phys. B 39, L377 (2006)

hν + H$_2$	Photoionization	15.65-15.68 eV	Exp
hν + D$_2$	Photoionization	15.65-15.68 eV	Exp

629. X. J. Liu, N. A. Cherepkov, S. K. Semenov, V. Kimberg, F. Gel'mukhanov, G. Pruemper, T. Lischke, T. Tanaka, M. Hoshino, H. Tanaka, K. Ueda
Young's double-slit experiment using core-level photoemission from N_2: Revisiting Cohen-Fano's two-centre interference phenomenon.
J. Phys. B 39, 4801 (2006)

hν + N$_2$	Photoionization	400-1600 eV	E/T

630. J. R. Harries, J. P. Sullivan, P. Hammond, Y. Azuma
Photoionization of He in the 3lnl' doubly-excited state energy region: Angular distribution of the fluorescence from the residual ion $He^+(2p)^2P$.
J. Phys. B 39, 4819 (2006)

hν + He	Fluorescence	72.5-73.0 eV	E/T
hν + He	Photoionization	72.5-73.0 eV	E/T

631. J. D. Bozek, J. E. Furst, T. J. Gay, H. Gould, A.L.D. Kilcoyne, J. R. Machacek, F. Martin, K. W. McLaughlin, J. L. Sanz-Vicario
Production of excited atomic hydrogen and deuterium from H_2 and D_2 photodissociation.
J. Phys. B 39, 4871 (2006)

hν + H$_2$	Photodissociation	24-60 eV	E/T
hν + D$_2$	Photodissociation	24-60 eV	E/T

632. L. Ponce, R. Taieb, V. Veniard, A. Maquet
Attosecond-scale dynamics in ion-atom collision versus laser-atom interaction.
J. Phys. B 39, 4985 (2006)

hν + H	Photoionization	1-2 a.u.; 1 μ m	Th

633. M. Saleem, S. Hussain, M. Rafiq, M. A. Baig
Simultaneous measurements of photoionization cross-sections of lithium isotopes from 3p $^2P_{1/2,3/2}$.
J. Phys. B 39, 5025 (2006)

hν + Li	Photoionization	0-3 eV	Exp

634. M. Foster, J. Colgan
Charge-dependent effects in double photoionization of He-like ions.
J. Phys. B 39, 5067 (2006)

hν + He	Photoionization	30-320 eV	Th
hν + Li$^+$	Photoionization	30-320 eV	Th
hν + Be^{2+}	Photoionization	30-320 eV	Th
hν + B^{3+}	Photoionization	30-320 eV	Th
hν + O^{6+}	Photoionization	30-320 eV	Th

635. A. K. Kazansky, N. M. Kabachnik
Calculations of the double differential cross section for attosecond laser-assisted photoionization of atoms.
J. Phys. B 39, 5173 (2006)

hν + Ar	Photoionization	1.6-90 eV	Th

636. G. Ljung, H. Nilsson, M. Asplund, S. Johansson
New and improved experimental oscillator strengths in Zr II and the solar abundance of zirconium.
Astron. Astrophys. 456, 1181 (2006)

hν + Zr^{+}	Photoexcitation	5400-2500 Å	Exp

637. S. N. Nahar
Atomic data from the Iron Project. LXII. Allowed and forbidden transitions in Fe XVIII in relativistic Breit-Pauli approximation.
Astron. Astrophys. 457, 721 (2006)

hν + Fe^{17+}	Photoexcitation	0-60 Ry	Th

638. G. Del Zanna
Benchmarking atomic data for astrophysics: Fe XVIII.
Astron. Astrophys. 459, 307 (2006)

hν + Fe^{17+}	Photoexcitation	7 log T[K]	Th

639. K. M. Aggarwal, F. P. Keenan, T. Kato, I. Murakami
Energy levels and radiative rates for transitions in Fe IX.
Astron. Astrophys. 460, 331 (2006)

hν + Fe^{8+}	Photoexcitation	0-7.0 Ry	Th

640. K. M. Aggarwal, F. P. Keenan
Energy levels and radiative rates for transitions in Ni XIX.
Astron. Astrophys. 460, 959 (2006)

hν + Ni^{18+}	Photoexcitation	0-100 Ry	Th

641. M. Aldenius, J. D. Tanner, S. Johansson, H. Lundberg, S. G. Ryan
Experimental Mg I oscillator strengths and radiative lifetimes for astrophysical applications on metal-poor stars. New data for the MG I b triplet.
Astron. Astrophys. 461, 767 (2007)

hν + Mg	Photoexcitation	5180-2700 Å	Exp

642. K. M. Aggarwal, F. P. Keenan
Energy levels and radiative rates for inner shell transitions of Fe XVI.
Astron. Astrophys. 463, 399 (2007)

hν + Fe^{15+}	Photoexcitation	0-60 Ry	Th

643. J. Wu, H. Zeng, J. Wang, C. Guo
Dynamics of triple-ionization-induced dissociation in diatomic molecules in strong fields.
Phys. Rev. A 73, 051402 (2006)

hν + N_2	Photodissociation	800 nm	Exp
hν + O_2	Photodissociation	800 nm	Exp
hν + N_2	Photoionization	800 nm	Exp
hν + O_2	Photoionization	800 nm	Exp

644. N. Kolachevsky, M. Haas, U. D. Jentschura, M. Herrmann, P. Fendel, M. Fischer, R. Holzwarth, Th. Udem, C. H. Keitel, T. W. Haensch
Photoionization broadening of the 1S-2S transition in a beam of atomic hydrogen.
Phys. Rev. A 74, 052504 (2006)

hν + H	Photoionization	243 nm	E/T
2hν + H	Photoionization	243 nm	E/T

645. W. Vanroose, D. A. Horner, F. Martin, T. N. Rescigno, C. W. McCurdy
Double photoionization of aligned molecular hydrogen.
Phys. Rev. A 74, 052702 (2006)

hν + H$_2$	Photodissociation	75 eV	E/T
hν + H$_2$	Photoionization	75 eV	E/T

646. S. Hussain, M. Saleem, M. A. Baig
Angular momentum dependence of photoionization cross sections from the excited states of lithium.
Phys. Rev. A 74, 052705 (2006)

hν + Li	Photoionization	317-1457 nm	E/T
hν + Li*	Photoionization	317-1457 nm	E/T

647. O. Zatsarinny, K. Bartschat, S. Gedeon, V. Gedeon, V. Lazur
Low-energy electron scattering from Ca atoms and photodetachment of Ca^-.
Phys. Rev. A 74, 052708 (2006)

hν + Ca$^-$	Photodetachment	0-4 eV	E/T

648. K. Krajewska, I. I. Fabrikant, A. F. Starace
Threshold effects in strong-field detachment of H^- and F^-: Plateau enhancements and angular distribution variations.
Phys. Rev. A 74, 053407 (2006)

hν + H$^-$	Photodetachment	0.0043-0.0253 $\omega(a.\text{u.})$	E/T
hν + F$^-$	Photodetachment	0.0043-0.0253 $\omega(a.\text{u.})$	E/T
nhν + H$^-$	Photodetachment	0.0043-0.0253 $\omega(a.\text{u.})$	E/T
nhν + F$^-$	Photodetachment	0.0043-0.0253 $\omega(a.\text{u.})$	E/T

649. S. Huang, C. Chandre, T. Uzer
Reducing multiphoton ionization in a linearly polarized microwave field by local control.
Phys. Rev. A 74, 053408 (2006)

hν + H	Photoionization	0.675 $\omega(a.\text{u.})$	Th
nhν + H	Photoionization	0.675 $\omega(a.\text{u.})$	Th

650. M. Gustafsson, L. Frommhold
Infrared absorption by $H_2 - Ar$ collisional complexes and the anisotropy of the intermolecular interaction potential.
Phys. Rev. A 74, 054703 (2006)

hν + Ar + H$_2$	Total Absorption, Scattering	195 K	Th
hν + ArH$_2$	Total Absorption, Scattering	195 K	Th

651. L. B. Zhao, P. C. Stancil
Photoionization of hydrogen in white dwarf strength magnetic fields.
Phys. Rev. A 74, 055401 (2006)

hν + H	Photoionization	0-60,000 cm^{-1}	Th

652. S. R. Federman, M. Brown, S. Torok, S. Cheng, R. E. Irving, R. M. Schectman, L. J. Curtis
Oscillator strengths for ultraviolet transitions in P II.
Astrophys. J., Part 1 660, 919 (2006)

hν + P^+	Photoexcitation	1154 $\AA$	Exp

653. W. Carrier, Y. Osamura, W. Zheng, R. I. Kaiser
Laboratory investigations on the infrared absorptions of germanium-bearing molecules – directing the identification of organo-germanium molecules in the atmospheres of Jupiter and Saturn.
Astrophys. J., Part 1 654, 687 (2007)

hν + Ge_2H_6	Photoexcitation	500-4500 cm^{-1}	Exp
hν + Ge_2H_2	Photoexcitation	500-4500 cm^{-1}	Exp
hν + Ge_2H_3	Photoexcitation	500-4500 cm^{-1}	Exp
hν + Ge_2H_4	Photoexcitation	500-4500 cm^{-1}	Exp
hν + Ge_2H_5	Photoexcitation	500-4500 cm^{-1}	Exp

654. M. F. Gu, P. Beiersdorfer, G. V. Brown, H. Chen, D. B. Thorn, S. M. Kahn
Wavelength measurements of Ni L-shell lines between 9 and 15 $\AA$.
Astrophys. J., Part 1 657, 1172 (2007)

hν + $Ni^{18+-25+}$	Photoexcitation	15.0-9.0 $\AA$	E/T

655. J. N. Das, S. Paul, K. Chakrabarti
Double photoionization of helium atoms at 1 eV above threshold.
Eur. Phys. J. D 39, 223 (2006)

hν + He	Photoionization	1 eV excess	Th

656. N. Amin, S. Mahmood, M. Saleem, M. A. Kalyar, M. A. Baig
Photoionization cross-section measurements from the 2p, 3d and 3s excited states of lithium.
Eur. Phys. J. D 40, 331 (2006)

hν + Li	Photoionization	532-266 nm	Exp
hν + Li^*	Photoionization	532-266 nm	Exp

657. R. Feifel, J.H.D. Eland, L. Storchi, F. Tarantelli
An experimental and theoretical study of double photoionization of CF_4 using time-of-flight photoelectron-photoelectron (photoion-photoion) coincidence spectroscopy.
J. Chem. Phys. 125, 194318 (2006)

hν + CF_4	Photoionization	0-50 eV	E/T

658. D. L. Kokkin, G. B. Bacskay, T. W. Schmidt
Oscillator strengths and radiative lifetimes for C_2: Swan, Ballik-Ramsay, Phillips, and d $^3\Pi_g$ ¡- c $^3\Sigma_u{}^+$ systems.
J. Chem. Phys. 126, 084302 (2007)

hν + C_2	Photoexcitation	1.0 $\AA$	Th

659. M. Glass-Maujean, S. Klumpp, L. Werner, A. Ehresmann, H. Schmoranzer
Cross sections for the ionization continuum of H_2 in the 15.3-17.2 eV energy range.
J. Chem. Phys. 126, 094306 (2007)

hν + H_2	Photoionization	15.3-17.2 eV	Exp

660. M. Glass-Maujean, S. Klumpp, L. Werner, A. Ehresmann, H. Schmoranzer
Study of the B"Boverbar $^1\Sigma_u{}^+$ state of H_2: Transition probabilities from the ground state, dissociative widths, and Fano parameters.
J. Chem. Phys. 126, 144303 (2007)

hν + H_2	Photoexcitation	15.3-17.2 eV	Exp

661. F. Innocenti, L. Zuin, M. L. Costa, A. A. Dias, A. Morris, S. Stranges, J. M. Dyke
Measurement of the partial photoionization cross sections and asymmetry parameters of S atoms in the photon energy range 10.0-30.0 eV using constant-ionic-state spectroscopy.
J. Chem. Phys. 126, 154310 (2007)

hν + S	Photoionization	10-30 eV	Exp

662. M. Hochlaf, C. Nicolas, L. Poisson
Photoionization of C_4 molecular beam: Ab initio calculations.
J. Chem. Phys. 127, 014310 (2007)

hν + C_4	Photoionization	10 eV	Th

663. S. B. Whitfield, R. Wehlitz, H. R. Varma, T. Banerjee, P. C. Deshmukh, S. T. Manson
Resonance-induced deviations of β from 2.0 for rare gas s-subshell photoionization.
J. Phys. B 39, L335 (2006)

hν + Kr	Photoionization	64-95 eV	E/T

664. H. Kjeldsen
Photoionization cross sections of atomic ions from merged-beams experiments.
J. Phys. B 39, R325 (2006)

hν + He^-	Photodetachment	8-295 eV	E/T
hν + Li^-	Photodetachment	8-295 eV	E/T
hν + B^-	Photodetachment	8-295 eV	E/T
hν + C^-	Photodetachment	8-295 eV	E/T
hν + Na^-	Photodetachment	8-295 eV	E/T
hν + Cl^-	Photodetachment	8-295 eV	E/T
hν + V^-	Photodetachment	8-295 eV	E/T
hν + Cr^-	Photodetachment	8-295 eV	E/T
hν + Co^-	Photodetachment	8-295 eV	E/T
hν + Ni^-	Photodetachment	8-295 eV	E/T
hν + Te^-	Photodetachment	8-295 eV	E/T
hν + I^-	Photodetachment	8-295 eV	E/T
hν + I^+	Photoexcitation	8-295 eV	E/T
hν + I^{2+}	Photoexcitation	8-295 eV	E/T
hν + Xe	Photoexcitation	8-295 eV	E/T
hν + Xe^{+-6+}	Photoexcitation	8-295 eV	E/T
hν + Cs^+	Photoexcitation	8-295 eV	E/T
hν + Ba^+	Photoexcitation	8-295 eV	E/T
hν + Ba^{2+}	Photoexcitation	8-295 eV	E/T
hν + Ba^{3+}	Photoexcitation	8-295 eV	E/T
hν + La^+	Photoexcitation	8-295 eV	E/T
hν + La^{3+}	Photoexcitation	8-295 eV	E/T
hν + Ce^{4+}	Photoexcitation	8-295 eV	E/T
hν + He	Photoionization	8-295 eV	E/T
hν + He^+	Photoionization	8-295 eV	E/T

hν + **Li**	Photoionization	8-295 eV	E/T
hν + $\mathbf{B}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{C}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{C}^{2+}$	Photoionization	8-295 eV	E/T
hν + **N**	Photoionization	8-295 eV	E/T
hν + $\mathbf{N}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{N}^{2+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{N}^{3+}$	Photoionization	8-295 eV	E/T
hν + **O**	Photoionization	8-295 eV	E/T
hν + $\mathbf{O}^{+\text{-}4+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{F}^{2+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{F}^{3+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{F}^{4+}$	Photoionization	8-295 eV	E/T
hν + **Ne**	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ne}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ne}^{3+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ne}^{4+}$	Photoionization	8-295 eV	E/T
hν + **Na**	Photoionization	8-295 eV	E/T
hν + $\mathbf{Mg}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Al}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Al}^{2+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Si}^{2+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{S}^{+}$	Photoionization	8-295 eV	E/T
hν + **Ar**	Photoionization	8-295 eV	E/T
hν + $\mathbf{K}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ca}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ca}^{2+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Sc}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Sc}^{2+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ti}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ti}^{3+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{V}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Cr}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Mn}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Fe}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Fe}^{4+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Co}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ni}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Zn}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ga}^{+}$	Photoionization	8-295 eV	E/T
hν + **Kr**	Photoionization	8-295 eV	E/T
hν + $\mathbf{Sr}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{I}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{I}^{2+}$	Photoionization	8-295 eV	E/T
hν + **Xe**	Photoionization	8-295 eV	E/T
hν + $\mathbf{Xe}^{+\text{-}6+}$	Photoionization	8-295 eV	E/T
hν + **Cs**	Photoionization	8-295 eV	E/T
hν + $\mathbf{Cs}^{+}$	Photoionization	8-295 eV	E/T
hν + **Ba**	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ba}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ba}^{2+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ba}^{3+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{La}^{+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{La}^{3+}$	Photoionization	8-295 eV	E/T
hν + $\mathbf{Ce}^{4+}$	Photoionization	8-295 eV	E/T

665. Z. Chen, A. Z. Msezane

Random-phase approximation with exchange for inner-shell electron transitions: Effects of inter-shell correlations.
J. Phys. B 39, 4355 (2006)

hν + Xe$^+$	Photoionization	30-140 eV	Th

666. S. S. Tayal
Electron impact excitation of forbidden and allowed transitions in O II.
J. Phys. B 39, 4393 (2006)

hν + O$^+$	Photoexcitation	0.1-40 eV	Th

667. A. Cerkic, D. B. Milosevic
The contribution of incoherent photoelectron scattering off neighboring atoms to the above-threshold ionization and detachment spectra.
J. Phys. B 39, 4419 (2006)

hν + F$^-$	Photodetachment	0-900 eV	Th
hν + H	Photoionization	0-900 eV	Th

668. L. Partanen, M. Huttula, S.-M. Huttula, H. Aksela, S. Aksela
Effects of electron correlation on the $M_{4,5}NN_{4,5}$ Auger transitions in xenon.
J. Phys. B 39, 4515 (2006)

hν + Xe	Photoionization	320-550 eV	E/T

669. T. Badr, M. D. Plimmer, P. Juncar, M. E. Himbert, Y. Louyer, D.J.E. Knight
Observation by two-photon laser spectroscopy of the $4d^{10}5s\ ^2S_{1/2}$ -¿ $4d^95s^2\ ^2D_{5/2}$ clock transition in atomic silver.
Phys. Rev. A 74, 062509 (2006)

hν + Ag	Photoexcitation	661 nm	Exp

670. S. Hannemann, E. J. Salumbides, S. Witte, R. T. Zinkstok, E.-J. van Duijn, K.S.E. Eikema, W. Ubachs
Frequency metrology on the EF $^1\Sigma_g{}^+$ -¿ X $^1\Sigma_g{}^+(0,0)$ transition in H_2, HD, and D_2.
Phys. Rev. A 74, 062514 (2006)

hν + H$_2$	Photoexcitation	202-355 nm	Exp
hν + HD	Photoexcitation	202-355 nm	Exp
hν + D$_2$	Photoexcitation	202-355 nm	Exp

671. M. Lu, G. Alna'washi, M. Habibi, M. F. Gharaibeh, R. A. Phaneuf, A.L.D. Kilcoyne, E. Levenson, A. S. Schlachter, C. Cisneros, G. Hinojosa
Photoionization and electron-impact ionization of Kr^{3+}.
Phys. Rev. A 74, 062701 (2006)

hν + Kr^{3+}	Photoionization	39-179 eV	Exp

672. K. Jankala, J. Schulz, M. Huttula, A. Calo, S. Urpelainen, S. Heinasmaki, S. Fritzsche, S. Svensson, S. Aksela, H. Aksela
Effects of initial-state laser excitation on inner-shell photoionization and Auger decay of Rb.
Phys. Rev. A 74, 062704 (2006)

hν + Rb	Photoexcitation	200 eV	Exp
hν + Rb	Photoionization	200 eV	Exp

673. R. Feifel, T. Tanaka, M. Hoshino, H. Tanaka, Y. Tamenori, V. Carravetta, K. Ueda
Quenching and restoring of the A $^2\Pi$ cationic state in resonant Auger electron spectra of CO in the vicinity of the O ls -¿ 2π resonance.
Phys. Rev. A 74, 062717 (2006)

hν + CO	Photoionization	510-533 eV	Exp

674. E. Foumouo, G. L. Kamta, G. Edah, B. Piraux
Theory of multiphoton single and double ionization of two-electron atomic systems driven by short-wavelength electric fields: An ab initio treatment.
Phys. Rev. A 74, 063409 (2006)

hν + H^-	Photoionization	11-250 eV	Th
hν + He	Photoionization	11-250 eV	Th

675. L.A.A. Nikolopoulos, P. Lambropoulos
Multiphoton ionization of helium under uv radiation: Role of the harmonics.
Phys. Rev. A 74, 063410 (2006)

hν + He	Photoionization	13 eV	Th

676. O. Atabek, R. Lefebvre, F. X. Gadea
Zero-width resonances in intense-field molecular photodissociation.
Phys. Rev. A 74, 063412 (2006)

hν + $H_2{}^+$	Photodissociation	80 nm	Th

677. Y. Oezdemir
Differential and total M-shell X-ray production cross-sections of some selected elements between Au and U at 5.96 keV.
Nucl. Instrum. Methods Phys. Res. B 256, 581 (2007)

hν + Au	Photoionization	5.96 keV	Exp
hν + Hg	Photoionization	5.96 keV	Exp
hν + Tl	Photoionization	5.96 keV	Exp
hν + Pb	Photoionization	5.96 keV	Exp
hν + Bi	Photoionization	5.96 keV	Exp
hν + Th	Photoionization	5.96 keV	Exp
hν + U	Photoionization	5.96 keV	Exp

678. J. Colgan, M. S. Pindzola, F. Robicheaux
Triple differential cross sections for the double photoionization of H_2.
Phys. Rev. Lett. 98, 153001 (2007)

hν + H_2	Photodissociation	25 eV	Th
hν + H_2	Photoionization	25 eV	Th

679. R. M. Potvliege, S. Vucic
Stark-shift induced resonances in multiphoton ionization.
Phys. Scr. 74, 655 (2006)

hν + Ar	Photoionization		Th

680. C. L. Cocke
Momentum imaging in atomic collisions.
Phys. Scr. T110, 9 (2004)

hν + He	Photoionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T
hν + Ne	Photoionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T
hν + Ar	Photoionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T
hν + H_2	Photoionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T
hν + D_2	Photoionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T

681. N. Berrah, R. C. Bilodeau, G. Ackerman, J. D. Bozek, G. Turri, B. Rude, N. D. Gibson, C. W. Walter, A. Aguilar
Probing negative ions from within.
Phys. Scr. T110, 51 (2004)

hν + He^-	Photodetachment	57-65 eV	Exp
hν + Li^-	Photodetachment	57-65 eV	Exp
hν + B^-	Photodetachment	57-65 eV	Exp

682. J.-M. Bizau, J.-P. Champeaux, D. Cubaynes, C. Blancard, D. Hitz, J. Bruneau, J. L. Lemaire, A. Compant la Fontaine, A. Girard, F. J. Wuilleumier
L shell photoionisation of N^{2+} and O^{3+} isoelectronic ions.
Phys. Scr. T110, 57 (2004)

hν + N^{2+}	Photoionization	24-100 eV	E/T
hν + O^{3+}	Photoionization	24-100 eV	E/T

683. P. Bolognesi, L. Avaldi, I. Bray, R. Camilloni, M. Coreno, K. Kazansky, A. S. Kheifets, L. Malegat, P. Selles, G. Turri, M. Zitnik
The photodouble ionisation of helium and heavier rare gases.
Phys. Scr. T110, 62 (2004)

hν + He^+	Photoionization	30-40 eV	E/T
hν + Ar^+	Photoionization	30-40 eV	E/T

684. C. Bordas, F. Lepine, C. Nicole, M.J.J. Vrakking
Photoionization microscopy.
Phys. Scr. T110, 68 (2004)

hν + Xe	Photoionization		Exp

685. N. Saito, A. De Fanis, I. Koyano, K. Ueda
Nuclear dynamics of core-excited and ionized small polyatomic molecules probed by multiple coincidence momentum imaging technique.
Phys. Scr. T110, 90 (2004)

hν + CO_2	Photodissociation	290-292 eV	Exp
hν + CO_2	Photoionization	290-292 eV	Exp

686. S. L. Sorensen
Fragmentation of molecules and clusters after resonant excitation of core electrons.
Phys. Scr. T110, 96 (2004)

hν + NH_3	Photodissociation	100-400 eV	Exp
hν + NH_3	Photoionization	100-400 eV	Exp

687. G. G. Paulus, F. Lindner, D. B. Milosevic, W. Becker
Phase-controlled single-cycle strong-field photoionization.
Phys. Scr. T110, 120 (2004)

hν + Xe	Photoionization	1.55 eV	Exp

688. A. Czasch, M. S. Schoeffler, T. Jahnke, S. Schoessler, M. Hattass, T. Weber, M. Weckenbrock, J. Titze, C. Wimmer, A. Staudte, S. Kammer, S. Voss, R. Doerner, H. Schmidt-Boecking, J. M. Rost, T. Schneider, C. Liu
Doubly excited states in helium close to the double ionization threshold: Angular and energy resolved partial cross sections.
Phys. Scr. T110, 141 (2004)

hν + He	Photoionization	78-79 eV	Exp

689. A. Chutjian
Ion collisions in the highly charged universe.
Phys. Scr. T110, 203 (2004)

hν + N^+	Photoionization	0-42 eV	E/T
hν + O^+	Photoionization	0-42 eV	E/T

690. A. Emmanouilidou, J. M. Rost
The Coulomb four-body problem in a classical framework: Triple photoionization of lithium.
J. Phys. B 39, 4037 (2006)

hν + Li	Photoionization	220 eV	Th

691. M. Madine, H. W. van der Hart
Resonance effects on the competition between multiphoton emission of inner-shell and outer-shell electrons.
J. Phys. B 39, 4049 (2006)

hν + He	Photoionization	10^{13} W/cm^2	Th

692. K. F. Lee, F. Legare, D. M. Villeneuve, P. B. Corkum
Measured field-free alignment of deuterium by few-cycle pulses.
J. Phys. B 39, 4081 (2006)

hν + H_2	Photoionization	$2x10^{14}$ W/cm^2	Th
hν + D_2	Photoionization	$2x10^{14}$ W/cm^2	Th

693. A. Calo, S. Atanassova, R. Sankari, A. Kivimaki, H. Aksela, S. Aksela
The Kr valence photoelectron satellite lines in the photon energy region below the 3d threshold.
J. Phys. B 39, 4169 (2006)

hν + Kr	Photoionization	60-88 eV	Exp

694. J. Wu, H. Zeng, C. Guo
Triple-ionization-induced dissociation of NO in strong laser fields.
Phys. Rev. A 74, 031404 (2006)

hν + NO	Photodissociation	$5x10^{13} - 6x10^{14}$ W/cm^2	Exp
hν + NO	Photoionization	$5x10^{13} - 6x10^{14}$ W/cm^2	Exp

695. C. Bouri, P. Selles, L. Malegat, M. G. Kwato Njock
Parabolic versus spherical partial cross sections for photoionization excitation of He near threshold.
Phys. Rev. A 74, 032704 (2006)

hν + He	Photoionization	80 eV	Th

696. V. K. Dolmatov, S. T. Manson
Strong final-state term dependence of nondipole photoelectron angular distributions from half-filled shell atoms.
Phys. Rev. A 74, 032705 (2006)

hν + Mn	Photoionization	10-14 eV	Th

697. K. Alioua, M. Bouledroua
Classical and quantal studies of the satellite features in the absorption spectra of lithium (2s-2p) perturbed by helium.
Phys. Rev. A 74, 032711 (2006)

hν + Li	Total Absorption, Scattering	500-3000 K	Th

698. A. K. Bhatia, W. Eissner
Atomic data and spectral line intensities for Fe VIII.
At. Data Nucl. Data Tables 76, 270 (2000)

hν + Fe^{7+}	Photoexcitation	10-70 Ry	Th

699. M. B. Trzhaskovskaya, V. I. Nefedov, V. G. Yarzhemsky
Photoelectron angular distribution parameters for elements Z=1 to Z=54 in the photoelectron energy range 100-5000 eV.
At. Data Nucl. Data Tables 77, 97 (2001)

hν + H	Photoionization	100-5000 eV	Th
hν + He	Photoionization	100-5000 eV	Th
hν + Li	Photoionization	100-5000 eV	Th
hν + Be	Photoionization	100-5000 eV	Th
hν + B	Photoionization	100-5000 eV	Th
hν + C	Photoionization	100-5000 eV	Th
hν + N	Photoionization	100-5000 eV	Th
hν + O	Photoionization	100-5000 eV	Th
hν + F	Photoionization	100-5000 eV	Th
hν + Ne	Photoionization	100-5000 eV	Th
hν + Na	Photoionization	100-5000 eV	Th
hν + Mg	Photoionization	100-5000 eV	Th
hν + Al	Photoionization	100-5000 eV	Th
hν + Si	Photoionization	100-5000 eV	Th
hν + P	Photoionization	100-5000 eV	Th
hν + S	Photoionization	100-5000 eV	Th
hν + Cl	Photoionization	100-5000 eV	Th
hν + Ar	Photoionization	100-5000 eV	Th
hν + K	Photoionization	100-5000 eV	Th
hν + Ca	Photoionization	100-5000 eV	Th
hν + Sc	Photoionization	100-5000 eV	Th
hν + Ti	Photoionization	100-5000 eV	Th
hν + V	Photoionization	100-5000 eV	Th
hν + Cr	Photoionization	100-5000 eV	Th
hν + Mn	Photoionization	100-5000 eV	Th
hν + Fe	Photoionization	100-5000 eV	Th
hν + Co	Photoionization	100-5000 eV	Th
hν + Ni	Photoionization	100-5000 eV	Th
hν + Cu	Photoionization	100-5000 eV	Th
hν + Zn	Photoionization	100-5000 eV	Th
hν + Ga	Photoionization	100-5000 eV	Th
hν + Ge	Photoionization	100-5000 eV	Th

hν + **As**	Photoionization	100-5000 eV	Th
hν + **Se**	Photoionization	100-5000 eV	Th
hν + **Br**	Photoionization	100-5000 eV	Th
hν + **Kr**	Photoionization	100-5000 eV	Th
hν + **Rb**	Photoionization	100-5000 eV	Th
hν + **Sr**	Photoionization	100-5000 eV	Th
hν + **Y**	Photoionization	100-5000 eV	Th
hν + **Zr**	Photoionization	100-5000 eV	Th
hν + **Nb**	Photoionization	100-5000 eV	Th
hν + **Mo**	Photoionization	100-5000 eV	Th
hν + **Tc**	Photoionization	100-5000 eV	Th
hν + **Ru**	Photoionization	100-5000 eV	Th
hν + **Rh**	Photoionization	100-5000 eV	Th
hν + **Pd**	Photoionization	100-5000 eV	Th
hν + **Ag**	Photoionization	100-5000 eV	Th
hν + **Cd**	Photoionization	100-5000 eV	Th
hν + **In**	Photoionization	100-5000 eV	Th
hν + **Sn**	Photoionization	100-5000 eV	Th
hν + **Sb**	Photoionization	100-5000 eV	Th
hν + **Te**	Photoionization	100-5000 eV	Th
hν + **I**	Photoionization	100-5000 eV	Th
hν + **Xe**	Photoionization	100-5000 eV	Th

700. K. A. Berrington, S. Nakazaki
Radiative data for chlorine and its ions.
At. Data Nucl. Data Tables 82, 1 (2002)

hν + **Cl Z= ?-?**	Photoexcitation		Th
hν + **Cl**	Photoexcitation		Th
hν + $\mathbf{Cl}^{+-16+}$	Photoexcitation		Th

701. A. K. Bhatia, G. A. Doschek, W. Eissner
Atomic data and spectral line intensities for Fe XI.
At. Data Nucl. Data Tables 82, 211 (2002)

hν + $\mathbf{Fe}^{10+}$	Photoexcitation	1-75 Ry	Th

702. M. B. Trzhaskovskaya, V. I. Nefedov, V. G. Yarzhemsky
Photoelectron angular distribution parameters for elements Z-55 to Z-100 in the photoelectron energy range 100-5000 eV.
At. Data Nucl. Data Tables 82, 257 (2002)

hν + **Ne**	Photoionization	100-5000 eV	Th
hν + **Xe**	Photoionization	100-5000 eV	Th
hν + **Ba**	Photoionization	100-5000 eV	Th
hν + **La**	Photoionization	100-5000 eV	Th
hν + **Ce**	Photoionization	100-5000 eV	Th
hν + **Pr**	Photoionization	100-5000 eV	Th
hν + **Nd**	Photoionization	100-5000 eV	Th
hν + **Pm**	Photoionization	100-5000 eV	Th
hν + **Sm**	Photoionization	100-5000 eV	Th
hν + **Eu**	Photoionization	100-5000 eV	Th
hν + **Gd**	Photoionization	100-5000 eV	Th
hν + **Tb**	Photoionization	100-5000 eV	Th
hν + **Dy**	Photoionization	100-5000 eV	Th
hν + **Ho**	Photoionization	100-5000 eV	Th
hν + **Er**	Photoionization	100-5000 eV	Th

hν + Tm	Photoionization	100-5000 eV	Th
hν + Yb	Photoionization	100-5000 eV	Th
hν + Lu	Photoionization	100-5000 eV	Th
hν + Hf	Photoionization	100-5000 eV	Th
hν + Ta	Photoionization	100-5000 eV	Th
hν + W	Photoionization	100-5000 eV	Th
hν + Re	Photoionization	100-5000 eV	Th
hν + Os	Photoionization	100-5000 eV	Th
hν + Ir	Photoionization	100-5000 eV	Th
hν + Pt	Photoionization	100-5000 eV	Th
hν + Au	Photoionization	100-5000 eV	Th
hν + Hg	Photoionization	100-5000 eV	Th
hν + Tl	Photoionization	100-5000 eV	Th
hν + Pb	Photoionization	100-5000 eV	Th
hν + Bi	Photoionization	100-5000 eV	Th
hν + Po	Photoionization	100-5000 eV	Th
hν + At	Photoionization	100-5000 eV	Th
hν + Rn	Photoionization	100-5000 eV	Th
hν + Fr	Photoionization	100-5000 eV	Th
hν + Ra	Photoionization	100-5000 eV	Th
hν + Ac	Photoionization	100-5000 eV	Th
hν + Th	Photoionization	100-5000 eV	Th
hν + Pa	Photoionization	100-5000 eV	Th
hν + U	Photoionization	100-5000 eV	Th
hν + Pu	Photoionization	100-5000 eV	Th
hν + Am	Photoionization	100-5000 eV	Th
hν + Cm	Photoionization	100-5000 eV	Th
hν + Bk	Photoionization	100-5000 eV	Th
hν + Cf	Photoionization	100-5000 eV	Th
hν + Es	Photoionization	100-5000 eV	Th
hν + Fm	Photoionization	100-5000 eV	Th

703. H. L. Zhang, D. H. Sampson
Relativistic distorted-wave collision strengths and oscillator strengths for the 45Δ=0 transitions with n=2 in the 79 O-like ions with 14¡Z¡92.
At. Data Nucl. Data Tables 82, 357 (2002)

hν + Si^{6+}	Photoexcitation	0-10,000 Ry	Th
hν + P^{7+}	Photoexcitation	0-10,000 Ry	Th
hν + S^{8+}	Photoexcitation	0-10,000 Ry	Th
hν + Cl^{9+}	Photoexcitation	0-10,000 Ry	Th
hν + Ar^{10+}	Photoexcitation	0-10,000 Ry	Th
hν + K^{11+}	Photoexcitation	0-10,000 Ry	Th
hν + Ca^{12+}	Photoexcitation	0-10,000 Ry	Th
hν + Sc^{13+}	Photoexcitation	0-10,000 Ry	Th
hν + Ti^{14+}	Photoexcitation	0-10,000 Ry	Th
hν + V^{15+}	Photoexcitation	0-10,000 Ry	Th
hν + Cr^{16+}	Photoexcitation	0-10,000 Ry	Th
hν + Mn^{17+}	Photoexcitation	0-10,000 Ry	Th
hν + Fe^{18+}	Photoexcitation	0-10,000 Ry	Th
hν + Co^{19+}	Photoexcitation	0-10,000 Ry	Th
hν + Ni^{20+}	Photoexcitation	0-10,000 Ry	Th
hν + Cu^{21+}	Photoexcitation	0-10,000 Ry	Th
hν + Zn^{22+}	Photoexcitation	0-10,000 Ry	Th
hν + Ga^{23+}	Photoexcitation	0-10,000 Ry	Th
hν + Ge^{24+}	Photoexcitation	0-10,000 Ry	Th
hν + As^{25+}	Photoexcitation	0-10,000 Ry	Th

hν + **Se**$^{26+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Br**$^{27+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Kr**$^{28+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Rb**$^{29+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Sr**$^{30+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Y**$^{31+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Zr**$^{32+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Nb**$^{33+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Mo**$^{34+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Tc**$^{35+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Ru**$^{36+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Rh**$^{37+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Pd**$^{38+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Ag**$^{39+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Cd**$^{40+}$	Photoexcitation	0-10,000 Ry	Th
hν + **In**$^{41+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Sn**$^{42+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Sb**$^{43+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Te**$^{44+}$	Photoexcitation	0-10,000 Ry	Th
hν + **I**$^{45+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Xe**$^{46+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Cs**$^{47+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Ba**$^{48+}$	Photoexcitation	0-10,000 Ry	Th
hν + **La**$^{49+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Ce**$^{50+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Pr**$^{51+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Nd**$^{52+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Pm**$^{53+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Sm**$^{54+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Eu**$^{55+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Gd**$^{56+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Tb**$^{57+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Dy**$^{58+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Ho**$^{59+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Er**$^{60+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Tm**$^{61+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Yb**$^{62+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Lu**$^{63+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Hf**$^{64+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Ta**$^{65+}$	Photoexcitation	0-10,000 Ry	Th
hν + **W**$^{66+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Re**$^{67+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Os**$^{68+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Ir**$^{69+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Pt**$^{70+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Au**$^{71+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Hg**$^{72+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Tl**$^{73+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Pb**$^{74+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Bi**$^{75+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Po**$^{76+}$	Photoexcitation	0-10,000 Ry	Th
hν + **At**$^{77+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Rn**$^{78+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Fr**$^{79+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Ra**$^{80+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Ac**$^{81+}$	Photoexcitation	0-10,000 Ry	Th
hν + **Th**$^{82+}$	Photoexcitation	0-10,000 Ry	Th

hν + **Pa**$^{81+}$	Photoexcitation	0-10,000 Ry	Th
hν + **U**$^{82+}$	Photoexcitation	0-10,000 Ry	Th

704. A. K. Bhatia, E. Landi, H. E. Mason
Atomic data and spectral line intensities for Ni XXI.
At. Data Nucl. Data Tables 83, 71 (2003)

hν + **Ni**$^{20+}$	Photoexcitation	85-425 Ry	Th

705. A. K. Bhatia, R. J. Thomas, E. Landi
Atomic data and spectral line intensities for Ne III.
At. Data Nucl. Data Tables 83, 113 (2003)

hν + **Ne**$^{2+}$	Photoexcitation	5-45 Ry	Th

706. U. I. Safronova, M. Sataka, J. R. Albritton, W. R. Johnson, M. S. Safronova
Relativistic many-body calculations of electric-dipole lifetimes, transition rates, and oscillator strengths for n=3 states in Al-like ions.
At. Data Nucl. Data Tables 84, 1 (2003)

hν + **P**$^{2+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **S**$^{3+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Cl**$^{4+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ar**$^{5+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **K**$^{6+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ca**$^{7+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Sc**$^{8+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ti**$^{9+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **V**$^{10+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Cr**$^{11+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Mn**$^{12+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Fe**$^{13+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Co**$^{14+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ni**$^{15+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Cu**$^{16+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Zn**$^{17+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ga**$^{18+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ge**$^{19+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **As**$^{20+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Se**$^{21+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Br**$^{22+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Kr**$^{23+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Rb**$^{24+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Sr**$^{25+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Y**$^{26+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Zr**$^{27+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Nb**$^{28+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Mo**$^{29+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Tc**$^{30+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ru**$^{31+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Rh**$^{32+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Pd**$^{33+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ag**$^{34+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Cd**$^{35+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **In**$^{36+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Sn**$^{37+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Sb**$^{38+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th

hν + **Te**$^{39+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **I**$^{40+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Xe**$^{41+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Cs**$^{42+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ba**$^{43+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **La**$^{44+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ce**$^{45+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Pr**$^{46+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Nd**$^{47+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Pm**$^{48+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Sm**$^{49+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Eu**$^{50+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Gd**$^{51+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Tb**$^{52+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Dy**$^{53+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ho**$^{54+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Er**$^{55+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Tm**$^{56+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Yb**$^{57+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Lu**$^{58+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Hf**$^{59+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ta**$^{60+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **W**$^{61+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Re**$^{62+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Os**$^{63+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ir**$^{64+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Pt**$^{65+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Au**$^{66+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Hg**$^{67+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Tl**$^{68+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Pb**$^{69+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Bi**$^{70+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Po**$^{71+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **At**$^{72+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Rn**$^{73+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Fr**$^{74+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ra**$^{75+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Ac**$^{76+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Th**$^{77+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Pa**$^{78+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **U**$^{79+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Np**$^{80+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Pu**$^{81+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Am**$^{82+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Cm**$^{83+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Bk**$^{84+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Cf**$^{85+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Es**$^{86+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + **Fm**$^{87+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th

707. Neerja, G. P. Gupta, A. N. Tripathi, A. Z. Msezane
Energy levels, oscillator strengths, and transition probabilities for fine-structure transitions in Mg-like chlorine.
At. Data Nucl. Data Tables 84, 85 (2003)

hν + **Cl**$^{5+}$	Photoexcitation	ned	Th

708. A. K. Bhatia, G. A. Doschek
Atomic data and spectral line intensities for Fe XVII.
At. Data Nucl. Data Tables 85, 1 (2003)

hν + $\mathbf{Fe}^{16+}$	Photoexcitation	58.5-425 Ry	Th

709. A. K. Bhatia, E. Landi
Atomic data and spectral line intensities for S IX.
At. Data Nucl. Data Tables 85, 169 (2003)

hν + $\mathbf{S}^{8+}$	Photoexcitation	25-125 Ry	Th

710. A. K. Bhatia, E. Landi
Atomic data and spectral line intensities for Si VIII.
At. Data Nucl. Data Tables 85, 317 (2003)

hν + $\mathbf{Si}^{7+}$	Photoexcitation	20-80 Ry	Th

711. G. Correge, A. Hibbert
Transitions in C II, N III, and O IV.
At. Data Nucl. Data Tables 86, 19 (2004)

hν + $\mathbf{C}^{+}$	Photoexcitation	0-10	Th
hν + $\mathbf{C}^{3+}$	Photoexcitation	0-10	Th
hν + $\mathbf{N}^{2+}$	Photoexcitation	0-10	Th

712. G. Liang, G. Dong, J. Zeng
Atomic data and spectral line intensities for Ar XIII.
At. Data Nucl. Data Tables 88, 83 (2004)

hν + $\mathbf{Ar}^{12+}$	Photoexcitation	$10^5 - 10^7$ K	Th

713. G. P. Gupta, A. Z. Msezane
Large scale CIV3 calculations of fine-structure energy levels, oscillator strengths, and lifetimes in Fe XIV and Ni XVI.
At. Data Nucl. Data Tables 89, 1 (2005)

hν + $\mathbf{Fe}^{13+}$	Photoexcitation	$10^{-9} - 10^0$	Th
hν + $\mathbf{Ni}^{15+}$	Photoexcitation	$10^{-9} - 10^0$	Th

714. R. Karpuskiene, P. Bogdanovich, A. Udris
Ab initio oscillator strengths and transition probabilities of transitions from $2s^22p^23l$ and $2s2p^33l$ in S X.
At. Data Nucl. Data Tables 89, 45 (2005)

hν + $\mathbf{S}^{9+}$	Photoexcitation	$10^{-5} - 10^0$	Th

715. J. Y. Zhong, J. Zhang, J. L. Zeng, G. Zhao, M. F. Gu
Energy levels, transition probabilities, and electron impact excitations for possible X-ray line emissions of Ni-like tantalum ions.
At. Data Nucl. Data Tables 89, 101 (2005)

hν + $\mathbf{Ta}^{45+}$	Photoexcitation	4-600 Ry	Th

716. W. Eissner, E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ar XII.
At. Data Nucl. Data Tables 89, 139 (2005)

hν + Ar^{11+}	Photoexcitation	35-175 Ry	Th

717. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ne III.
At. Data Nucl. Data Tables 89, 195 (2005)

hν + Ne^{2+}	Photoexcitation	5.2-25 Ry	Th

718. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ca XIV.
At. Data Nucl. Data Tables 90, 177 (2005)

hν + Ca^{13+}	Photoexcitation	45-255 Ry	Th

719. J. Zeng, J. Zhong, G. Zhao, J. Yuan
Electron impact collision strengths and oscillator strengths for Ni-like Nd, Sm, Eu, Gd, Ta, and W ions.
At. Data Nucl. Data Tables 90, 259 (2005)

hν + Nd^{32+}	Photoexcitation	5-20,000 eV	Th
hν + Sm^{34+}	Photoexcitation	5-20,000 eV	Th
hν + Eu^{35+}	Photoexcitation	5-20,000 eV	Th
hν + Gd^{36+}	Photoexcitation	5-20,000 eV	Th
hν + Ta^{45+}	Photoexcitation	5-20,000 eV	Th
hν + W^{46+}	Photoexcitation	5-20,000 eV	Th

720. A. K. Bhatia, E. Landi, W. Eissner
Atomic data and spectral line intensities for Mg V.
At. Data Nucl. Data Tables 92, 105 (2006)

hν + Mg^{4+}	Photoexcitation	10-50 Ry	Th

721. F. Wang, B. Gou
Relativistic energy, fine structure, and hyperfine-structure studies of the high-lying core-excited states $^5P(n)$ (n = 1-3) and $^5S^o(m)$ (m = 1-3) for the Be-like isoelectronic sequence.
At. Data Nucl. Data Tables 92, 176 (2006)

hν + N^{3+}	Photoexcitation	$10^{-2} - 10^{-1}$	Th
hν + O^{4+}	Photoexcitation	$10^{-2} - 10^{-1}$	Th
hν + F^{5+}	Photoexcitation	$10^{-2} - 10^{-1}$	Th
hν + Ne^{6+}	Photoexcitation	$10^{-2} - 10^{-1}$	Th

722. W. O. Younis, S. H. Allam, Th. M. El-Sherbini
Fine-structure calculations of energy levels, oscillator strengths, and transition probabilities for sodium-like ions (Co XVII-Kr XXVI).
At. Data Nucl. Data Tables 92, 187 (2006)

hν + Co^{16+}	Photoexcitation	$10^{-3} - 10^{0}$	Th
hν + Ni^{17+}	Photoexcitation	$10^{-3} - 10^{0}$	Th
hν + Cu^{18+}	Photoexcitation	$10^{-3} - 10^{0}$	Th
hν + Zn^{19+}	Photoexcitation	$10^{-3} - 10^{0}$	Th
hν + Ga^{20+}	Photoexcitation	$10^{-3} - 10^{0}$	Th
hν + Ge^{21+}	Photoexcitation	$10^{-3} - 10^{0}$	Th
hν + As^{22+}	Photoexcitation	$10^{-3} - 10^{0}$	Th
hν + Se^{23+}	Photoexcitation	$10^{-3} - 10^{0}$	Th
hν + Br^{24+}	Photoexcitation	$10^{-3} - 10^{0}$	Th
hν + Kr^{25+}	Photoexcitation	$10^{-3} - 10^{0}$	Th

723. M. B. Trzhaskovskaya, V. K. Nikulin, V. I. Nefedov, V. G. Yarzhemsky
Non-dipole second order parameters of the photoelectron angular distribution for elements Z = 1-100 in the photoelectron energy range 1-10 keV.
At. Data Nucl. Data Tables 92, 245 (2006)

hν + H	Photoionization	1-10 keV	Th
hν + He	Photoionization	1-10 keV	Th
hν + Li	Photoionization	1-10 keV	Th
hν + Be	Photoionization	1-10 keV	Th
hν + B	Photoionization	1-10 keV	Th
hν + C	Photoionization	1-10 keV	Th
hν + N	Photoionization	1-10 keV	Th
hν + O	Photoionization	1-10 keV	Th
hν + F	Photoionization	1-10 keV	Th
hν + Ne	Photoionization	1-10 keV	Th
hν + Na	Photoionization	1-10 keV	Th
hν + Mg	Photoionization	1-10 keV	Th
hν + Al	Photoionization	1-10 keV	Th
hν + Si	Photoionization	1-10 keV	Th
hν + P	Photoionization	1-10 keV	Th
hν + S	Photoionization	1-10 keV	Th
hν + Cl	Photoionization	1-10 keV	Th
hν + Ar	Photoionization	1-10 keV	Th
hν + K	Photoionization	1-10 keV	Th
hν + Ca	Photoionization	1-10 keV	Th
hν + Sc	Photoionization	1-10 keV	Th
hν + Ti	Photoionization	1-10 keV	Th
hν + V	Photoionization	1-10 keV	Th
hν + Cr	Photoionization	1-10 keV	Th
hν + Mn	Photoionization	1-10 keV	Th
hν + Fe	Photoionization	1-10 keV	Th
hν + Co	Photoionization	1-10 keV	Th
hν + Ni	Photoionization	1-10 keV	Th
hν + Cu	Photoionization	1-10 keV	Th
hν + Zn	Photoionization	1-10 keV	Th
hν + Ga	Photoionization	1-10 keV	Th
hν + Ge	Photoionization	1-10 keV	Th
hν + As	Photoionization	1-10 keV	Th
hν + Se	Photoionization	1-10 keV	Th
hν + Br	Photoionization	1-10 keV	Th
hν + Kr	Photoionization	1-10 keV	Th
hν + Rb	Photoionization	1-10 keV	Th
hν + Sr	Photoionization	1-10 keV	Th
hν + Y	Photoionization	1-10 keV	Th
hν + Zr	Photoionization	1-10 keV	Th
hν + Nb	Photoionization	1-10 keV	Th
hν + Mo	Photoionization	1-10 keV	Th
hν + Tc	Photoionization	1-10 keV	Th
hν + Ru	Photoionization	1-10 keV	Th
hν + Rh	Photoionization	1-10 keV	Th
hν + Pd	Photoionization	1-10 keV	Th
hν + Ag	Photoionization	1-10 keV	Th
hν + Cd	Photoionization	1-10 keV	Th
hν + In	Photoionization	1-10 keV	Th
hν + Sn	Photoionization	1-10 keV	Th
hν + Sb	Photoionization	1-10 keV	Th
hν + Te	Photoionization	1-10 keV	Th

hν + I	Photoionization	1-10 keV	Th
hν + Xe	Photoionization	1-10 keV	Th
hν + Cs	Photoionization	1-10 keV	Th
hν + Ba	Photoionization	1-10 keV	Th
hν + La	Photoionization	1-10 keV	Th
hν + Ce	Photoionization	1-10 keV	Th
hν + Pr	Photoionization	1-10 keV	Th
hν + Nd	Photoionization	1-10 keV	Th
hν + Pm	Photoionization	1-10 keV	Th
hν + Sm	Photoionization	1-10 keV	Th
hν + Eu	Photoionization	1-10 keV	Th
hν + Gd	Photoionization	1-10 keV	Th
hν + Tb	Photoionization	1-10 keV	Th
hν + Dy	Photoionization	1-10 keV	Th
hν + Ho	Photoionization	1-10 keV	Th
hν + Er	Photoionization	1-10 keV	Th
hν + Tm	Photoionization	1-10 keV	Th
hν + Yb	Photoionization	1-10 keV	Th
hν + Lu	Photoionization	1-10 keV	Th
hν + Hf	Photoionization	1-10 keV	Th
hν + Ta	Photoionization	1-10 keV	Th
hν + W	Photoionization	1-10 keV	Th
hν + Re	Photoionization	1-10 keV	Th
hν + Os	Photoionization	1-10 keV	Th
hν + Ir	Photoionization	1-10 keV	Th
hν + Pt	Photoionization	1-10 keV	Th
hν + Au	Photoionization	1-10 keV	Th
hν + Hg	Photoionization	1-10 keV	Th
hν + Tl	Photoionization	1-10 keV	Th
hν + Pb	Photoionization	1-10 keV	Th
hν + Bi	Photoionization	1-10 keV	Th
hν + Po	Photoionization	1-10 keV	Th
hν + At	Photoionization	1-10 keV	Th
hν + Rn	Photoionization	1-10 keV	Th
hν + Fr	Photoionization	1-10 keV	Th
hν + Ra	Photoionization	1-10 keV	Th
hν + Ac	Photoionization	1-10 keV	Th
hν + Pa	Photoionization	1-10 keV	Th
hν + U	Photoionization	1-10 keV	Th
hν + Np	Photoionization	1-10 keV	Th
hν + Pu	Photoionization	1-10 keV	Th
hν + Am	Photoionization	1-10 keV	Th
hν + Cm	Photoionization	1-10 keV	Th
hν + Bk	Photoionization	1-10 keV	Th
hν + Cf	Photoionization	1-10 keV	Th
hν + Es	Photoionization	1-10 keV	Th
hν + Fm	Photoionization	1-10 keV	Th

724. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ar XI.
At. Data Nucl. Data Tables 92, 305 (2006)

hν + Ar^{10+}	Photoexcitation	30-150 Ry	Th

725. J. Y. Zhong, G. Zhao, J. Zhang
Energy levels, transition probabilities, and electron impact excitations for La XXX.
At. Data Nucl. Data Tables 92, 481 (2006)

hν + La^{29+}	Photoexcitation	10-10,000 eV	Th

726. C. F. Fischer, G. Tachiev, A. Irimia
Relativistic energy levels, lifetimes, and transition probabilities for the sodium-like to argon-like sequences.
At. Data Nucl. Data Tables 92, 607 (2006)

hν + Na	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Mg	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Mg^{+}	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Al	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Al^{+}	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Al^{2+}	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Si	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Si^{+}	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Si^{2+}	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Si^{3+}	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + P	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + P$^{+–4+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + S	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + S$^{+–5+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Cl	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Cl$^{+–6+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Ar	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Ar$^{+–7+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + K$^{+–8+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Ca$^{2+–9+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Sc$^{3+–10+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Ti$^{4+–11+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + V$^{5+–12+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Cr$^{6+–13+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Mn$^{7+–14+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th
hν + Fe$^{8+–15+}$	Photoexcitation	$10^{-4} - 10^{0}$	Th

727. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Mg VI.
At. Data Nucl. Data Tables 93, 1 (2007)

hν + Mg^{5+}	Photoexcitation	12-60 Ry	Th

728. M. Mohan, A. K. Singh, A.K.S. Jha, P. Jha
Level energies, oscillator strengths, and lifetimes for transitions in Ti VI.
At. Data Nucl. Data Tables 93, 105 (2007)

hν + Ti^{5+}	Photoexcitation	$10^{-3} - 10^{0}$	Th

729. S. Kahane
Incoherent scattering cross sections for some ions of solar abundance.
At. Data Nucl. Data Tables 93, 183 (2007)

hν + He	Elastic Scattering	1-20,000 keV	Th
hν + He^{+}	Elastic Scattering	1-20,000 keV	Th
hν + C	Elastic Scattering	1-20,000 keV	Th
hν + C$^{+–5+}$	Elastic Scattering	1-20,000 keV	Th
hν + N	Elastic Scattering	1-20,000 keV	Th
hν + N$^{+–5+}$	Elastic Scattering	1-20,000 keV	Th
hν + O	Elastic Scattering	1-20,000 keV	Th

hν + O^{+-7+}	Elastic Scattering	1-20,000 keV	Th
hν + Ne	Elastic Scattering	1-20,000 keV	Th
hν + Ne^{+-9+}	Elastic Scattering	1-20,000 keV	Th
hν + Mg	Elastic Scattering	1-20,000 keV	Th
hν + Mg^{+-10+}	Elastic Scattering	1-20,000 keV	Th
hν + Si	Elastic Scattering	1-20,000 keV	Th
hν + Si^{+-10+}	Elastic Scattering	1-20,000 keV	Th
hν + S	Elastic Scattering	1-20,000 keV	Th
hν + S^{+-10+}	Elastic Scattering	1-20,000 keV	Th
hν + Ar	Elastic Scattering	1-20,000 keV	Th
hν + Ar^{+-10+}	Elastic Scattering	1-20,000 keV	Th
hν + Fe	Elastic Scattering	1-20,000 keV	Th
hν + Fe^{+-10+}	Elastic Scattering	1-20,000 keV	Th

730. J. Zeng, G. Zhao, J. Yuan
Electron impact collision strengths and oscillator strengths for Ge-, Ga-, Zn-, Cu-, Ni-, and Co-like Au ions.
At. Data Nucl. Data Tables 93, 199 (2007)

hν + Au$^{47+-52+}$	Photoexcitation	5-40,000 eV	Th

731. A. K. Bhatia, E. Landi
Atomic data and spectral line intensities for Si XI.
At. Data Nucl. Data Tables 93, 275 (2007)

hν + Si^{10+}	Photoexcitation	35-175 Ry	Th

732. N. C. Deb, A. Hibbert
Breit-Pauli energy levels belonging to $2p^4$, $2s2p^5$, $2p^6$, $2p^3 3\ell$ configurations and all E1 transitions among these levels in Mg V.
At. Data Nucl. Data Tables 93, 585 (2007)

hν + Mg^{4+}	Photoexcitation	$10^{-7} - 10^{0}$	Th

733. K. M. Aggarwal, V. Tayal, G. P. Gupta, F. P. Keenan
Energy levels and radiative rates for transitions in Mg-like iron, cobalt and nickel.
At. Data Nucl. Data Tables 93, 615 (2007)

hν + Fe^{14+}	Photoexcitation	$10^{-15} - 10^{0}$	Th
hν + Co^{15+}	Photoexcitation	$10^{-15} - 10^{0}$	Th
hν + Ni^{16+}	Photoexcitation	$10^{-15} - 10^{0}$	Th

734. A. K. Bhatia, E. Landi
Atomic data and spectral line intensities for Mg IX.
At. Data Nucl. Data Tables 93, 742 (2007)

hν + Mg^{8+}	Photoexcitation	25-125 Ry	Th

3.2.2 Electron Collisions

735. S. Fritzsche, A. Surzhykov, T. Stoehlker
Radiative recombination into high-Z few-electron ions: Cross sections and angular distributions.
Phys. Rev. A 72, 012704 (2005)

e + U^{89+}	Angular Scattering	2.18-218 MeV/u	Th
e + U^{91+}	Angular Scattering	2.18-218 MeV/u	Th
e + U^{89+}	Recombination	2.18-218 MeV/u	Th
e + U^{91+}	Recombination	2.18-218 MeV/u	Th

736. D. V. Fursa, I. Bray, R. Panajotovic, D. Sevic, V. Pejcev, D. M. Filipovic, B. P. Marinkovic
Excitations of ^1P levels of zinc by electron impact on the ground state.
Phys. Rev. A 72, 012706 (2005)

e + Zn	Angular Scattering	15-60 eV	E/T
e + Zn	Excitation	15-60 eV	E/T

737. H. B. Pedersen, H. Buhr, S. Altevogt, V. Andrianarijaona, H. Kreckel, L. Lammich, N. de Ruette, E. M. Staicu-Casagrande, D. Schwalm, D. Strasser, X. Urbain, D. Zajfman, A. Wolf
Dissociative recombination and low-energy inelastic electron collisions of the helium dimer ion.
Phys. Rev. A 72, 012712 (2005)

e + He_2^+	Dissociation	$10^{-4} - 50$ eV	Exp
e + He_2^+	Recombination	$10^{-4} - 50$ eV	Exp
e + He_2^+	Excitation	$10^{-4} - 50$ eV	Exp

738. H.-D. Cheng, L.-F. Zhu, Z.-S. Yuan, X.-J. Liu, J.-M. Sun, W.-C. Jiang, K.-Z. Xu
Generalized oscillator strengths for the valence-shell excitations of neon.
Phys. Rev. A 72, 012715 (2005)

e + Ne	Excitation	2500 eV	E/T

739. M. S. Pindzola, F. Robicheaux, J. A. Ludlow, J. Colgan, D. C. Griffin
Electron-impact excitation and ionization of H_2^+ using a configuration-average distorted-wave method.
Phys. Rev. A 72, 012716 (2005)

e + H_2^+	Excitation	10-250 eV	Th
e + H_2^+	Ionization	10-250 eV	Th

740. M.H.F. Bettega, M.A.P. Lima, L. G. Ferreira
Addendum to "Elastic scattering of low-energy electrons by OCS".
Phys. Rev. A 72, 014702 (2005)

e + OCS	Elastic Scattering	0-2 eV	Th

741. J. Gao, D. H. Madison, J. L. Peacher
Fully differential cross sections for low-energy electron-impact ionization of nitrogen molecules.
Phys. Rev. A 72, 020701 (2005)

e + N_2	Ionization	35.6-400 eV	Th

742. O. I. Zatsarinny, K. Bartschat
Benchmark calculations for electron collisions with Fe^+.
Phys. Rev. A 72, 020702 (2005)

e + Fe^+	Excitation	0-10 Ry	Th

743. V. Kokoouline, C. H. Greene
Theoretical study of dissociative recombination of $C_{2n}u$ triatomic ions: Application to H_2D^+ and D_2H^+.
Phys. Rev. A 72, 022712 (2005)

e + H_3^+	Dissociation	$10^{-3} - 10$ eV	Th
e + H_2D^+	Dissociation	$10^{-3} - 10$ eV	Th
e + HD_2^+	Dissociation	$10^{-3} - 10$ eV	Th
e + H_3^+	Recombination	$10^{-3} - 10$ eV	Th
e + H_2D^+	Recombination	$10^{-3} - 10$ eV	Th
e + HD_2^+	Recombination	$10^{-3} - 10$ eV	Th

744. J. Royal, A. E. Orel
Dissociative recombination of $He_2{}^+$.
Phys. Rev. A 72, 022719 (2005)

e + $He_2{}^{2+}$	Dissociation	1-15 eV	Th
e + $He_2{}^{2+}$	Recombination	1-15 eV	Th

745. R. O. Jung, J. B. Boffard, L. W. Anderson, C. C. Lin
Electron-impact excitation cross sections from the xenon J=2 metastable level.
Phys. Rev. A 72, 022723 (2005)

e + Xe	Excitation	0.5-10 eV	Exp

746. J. N. Das, S. Paul, K. Chakrabarti
Ionization of hydrogen atoms by electron impact at 1, 0.5, and 0.3 eV above threshold.
Phys. Rev. A 72, 022725 (2005)

e + H	Ionization	15 eV	Th

747. K. Bartschat, O. Vorov
Channel-coupling, target-structure, and second-order effects in electron-impact ionization of Ar(3p) and Ar(3s).
Phys. Rev. A 72, 022728 (2005)

e + Ar	Ionization	113.5-200 eV	Th

748. S. E. Michelin, O. Pessoa, H. L. Oliveira, E. Veiteinheimer, A.M.S. Santos, M. M. Fujimoto, I. Iga, M.-T. Lee
Inner-shell excitation of acetylene by electron impact.
Phys. Rev. A 72, 022730 (2005)

e + C_2H_2	Excitation	300-800 eV	Th

749. S.W.J. Scully, V. Senthil, J. A. Wyer, M. B. Shah, E. C. Montenegro, M. Kimura, H. Tawara
Direct evidence of a strong isomer effect in electron-impact double ionization of C_3H_4.
Phys. Rev. A 72, 030701 (2005)

e + C_3H_4	Ionization	25-1000 eV	Exp

750. A. Larson, A. E. Orel
Wave-packet study of the products formed in dissociative recombination of HeH^+.
Phys. Rev. A 72, 032701 (2005)

e + HeH^+	Dissociation	0-2 eV	Th
e + HeH^+	Recombination	0-2 eV	Th

751. A. Prideaux, D. H. Madison, K. Bartschat
Exchange distortion and postcollision interaction for intermediate-energy electron-impact ionization of argon.
Phys. Rev. A 72, 032702 (2005)

e + Ar	Angular Scattering	113.5-200 eV	Th
e + Ar	Ionization	113.5-200 eV	Th

752. N. Watanabe, Y. Khajuria, M. Takahashi, Y. Udagawa, P. S. Vinitsky, Yu. V. Popov, O. Chuluunbaatar, K. A. Kouzakov
(e,2e) and (e,3-1e) studies on double processes of He at large momentum transfer.
Phys. Rev. A 72, 032705 (2005)

e + He	Ionization	2080 eV	E/T

753. M. Barbatti, A. B. Rocha, C. E. Bielschowsky
Young-type interference pattern in molecular inner-shell excitations by electron impact.
Phys. Rev. A 72, 032711 (2005)

e + $\mathbf{CO_2}$	Excitation	250-500 eV	Th
e + $\mathbf{C_4H_6}$	Excitation	250-500 eV	Th

754. S. D. Loch, J. A. Ludlow, M. S. Pindzola, F. Scheuermann, K. Kramer, B. Fabian, K. Huber, E. Salzborn
Electron-impact ionization of Pb^{q+} ions for q=1-10.
Phys. Rev. A 72, 032713 (2005)

e + $\mathbf{Pb^{+-10+}}$	Ionization	0-1000 eV	E/T

755. M. A. Uddin, A.K.F. Haque, A. K. Basak, K. R. Karim, B. C. Saha
Electron-impact ionization of hydrogen and lithiumlike systems.
Phys. Rev. A 72, 032713 (2005)

e + H	Ionization	10-10,000 eV	Th
e + $\mathbf{He^{+}}$	Ionization	10-10,000 eV	Th
e + Li	Ionization	10-10,000 eV	Th
e + $\mathbf{C^{5+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{N^{4+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{N^{6+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{O^{5+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{O^{7+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Ne^{8+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Ti^{19+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{V^{20+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Cr^{21+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Mn^{22+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Fe^{23+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Mo^{41+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Dy^{65+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{U^{89+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{U^{90+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{U^{91+}}$	Ionization	10-10,000 eV	Th

756. J. Gao, D. H. Madison, J. L. Peacher
Interference effects for low-energy electron-impact ionization of nitrogen molecules.
Phys. Rev. A 72, 032721 (2005)

e + $\mathbf{N_2}$	Angular Scattering	75.6 eV	Th
e + $\mathbf{N_2}$	Ionization	75.6 eV	Th

757. J. A. Ludlow, S. D. Loch, M. S. Pindzola
Electron-impact ionization of Mo^{+}.
Phys. Rev. A 72, 032729 (2005)

e + $\mathbf{Mo^{+}}$	Ionization	15-150 eV	Th

758. K. M. Dunseath, M. Terao-Dunseath, G. Bourhis
Selection rules for laser-assisted electron-atom collisions with the laser field normal to the scattering plane.
Phys. Rev. A 72, 033410 (2005)

e + He	Elastic Scattering	4-22 eV	Th
e + He	Angular Scattering	4-22 eV	Th

759. L. U. Ancarani, P.-A. Hervieux
Scaling law for total electron-impact ionization cross sections of Li-like ions.
Phys. Rev. A 72, 034701 (2005)

e + Be^{+}	Ionization	0-200 eV	E/T
e + B^{2+}	Ionization	0-200 eV	E/T
e + C^{3+}	Ionization	0-200 eV	E/T
e + N^{4+}	Ionization	0-200 eV	E/T
e + O^{5+}	Ionization	0-200 eV	E/T
e + F^{6+}	Ionization	0-200 eV	E/T
e + Ne^{7+}	Ionization	0-200 eV	E/T
e + Na^{8+}	Ionization	0-200 eV	E/T
e + Mg^{9+}	Ionization	0-200 eV	E/T
e + Al^{10+}	Ionization	0-200 eV	E/T

760. F. Fremont, C. Leclercq, A. Hajaji, A. Naja, P. Lemennais, S. Boulbain, V. Broquin, J.-Y. Chesnel
Fragment emission following multiple ionization in 20-200-eV $e^- + H_2O$ collisions.
Phys. Rev. A 72, 042702 (2005)

e + H_2O	Dissociation	20-200 eV	Exp
e + H_2O	Ionization	20-200 eV	Exp

761. O. Sueoka, C. Makochekanwa, H. Tanino, M. Kimura
Total cross-section measurements for positrons and electrons colliding with alkane molecules: Normal hexane and cyclohexane.
Phys. Rev. A 72, 042705 (2005)

e + C_6H_{14}	Elastic Scattering	0.4-1000 eV	Exp
e + C_6H_{12}	Elastic Scattering	0.4-1000 eV	Exp
e + C_6H_{14}	Excitation	0.4-1000 eV	Exp
e + C_6H_{12}	Excitation	0.4-1000 eV	Exp
e + C_6H_{14}	Ionization	0.4-1000 eV	Exp
e + C_6H_{12}	Ionization	0.4-1000 eV	Exp

762. J. Zeng, J. Wu, F. Jin, G. Zhao, J. Yuan
Cross sections for electron-impact excitation of krypton from the levels of $4p^6$, $4p^5 5s$, and $4p^5 5p$ configurations.
Phys. Rev. A 72, 042707 (2005)

e + Kr	Elastic Scattering	1.5-30 eV	Th
e + Kr^*	Elastic Scattering	1.5-30 eV	Th
e + Kr	Excitation	1.5-30 eV	Th
e + Kr^*	Excitation	1.5-30 eV	Th

763. G. F. Collins, D. J. Pegg, K. Fritioff, J. Sandstroem, D. Hanstorp, R. D. Thomas, F. Hellberg, A. Ehlerding, M. Larsson, F. Osterdahl, A. Kaellberg, H. Danared
Electron-impact fragmentation of $Cl_2{}^-$.
Phys. Rev. A 72, 042708 (2005)

e + Cl_2^-	Dissociation	0-200 eV	Exp
e + Cl_2^-	Detachment	0-200 eV	Exp

764. X. G. Ren, C. G. Ning, J. K. Deng, G. L. Su, S. F. Zhang, Y. R. Huang, G. Q. Li
Ionization excitation of helium by the (e,2e) reaction.
Phys. Rev. A 72, 042718 (2005)

e + He	Excitation	1000-1600 eV	Exp
e + He	Ionization	1000-1600 eV	Exp

765. C. Winstead, V. McKoy, M.H.F. Bettega
Elastic electron scattering by ethylene, C_2H_4.
Phys. Rev. A 72, 042721 (2005)

e + C_2H_4	Elastic Scattering	0.5-20 eV	Th
e + C_2H_4	Angular Scattering	0.5-20 eV	Th
e + C_2H_4	Total Scattering	0.5-20 eV	Th

766. S. Mondal, R. Shanker
Differential cross-section measurements of multiply charged xenon ions produced in 10-28-keV $e^- - Xe$ collisions.
Phys. Rev. A 72, 052705 (2005)

e + Xe	Ionization	10-28 keV	Exp

767. S. D. Loch, J. A. Ludlow, M. S. Pindzola, A. D. Whiteford, D. C. Griffin
Electron-impact ionization of atomic ions in the W isonuclear sequence.
Phys. Rev. A 72, 052716 (2005)

e + W^{+-73+}	Ionization	0-250 keV	Th

768. D. A. Erwin, J. A. Kunc
Electron-impact dissociation of the methane molecule into neutral fragments.
Phys. Rev. A 72, 052719 (2005)

e + CH_4	Dissociation	0-500 eV	Th

769. A. Chattopadhyay, C. Sinha
Ionization of a hydrogenic ion by electron and positron impact in the presence of a laser field.
Phys. Rev. A 72, 053406 (2005)

e + He^+	Ionization	200-500 eV	Th

770. C. Champion, J. Hanssen, P. A. Hervieux
Erratum: Influence of molecular orientation on the multiple differential cross sections for the (e,2e) process on a water molecule [Phys. Rev. A 63, 052720 (2001)].
Phys. Rev. A 72, 059906(E) (2005)

e + H_2O	Ionization	25 eV	Th

771. J. P. Marler, C. M. Surko
Systematic comparison of positron- and electron-impact excitation of the ν_3 vibrational mode of CF_4.
Phys. Rev. A 72, 062702 (2005)

e + CF_4	Excitation	0.1-2 eV	Exp

772. A. J. Murray
(e,2e) ionization studies of alkaline-earth-metal and alkali-earth-metal targets: Na, Mg, K, and Ca, from near threshold to beyond intermediate energies.
Phys. Rev. A 72, 062711 (2005)

e + Na	Angular Scattering	10-75 eV	Exp
e + Mg	Angular Scattering	10-75 eV	Exp
e + K	Angular Scattering	10-75 eV	Exp
e + Ca	Angular Scattering	10-75 eV	Exp
e + Na	Ionization	10-75 eV	Exp
e + Mg	Ionization	10-75 eV	Exp
e + K	Ionization	10-75 eV	Exp
e + Ca	Ionization	10-75 eV	Exp

773. E. Schow, K. Hazlett, J. G. Childers, C. Medina, G. Vitug, I. Bray, D. V. Fursa, M. A. Khakoo
Low-energy electron-impact ionization of helium.
Phys. Rev. A 72, 062717 (2005)

e + He	Angular Scattering	26.3-40.7 eV	Th
e + He	Ionization	26.3-40.7 eV	Th

774. C. S. Trevisan, A. E. Orel, T. N. Rescigno
Resonant electron-CF collision processes.
Phys. Rev. A 72, 062720 (2005)

e + CF	Attachment	0-2 eV	Th
e + CF	Dissociation	0-2 eV	Th
e + CF	Excitation	0-2 eV	Th

775. S. Mondal, R. Shanker
Coincidence electron spectroscopy of electron-impact multiple ionization of argon.
Phys. Rev. A 72, 062721 (2005)

e + Ar	Angular Scattering	12-24 keV	Exp
e + Ar	Ionization	12-24 keV	Exp

776. A. Zecca, C. Perazzolli, M. J. Brunger
Positron and electron scattering from tetrahydrofuran.
J. Phys. B 38, 2079 (2005)

e + $\mathbf{C_4H_8O}$	Elastic Scattering	2-21 eV	Exp

777. M.H.F. Bettega, M.A.P. Lima, L. G. Ferreira
Electron collisions with CS_2**.**
J. Phys. B 38, 2087 (2005)

e + $\mathbf{CS_2}$	Elastic Scattering	0-10 eV	Th
e + $\mathbf{CS_2}$	Angular Scattering	0-10 eV	Th

778. A. R. Milosavljevic, V. I. Kelemen, D. M. Filipovic, S. M. Kazakov, V. Pejcev, D. Sevic, B. P. Marinkovic
Elastic scattering of electrons by krypton in the energy range 20-260 eV.
J. Phys. B 38, 2195 (2005)

e + Kr	Elastic Scattering	20-260 eV	E/T
e + Kr	Angular Scattering	20-260 eV	E/T

779. I. Iga, P. Rawat, I. P. Sanches, M.-T. Lee, M.G.P. Homem
An experimental study on elastic electron-trifluoromethane (CHF_3) scattering in the low and intermediate energy ranges.
J. Phys. B 38, 2319 (2005)

e + CHF_3	Elastic Scattering	20-500 eV	Exp
e + CHF_3	Angular Scattering	20-500 eV	Exp

780. S. Milisavljevic, D. Sevic, R. K. Chauhan, V. Pejcev, D. M. Filipovic, R. Srivastava, B. P. Marinkovic
Differential and integrated cross sections for the elastic electron scattering by calcium atom.
J. Phys. B 38, 2371 (2005)

e + Ca	Elastic Scattering	10-100 eV	E/T

781. R. K. Chauhan, R. Srivastava, A. D. Stauffer
Electron impact excitation of the 4^1P_1 state of calcium.
J. Phys. B 38, 2385 (2005)

e + Ca	Excitation	10-100 eV	Th

782. R. J. Pelaez, C. Perez, V. R. Gonzalez, F. Rodriguez, J. A. Aparicio, S. Mar
Experimental measurements of shifts and asymmetries of He II P_α and P_β spectral lines.
J. Phys. B 38, 2505 (2005)

e + He^+	Line Broadening	1.75 eV	Exp
e + He^+	Fluorescence	1.75 eV	Exp

783. V. V. Serov, B. B. Joulakian, V. L. Derbov, S. I. Vinitsky
Ionization excitation of diatomic systems having two active electrons by fast electron impact: A probe to electron correlation.
J. Phys. B 38, 2765 (2005)

e + H_2	Excitation	4087 eV	Th
e + H_2	Ionization	4087 eV	Th

784. P. V. Johnson, P. W. Zetner
Electron impact coherence parameters for superelastic transitions terminating on the (6s6p $^1P_1$) level of the barium atom.
J. Phys. B 38, 2793 (2005)

e + Ba	Elastic Scattering	20 eV	Exp
e + Ba^*	Elastic Scattering	20 eV	Exp
e + Ba	Excitation	20 eV	Exp
e + Ba^*	Excitation	20 eV	Exp

785. B. Fabian, A. Mueller, H. Braeuning, J. Jacobi, F. A. Scheuermann, E. Salzborn
Electron-impact double ionization of Pb^{q+} ions for q = 1-9.
J. Phys. B 38, 2833 (2005)

e + Pb^{+-9+}	Ionization	20-1000 eV	Exp

786. P. Syty, J. E. Sienkiewicz
Relativistic multiconfiguration method in low-energy scattering of electrons from argon atoms.
J. Phys. B 38, 2859 (2005)

e + Ar	Elastic Scattering	2-10 eV	Th
e + Ar	Angular Scattering	2-10 eV	Th

787. M. J. Hussey, A. J. Murray
Low energy (e, 2e) differential cross-section measurements on the $1\pi_g$ and $4\sigma_g$ molecular orbitals of CO_2.
J. Phys. B 38, 2965 (2005)

e + CO_2	Angular Scattering	20-100 eV	Exp
e + CO_2	Ionization	20-100 eV	Exp

788. C. A. Ramsbottom, C. J. Noble, V. M. Burke, M. P. Scott, R. Kisielius, P. G. Burke
Electron impact excitation of Fe II: Total LS effective collision strengths.
J. Phys. B 38, 2999 (2005)

e + Fe^+	Excitation	30-100,000 K	Th

789. H. P. Saha, D. J. Murray
Extension of the single-channel MCHF method to include multichannels.
J. Phys. B 38, 3015 (2005)

e + H	Elastic Scattering	0.026-218 eV	Th
e + He	Elastic Scattering	0.026-218 eV	Th
e + He^+	Elastic Scattering	0.026-218 eV	Th
e + H	Excitation	0.026-218 eV	Th
e + He	Excitation	0.026-218 eV	Th
e + He^+	Excitation	0.026-218 eV	Th

790. M. S. Pindzola, F. Robicheaux, J. Colgan
Electron-impact ionization of $H_2{}^+$ using a time-dependent close-coupling method.
J. Phys. B 38, L285 (2005)

e + $H_2{}^+$	Ionization	20-160 eV	E/T

791. D. Payne, B. Krueger, K. Bartschat
Channel coupling and relativistic effects in electron-impact excitation of rubidium.
J. Phys. B 38, 3349 (2005)

e + Rb	Angular Scattering	20 eV	Th
e + Rb	Excitation	20 eV	Th

792. W. E. Guinea, G. F. Hanne, M. R. Went, M. L. Daniell, M. A. Stevenson, K. Bartschat, D. Payne, W. R. MacGillivray, B. Lohmann
Spin asymmetries in elastic and inelastic scattering from rubidium.
J. Phys. B 38, 3359 (2005)

e + Rb	Elastic Scattering	15-80 eV	E/T
e + Rb	Angular Scattering	15-80 eV	E/T
e + Rb	Excitation	15-80 eV	E/T

793. I. Iga, I. P. Sanches, P. Rawat, M.G.P. Homem, M.-T. Lee
Experimental study on electron-hexafluoroethane (C_2F_6) collisions in the low- and intermediate-energy ranges.
J. Phys. B 38, 3477 (2005)

e + C_2F_6	Dissociation	30-1000 eV	Exp
e + C_2F_6	Elastic Scattering	30-1000 eV	Exp
e + C_2F_6	Angular Scattering	30-1000 eV	Exp
e + C_2F_6	Ionization	30-1000 eV	Exp

794. B. Predojevic, D. Sevic, V. Pejcev, B. P. Marinkovic, D. M. Filipovic
Electron scattering by ytterbium: II. Excitation of the $4f^{14}(6s6p\ ^3P_1$, 5d6s $^1D_2$ and 6s7p $^1P_1)$ and $4f^{13}5d6s^2$ (7/2, 5/2)$_1$ states.
J. Phys. B 38, 3489 (2005)

e + Yb	Angular Scattering	10-40 eV	Exp
e + Yb	Excitation	10-40 eV	Exp

795. M. Lukomski, J. A. MacAskill, D. P. Seccombe, C. McGrath, S. Sutton, J. Teeuwen, W. Kedzierski, T. J. Reddish, J. W. McConkey
New measurements of absolute total cross sections for electron impact on caesium using a magneto-optical trap.
J. Phys. B 38, 3535 (2005)

e + Cs	Elastic Scattering	5-100 eV	Exp

796. S. S. Tayal, O. Zatsarinny
B-spline R-matrix with pseudostates approach for electron impact excitation of atomic nitrogen.
J. Phys. B 38, 3631 (2005)

e + N	Excitation	2-120 eV	Th

797. M. Allan
Measurement of the elastic and $\nu = 0$ -¿ 1 differential $electron - N_2$ cross sections over a wide angular range.
J. Phys. B 38, 3655 (2005)

e + N_2	Elastic Scattering	0.8-5 eV	Exp
e + N_2	Excitation	0.8-5 eV	Exp

798. S. Cohen, S. I. Themelis
Construction of RKR-QDT atomic model potentials for the calculation of Lithium polarizabilities and hyper-polarizabilities.
J. Phys. B 38, 3705 (2005)

e + Li	Excitation		Th

799. M.-T. Lee, L. E. Machado, L. M. Brescansin, I. Iga
A theoretical study on elastic $electron - CH_x$ (x=1,2,3,4) collisions in the low-energy range.
J. Phys. B 38, 3795 (2005)

e + CH	Elastic Scattering	0.1-20 eV	Th
e + CH_2	Elastic Scattering	0.1-20 eV	Th
e + CH_3	Elastic Scattering	0.1-20 eV	Th
e + CH_4	Elastic Scattering	0.1-20 eV	Th
e + CH	Angular Scattering	0.1-20 eV	Th
e + CH_2	Angular Scattering	0.1-20 eV	Th
e + CH_3	Angular Scattering	0.1-20 eV	Th
e + CH_4	Angular Scattering	0.1-20 eV	Th

800. Y.-L. Peng, X.-Y. Han, M.-S. Wang, J.-M. Li
A theoretical study of dielectronic recombination processes of C^{2+} ions in planetary nebulae.
J. Phys. B 38, 3825 (2005)

e + C^{2+}	Recombination	0-100,000 K	Th

801. S. Kaur, K. L. Baluja
Electron-impact study of formaldehyde using the R-matrix method.
J. Phys. B 38, 3917 (2005)

e + CH_2O	Elastic Scattering	0.008-20 eV	Th
e + CH_2O	Angular Scattering	0.008-20 eV	Th
e + CH_2O	Total Scattering	0.008-20 eV	Th

802. M. Gaupta, K. L. Baluja
Electron collisions with an ozone molecule using the R-matrix method.
J. Phys. B 38, 4057 (2005)

e + O_3	Elastic Scattering	0-15 eV	Th
e + O_3	Angular Scattering	0-15 eV	Th
e + O_3	Total Scattering	0-15 eV	Th
e + O_3	Excitation	0-15 eV	Th

803. D. O. Brown, A. Crowe, D. V. Fursa, I. Bray, K. Bartschat
Electron scattering from magnesium at an incident energy of 20 eV.
J. Phys. B 38, 4123 (2005)

e + Mg	Angular Scattering	20 eV	Exp
e + Mg	Excitation	20 eV	Exp

804. Z. Chen, D. H. Madison
Second-order distorted wave calculation for electron-impact ionization of helium to He^+ (n=1 and 2).
J. Phys. B 38, 4195 (2005)

e + He	Excitation	200-570 eV	E/T
e + He	Ionization	200-570 eV	E/T

805. R. F. da Costa, F. J. da Paixao, M.A.P. Lima
Cross sections for electron-impact excitation of the H_2 molecule using the MOB-SCI strategy.
J. Phys. B 38, 4363 (2005)

e + H_2	Angular Scattering	12-30 eV	Th
e + H_2	Excitation	12-30 eV	Th

806. M. Fogle, N. R. Badnell, P. Glans, S. D. Loch, S. Madzunkov, Sh. A. Abdel-Naby, M. S. Pindzola, R. Schuch
Electron-ion recombination of Be-like C, N, and O.
Astron. Astrophys. 442, 757 (2005)

e + C^{2+}	Recombination	$10 - 10^7$ K	E/T
e + N^{3+}	Recombination	$10 - 10^7$ K	E/T
e + O^{4+}	Recombination	$10 - 10^7$ K	E/T

807. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ca XIII.
Astron. Astrophys. 444, 305 (2005)

e + Ca^{12+}	Excitation	40-200 Ry	Th

808. M. C. Witthoeft, N. R. Badnell, G. Del Zanna, K. A. Berrington, J. C. Pelan
Atomic data from the IRON project. LX. Electron-impact excitation of n = 3, 4 levels of Fe^{17+}.
Astron. Astrophys. 446, 361 (2006)

e + Fe^{17+}	Excitation	0-20 Ry	Th

809. B. M. McLaughlin, A. Hibbert, M. P. Scott, C. J. Noble, V. M. Burke, P. G. Burke
Electron collisions with Fe-peak elements: Fe IV. I. Forbidden transitions: $3d^5$ - $3d^44s$ and $3d^5$ - $3d^44p$ manifolds.
Astron. Astrophys. 446, 1185 (2006)

e + Fe^{3+}	Excitation	3.3-6.0 log $T_e(k)$	Th

810. O. Zatsarinny, T. W. Gorczyca, J. Fu, K. T. Korista, N. R. Badnell, D. W. Savin
Dielectronic recombination data for dynamic finite-density plasmas. IX. The fluorine isoelectronic sequence.
Astron. Astrophys. 447, 379 (2006)

e + Ne^{+}	Recombination	$0-10^5$ eV	Th
e + Na^{2+}	Recombination	$0-10^5$ eV	Th
e + Mg^{3+}	Recombination	$0-10^5$ eV	Th
e + Al^{4+}	Recombination	$0-10^5$ eV	Th
e + Si^{5+}	Recombination	$0-10^5$ eV	Th
e + P^{6+}	Recombination	$0-10^5$ eV	Th
e + S^{7+}	Recombination	$0-10^5$ eV	Th
e + Cl^{8+}	Recombination	$0-10^5$ eV	Th
e + Ar^{9+}	Recombination	$0-10^5$ eV	Th
e + K^{10+}	Recombination	$0-10^5$ eV	Th
e + Ca^{11+}	Recombination	$0-10^5$ eV	Th
e + Sc^{12+}	Recombination	$0-10^5$ eV	Th
e + Ti^{13+}	Recombination	$0-10^5$ eV	Th
e + V^{14+}	Recombination	$0-10^5$ eV	Th
e + Cr^{15+}	Recombination	$0-10^5$ eV	Th
e + Mn^{16+}	Recombination	$0-10^5$ eV	Th
e + Fe^{17+}	Recombination	$0-10^5$ eV	Th
e + Co^{18+}	Recombination	$0-10^5$ eV	Th
e + Ni^{19+}	Recombination	$0-10^5$ eV	Th
e + Cu^{20+}	Recombination	$0-10^5$ eV	Th
e + Zn^{21+}	Recombination	$0-10^5$ eV	Th
e + Kr^{27+}	Recombination	$0-10^5$ eV	Th
e + Mo^{33+}	Recombination	$0-10^5$ eV	Th
e + Xe^{45+}	Recombination	$0-10^5$ eV	Th

811. N. R. Badnell
Dielectronic recombination data for dynamic finite-density plasmas. X. The hydrogen isoelectronic sequence.
Astron. Astrophys. 447, 389 (2006)

e + He^{+}	Recombination	$0-10^5$ eV	Th
e + Li^{2+}	Recombination	$0-10^5$ eV	Th
e + Be^{3+}	Recombination	$0-10^5$ eV	Th
e + B^{4+}	Recombination	$0-10^5$ eV	Th
e + C^{5+}	Recombination	$0-10^5$ eV	Th
e + N^{6+}	Recombination	$0-10^5$ eV	Th

e + O^{7+}	Recombination	$0 - 10^5$ eV	Th
e + F^{8+}	Recombination	$0 - 10^5$ eV	Th
e + Ne^{9+}	Recombination	$0 - 10^5$ eV	Th
e + Na^{10+}	Recombination	$0 - 10^5$ eV	Th
e + Mg^{11+}	Recombination	$0 - 10^5$ eV	Th
e + Al^{12+}	Recombination	$0 - 10^5$ eV	Th
e + Si^{13+}	Recombination	$0 - 10^5$ eV	Th
e + P^{14+}	Recombination	$0 - 10^5$ eV	Th
e + S^{15+}	Recombination	$0 - 10^5$ eV	Th
e + Cl^{16+}	Recombination	$0 - 10^5$ eV	Th
e + Ar^{17+}	Recombination	$0 - 10^5$ eV	Th
e + K^{18+}	Recombination	$0 - 10^5$ eV	Th
e + Ca^{19+}	Recombination	$0 - 10^5$ eV	Th
e + Sc^{20+}	Recombination	$0 - 10^5$ eV	Th
e + Ti^{21+}	Recombination	$0 - 10^5$ eV	Th
e + V^{22+}	Recombination	$0 - 10^5$ eV	Th
e + Cr^{23+}	Recombination	$0 - 10^5$ eV	Th
e + Mn^{24+}	Recombination	$0 - 10^5$ eV	Th
e + Fe^{25+}	Recombination	$0 - 10^5$ eV	Th
e + Co^{26+}	Recombination	$0 - 10^5$ eV	Th
e + Ni^{27+}	Recombination	$0 - 10^5$ eV	Th
e + Cu^{28+}	Recombination	$0 - 10^5$ eV	Th
e + Zn^{29+}	Recombination	$0 - 10^5$ eV	Th
e + Kr^{35+}	Recombination	$0 - 10^5$ eV	Th
e + Mo^{41+}	Recombination	$0 - 10^5$ eV	Th
e + Xe^{53+}	Recombination	$0 - 10^5$ eV	Th

812. C. E. Hudson, K. L. Bell
Fine structure effective collision strengths for the electron impact excitation of S V.
Astron. Astrophys. 452, 1113 (2006)

e + S^{4+}	Excitation	4.0-6.0 log T(k)	Th

813. E. Landi, M. F. Gu
Atomic data for high-energy configurations in Fe XVII-XXIII.
Astrophys. J., Part 1 640, 1171 (2006)

e + $Fe^{16+-22+}$	Excitation	1-100 Ry	Th

814. D. W. Savin, G. Gwinner, M. Grieser, R. Repnow, M. Schnell, D. Schwalm, A. Wolf, S.-G. Zhou, S. Kieslich, A. Mueller, S. Schippers, J. P. Colgan, S. D. Loch, N. R. Badnell, M. H. Chen, M. F. Gu
Dielectronic recombination of Fe XXIII forming Fe XXII: Laboratory measurements and theoretical calculations.
Astrophys. J., Part 1 642, 1275 (2006)

e + Fe^{22+}	Recombination	0.0-100.0 eV	E/T

815. S. Telega, F. A. Gianturco
Vibrational inelastic $electron - H_2$ scattering revisited: Numerically converged coupled channels space frame calculations with model interactions.
Eur. Phys. J. D 36, 271 (2005)

e + H_2	Excitation	0-6 eV	Th

816. L. K. Jha, B. N. Roy
Electron impact double ionization of Fe^+ and Fe^{3+}.
Eur. Phys. J. D 37, 51 (2006)

e + Fe^+	Ionization	50-1000 eV	Th
e + Fe^{3+}	Ionization	50-1000 eV	Th

817. M. Vinodkumar, K. N. Joshipura, C. G. Limbachiya, B. K. Antony
Electron impact total and ionization cross-sections for some hydrocarbon molecules and radicals.
Eur. Phys. J. D 37, 67 (2006)

e + CH_4	Excitation	0-2000 eV	Th
e + CH_4	Ionization	0-2000 eV	Th

818. J. Gao, D. H. Madison, J. L. Peacher
Distorted wave Born and three-body distorted wave Born approximation calculations of the fully differential cross section for electron-impact ionization of nitrogen molecules.
J. Chem. Phys. 123, 204314 (2005)

e + N_2	Ionization	35.6-400 eV	Th

819. J. Gao, D. H. Madison, J. L. Peacher, A. J. Murray, M. J. Hussey
Experimental and theoretical (e,2e) ionization cross sections for a hydrogen target at 75.3 eV incident energy in a coplanar asymmetric geometry.
J. Chem. Phys. 124, 194306 (2006)

e + H_2	Ionization	10-60 eV	E/T

820. S. Tsuge, A. Shimano, Y. Tohyama, E. Kayama, S. Obara, T. Nagata
Absolute total (counting) and charge-separated partial cross-sections for electron impact ionization of La, Pr, Ho, Tm, and Lu atoms.
J. Phys. Soc. Japan 74, 3193 (2005)

e + La	Excitation	0-900 eV	Exp
e + Pr	Excitation	0-900 eV	Exp
e + Ho	Excitation	0-900 eV	Exp
e + Tm	Excitation	0-900 eV	Exp
e + Lu	Excitation	0-900 eV	Exp
e + La	Ionization	0-900 eV	Exp
e + Pr	Ionization	0-900 eV	Exp
e + Ho	Ionization	0-900 eV	Exp
e + Tm	Ionization	0-900 eV	Exp
e + Lu	Ionization	0-900 eV	Exp

821. C. A. Quarles, S. Portillo
Review of bremsstrahlung experiments with free gas atom targets.
Nucl. Instrum. Methods Phys. Res. B 241, 14 (2005)

e + Ne	Bremsstrahlung	28-50 keV	Exp
e + Ar	Bremsstrahlung	28-50 keV	Exp
e + Kr	Bremsstrahlung	28-50 keV	Exp
e + Xe	Bremsstrahlung	28-50 keV	Exp

822. R. D. DuBois, A.C.S. Santos, M. A. Thomason, J. Gavin
Doubly and triply differential ionization studies using positrons and electrons.
Nucl. Instrum. Methods Phys. Res. B 241, 19 (2005)

e + Ar	Angular Scattering	750 eV	Exp
e + Kr	Angular Scattering	750 eV	Exp
e + Ar	Ionization	750 eV	Exp
e + Kr	Ionization	750 eV	Exp

823. S. Jones, D. H. Madison, J. H. Macek
Single and double ionization of helium by the impact of fast charged particles.
Nucl. Instrum. Methods Phys. Res. B 241, 73 (2005)

e + He	Angular Scattering	6 keV; 100 MeV/amu	Th
e + He	Ionization	6 keV; 100 MeV/amu	Th

824. S. J. Buckman, J. P. Sullivan
Benchmark measurements and theory for electron(positron)-molecule(atom) scattering.
Nucl. Instrum. Methods Phys. Res. B 247, 5 (2006)

e + He	Elastic Scattering	1.5-20 eV	E/T
e + N_2	Elastic Scattering	1.5-20 eV	E/T
e + N_2O	Elastic Scattering	1.5-20 eV	E/T
e + He	Angular Scattering	1.5-20 eV	E/T
e + N_2	Angular Scattering	1.5-20 eV	E/T
e + N_2O	Angular Scattering	1.5-20 eV	E/T
e + Ne	Excitation	1.5-20 eV	E/T
e + N_2	Excitation	1.5-20 eV	E/T

825. F. Arretche, R. F. da Costa, S. d'A. Sanchez, A.N.S. Hisi, E. M. de Oliveira, M. T. do N Varella, M.A.P. Lima
Similarities and differences in $e^{\pm}-molecule$ scattering: Applications of the Schwinger multichannel method.
Nucl. Instrum. Methods Phys. Res. B 247, 13 (2006)

e + H_2	Elastic Scattering	0.1-20 eV	Th
e + H_2	Angular Scattering	0.1-20 eV	Th
e + N_2	Angular Scattering	0.1-20 eV	Th
e + H_2	Excitation	0.1-20 eV	Th
e + N_2	Excitation	0.1-20 eV	Th

826. Z. An, Y. Wu, M. T. Liu, Y. M. Duan, C. H. Tang
Thick-target method in the measurement of inner-shell ionization cross-sections by low-energy electron impact.
Nucl. Instrum. Methods Phys. Res. B 246, 281 (2006)

e + Ti	Ionization	10-120 keV	Exp
e + Ni	Ionization	10-120 keV	Exp
e + Cu	Ionization	10-120 keV	Exp
e + Ag	Ionization	10-120 keV	Exp
e + Au	Ionization	10-120 keV	Exp

827. S. Mondal, R. Shanker
Total ionization cross-sections of CH_4 and C_3H_8 molecules for impact of 10-28 keV electrons.
Nucl. Instrum. Methods Phys. Res. B 246, 297 (2006)

e + CH_4	Ionization	10-28 keV	Exp
e + C_3H_8	Ionization	10-28 keV	Exp

828. M. A. Uddin, A.K.F. Haque, K. R. Karim, A. K. Basak
Empirical model for the ionization cross sections of H- and He-like ions.
Phys. Scr. 72, 389 (2005)

e + B^{4+}	Ionization	$10-10^4$ eV	Th
e + C^{4+}	Ionization	$10-10^4$ eV	Th
e + N^{6+}	Ionization	$10-10^4$ eV	Th
e + O^{7+}	Ionization	$10-10^4$ eV	Th
e + Ne^{8+}	Ionization	$10-10^4$ eV	Th
e + Mo^{41+}	Ionization	$10-10^4$ eV	Th
e + Dy^{65+}	Ionization	$10-10^4$ eV	Th
e + Au^{78+}	Ionization	$10-10^4$ eV	Th
e + Bi^{82+}	Ionization	$10-10^4$ eV	Th
e + U^{90+}	Ionization	$10-10^4$ eV	Th
e + U^{91+}	Ionization	$10-10^4$ eV	Th

829. U. I. Safronova, Yu. Ralchenko, I. Murakami, T. Kato, D. Kato
Atomic data for dielectronic recombination into C-like oxygen.
Phys. Scr. 73, 143 (2006)

e + O^{6+}	Recombination	0.1-1260 eV	Th

830. M. A. Khakoo, M.A.P. Lima, J. Tennyson
Advances and challenges in electron-molecule scattering physics – A report of the 14th International Symposium on Electron-Molecule Collisions and Swarms.
Phys. Scr. 74, C7 (2006)

e + N_2	Elastic Scattering	0-6 eV	E/T
e + CF_4	Elastic Scattering	0-6 eV	E/T
e + N_2	Angular Scattering	0-6 eV	E/T
e + CF_4	Angular Scattering	0-6 eV	E/T
e + N_2	Excitation	0-6 eV	E/T
e + CF_4	Excitation	0-6 eV	E/T
e + N_2	Electron Collisions	0-6 eV	E/T
e + CF_4	Electron Collisions	0-6 eV	E/T

831. S. Bellm, J. Lower, K. Bartschat
Electron-impact ionization and excitation of helium to the n = 1-4 ionic states.
Phys. Rev. Lett. 96, 223201 (2006)

e + He	Excitation	112-319 eV	E/T
e + He	Ionization	112-319 eV	E/T

832. D. S. Milne-Brownlie, M. Foster, J. Gao, B. Lohmann, D. H. Madison
Young-type interference in (e,2e) ionization of H_2.
Phys. Rev. Lett. 96, 233201 (2006)

e + H_2	Dissociation	250 eV	E/T
e + H_2	Angular Scattering	250 eV	E/T
e + H_2	Ionization	250 eV	E/T

833. H. Chen, M. F. Gu, P. Beiersdorfer, K. R. Boyce, G. V. Brown, S. M. Kahn, R. L. Kelley, C. A. Kilbourne, F. S. Porter, J. H. Scofield
Electron impact excitation cross section measurement for n = 3 to n = 2 line emission in Fe^{17+} to Fe^{23+}.
Astrophys. J. 646, 653 (2006)

e + $Fe^{17+-23+}$	Excitation	0-3.0 keV	E/T

834. A. K. Bhatia
$Electron-He^{+}$ **P-wave elastic scattering and photoabsorption in two-electron systems.**
Phys. Rev. A 73, 012705 (2006)

e + H	Attachment	0.9-51 eV; 1000-25,000 K	Th
e + He^+	Recombination	0.9-51 eV; 1000-25,000 K	Th

835. A.K.F. Haque, M. A. Uddin, A. K. Basak, K. R. Karim, B. C. Saha
Empirical model for the electron-impact K-shell-ionization cross sections.
Phys. Rev. A 73, 012708 (2006)

e + H	Ionization	$0.015 - 10^6$ keV	Th
e + He	Ionization	$0.015 - 10^6$ keV	Th
e + C	Ionization	$0.015 - 10^6$ keV	Th
e + Al	Ionization	$0.015 - 10^6$ keV	Th
e + Ar	Ionization	$0.015 - 10^6$ keV	Th
e + V	Ionization	$0.015 - 10^6$ keV	Th
e + Ni	Ionization	$0.015 - 10^6$ keV	Th
e + Cu	Ionization	$0.015 - 10^6$ keV	Th
e + Se	Ionization	$0.015 - 10^6$ keV	Th
e + Ag	Ionization	$0.015 - 10^6$ keV	Th
e + Sn	Ionization	$0.015 - 10^6$ keV	Th
e + Au	Ionization	$0.015 - 10^6$ keV	Th
e + Pb	Ionization	$0.015 - 10^6$ keV	Th
e + Bi	Ionization	$0.015 - 10^6$ keV	Th

836. C. Winstead, V. McKoy
Elastic electron scattering by fullerene, C_{60}.
Phys. Rev. A 73, 012711 (2006)

e + C_{60}	Elastic Scattering	0-50 eV	Th
e + C_{60}	Angular Scattering	0-50 eV	Th

837. M. M. Fujimoto, S. E. Michelin, I. Iga, M.-T. Lee
Spin-exchange effects in elastic electron-radical collisions.
Phys. Rev. A 73, 012714 (2006)

e + C_2O	Elastic Scattering	1-10 eV	Th
e + C_2O	Angular Scattering	1-10 eV	Th

838. C. Champion, C. Dal Cappello, S. Houamer, A. Mansouri
Single ionization of the water molecule by electron impact: Angular distributions at low incident energy.
Phys. Rev. A 73, 012717 (2006)

e + H_2O	Angular Scattering	250 eV	E/T
e + H_2O	Ionization	250 eV	E/T

839. M. S. Pindzola, S. D. Loch, C. P. Ballance, D. C. Griffin
Electron-impact excitation cross sections for Fe^{16+} in the configuration-average distorted-wave approximation.
Phys. Rev. A 73, 012718 (2006)

e + Fe^{16+}	Excitation	700-1200 eV	Th

840. M. A. Stevenson, B. Lohmann
Triple-differential cross-section measurements of electron-impact ionization of argon 3s in the backward scattering direction.
Phys. Rev. A 73, 020701 (2006)

e + Ar	Angular Scattering	113.5 eV	Th
e + Ar	Ionization	113.5 eV	Th

841. N. Nakamura, H. Tobiyama, H. Nohara, D. Kato, H. Watanabe, F. J. Currell, S. Ohtani
Observation of resonant-excitation double autoionization in $electron - I^{50+}$ collisions.
Phys. Rev. A 73, 020705 (2006)

e + I^{50+}	Excitation	29.5-32 keV	Exp
e + I^{50+}	Ionization	29.5-32 keV	Exp

842. J. Shertzer, S. J. Ward
Binding energy and structure of e^+Li and e^-Li using a parametric model potential.
Phys. Rev. A 73, 022504 (2006)

e + Li	Excitation		Th

843. J. Horacek, M. Cizek, K. Houfek, P. Kolorenc, W. Domcke
Dissociative electron attachment and vibrational excitation of H_2 by low-energy electrons: Calculations based on an improved nonlocal resonance model. II. Vibrational excitation.
Phys. Rev. A 73, 022701 (2006)

e + H_2	Attachment	0-10 eV	Th
e + H_2	Dissociation	0-10 eV	Th

844. C. G. Ning, X. G. Ren, J. K. Deng, G. L. Su, S. F. Zhang, G. Q. Li
Turn-up effects at low momentum for the highest occupied molecular orbital of oxygen at various impact energies by electron momentum spectroscopy.
Phys. Rev. A 73, 022704 (2006)

e + O	Ionization	400-2400 eV	Exp

845. S. Popovic, S. Williams, L. Vuskovic
Electron-impact dissociative ionization of ethylene.
Phys. Rev. A 73, 022711 (2006)

e + C_2H_4	Dissociation	10-200 keV	Th
e + C_2H_4	Ionization	10-200 keV	Th

846. O. Heber, K. Seiersen, H. Bluhme, A. Svendsen, L. H. Andersen, L. Maunoury
Dissociative recombination of small carbon cluster cations.
Phys. Rev. A 73, 02712 (2006)

e + $C_3{}^+$	Dissociation		Exp
e + $C_5{}^+$	Dissociation		Exp
e + $C_4{}^+$	Dissociation		Exp
e + $C_7{}^+$	Dissociation		Exp
e + $C_6{}^+$	Dissociation		Exp
e + $C_3{}^+$	Recombination		Exp
e + $C_5{}^+$	Recombination		Exp
e + $C_4{}^+$	Recombination		Exp
e + $C_7{}^+$	Recombination		Exp
e + $C_6{}^+$	Recombination		Exp

847. R. W. van Boeyen, N. Watanabe, J. W. Cooper, J. P. Doering, J. H. Moore, M. A. Coplan
Two-step single-ionization mechanisms.
Phys. Rev. A 73, 032703 (2006)

e + Mg	Angular Scattering	400-3000 eV	Exp
e + Mg	Ionization	400-3000 eV	Exp

848. A. Daw, L. D. Gardner, P. H. Janzen, J. L. Kohl
Absolute cross section for C^{2+} (2s2p $^3P^0$ -¿ $2p^2$ ^3P) electron-impact excitation.
Phys. Rev. A 73, 032709 (2006)

e + C^{2+}	Excitation	10-28 eV	Exp

849. V. Ngassam, A. E. Orel
Dissociative recombination of $Ne_2{}^+$ molecular ions.
Phys. Rev. A 73, 032720 (2006)

e + $Ne_2{}^+$	Dissociation	$10^{-4} - 1$ eV	Th
e + $Ne_2{}^+$	Recombination	$10^{-4} - 1$ eV	Th

850. S. Wang, P. V. Johnson, C. P. Malone, I. Kanik, M. A. Khakoo
Transmission effects in unfolding electronic-vibrational electron-molecule energy-loss spectra.
Phys. Rev. A 73, 034702 (2006)

e + N_2	Angular Scattering	15 eV	Exp
e + N_2	Excitation	15 eV	Exp

851. S.W.J. Scully, J. A. Wyer, V. Senthil, M. B. Shah, E. C. Montenegro
Autodissociation of doubly charged water molecules.
Phys. Rev. A 73, 040701 (2006)

e + H_2O	Dissociation	45-1500 eV	Exp
e + H_2O	Ionization	45-1500 eV	Exp

852. M. Gupta, K. L. Baluja
Low-energy elastic and inelastic scattering of electrons from SO_2 using the R-matrix method.
Phys. Rev. A 73, 042702 (2006)

e + SO_2	Dissociation	1-15 eV	Th
e + SO_2	Elastic Scattering	1-15 eV	Th
e + SO_2	Angular Scattering	1-15 eV	Th
e + SO_2	Excitation	1-15 eV	Th

853. L.-F. Zhu, H.-D. Cheng, Z.-S. Yuan, X.-J. Liu, J.-M. Sun, K.-Z. Xu
Generalized oscillator strengths for the valence-shell excitations of argon.
Phys. Rev. A 73, 042703 (2006)

e + Ar	Angular Scattering	2500 eV	E/T
e + Ar	Excitation	2500 eV	E/T

854. J. Royal, A. E. Orel
Dissociative recombination of $Ar_2{}^+$.
Phys. Rev. A 73, 042706 (2006)

e + $Ar_2{}^+$	Dissociation	$3x10^{-3} - 0.5$ eV	Th
e + $Ar_2{}^+$	Recombination	$3x10^{-3} - 0.5$ eV	Th

855. J. P. Colgan, M. S. Pindzola, G. Childers, M. A. Khakoo
Low-energy electron-impact single ionization of helium.
Phys. Rev. A 73, 042710 (2006)

e + He	Angular Scattering	32-45 eV	Th
e + He	Ionization	32-45 eV	Th

856. X. G. Ren, C. G. Ning, J. K. Deng, G. L. Su, S. F. Zhang, Y. R. Huang
(e,2e) study on distorted-wave and relativistic effects in the inner-shell ionization processes of xenon $4d_{5/2}$ and $4d_{3/2}$.
Phys. Rev. A 73, 042714 (2006)

e + Xe	Angular Scattering	1200-2400 eV	Th
e + Xe	Ionization	1200-2400 eV	Th

857. A. A. Borovik Jr., A. A. Borovik, O. Zatsarinny, K. Bartschat
Near-threshold electron-impact excitation of the $(3p^5 4s4p)$ $^4S_{3/2}$ quasimetastable state in potassium.
Phys. Rev. A 72, 062701 (2006)

e + K	Excitation	20-23 eV	E/T

858. J. Colgan, C. J. Fontes, H. L. Zhang
Inner-shell electron–impact ionization of neutral atoms.
Phys. Rev. A 73, 062711 (2006)

e + Mn	Ionization	6-30 keV	Th
e + Fe	Ionization	6-30 keV	Th
e + Ni	Ionization	6-30 keV	Th
e + Cu	Ionization	6-30 keV	Th
e + W	Ionization	6-30 keV	Th

859. G. B. Poparic, D. S. Belic, M. D. Vicic
Resonant vibrational excitation of CO by low-energy electrons.
Phys. Rev. A 73, 062713 (2006)

e + CO	Excitation	0-4 eV	Exp

860. S. N. Nahar, A. K. Pradhan
Dielectronic satellite spectra of heliumlike iron and nickel from the unified recombination method.
Phys. Rev. A 73, 062718 (2006)

e + Fe^{24+}	Recombination	4550-5500 eV	Th
e + Ni^{26+}	Recombination	4550-5500 eV	Th

861. C. Merlet, X. Llovet, J. M. Fernandez-Varea
Absolute K-shell ionization cross sections and $L\alpha$ and $L\beta_1$ x-ray production cross sections of Ga and As by 1.5-39-keV electrons.
Phys. Rev. A 73, 062719 (2006)

e + Ga	Fluorescence	1.5-39 keV	Exp
e + As	Fluorescence	1.5-39 keV	Exp
e + Ga	Ionization	1.5-39 keV	Exp
e + As	Ionization	1.5-39 keV	Exp

862. D. J. Haxton, C. W. McCurdy, T. N. Rescigno
Angular dependence of dissociative electron attachment to polyatomic molecules: Application to the $^2B_1$ metastable state of the H_2O and H_2S anions.
Phys. Rev. A 73, 062724 (2006)

e + H_2O	Attachment	5-7 eV	Th
e + H_2S	Attachment	5-7 eV	Th
e + H_2O	Dissociation	5-7 eV	Th
e + H_2S	Dissociation	5-7 eV	Th

863. M. Lu, M. F. Gharaibeh, G. Alna'washi, R. A. Phaneuf, A.L.D. Kilcoyne, E. Levenson, A. S. Schlachter, A. Mueller, S. Schippers, J. Jacobi, S.W.J. Scully, C. Cisneros
Photoionization and electron-impact ionization of Kr^{5+}.
Phys. Rev. A 74, 012703 (2006)

e + Kr^{5+}	Ionization	74-175 eV	E/T

864. P. Mozejko, E. Ptasinska-Denga, A. Domaracka, C. Szmytkowski
Absolute total cross-section measurements for electron collisions with tetrahydrofuran.
Phys. Rev. A 74, 012708 (2006)

e + C_4H_8O	Elastic Scattering	1-370 eV	Exp
e + C_4H_8O	Excitation	1-370 eV	Exp

865. J. Colgan, M. S. Pindzola
Double- and triple-differential cross sections for the low-energy electron-impact ionization of hydrogen.
Phys. Rev. A 74, 012713 (2006)

e + H	Angular Scattering	15.6-17.6 eV	Th
e + H	Ionization	15.6-17.6 eV	Th

866. R. Srivastava, A. D. Stauffer, L. Sarma
Excitation of the metastable states of the noble gases.
Phys. Rev. A 74, 012715 (2006)

e + Ne	Excitation	2-400 eV	Th
e + Ne^*	Excitation	2-400 eV	Th
e + Ar	Excitation	2-400 eV	Th
e + Ar^*	Excitation	2-400 eV	Th
e + Kr	Excitation	2-400 eV	Th
e + Kr^*	Excitation	2-400 eV	Th
e + Xe	Excitation	2-400 eV	Th
e + Xe^*	Excitation	2-400 eV	Th

867. F. Fremont, A. Hajaji, J.-Y. Chesnel, P. Leprince, F. Poree, B. Gervais, D. Hennecart
K-shell ionization cross sections following 0.6-4-keV e^- + H_2O collisions.
Phys. Rev. A 74, 012717 (2006)

e + H_2O	Angular Scattering	0.4-4 keV	E/T
e + H_2O	Ionization	0.4-4 keV	E/T

868. C. P. Ballance, D. C. Griffin, S. D. Loch, R. F. Boivin, M. S. Pindzola
Collisional-radiative calculations of He line emission in low-temperature plasmas.
Phys. Rev. A 74, 012719 (2006)

e + He	Excitation	0-40 eV; $2x10^4 - 2x10^5$ K	Th
e + He^*	Excitation	0-40 eV; $2x10^4 - 2x10^5$ K	Th

869. O. Chuluunbaatar, I. V. Puzynin, P. S. Vinitsky, Yu. V. Popov, K. A. Kouzakov, C. Dal Cappello
Role of the cusp conditions in electron-helium double ionization.
Phys. Rev. A 74, 014703 (2006)

e + He	Angular Scattering	5.6 keV	Th
e + He	Ionization	5.6 keV	Th

870. S. E. Michelin, A. S. Falck, K. T. Mazon, J. J. Piacentini, M. A. Scopel, L.S.S. da Silva, H. L. Oliveira, M. M. Fujimoto, I. Iga, M.-T. Lee
Comparative study for elastic electron collisions on C_2N_2 isomers.
Phys. Rev. A 74, 022702 (2006)

e + C_2N_2	Elastic Scattering	1-100 eV	Th

871. M. Tashiro, K. Morokuma, J. Tennyson
R-matrix calculation of differential cross sections for low-energy electron collisions with ground-state and electronically excited-state O_2 molecules.
Phys. Rev. A 74, 022706 (2006)

e + O_2	Angular Scattering	5-15 eV	Th
e + O_2	Excitation	5-15 eV	Th

872. M.H.F. Bettega, C. Winstead, V. McKoy
Low-energy electron scattering by N_2O.
Phys. Rev. A 74, 022711 (2006)

e + N_2O	Elastic Scattering	0-15 eV	Th
e + N_2O	Angular Scattering	0-15 eV	Th

873. D. L. Robbins, P. Beiersdorfer, A. Ya. Faenov, T. A. Pikuz, D. B. Thorn, H. Chen, K. J. Reed, A. J. Smith, K. R. Boyce, G. V. Brown, R. L. Kelley, C. A. Kilbourne, F. S. Porter
Polarization measurements of the $Lyman-\alpha_1$ x-ray emission lines of hydrogenlike Ar^{17+} and Fe^{25+} at high electron-impact energies.
Phys. Rev. A 74, 022713 (2006)

e + Ar^{17+}	Excitation	5-150 keV	Exp
e + Fe^{25+}	Excitation	5-150 keV	Exp

874. P. L. Bartlett, J. F. Williams, I. Bray, A. G. Mikosza, A. T. Stelbovics
Differential and integrated cross sections for excitation to the 3s, 3p, and 3d states of atomic hydrogen by electron impact below the n=4 threshold.
Phys. Rev. A 74, 022714 (2006)

e + H	Excitation	12.24 eV	Th

875. I. Linert, B. Mielewska, G. C. King, M. Zubek
Elastic electron scattering in neon in the 100 deg **- 180** deg **scattering angle range.**
Phys. Rev. A 74, 042701 (2006)

e + Ne	Elastic Scattering	7-15 eV	Exp
e + Ne	Angular Scattering	7-15 eV	Exp

876. C. Makochekanwa, K. Oguri, R. Suzuki, T. Ishihara, M. Hoshino, M. Kimura, H. Tanaka
Experimental observation of neutral radical formation from CH_4 by electron impact in the threshold region.
Phys. Rev. A 74, 042704 (2006)

e + CH_4	Dissociation	5-13 eV	Exp

877. G. X. Chen, R. K. Smith, K. Kirby, N. S. Brickhouse, B. J. Wargelin
Fully relativistic R-matrix calculation of electron impact excitation of Ne IX.
Phys. Rev. A 74, 042709 (2006)

e + Ne^{8+}	Excitation	66.5-90 Ry	Th

878. C. S. Trevisan, A. E. Orel, T. N. Rescigno
Low-energy electron scattering by formic acid.
Phys. Rev. A 74, 042716 (2006)

e + **HCOOH**	Elastic Scattering	0.1-15 eV	Th
e + **HCOOH**	Angular Scattering	0.1-15 eV	Th
e + **HCOOH**	Total Scattering	0.1-15 eV	Th

879. S. D. Loch, M. S. Pindzola, C. P. Ballance, D. C. Griffin
The effects of radiative cascades on the x-ray diagnostic lines of Fe^{16+}.
J. Phys. B 39, 85 (2006)

e + Fe^{16+}	Excitation	700-1200 eV	Th

880. S. Marienfeld, I. I. Fabrikant, M. Braun, M.-W. Ruf, H. Hotop
High resolution low-energy electron attachment to CF_3I.
J. Phys. B 39, 105 (2006)

e + CF_3I	Attachment	0.5-500 meV	E/T

881. H. Deutsch, K. B. MacAdam, K. Becker, H. Zhang, T. D. Maerk
Calculated cross sections for the electron-impact ionization of Na(ns) and Na(nd) Rydberg atoms.
J. Phys. B 39, 343 (2006)

e + **Na**	Ionization	0-2.5 eV	Th

882. M. P. Scott, C. A. Ramsbottom, C. J. Noble, V. M. Burke, P. G. Burke
On the role of 'two-particle-one-hole' resonances in electron collisions with Ni V.
J. Phys. B 39, 387 (2006)

e + Ni^{4+}	Excitation	0-6 Ry	Th

883. E. L. Foley, F. M. Levinton
A collisional-radiative model including sublevel parameters (CRISP) for H-alpha radiation.
J. Phys. B 39, 443 (2006)

e + **H**	Excitation		Th

884. P. W. Zetner, P. V. Johnson
Differential cross sections for electron impact excitation out of the (6s6p $^1P_1$) state of barium.
J. Phys. B 39, 455 (2006)

e + **Ba**	Elastic Scattering	20 eV	Exp
e + **Ba**	Angular Scattering	20 eV	Exp
e + **Ba**	Total Scattering	20 eV	Exp
e + **Ba**	Excitation	20 eV	Exp

885. S. Kawazoe, T. Kai, R. Kumar Chauhan, R. Srivastava, S. Nakazaki
Excitation of the 4^1P^0 state of calcium by electron impact.
J. Phys. B 39, 493 (2006)

e + **Ca**	Angular Scattering	10-25 eV	Th
e + **Ca**	Excitation	10-25 eV	Th

886. Y. Khajuria, P. C. Deshmukh
Xe(4d) triple differential cross section: Modified semiclassical exchange approximation in electron-atom collision.
J. Phys. B 39, 569 (2006)

e + Xe	Ionization	1000 eV	Th

887. A. Kupliauskiene, P. Bogdanovich, A. A. Borovik, O. I. Zatsarinny, A. N. Grum-Grzhimailo, K. Bartschat
The role of cascade processes in electron-impact excitation of the $(3p^5 4s^2)^2 P_{3/2,1/2}$ autoionizing levels in potassium.
J. Phys. B 39, 591 (2006)

e + K	Excitation	20-28 eV	E/T

888. A. R. Milosavljevic, S. Madzunkov, D. Sevic, I. Cadez, B. P. Marinkovic
Experimental determination of the differential cross-section surface for elastic electron-atom (molecule) scattering.
J. Phys. B 39, 609 (2006)

e + Ar	Elastic Scattering	40-200 eV	Exp
e + Kr	Elastic Scattering	40-200 eV	Exp
e + Ar	Angular Scattering	40-200 eV	Exp
e + Kr	Angular Scattering	40-200 eV	Exp

889. J. F. Williams, P. L. Bartlett, I. Bray, A. T. Stelbovics, A. G. Mikosza
Differential cross sections for excitation to the 3s, 3p and 3d states of atomic hydrogen by electron impact at energies from 16.5 to 54 eV.
J. Phys. B 39, 719 (2006)

e + H	Angular Scattering	16.5-54 eV	E/T
e + H	Excitation	16.5-54 eV	E/T

890. A. Ehlerding, A. A. Viggiano, F. Hellberg, R. D. Thomas, V. Zhaunerchyk, W. D. Geppert, H. Montaigne, M. Kaminska, F. Osterdahl, M. af Ugglas, M. Larsson, O. Novotny, J.B.A. Mitchell, J. L. LeGarrec, A. I. Florescu-Mitchell, C. Rebrion-Rowe, A. Svendsen, M. A. El Ghazaly, L. H. Andersen
The dissociative recombination of fluorocarbon ions III: $CF_2{}^+$ and $CF_3{}^+$.
J. Phys. B 39, 805 (2006)

e + $CF_3{}^+$	Dissociation	$2x10^{-4} - 2x10^1$ eV	Exp
e + $CF_2{}^+$	Dissociation	$2x10^{-4} - 2x10^1$ eV	Exp
e + $CF_3{}^+$	Recombination	$2x10^{-4} - 2x10^1$ eV	Exp
e + $CF_2{}^+$	Recombination	$2x10^{-4} - 2x10^1$ eV	Exp

891. J. Liu, Y. Wang, Y. Zhou
Coupled-channels optical calculation of electron-carbon scattering.
J. Phys. B 39, 861 (2006)

e + C	Excitation	0-200 eV	Th
e + C	Ionization	0-200 eV	Th

892. R. Dey, A. C. Roy, C. Dal Cappello
Double ionization of helium by electron and positron impact.
J. Phys. B 39, 955 (2006)

e + He	Angular Scattering	601 eV	Th
e + He	Ionization	601 eV	Th

893. M. S. Pindzola, F. Robicheaux, J. Colgan
Electron-impact double ionization of H^-.
J. Phys. B 39, L127 (2006)

e + $\mathbf{H^-}$	Ionization	40-60 eV	Th

894. M. Allan, K. Franz, H. Hotop, O. Zatsarinny, K. Bartschat
Absolute angle-differential cross sections for electron-impact excitation of neon atoms from threshold to 19.5 eV.
J. Phys. B 39, L139 (2006)

e + Ne	Angular Scattering	16.6-19.5 eV	E/T
e + Ne	Excitation	16.6-19.5 eV	E/T

895. J. Gao, D. H. Madison, J. L. Peacher
Theoretical calculation of fully differential cross sections for electron-impact ionization of hydrogen molecules.
J. Phys. B 39, 1275 (2006)

e + $\mathbf{H_2}$	Angular Scattering	35.3-4168 eV	Th
e + $\mathbf{H_2}$	Ionization	35.3-4168 eV	Th

896. A. Yu. Elizarov, I. I. Tupitsyn
Electron-impact ionization of Li, Be^+, B^{2+}, C^{3+}, N^{4+} and O^{5+}.
J. Phys. B 39, 1395 (2006)

e + Li	Ionization	5-1000 eV	Th
e + $\mathbf{Be^{+-5+}}$	Ionization	5-1000 eV	Th

897. V. P. Shevelko, H. Tawara, I. Yu. Tolstikhina, F. Scheuermann, B. Fabian, A. Mueller, E. Salzborn
Double ionization of heavy positive ions by electron impact: Empirical formula and fitting parameters for ionization cross sections.
J. Phys. B 39, 1499 (2006)

e + $\mathbf{Ti^{+-6+}}$	Ionization	100-10,000 eV	Th
e + $\mathbf{Fe^{+-6+}}$	Ionization	100-10,000 eV	Th
e + $\mathbf{Ni^{+-6+}}$	Ionization	100-10,000 eV	Th
e + $\mathbf{Ga^{+-6+}}$	Ionization	100-10,000 eV	Th
e + $\mathbf{Kr^{+-4+}}$	Ionization	100-10,000 eV	Th
e + $\mathbf{Mo^{+-6+}}$	Ionization	100-10,000 eV	Th
e + $\mathbf{Pr^{+-4+}}$	Ionization	100-10,000 eV	Th
e + $\mathbf{Sm^{+-6+}}$	Ionization	100-10,000 eV	Th
e + $\mathbf{W^{6+}}$	Ionization	100-10,000 eV	Th
e + $\mathbf{Pb^{6+}}$	Ionization	100-10,000 eV	Th
e + $\mathbf{Bi^{+-12+}}$	Ionization	100-10,000 eV	Th

898. M. Stepanovic, M. Minic, D. Cvejanovic, J. Jureta, J. Kurepa, S. Cvejanovic, O. Zatsarinny, K. Bartschat
Integral cross sections for electron-impact excitation of the 3^3S and 3^1S states of He near threshold.
J. Phys. B 39, 1547 (2006)

e + He	Excitation	22.6-24.2 eV	E/T

899. M. Ivkovic, R. Zikic, S. Jovicevic, N. Konjevic
On simultaneous determination of electron impact width, ion-broadening and ion-dynamic parameter from the shape of plasma broadened non-hydrogenic atom line.
J. Phys. B 39, 1773 (2006)

e + Kr	Line Broadening		E/T

900. M. Montenegro, W. Eissner, S. N. Nahar, A. K. Pradhan
Relativistic and correlation effects in electron impact excitation of forbidden transitions of OII.
J. Phys. B 39, 1863 (2006)

e + O^+	Excitation	1 Ry	Th

901. J.K.G. Watson
Electron-impact broadening of radio recombination lines of atomic hydrogen for different Δ n.
J. Phys. B 39, 1889 (2006)

e + H	Line Broadening		Th

902. M. Piwinski, D. Dziczek, L. Klosowski, R. Srivastava, S. Chwirot
Coincidence study of excitation of cadmium atoms by electron impact.
J. Phys. B 39, 1945 (2006)

e + Cd	Excitation	60-80 eV	Exp

903. C. S. Trevisan, A. E. Orel, T. N. Rescigno
Elastic scattering of low-energy electrons by tetrahydrofuran.
J. Phys. B 39, L255 (2006)

e + C_4H_8O	Elastic Scattering	1-20 eV	Th
e + C_4H_8O	Angular Scattering	1-20 eV	Th

904. F. Catoire, E. M. Staicu-Casagrande, M. Nekkab, C. Dal Cappello, K. Bartschat, A. Lahmam-Bennani
Investigation of the (e, 2e) single ionization of He and Ar at large energy loss close to minimum momentum transfer.
J. Phys. B 39, 2827 (2006)

e + He	Angular Scattering	721-729.6 eV	Exp
e + Ar	Angular Scattering	721-729.6 eV	Exp
e + He	Ionization	721-729.6 eV	Exp
e + Ar	Ionization	721-729.6 eV	Exp

905. G. Halmova, J. D. Gorfinkiel, J. Tennyson
Low-energy electron collisions with C_2 using the R-matrix method.
J. Phys. B 39, 2849 (2006)

e + C_2	Excitation	0-10 eV	Th

906. L. G. Ferreira, A. R. Lopes, M.A.P. Lima, M.H.F. Bettega
A geometrical optics model for electron-molecule collisions.
J. Phys. B 39, 1045 (2006)

e + C_{60}	Elastic Scattering	15-40 eV	E/T
e + C_6H_6	Elastic Scattering	15-40 eV	E/T
e + C_6F_6	Elastic Scattering	15-40 eV	E/T
e + C_8H_8	Elastic Scattering	15-40 eV	E/T

907. O. Zatsarinny, K. Bartschat, S. S. Tayal
Low-energy elastic electron scattering by atomic oxygen.
J. Phys. B 39, 1237 (2006)

e + O	Elastic Scattering	0-10 eV	E/T

908. G. Aussendorf, F. Juettemann, K. Muktavat, L. Sharma, R. Srivastava, A. D. Stauffer, K. Bartschat, D. V. Fursa, I. Bray, G. F. Hanne
(e,$e\gamma$) − *coincidence* studies to determine spin-resolved Stokes parameters of the 185 nm emission line in mercury.
J. Phys. B 39, 2403 (2006)

e + Hg	Fluorescence	15-100 eV	E/T
e + Hg	Excitation	15-100 eV	E/T

909. C. Dal Cappello, A. Mansouri, S. Houamer, B. Joulakian
Second-order effects in (e, 2e) ionization-excitation of H_2.
J. Phys. B 39, 2431 (2006)

e + H_2	Excitation	1200-2000 eV	E/T
e + H_2	Ionization	1200-2000 eV	E/T

910. J. Wu, J. Yuan
The resonance structures in the cross sections of slow electron interaction with barium atoms: A fully relativistic R-matrix study.
J. Phys. B 39, 2493 (2006)

e + Ba	Elastic Scattering	0-10 ev; 0-2.5 eV	E/T

911. O. Novotny, R. Plasil, A. Pysanenko, I. Korolov, J. Glosik
The recombination of $D_3{}^+$ and $D_5{}^+$ ions with electrons in deuterium containing plasma.
J. Phys. B 39, 2561 (2006)

e + $H_3{}^+$	Recombination	130-300 K	Exp
e + $D_3{}^+$	Recombination	130-300 K	Exp
e + $H_5{}^+$	Recombination	130-300 K	Exp
e + $D_5{}^+$	Recombination	130-300 K	Exp

912. D. M. Filipovic, B. Predojevic, V. Pejcev, D. Sevic, B. P. Marinkovic, R. Srivastava, A. D. Stauffer
Electron scattering by magnesium: Excitation of the 3s3p $^1P_1$ state.
J. Phys. B 39, 2583 (2006)

e + Mg	Angular Scattering	10-100 eV	E/T
e + Mg	Excitation	10-100 eV	E/T

913. S. Palaniyappan, A. DiChiara, I. Ghebregziabher, E. L. Huskins, A. Falkowski, D. Pajerowski, B. C. Walker
Multielectron ultrastrong laser field ionization of Ar^{n+}, Kr^{m+} and Xe^{l+} (n ¡ 9, m ¡ 9, l ¡ 12) at intensities from 10^{15} W cm^{-2} to 10^{18} W cm^{-2}.
J. Phys. B 39, S357 (2006)

e + Ar^{3+-7+}	Ionization	$30 - 3x10^4$ eV	Th
e + Kr^{+-7+}	Ionization	$30 - 3x10^4$ eV	Th
e + Xe^{4+-11+}	Ionization	$30 - 3x10^4$ eV	Th

914. V. S. Prabhudesai, D. Nandi, E. Krishnakumar
On the presence of the $^4\Sigma_u{}^-$ resonance in dissociative electron attachment to O_2.
J. Phys. B 39, L277 (2006)

e + O_2	Attachment	5-9.3 eV	Exp
e + O_2	Ionization	5-9.3 eV	Exp

915. I. Murakami, T. Kato, D. Kato, U. I. Safronova, T. E. Cowan, Yu. Ralchenko
Large-scale calculation of dielectronic recombination parameters for Mg-like Fe.
J. Phys. B 39, 2917 (2006)

e + Fe^{14+}	Recombination	0.1-1600 eV	Th

916. M. Allan
Study of resonances in formic acid by means of vibrational excitation by slow electrons.
J. Phys. B 39, 2939 (2006)

e + HCOOH	Excitation	1-5 eV	Exp

917. T. T. Gien
Doubly excited $^1P^0$ states of He at energies below the N = 2 threshold of He^+.
J. Phys. B 39, 2969 (2006)

e + He^+	Elastic Scattering	$3x10^1 - 5x10^7$ Ry	Th
e + He^+	Excitation	$3x10^1 - 5x10^7$ Ry	Th

918. Y. Wang, Y. Zhou
The effects of discrete and continuum states on the $2p^4\ ^3P$ -¿ $2p^3 3s\ ^3S^0$ transition of atomic oxygen by electron impact.
J. Phys. B 39, 3009 (2006)

e + O	Excitation	15-100 eV	Th

919. H. Munjal, K. L. Baluja
Elastic and excitation processes of electron impact on C_3 using the R-matrix method.
J. Phys. B 39, 3185 (2006)

e + C_3	Elastic Scattering	1-10 eV	Exp
e + C_3	Angular Scattering	1-10 eV	Exp
e + C_3	Excitation	1-10 eV	Exp

920. J. Lecointre, D. S. Belic, H. Cherkani-Hassani, J. J. Jureta, P. Defrance
A crossed-beam experiment for electron impact ionization and dissociation of molecular ions: Its application to CO^+.
J. Phys. B 39, 3275 (2006)

e + CO^+	Dissociation	5-2500 eV	Exp
e + CO^+	Ionization	5-2500 eV	Exp

921. H. M. Boechat-Roberty, A. M. Ferreira-Rodrigues, C. C. Turci, G.G.B. de Souza
Cross sections for elastic and inelastic electron scattering from carbon disulfide.
J. Phys. B 39, 3361 (2006)

e + CS_2	Elastic Scattering	1000 eV	Exp
e + CS_2	Angular Scattering	1000 eV	Exp
e + CS_2	Excitation	1000 eV	Exp

922. F. Delahaye, A. K. Pradhan, C. J. Zeippen
Electron impact excitation of helium-like ions up to n = 4 levels including radiation damping.
J. Phys. B 39, 3465 (2006)

e + N^{5+}	Excitation	0-4X E(4 $^1P_1$) Ry	Th
e + N^{8+}	Excitation	0-4X E(4 $^1P_1$) Ry	Th
e + Mg^{10+}	Excitation	0-4X E(4 $^1P_1$) Ry	Th
e + Al^{11+}	Excitation	0-4X E(4 $^1P_1$) Ry	Th
e + Si^{12+}	Excitation	0-4X E(4 $^1P_1$) Ry	Th
e + S^{14+}	Excitation	0-4X E(4 $^1P_1$) Ry	Th
e + Ca^{18+}	Excitation	0-4X E(4 $^1P_1$) Ry	Th

923. C. P. Ballance, D. C. Griffin
Relativistic radiatively damped R-matrix calculation of the electron-impact excitation of W^{46+}.
J. Phys. B 39, 3617 (2006)

e + W^{46+}	Excitation	1500-4000 eV	Th

924. H. Cho, R. P. McEachran, S. J. Buckman, D. M. Filipovic, V. Pejcev, B. P. Marinkovic, H. Tanaka, A. D. Stauffer, E. C. Jung
Absorption effects in intermediate energy elastic electron scattering from xenon.
J. Phys. B 39, 3781 (2006)

e + Xe	Elastic Scattering	10-100 eV	E/T
e + Xe	Angular Scattering	10-100 eV	E/T

925. K. A. Berrington
The high partial wave phenomenon of spin changing atomic transitions.
J. Phys. B 39, 3873 (2006)

e + Li^{+}	Excitation	15-2500 Ry	Th
e + Fe^{24+}	Excitation	15-2500 Ry	Th

926. J. Fedor, P. Cicman, B. Coupier, S. Feil, M. Winkler, K. Gluch, J. Husarik, D. Jaksch, B. Farizon, N. J. Mason, P. Scheier, T. D. Maerk
Fragmentation of transient water anions following low-energy electron capture by H_2O/D_2O.
J. Phys. B 39, 3935 (2006)

e + H$_2$O	Attachment	5-20 eV	Exp
e + D$_2$O	Attachment	5-20 eV	Exp
e + H$_2$O	Dissociation	5-20 eV	Exp
e + D$_2$O	Dissociation	5-20 eV	Exp

927. A. J. Murray, M. J. Hussey, J. Gao, D. H. Madison
(e, 2e) ionization measurements from the $3\sigma_g$ and $2\sigma_u$* states of N_2 – comparison between experiment and theoretical predictions of the effects of exchange, polarization and interference.
J. Phys. B 39, 3945 (2006)

e + Ar	Elastic Scattering	75.6-78.7 eV	Th
e + Ar	Angular Scattering	75.6-78.7 eV	Th
e + N$_2$	Angular Scattering	75.6-78.7 eV	Th
e + N$_2$	Ionization	75.6-78.7 eV	Th

928. Z. Felfli, A. Z. Msezane, D. Sokolovski
Near-threshold behaviour of electron elastic scattering cross sections for Fr: A Regge pole analysis.
J. Phys. B 39, L353 (2006)

e + Fr	Elastic Scattering	0-3.4 eV	Th

929. P. L. Bartlett
A complete numerical approach to electron-hydrogen collisions.
J. Phys. B 39, R379 (2006)

e + H	Elastic Scattering	0-1000 eV	Th
e + H*	Elastic Scattering	0-1000 eV	Th
e + He$^+$	Elastic Scattering	0-1000 eV	Th
e + Li^{2+}	Elastic Scattering	0-1000 eV	Th
e + Be^{3+}	Elastic Scattering	0-1000 eV	Th
e + H	Angular Scattering	0-1000 eV	Th
e + H*	Angular Scattering	0-1000 eV	Th
e + He$^+$	Angular Scattering	0-1000 eV	Th
e + Li^{2+}	Angular Scattering	0-1000 eV	Th
e + Be^{3+}	Angular Scattering	0-1000 eV	Th
e + H	Excitation	0-1000 eV	Th
e + H*	Excitation	0-1000 eV	Th
e + He$^+$	Excitation	0-1000 eV	Th
e + Li^{2+}	Excitation	0-1000 eV	Th
e + Be^{3+}	Excitation	0-1000 eV	Th
e + H	Ionization	0-1000 eV	Th
e + H*	Ionization	0-1000 eV	Th
e + He$^+$	Ionization	0-1000 eV	Th
e + Li^{2+}	Ionization	0-1000 eV	Th
e + Be^{3+}	Ionization	0-1000 eV	Th
e + H	Electron Collisions	0-1000 eV	Th
e + H*	Electron Collisions	0-1000 eV	Th
e + He$^+$	Electron Collisions	0-1000 eV	Th
e + Li^{2+}	Electron Collisions	0-1000 eV	Th
e + Be^{3+}	Electron Collisions	0-1000 eV	Th

930. K. A. Berrington, S. Nakazaki, Y. Murakami
Electron impact on K^+: Mechanisms for extreme ultraviolet emission.
J. Phys. B 39, 4733 (2006)

e + K$^+$	Excitation	20-400 eV	Th
e + K$^+$	Ionization	20-400 eV	Th

931. S. Belim, J. Lower, M. Kampp, C. T. Whelan
Spin asymmetries in the electron-impact ionization of Ar(2p).
J. Phys. B 39, 4759 (2006)

e + Ar	Angular Scattering	910 eV	E/T
e + Ar	Ionization	910 eV	E/T

932. N. R. Badnell
Dielectronic recombination of Fe^{13+}: Benchmarking the M-shell.
J. Phys. B 39, 4825 (2006)

e + Fe^{13+}	Recombination	0-230 eV	E/T

933. J. W. Maseberg, T. J. Gay
Fluorescence polarization of helium negative-ion resonances excited by polarized electron impact.
J. Phys. B 39, 4861 (2006)

e + He	Fluorescence	55-60 eV	E/T
e + He	Excitation	55-60 eV	E/T

934. S. Elazzouzi, F. Catoire, C. Dal Cappello, A. Lahmam-Bennani, I. Charpentier
Double ionization of argon by electron impact: Use of the approximate 6C model.
J. Phys. B 39, 4961 (2006)

e + Ar	Ionization	466-956 eV	E/T

935. Z.-S. Yuan, Y. Sakai, N. Umeda, Y. Fujita, T. Takayanagi, C. Yamada, N. Nakamura, S. Ohtani, L.-F. Zhu, K.-Z. Xu
Autoionization states in xenon investigated by electron impact.
J. Phys. B 39, 5097 (2006)

e + Xe	Excitation	30-500 eV	Exp
e + Xe	Ionization	30-500 eV	Exp

936. H. Cherkani-Hassani, D. S. Belic, J. J. Jureta, P. Defrance
Absolute cross sections for electron impact ionization and dissociation of $O_2{}^+$.
J. Phys. B 39, 5105 (2006)

e + $O_2{}^+$	Dissociation	4-2500 eV	Exp
e + $O_2{}^+$	Ionization	4-2500 eV	Exp

937. I. Orban, P. Glans, Z. Altun, E. Lindroth, A. Kaellberg, R. Schuch
Determination of the recombination rate coefficients for Na-like Si IV forming Mg-like Si III.
Astron. Astrophys. 459, 291 (2006)

e + Si^{3+}	Recombination	0-20 eV	E/T

938. N. J. Wilson, K. L. Bell, C. E. Hudson
Erratum: Effective collision strengths for electron impact excitation of C II.
Astron. Astrophys. 461, 765 (2007)

e + C^+	Excitation	3.0-4.5 log T(K)	Th

939. P. S. Barklem
Electron-impact excitation of neutral oxygen.
Astron. Astrophys. 462, 781 (2007)

e + O	Excitation	0-40 eV	Th

940. M. A. Bautista, N. R. Badnell
Dielectronic recombination data for dynamic finite-density plasmas. XII. The helium isoelectronic sequence.
Astron. Astrophys. 466, 755 (2007)

e + Li^+	Recombination	$10-10^7$ K	Th
e + Be^{2+}	Recombination	$10-10^7$ K	Th
e + B^{3+}	Recombination	$10-10^7$ K	Th
e + C^{4+}	Recombination	$10-10^7$ K	Th
e + N^{5+}	Recombination	$10-10^7$ K	Th
e + O^{6+}	Recombination	$10-10^7$ K	Th
e + F^{7+}	Recombination	$10-10^7$ K	Th
e + Ne^{8+}	Recombination	$10-10^7$ K	Th
e + Na^{9+}	Recombination	$10-10^7$ K	Th
e + Mg^{10+}	Recombination	$10-10^7$ K	Th
e + Al^{11+}	Recombination	$10-10^7$ K	Th
e + Si^{12+}	Recombination	$10-10^7$ K	Th
e + P^{13+}	Recombination	$10-10^7$ K	Th

e + S^{14+}	Recombination	$10 - 10^7$ K	Th
e + Cl^{15+}	Recombination	$10 - 10^7$ K	Th
e + Ar^{16+}	Recombination	$10 - 10^7$ K	Th
e + K^{17+}	Recombination	$10 - 10^7$ K	Th
e + Ca^{18+}	Recombination	$10 - 10^7$ K	Th
e + Sc^{19+}	Recombination	$10 - 10^7$ K	Th
e + Ti^{20+}	Recombination	$10 - 10^7$ K	Th
e + V^{21+}	Recombination	$10 - 10^7$ K	Th
e + Cr^{22+}	Recombination	$10 - 10^7$ K	Th
e + Mn^{23+}	Recombination	$10 - 10^7$ K	Th
e + Fe^{24+}	Recombination	$10 - 10^7$ K	Th
e + Co^{25+}	Recombination	$10 - 10^7$ K	Th
e + Ni^{26+}	Recombination	$10 - 10^7$ K	Th
e + Zn^{27+}	Recombination	$10 - 10^7$ K	Th
e + Kr^{28+}	Recombination	$10 - 10^7$ K	Th
e + Mo^{29+}	Recombination	$10 - 10^7$ K	Th
e + Xe^{30+}	Recombination	$10 - 10^7$ K	Th

941. M. C. Witthoeft, G. Del Zanna, N. R. Badnell
Atomic data from the IRON project. LXIII. Electron-impact excitation of Fe^{19+} up to n = 4.
Astron. Astrophys. 466, 763 (2007)

e + Fe^{19+}	Excitation	5-9 log(K)	Th

942. K. P. Dere
Ionization rate coefficients for the elements hydrogen through zinc.
Astron. Astrophys. 466, 771 (2007)

e + H	Ionization	$0 - 10^5$ eV	Th
e + He	Ionization	$0 - 10^5$ eV	Th
e + He^{+}	Ionization	$0 - 10^5$ eV	Th
e + Li	Ionization	$0 - 10^5$ eV	Th
e + Li^{+}	Ionization	$0 - 10^5$ eV	Th
e + Li^{2+}	Ionization	$0 - 10^5$ eV	Th
e + Be	Ionization	$0 - 10^5$ eV	Th
e + Be^{+-3+}	Ionization	$0 - 10^5$ eV	Th
e + B	Ionization	$0 - 10^5$ eV	Th
e + B^{+-4+}	Ionization	$0 - 10^5$ eV	Th
e + C	Ionization	$0 - 10^5$ eV	Th
e + C^{+-5+}	Ionization	$0 - 10^5$ eV	Th
e + N	Ionization	$0 - 10^5$ eV	Th
e + N^{+-6+}	Ionization	$0 - 10^5$ eV	Th
e + O	Ionization	$0 - 10^5$ eV	Th
e + O^{+-7+}	Ionization	$0 - 10^5$ eV	Th
e + F	Ionization	$0 - 10^5$ eV	Th
e + F^{+-8+}	Ionization	$0 - 10^5$ eV	Th
e + Ne	Ionization	$0 - 10^5$ eV	Th
e + Ne^{+-9+}	Ionization	$0 - 10^5$ eV	Th
e + Na	Ionization	$0 - 10^5$ eV	Th
e + Na^{+-10+}	Ionization	$0 - 10^5$ eV	Th
e + Mg	Ionization	$0 - 10^5$ eV	Th
e + Mg^{+-11+}	Ionization	$0 - 10^5$ eV	Th
e + Al	Ionization	$0 - 10^5$ eV	Th
e + Al^{+-12+}	Ionization	$0 - 10^5$ eV	Th
e + Si	Ionization	$0 - 10^5$ eV	Th
e + Si^{+-13+}	Ionization	$0 - 10^5$ eV	Th

e + P	Ionization	$0 - 10^5$ eV	Th
e + P^{+-14+}	Ionization	$0 - 10^5$ eV	Th
e + S	Ionization	$0 - 10^5$ eV	Th
e + S^{2+-15+}	Ionization	$0 - 10^5$ eV	Th
e + Cl	Ionization	$0 - 10^5$ eV	Th
e + Cl^{+-16+}	Ionization	$0 - 10^5$ eV	Th
e + Ar	Ionization	$0 - 10^5$ eV	Th
e + Ar^{+-17+}	Ionization	$0 - 10^5$ eV	Th
e + K	Ionization	$0 - 10^5$ eV	Th
e + K^{+-18+}	Ionization	$0 - 10^5$ eV	Th
e + Ca	Ionization	$0 - 10^5$ eV	Th
e + Ca^{+-19+}	Ionization	$0 - 10^5$ eV	Th
e + Sc	Ionization	$0 - 10^5$ eV	Th
e + Sc^{+-20+}	Ionization	$0 - 10^5$ eV	Th
e + Ti	Ionization	$0 - 10^5$ eV	Th
e + Ti^{+-21+}	Ionization	$0 - 10^5$ eV	Th
e + V	Ionization	$0 - 10^5$ eV	Th
e + V^{+-22+}	Ionization	$0 - 10^5$ eV	Th
e + Cr	Ionization	$0 - 10^5$ eV	Th
e + Cr^{+-23+}	Ionization	$0 - 10^5$ eV	Th
e + Mn	Ionization	$0 - 10^5$ eV	Th
e + Mn^{+-24+}	Ionization	$0 - 10^5$ eV	Th
e + Fe	Ionization	$0 - 10^5$ eV	Th
e + Fe^{+-25+}	Ionization	$0 - 10^5$ eV	Th
e + Co	Ionization	$0 - 10^5$ eV	Th
e + Co^{+-26+}	Ionization	$0 - 10^5$ eV	Th
e + Ni	Ionization	$0 - 10^5$ eV	Th
e + Ni^{+-27+}	Ionization	$0 - 10^5$ eV	Th
e + Cu	Ionization	$0 - 10^5$ eV	Th
e + Cu^{+-28+}	Ionization	$0 - 10^5$ eV	Th
e + Zn	Ionization	$0 - 10^5$ eV	Th
e + Zn^{+-29+}	Ionization	$0 - 10^5$ eV	Th

943. E. Takacs, B. Blagojevic, K. Makonyi, E.-O. Le Bigot, C.I. Szabo, Y.-K. Kim, J. D. Gillaspy
Direct observation of the $^2D_{3/2}$ - $^2D_{5/2}$ ground-state splitting in Xe^{9+}.
Phys. Rev. A 73, 052505 (2006)

e + Xe^{9+}	Fluorescence	100-600 eV	Exp
e + Xe^{9+}	Excitation	100-600 eV	Exp

944. R. Panajotovic, J. Lower, E. Weigold, A. Prideaux, D. H. Madison
(e,2e) measurements on xenon: Reexamination of the fine-structure effect.
Phys. Rev. A 73, 052701 (2006)

e + Xe	Angular Scattering	147.8 eV	E/T
e + Xe	Ionization	147.8 eV	E/T

945. R. S. Schappe, E. Urban
Cross sections for OH transitions due to electron impact on water molecules.
Phys. Rev. A 73, 052702 (2006)

e + H_2O	Dissociation	9-700 eV	Exp
e + H_2O	Fluorescence	9-700 eV	Exp

946. A.K.F. Haque, M. A. Uddin, A. K. Basak, K. R. Karim, B. C. Saha, F. B. Malik
Electron-impact ionization of L-shell atomic species.
Phys. Rev. A 73, 052703 (2006)

e + Li	Ionization	$10^1 - 10^5$ eV	E/T
e + Be$^+$	Ionization	$10^1 - 10^5$ eV	E/T
e + B$^+$	Ionization	$10^1 - 10^5$ eV	E/T
e + B^{2+}	Ionization	$10^1 - 10^5$ eV	E/T
e + C$^+$	Ionization	$10^1 - 10^5$ eV	E/T
e + C^{2+}	Ionization	$10^1 - 10^5$ eV	E/T
e + N^{2+}	Ionization	$10^1 - 10^5$ eV	E/T
e + N^{3+}	Ionization	$10^1 - 10^5$ eV	E/T
e + O^{3+}	Ionization	$10^1 - 10^5$ eV	E/T
e + O^{4+}	Ionization	$10^1 - 10^5$ eV	E/T
e + O^{5+}	Ionization	$10^1 - 10^5$ eV	E/T
e + Ne^{5+}	Ionization	$10^1 - 10^5$ eV	E/T
e + Ne^{6+}	Ionization	$10^1 - 10^5$ eV	E/T
e + Ne^{7+}	Ionization	$10^1 - 10^5$ eV	E/T
e + U^{88+}	Ionization	$10^1 - 10^5$ eV	E/T
e + U^{89+}	Ionization	$10^1 - 10^5$ eV	E/T

947. M. S. Pindzola, F. Robicheaux, S. D. Loch, J. P. Colgan
Electron-impact ionization of H_2 using a time-dependent close-coupling method.
Phys. Rev. A 73, 052706 (2006)

e + H$_2$	Ionization	15-100 eV	E/T

948. M. Tashiro, K. Morokuma, J. Tennyson
R-matrix calculation of electron collisions with electronically excited O_2 molecules.
Phys. Rev. A 73, 052707 (2006)

e + O$_2$	Elastic Scattering	0-15 eV	E/T
e + O$_2$*	Elastic Scattering	0-15 eV	E/T
e + O$_2$	Excitation	0-15 eV	E/T
e + O$_2$*	Excitation	0-15 eV	E/T

949. G. X. Chen, K. Kirby, N. S. Brickhouse
Dirac R-matrix calculation of electron-impact excitation of Ni XIX.
Phys. Rev. A 73, 052708 (2006)

e + Ni^{18+}	Excitation	0-180 Ry	E/T

950. A. J. Gonzalez Martinez, J. R. Crespo Lopez-Urrutia, J. Braun, G. Brenner, H. Bruhns, A. Lapierre, V. Mironov, R. Soria Orts, H. Tawara, M. Trinczek, J. Ullrich, A. N. Artemyev, Z. Harman, U. D. Jentschura, C. H. Keitel, J. H. Scofield, I. I. Tupitsyn
Benchmarking high-field few-electron correlation and QED contributions in Hg^{75+} to Hg^{78+} ions. I. Experiment.
Phys. Rev. A 73, 052710 (2006)

e + Hg^{75+}	Recombination	45-54 keV	Exp
e + Hg^{76+}	Recombination	45-54 keV	Exp
e + Hg^{77+}	Recombination	45-54 keV	Exp
e + Hg^{78+}	Recombination	45-54 keV	Exp

951. Z. Harman, I. I. Tupitsyn, A. N. Artemyev, U. D. Jentschura, C. H. Keitel, J. R. Crespo Lopez-Urrutia, A. J. Gonzalez Martinez, H. Tawara, J. Ullrich
Benchmarking high-field few-electron correlation and QED contributions in Hg^{75+} to Hg^{78+} ions. II. Theory.
Phys. Rev. A 73, 052711 (2006)

e + Hg^{75+}	Recombination	45-54 keV	Th
e + Hg^{76+}	Recombination	45-54 keV	Th
e + Hg^{77+}	Recombination	45-54 keV	Th
e + Hg^{78+}	Recombination	45-54 keV	Th

952. J. Shertzer, A. Temkin
Direct calculation of the scattering amplitude without partial-wave analysis. III. Inclusion of correlation effects.
Phys. Rev. A 74, 052701 (2006)

e + H	Elastic Scattering	0.1-0.8 Ry	Th
e + H	Angular Scattering	0.1-0.8 Ry	Th

953. F. Fremont, A. Hajaji, J.-Y. Chesnel
K-shell and total ionization cross sections following electron-molecule collisions: An empirical scaling law.
Phys. Rev. A 74, 052707 (2006)

e + C	Ionization	350-4000 eV	E/T
e + N	Ionization	350-4000 eV	E/T
e + O	Ionization	350-4000 eV	E/T
e + Ne	Ionization	350-4000 eV	E/T
e + $\mathbf{H_2O}$	Ionization	350-4000 eV	E/T
e + $\mathbf{CH_4}$	Ionization	350-4000 eV	E/T
e + $\mathbf{N_2}$	Ionization	350-4000 eV	E/T
e + $\mathbf{C_3H_4}$	Ionization	350-4000 eV	E/T

954. O. Zatsarinny, K. Bartschat, S. Gedeon, V. Gedeon, V. Lazur
Low-energy electron scattering from Ca atoms and photodetachment of Ca^-**.**
Phys. Rev. A 74, 052708 (2006)

e + Ca	Elastic Scattering	0-4 eV	E/T
e + Ca	Angular Scattering	0-4 eV	E/T

955. M. Hoerndl, S. Yoshida, A. Wolf, G. Gwinner, M. Seliger, J. Burgdorfer
Classical dynamics of enhanced low-energy electron-ion recombination in storage rings.
Phys. Rev. A 74, 052712 (2006)

e + $\mathbf{C^{6+}}$	Recombination	$10^{-5} - 10^{0}$ eV	E/T

956. W. Dai, W. G. Sun, H. Feng, L. Shen
Studies on vibrational excitation differential cross-sections of low-energy electron scattering from N_2 **molecule.**
Eur. Phys. J. D 39, 385 (2006)

e + $\mathbf{N_2}$	Angular Scattering	1.6-2.1 eV	Th
e + $\mathbf{N_2}$	Excitation	1.6-2.1 eV	Th

957. R. Riahi, Ph. Teulet, Z. Ben Lakhdar, A. Gleizes
Cross-section and rate coefficient calculation for electron impact excitation, ionisation and dissociation of H_2 **and OH molecules.**
Eur. Phys. J. D 40, 223 (2006)

e + $\mathbf{H_2}$	Dissociation	1500-15,000 deg K	Th
e + OH	Dissociation	1500-15,000 deg K	Th
e + $\mathbf{H_2}$	Excitation	1500-15,000 deg K	Th
e + OH	Excitation	1500-15,000 deg K	Th
e + $\mathbf{H_2}$	Ionization	1500-15,000 deg K	Th
e + OH	Ionization	1500-15,000 deg K	Th

958. S. Y. Yousif Al-Mulla
Low-energy electron scattering from copper.
Eur. Phys. J. D 42, 11 (2007)

e + Cu	Angular Scattering	20-100 eV	Th
e + Cu	Excitation	20-100 eV	Th

959. N. Verma, A.K.S. Jha, M. Mohan
Electron collisional excitation of argon-like Ni XI using the Breit-Pauli R-matrix method – Breit-Pauli R-matrix calculation for electron impact excitation of Ni^{10+}.
Eur. Phys. J. D 42, 235 (2007)

e + Ni^{10+}	Excitation	10-75 Ry	Th

960. Y.-K. Kim
Scaled Born cross sections for excitations of H_2 by electron impact.
J. Chem. Phys. 126, 064305 (2007)

e + H_2	Excitation	0.0-10,000 eV	Th

961. P. A. Thorn, M. J. Brunger, P.J.O. Teubner, N. Diakomichalis, T. Maddern, M. A. Bolorizadeh, W. R. Newell, H. Kato, M. Hoshino, H. Tanaka, H. Cho, Y.-K. Kim
Cross sections and oscillator strengths for electron-impact excitation of the $\tilde{A}$ $^1B_1$ electronic state of water.
J. Chem. Phys. 126, 064306 (2007)

e + H_2O	Excitation	20-200 eV	Exp

962. H. Kato, H. Kawahara, M. Hoshino, H. Tanaka, M. J. Brunger, Y.-K. Kim
Cross sections for electron impact excitation of the vibrationally resolved A $^1\Pi$ electronic state of carbon monoxide.
J. Chem. Phys. 126, 064307 (2007)

e + CO	Excitation	20-200 eV	Exp

963. C. Makochekanwa, H. Kato, M. Hoshino, M.H.F. Bettega, M.A.P. Lima, O. Sueoka, H. Tanaka
Electron and positron scattering from 1, $1 - C_2H_2F_2$.
J. Chem. Phys. 126, 164307 (2007)

e + $C_2H_2F_2$	Excitation	0-1000 eV	E/T

964. M.H.F. Bettega, M.A.P. Lima
Electron collisions with furan.
J. Chem. Phys. 126, 194317 (2007)

e + C_4H_4O	Elastic Scattering	0-15 eV	Th

965. V. Zhaunerchyk, W. D. Geppert, E. Vigren, M. Hamberg, M. Danielsson, M. Larsson, R. D. Thomas, M. Kaminska, F. Osterdahl
Dissociative recombination study of $N_3{}^+$: Cross section and branching fraction measurements.
J. Chem. Phys. 127, 014305 (2007)

e + $N_3{}^+$	Dissociation	$10^{-6} - 10^{-1}$ eV	Exp

966. A. Jablonski, F. Salvat
Solid state effect in simulations of electron elastic backscattering.
Nucl. Instrum. Methods Phys. Res. B 251, 371 (2006)

e + Al	Elastic Scattering	200-1000 eV	Th
e + Cu	Elastic Scattering	200-1000 eV	Th
e + Ag	Elastic Scattering	200-1000 eV	Th
e + Au	Elastic Scattering	200-1000 eV	Th

967. J. R. Goetz, M. Walter, J. S. Briggs
Cross-sections for (e, 3e) collisions on helium: The DS6C wavefunction.
J. Phys. B 39, 4365 (2006)

e + He	Ionization	640 eV	Th

968. S. Taioli, J. Tennyson
A wave packet method for treating nuclear dynamics on complex potentials.
J. Phys. B 39, 4379 (2006)

e + H_2O	Dissociation	3.5-10 eV	Th
e + H_2O	Excitation	3.5-10 eV	Th

969. S. S. Tayal
Electron impact excitation of forbidden and allowed transitions in O II.
J. Phys. B 39, 4393 (2006)

e + O^+	Excitation	0.1-40 eV	Th

970. G. Aussendorf, F. Juettemann, K. Muktavat, L. Sharma, R. Srivastava, A. D. Stauffer, K. Bartschat, D. V. Fursa, I. Bray, G. F. Hanne
Total polarization of the 185 nm emission line of mercury excited by electron impact.
J. Phys. B 39, 4435 (2006)

e + Hg	Excitation	15-100 eV	E/T

971. M. Mattioli, G. Mazzitelli, K. B. Fournier, M. Finkenthal, L. Carraro
Updating of atomic data needed for ionization balance evaluations of krypton and molybdenum.
J. Phys. B 39, 4457 (2006)

e + Kr	Recombination	0-5000 eV	E/T
e + Kr^{+-35+}	Recombination	0-5000 eV	E/T
e + Mo	Recombination	0-5000 eV	E/T
e + Mo^{+-41+}	Recombination	0-5000 eV	E/T
e + Kr	Ionization	0-5000 eV	E/T
e + Kr^{+-8+}	Ionization	0-5000 eV	E/T
e + Mo	Ionization	0-5000 eV	E/T
e + Mo^{+-8+}	Ionization	0-5000 eV	E/T
e + Mo^{41+}	Ionization	0-5000 eV	E/T

972. M. Lu, G. Alna'washi, M. Habibi, M. F. Gharaibeh, R. A. Phaneuf, A.L.D. Kilcoyne, E. Levenson, A. S. Schlachter, C. Cisneros, G. Hinojosa
Photoionization and electron-impact ionization of Kr^{3+}.
Phys. Rev. A 74, 062701 (2006)

e + Kr^{3+}	Ionization	39-179 eV	Exp

973. P. Kolorenc, J. Horacek
Dissociative electron attachment and vibrational excitation of the chlorine molecule.
Phys. Rev. A 74, 062703 (2006)

e + Cl_2	Attachment	0-1.5 eV	Th
e + Cl_2	Dissociation	0-1.5 eV	Th
e + Cl_2	Excitation	0-1.5 eV	Th

974. T. Topcu, M. S. Pindzola, C. P. Ballance, D. C. Griffin, F. Robicheaux
Electron-impact of highly excited hydrogenlike ions in a collinear s-wave model.
Phys. Rev. A 74, 062708 (2006)

e + H	Ionization	0-3.4 keV	Th
e + He^{+}	Ionization	0-3.4 keV	Th
e + Li^{2+}	Ionization	0-3.4 keV	Th
e + Be^{3+}	Ionization	0-3.4 keV	Th
e + B^{4+}	Ionization	0-3.4 keV	Th
e + C^{5+}	Ionization	0-3.4 keV	Th

975. X.-Y. Han, J.-M. Li
High-energy electron-impact excitation process: The generalized oscillator strengths of helium.
Phys. Rev. A 74, 062711 (2006)

e + He	Excitation	0-4 a.u.	Th

976. M. Duerr, C. Dimopoulou, B. Najjari, A. Dorn, J. Ullrich
Three-dimensional images for electron-impact single ionization of He: Complete and comprehensive (e,2e) benchmark data.
Phys. Rev. Lett. 96, 243202 (2006)

e + He	Angular Scattering	102-1000 eV	Exp
e + He	Ionization	102-1000 eV	Exp

977. M. Duerr, A. Dorn, J. Ullrich, S. P. Cao, A. Czasch, A. S. Kheifets, J. R. Goetz, J. S. Briggs
(e,3e) on helium at low impact energy: The strongly correlated three-electron continuum.
Phys. Rev. Lett. 98, 193201 (2007)

e + He	Angular Scattering	106 eV	Exp
e + He	Ionization	106 eV	Exp

978. A.K.F. Haque, M. Alfaz Uddin, A. K. Basak, K. R. Karim, B. C. Saha, F. B. Malik
Electron impact ionization of M-shell atoms.
Phys. Scr. 74, 377 (2006)

e + Si^{3+}	Ionization	$10-10^9$ eV	Th
e + S	Ionization	$10-10^9$ eV	Th
e + S^{4+}	Ionization	$10-10^9$ eV	Th
e + Cl^{2+}	Ionization	$10-10^9$ eV	Th
e + Cl^{4+}	Ionization	$10-10^9$ eV	Th
e + Cl^{5+}	Ionization	$10-10^9$ eV	Th
e + Ar	Ionization	$10-10^9$ eV	Th
e + Ar^{3+}	Ionization	$10-10^9$ eV	Th
e + Ar^{5+}	Ionization	$10-10^9$ eV	Th
e + Ar^{6+}	Ionization	$10-10^9$ eV	Th
e + K^{+}	Ionization	$10-10^9$ eV	Th
e + Ti^{5+}	Ionization	$10-10^9$ eV	Th
e + Cr^{6+}	Ionization	$10-10^9$ eV	Th
e + Cr^{7+}	Ionization	$10-10^9$ eV	Th
e + Cr^{8+}	Ionization	$10-10^9$ eV	Th

e + Cr^{10+}	Ionization	$10 - 10^9$ eV	Th
e + Fe^{6+}	Ionization	$10 - 10^9$ eV	Th
e + Fe^{9+}	Ionization	$10 - 10^9$ eV	Th
e + Fe^{11+}	Ionization	$10 - 10^9$ eV	Th
e + Ni^{12+}	Ionization	$10 - 10^9$ eV	Th
e + Ni^{14+}	Ionization	$10 - 10^9$ eV	Th
e + Pb	Ionization	$10 - 10^9$ eV	Th
e + Bi	Ionization	$10 - 10^9$ eV	Th
e + U	Ionization	$10 - 10^9$ eV	Th

979. D. Borodin, I. Beigman, L. Vainshtein, A. Pospieszczyk
Close coupling approach for heavy particle collisions with an excited atom: Transitions between n=3 states in He.
Phys. Scr. 74, 464 (2006)

e + He	Ionization	$10 - 10^5$; $10 - 10^3$ eV	Th
e + He^*	Ionization	$10 - 10^5$; $10 - 10^3$ eV	Th

980. V. I. Fisher, V. A. Bernshtam, I. R. Almiev
Direct inner-shell ionization of atomic ions by electron impact.
Phys. Scr. 74, 614 (2006)

e + Ag^{11+}	Excitation	0.6-30 keV	Th
e + Ag^{19+}	Excitation	0.6-30 keV	Th
e + Ag^{29+}	Excitation	0.6-30 keV	Th
e + Ag^{37+}	Excitation	0.6-30 keV	Th
e + Ag^{43+}	Excitation	0.6-30 keV	Th
e + Ag^{11+}	Ionization	0.6-30 keV	Th
e + Ag^{19+}	Ionization	0.6-30 keV	Th
e + Ag^{29+}	Ionization	0.6-30 keV	Th
e + Ag^{37+}	Ionization	0.6-30 keV	Th
e + Ag^{43+}	Ionization	0.6-30 keV	Th

981. C. L. Cocke
Momentum imaging in atomic collisions.
Phys. Scr. T110, 9 (2004)

e + He	Ionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T

982. H. Hotop, M.-W. Rul, I. I. Fabrikant
Resonance and threshold phenomena in low-energy electron collisions with molecules and clusters.
Phys. Scr. T110, 22 (2004)

e + CO_2	Attachment	0-1000 MeV	Exp
e + N_2O	Attachment	0-1000 MeV	Exp
e + CO_2	Excitation	0-1000 MeV	Exp
e + N_2O	Excitation	0-1000 MeV	Exp

983. M. Allan
Threshold phenomena in electron-molecule scattering.
Phys. Scr. T110, 161 (2004)

e + CO_2	Elastic Scattering	0-5 eV	Exp
e + N_2O	Elastic Scattering	0-5 eV	Exp
e + CS_2	Elastic Scattering	0-5 eV	Exp
e + CO_2	Excitation	0-5 eV	Exp
e + N_2O	Excitation	0-5 eV	Exp
e + CS_2	Excitation	0-5 eV	Exp

984. S. J. Buckman, R. Panajotovic, M. Jelisavcic
Low energy electron-molecule collision cross sections.
Phys. Scr. T110, 166 (2004)

e + NO	Elastic Scattering	0-2.5 eV	Exp
e + NO	Angular Scattering	0-2.5 eV	Exp
e + NO	Excitation	0-2.5 eV	Exp

985. A. I. Florescu, A. Suzor-Weiner, T. Leininger, F. X. Gadea
Non-adiabatic mechanisms in dissociative recombination.
Phys. Scr. T110, 172 (2004)

e + H_2^+	Dissociation	$10^{-4} - 10^{-1}$ eV	Th
e + HeH^+	Dissociation	$10^{-4} - 10^{-1}$ eV	Th
e + LiH^+	Dissociation	$10^{-4} - 10^{-1}$ eV	Th
e + H_2^+	Recombination	$10^{-4} - 10^{-1}$ eV	Th
e + HeH^+	Recombination	$10^{-4} - 10^{-1}$ eV	Th
e + LiH^+	Recombination	$10^{-4} - 10^{-1}$ eV	Th

986. C. H. Greene, V. Kokoouline
Dissociative recombination of polyatomic molecules: A new mechanism.
Phys. Scr. T110, 178 (2004)

e + H_3^+	Dissociation	$10^{-4} - 10^{+1}$ eV	Th
e + H_3^+	Recombination	$10^{-4} - 10^{+1}$ eV	Th

987. T. Odagiri, N. Kouchi
Doubly excited molecules in electron collisions as studied by coincident electron-energy-loss spectroscopy.
Phys. Scr. T110, 183 (2004)

e + H_2	Elastic Scattering	80-150 eV	Exp
e + D_2	Elastic Scattering	80-150 eV	Exp
e + N_2	Elastic Scattering	80-150 eV	Exp
e + H_2	Excitation	80-150 eV	Exp
e + D_2	Excitation	80-150 eV	Exp
e + N_2	Excitation	80-150 eV	Exp
e + H_2	Ionization	80-150 eV	Exp
e + D_2	Ionization	80-150 eV	Exp
e + N_2	Ionization	80-150 eV	Exp

988. R. Thomas
Branching between different decay channels in the dissociative recombination of poly-atomic molecules.
Phys. Scr. T110, 188 (2004)

e + H_2O^+	Dissociation	0-3 eV	Exp
e + CH_2^+	Dissociation	0-3 eV	Exp
e + NH_2^+	Dissociation	0-3 eV	Exp
e + H_2O^+	Recombination	0-3 eV	Exp
e + CH_2^+	Recombination	0-3 eV	Exp
e + NH_2^+	Recombination	0-3 eV	Exp

989. A. Wolf, L. Lammich, D. Strasser, S. Altevogt, V. Andrianarijaona, H. Buhr, O. Heber, H. Kreckel, H. B. Pedersen, D. Schwalm, D. Zajfman
Storage ring experiments with cold molecular ions: The H_3^+ puzzle.
Phys. Scr. T110, 193 (2004)

e + H_3^+	Dissociation	$10^{-4} - 50$ eV	Exp
e + H_3^+	Recombination	$10^{-4} - 50$ eV	Exp

990. I. Bray, K. Bartschat, A. T. Stelbovics
Box-based convergent close-coupling calculations of electron-hydrogen ionisation cross sections.
Phys. Scr. T110, 200 (2004)

e + H	Angular Scattering	15.6 eV	Th
e + H	Ionization	15.6 eV	Th

991. A. Chutjian
Ion collisions in the highly charged universe.
Phys. Scr. T110, 203 (2004)

e + H_3^+	Dissociation	0-42 eV	E/T
e + Si^{11+}	Recombination	0-42 eV	E/T
e + H_3^+	Recombination	0-42 eV	E/T
e + He^+	Excitation	0-42 eV	E/T
e + Fe^{9+}	Excitation	0-42 eV	E/T

992. P. Glans, M. Fogle, S. Madzunkov, M. Tokman, D. Nikolic, T. Mohamed, N. Ekloew, N. R. Badnell, E. Lindroth, R. Schuch
Dielectronic recombination used as a tool for spectroscopic studies of highly charged ions.
Phys. Scr. T110, 212 (2004)

e + N^{4+}	Recombination	0-1.6 eV	E/T

993. J. Lower, R. Panajotovic, E. Weigold
Recent progress in quantum-state resolved ionization experiments.
Phys. Scr. T110, 216 (2004)

e + He^+	Angular Scattering	150-273 eV	Exp
e + Xe	Angular Scattering	150-273 eV	Exp
e + He^+	Excitation	150-273 eV	Exp
e + Xe	Excitation	150-273 eV	Exp
e + He^+	Ionization	150-273 eV	Exp
e + Xe	Ionization	150-273 eV	Exp

994. M. A. Khakoo, J. G. Childers
Measurements of differential and doubly-differential cross-sections for electron impact elastic scattering, excitation, and ionization of atomic hydrogen.
Phys. Scr. T110, 222 (2004)

e + H	Elastic Scattering	14.6-40 eV	Exp
e + H	Angular Scattering	14.6-40 eV	Exp
e + H	Excitation	14.6-40 eV	Exp
e + H	Ionization	14.6-40 eV	Exp

995. F. Catoire, A. Lahmam-Bennani, A. Duguet
Coincidence angular correlations between scattered, ejected and Auger electrons in electron impact double ionization.
Phys. Scr. T110, 228 (2004)

e + Ar	Angular Scattering	466-956 eV	Exp
e + Ar	Ionization	466-956 eV	Exp

996. C. J. Noble
Benchmark calculations for electron collisions with atoms, ions and molecules.
Phys. Scr. T110, 233 (2004)

e + H	Angular Scattering	10-100 eV	Th
e + He	Angular Scattering	10-100 eV	Th
e + Li	Angular Scattering	10-100 eV	Th
e + $\mathbf{B^{+}}$	Excitation	10-100 eV	Th
e + $\mathbf{Si^{2+}}$	Excitation	10-100 eV	Th
e + $\mathbf{Fe^{+}}$	Excitation	10-100 eV	Th
e + Kr	Excitation	10-100 eV	Th
e + $\mathbf{CO_2}$	Excitation	10-100 eV	Th
e + H	Ionization	10-100 eV	Th
e + He	Ionization	10-100 eV	Th
e + Li	Ionization	10-100 eV	Th

997. R. Srivastava, K. Muktavat, A. D. Stauffer
Electron impact excitation of atoms in the relativistic distorted wave approximation.
Phys. Scr. T110, 241 (2004)

e + Hg	Excitation	8-40 eV	Th

998. A. T. Stelbovics, P. L. Bartlett, I. Bray, A. S. Kadyrov
Three body coulomb scattering above the ionization threshold.
Phys. Scr. T110, 247 (2004)

e + H	Ionization	55 eV	Th

999. M. Kitajima, R. Suzuki, E. Persson, J. Burgdorfer, B. E. Tannian, C. L. Stokely, F. B. Dunning
Detection of non-emissive CH_3 and CH_2 radicals via low-lying electronic states of CH_4 by electron impact.
Phys. Scr. T110, 420 (2004)

e + $\mathbf{CH_4}$	Dissociation	7-15 eV	Exp

1000. M. Melendez, M. A. Bautista, N. R. Badnell
Atomic data from the IRON project. LXIV. Radiative transition rates and collision strengths for Ca II.
Astron. Astrophys. 469, 1203 (2007)

e + $\mathbf{Ca^{+}}$	Excitation	0.0-1.0 Ry	Th

1001. D. V. Lukic, M. Schnell, D. W. Savin, C. Brandau, E. W. Schmidt, S. Boehm, A. Mueller, S. Schippers, M. Lestinsky, F. Sprenger, A. Wolf, N. R. Badnell
Dielectronic recombination of Fe XV forming Fe XIV: Laboratory measurements and theoretical calculations.
Astrophys. J., Part 1 664, 1244 (2007)

e + $\mathbf{Fe^{14+}}$	Recombination	0-45 eV	E/T

1002. I. Linert, M. Zubek
Differential cross sections for electron impact vibrational excitation of molecular oxygen in the angular range 10 deg **to 180** deg**.**
J. Phys. B 39, 4087 (2006)

e + $\mathbf{O_2}$	Excitation	10 eV	Exp

1003. M. Durr, C. Dimopoulou, A. Dorn, B. Najjari, I. Bray, D. V. Fursa, Z. Chen, D. H. Madison, K. Bartschat, J. Ullrich
Single ionization of helium by 102 eV electron impact: Three-dimensional images for electron emission.
J. Phys. B 39, 4097 (2006)

e + He	Ionization	102 eV	Exp

1004. J. F. Williams, A. G. Mikosza
Atomic hydrogen revisited: Electron impact excitation to H(2p) at 54 eV.
J. Phys. B 39, 4113 (2006)

e + H	Excitation	54.4 eV	Exp

1005. M. Lange, J. Matsumoto, J. Lower, S. Buckman, O. Zatsarinny, K. Bartschat, I. Bray, D. Fursa
Benchmark experiment and theory for near-threshold excitation of helium by electron impact.
J. Phys. B 39, 4179 (2006)

e + He	Excitation	20.30-23.48 eV	E/T

1006. A. Faure, V. Kokoouline, C. H. Greene, J. Tennyson
Near-threshold rotational excitation of molecular ions by electron impact.
J. Phys. B 39, 4261 (2006)

e + H_3^+	Excitation	0.02-0.3 eV	Th

1007. A. Domaracka, P. Mozejko, E. Ptasinska-Denga, C. Szmytkowski
Electron collision with $B(CD_3)_3$ molecules.
J. Phys. B 39, 4289 (2006)

e + $B(CD_3)_3$	Elastic Scattering	0.4-370 eV	Exp
e + $B(CH_3)_3$	Elastic Scattering	0.4-370 eV	Exp

1008. M. Allan, O. Zatsarinny, K. Bartschat
Near-threshold absolute angle-differential cross sections for electron-impact excitation of argon and xenon.
Phys. Rev. A 74, 030701 (2006)

e + Ar	Angular Scattering	8-17 eV	E/T
e + Xe	Angular Scattering	8-17 eV	E/T
e + Ar	Excitation	8-17 eV	E/T
e + Xe	Excitation	8-17 eV	E/T

1009. I. A. Mikhailov, V. Kokoouline, A. Larson, S. Tonzani, C. H. Greene
Renner-Teller effects in HCO^+ dissociative recombination.
Phys. Rev. A 74, 032707 (2006)

e + HCO^+	Dissociation	0.001-0.2 eV	Th
e + HCO^+	Recombination	0.001-0.2 eV	Th

1010. M. Lukomski, S. Sutton, W. Kedzierski, T. J. Reddish, K. Bartschat, P. L. Bartlett, I. Bray, A. T. Stelbovics, J. W. McConkey
Electron-impact ionization cross sections out of the ground and 6 ^2P excited states of cesium.
Phys. Rev. A 74, 032708 (2006)

e + Cs	Ionization	7-400 eV	E/T
e + Cs*	Ionization	7-400 eV	E/T

1011. H. Munjal, K. L. Baluja
Low-energy electron scattering with polar molecule NH_3 using the R-matrix method.
Phys. Rev. A 74, 032712 (2006)

e + NH_3	Elastic Scattering	0.0225-20 eV	Th
e + NH_3	Angular Scattering	0.0225-20 eV	Th
e + NH_3	Excitation	0.0225-20 eV	Th

1012. B. A. deHarak, J. G. Childers, N.L.S. Martin
Ejected electron spectrum of He below the N=2 threshold.
Phys. Rev. A 74, 032714 (2006)

e + He	Ionization	75-550 eV	Exp

1013. I. Bray, D. V. Fursa, A. T. Stelbovics
Electron-impact ionization of helium with large energy transfer.
Phys. Rev. A 74, 034702 (2006)

e + He	Angular Scattering	730 eV	Th
e + He	Ionization	730 eV	Th

1014. K. L. Bell, C. A. Ramsbottom
Effective collision strengths for electron-impact excitation of S X.
At. Data Nucl. Data Tables 76, 176 (2000)

e + S^{9+}	Excitation	$10^4 - 10^7$ K	Th

1015. S. S. Tayal
Effective collision strengths for electron impact excitation of N I.
At. Data Nucl. Data Tables 76, 191 (2000)

e + N	Excitation	$10^3 - 6x10^5$ K	Th

1016. M. Liu, Z. An, C. Tang, Z. Luo, X. Peng, X. Long
Experimental electron-impact K-shell ionization cross sections.
At. Data Nucl. Data Tables 76, 213 (2000)

e + H	Ionization	$10^{-2} - 10^5$ keV	Exp
e + He	Ionization	$10^{-2} - 10^5$ keV	Exp
e + C	Ionization	$10^{-2} - 10^5$ keV	Exp
e + N	Ionization	$10^{-2} - 10^5$ keV	Exp
e + O	Ionization	$10^{-2} - 10^5$ keV	Exp
e + Ne	Ionization	$10^{-2} - 10^5$ keV	Exp
e + Na	Ionization	$10^{-2} - 10^5$ keV	Exp
e + Mg	Ionization	$10^{-2} - 10^5$ keV	Exp
e + Al	Ionization	$10^{-2} - 10^5$ keV	Exp
e + Si	Ionization	$10^{-2} - 10^5$ keV	Exp
e + Cl	Ionization	$10^{-2} - 10^5$ keV	Exp
e + Ar	Ionization	$10^{-2} - 10^5$ keV	Exp
e + K	Ionization	$10^{-2} - 10^5$ keV	Exp
e + Ca	Ionization	$10^{-2} - 10^5$ keV	Exp
e + Ti	Ionization	$10^{-2} - 10^5$ keV	Exp
e + V	Ionization	$10^{-2} - 10^5$ keV	Exp

e + Cr	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Mn	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Fe	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Co	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Ni	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Cu	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Zn	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Ge	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + As	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Se	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Br	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Kr	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Rb	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Sr	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Y	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Zr	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Nb	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Mo	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Pd	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Ag	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Cd	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + In	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Sn	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Sb	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Te	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Xe	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Ba	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + La	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Ce	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Pr	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Nd	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Sm	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Eu	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Gd	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Ho	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Er	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Tm	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Yb	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Ta	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + W	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Pt	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Au	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Pb	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + Bi	Ionization	$10^{-2} - 10^{5}$ keV	Exp
e + U	Ionization	$10^{-2} - 10^{5}$ keV	Exp

1017. A. K. Bhatia, W. Eissner
Atomic data and spectral line intensities for Fe VIII.
At. Data Nucl. Data Tables 76, 270 (2000)

e + $\mathbf{Fe^{7+}}$	Excitation	10-70 Ry	Th

1018. C. A. Ramsbottom, K. L. Bell, F. P. Keenan
Effective collision strengths for electron impact excitation of Cl III.
At. Data Nucl. Data Tables 77, 57 (2001)

e + $\mathbf{Cl^{2+}}$	Excitation	7500-200,000 K	Th

1019. A. M. Samson, K. A. Berrington
Electron impact excitation cross sections and rates from the ground state of atomic calcium.
At. Data Nucl. Data Tables 77, 87 (2001)

e + Ca	Excitation	1000-10,000 K	Th

1020. R. Celiberto, R. K. Janev, A. Laricchiuta, M. Capitelli, J. M. Wadehra, D. E. Atems
Cross section data for electron-impact inelastic processes of vibrationally excited molecules of hydrogen and its isotopes.
At. Data Nucl. Data Tables 77, 161 (2001)

e + H_2	Attachment	0-200 eV	E/T
e + H_2^*	Attachment	0-200 eV	E/T
e + HD	Attachment	0-200 eV	E/T
e + HD^*	Attachment	0-200 eV	E/T
e + HT	Attachment	0-200 eV	E/T
e + HT^*	Attachment	0-200 eV	E/T
e + D_2	Attachment	0-200 eV	E/T
e + D_2^*	Attachment	0-200 eV	E/T
e + DT	Attachment	0-200 eV	E/T
e + DT^*	Attachment	0-200 eV	E/T
e + T_2	Attachment	0-200 eV	E/T
e + T_2^*	Attachment	0-200 eV	E/T
e + H_2	Dissociation	0-200 eV	E/T
e + H_2^*	Dissociation	0-200 eV	E/T
e + D_2	Dissociation	0-200 eV	E/T
e + D_2^*	Dissociation	0-200 eV	E/T
e + DT	Dissociation	0-200 eV	E/T
e + DT^*	Dissociation	0-200 eV	E/T
e + T_2	Dissociation	0-200 eV	E/T
e + T_2^*	Dissociation	0-200 eV	E/T
e + H_2	Excitation	0-200 eV	E/T
e + H_2^*	Excitation	0-200 eV	E/T
e + D_2	Excitation	0-200 eV	E/T
e + D_2^*	Excitation	0-200 eV	E/T
e + DT	Excitation	0-200 eV	E/T
e + DT^*	Excitation	0-200 eV	E/T
e + T_2	Excitation	0-200 eV	E/T
e + T_2^*	Excitation	0-200 eV	E/T
e + H_2	Ionization	0-200 eV	E/T
e + H_2^*	Ionization	0-200 eV	E/T
e + D_2	Ionization	0-200 eV	E/T
e + D_2^*	Ionization	0-200 eV	E/T

1021. C. Y. Chen, J. B. Qi, Y. S. Wang, F. J. Yang, X. J. Xu, Y. S. Sun
Electron-ion collisional ionization cross sections and rates for the Na isoelectronic sequence.
At. Data Nucl. Data Tables 79, 65 (2001)

e + Ar^{7+}	Ionization	$10^2 - 10^7$ K	Th
e + Ar^{7+*}	Ionization	$10^2 - 10^7$ K	Th
e + Ti^{11+}	Ionization	$10^2 - 10^7$ K	Th
e + Ti^{11+*}	Ionization	$10^2 - 10^7$ K	Th
e + Cr^{13+}	Ionization	$10^2 - 10^7$ K	Th
e + Cr^{13+*}	Ionization	$10^2 - 10^7$ K	Th
e + Fe^{15+}	Ionization	$10^2 - 10^7$ K	Th

e + Fe^{15+*}	Ionization	$10^2 - 10^7$ K	Th
e + Zn^{19+}	Ionization	$10^2 - 10^7$ K	Th
e + Zn^{19+*}	Ionization	$10^2 - 10^7$ K	Th
e + Ge^{21+}	Ionization	$10^2 - 10^7$ K	Th
e + Ge^{21+*}	Ionization	$10^2 - 10^7$ K	Th
e + Se^{23+}	Ionization	$10^2 - 10^7$ K	Th
e + Se^{23+*}	Ionization	$10^2 - 10^7$ K	Th
e + Y^{28+}	Ionization	$10^2 - 10^7$ K	Th
e + Y^{28+*}	Ionization	$10^2 - 10^7$ K	Th

1022. T. Shirai, T. Tabata, H. Tawara
Analytic cross sections for electron collisions with CO, CO_2, and H_2O relevant to edge plasma impurities.
At. Data Nucl. Data Tables 79, 143 (2001)

e + H_2O	Dissociation	1-10,000 eV	E/T
e + CO	Dissociation	1-10,000 eV	E/T
e + CO_2	Dissociation	1-10,000 eV	E/T
e + H_2O	Elastic Scattering	1-10,000 eV	E/T
e + CO	Elastic Scattering	1-10,000 eV	E/T
e + CO_2	Elastic Scattering	1-10,000 eV	E/T
e + H_2O	Total Scattering	1-10,000 eV	E/T
e + CO	Total Scattering	1-10,000 eV	E/T
e + CO_2	Total Scattering	1-10,000 eV	E/T
e + H_2O	Excitation	1-10,000 eV	E/T
e + CO	Excitation	1-10,000 eV	E/T
e + CO_2	Excitation	1-10,000 eV	E/T
e + H_2O	Ionization	1-10,000 eV	E/T
e + CO	Ionization	1-10,000 eV	E/T
e + CO_2	Ionization	1-10,000 eV	E/T

1023. A. Ichihara, J. Eichler
Angle-differential cross sections for radiative recombination and the photoelectric effect in the K, L, and M shells of one-electron systems calculated within an exact relativistic description.
At. Data Nucl. Data Tables 79, 187 (2001)

e + Ar^{18+}	Recombination	0.001-1.5 MeV	Th
e + Kr^{36+}	Recombination	0.001-1.5 MeV	Th
e + Xe^{54+}	Recombination	0.001-1.5 MeV	Th
e + Dy^{66+}	Recombination	0.001-1.5 MeV	Th
e + Au^{79+}	Recombination	0.001-1.5 MeV	Th
e + Pb^{82+}	Recombination	0.001-1.5 MeV	Th
e + U^{92+}	Recombination	0.001-1.5 MeV	Th

1024. T. Shirai, T. Tabata, H. Tawara, Y. Itikawa
Analytic cross sections for electron collisions with hydrocarbons: CH_4, C_2H_6, C_2H_4, C_2H_2, C_3H_8, and C_3H_6.
At. Data Nucl. Data Tables 80, 147 (2002)

e + CH_4	Attachment		E/T
e + C_2H_2	Attachment		E/T
e + C_2H_4	Attachment		E/T
e + C_2H_6	Attachment		E/T
e + C_3H_6	Attachment		E/T
e + C_3H_8	Attachment		E/T
e + CH_4	Dissociation		E/T

e + C_2H_2	Dissociation		E/T
e + C_2H_4	Dissociation		E/T
e + C_2H_6	Dissociation		E/T
e + C_3H_6	Dissociation		E/T
e + C_3H_8	Dissociation		E/T
e + CH_4	Elastic Scattering		E/T
e + C_2H_2	Elastic Scattering		E/T
e + C_2H_4	Elastic Scattering		E/T
e + C_2H_6	Elastic Scattering		E/T
e + C_3H_6	Elastic Scattering		E/T
e + C_3H_8	Elastic Scattering		E/T
e + CH_4	Total Scattering		E/T
e + C_2H_2	Total Scattering		E/T
e + C_2H_4	Total Scattering		E/T
e + C_2H_6	Total Scattering		E/T
e + C_3H_6	Total Scattering		E/T
e + C_3H_8	Total Scattering		E/T
e + CH_4	Excitation		E/T
e + C_2H_2	Excitation		E/T
e + C_2H_4	Excitation		E/T
e + C_2H_6	Excitation		E/T
e + C_3H_6	Excitation		E/T
e + C_3H_8	Excitation		E/T
e + CH_4	Ionization		E/T
e + C_2H_2	Ionization		E/T
e + C_2H_4	Ionization		E/T
e + C_2H_6	Ionization		E/T
e + C_3H_6	Ionization		E/T
e + C_3H_8	Ionization		E/T

1025. A. K. Bhatia, G. A. Doschek, W. Eissner
Atomic data and spectral line intensities for Fe XI.
At. Data Nucl. Data Tables 82, 211 (2002)

e + Fe^{10+}	Excitation	1-75 Ry	Th

1026. G. Mazzitelli, M. Mattioli
Ionization balance for optically thin plasmas: Rate coefficients for Cu, Zn, Ga, and Ge ions.
At. Data Nucl. Data Tables 82, 313 (2002)

e + Cu^{+-29+}	Recombination	0-10,000 K	Th
e + Zn^{+-30+}	Recombination	0-10,000 K	Th
e + Ga^{+-31+}	Recombination	0-10,000 K	Th
e + Ge^{+-32+}	Recombination	0-10,000 K	Th
e + Cu^{4+-28+}	Ionization	0-10,000 K	Th
e + Zn^{5+-29+}	Ionization	0-10,000 K	Th
e + Ga^{6+-30+}	Ionization	0-10,000 K	Th
e + Ge^{7+-31+}	Ionization	0-10,000 K	Th

1027. H. L. Zhang, D. H. Sampson
Relativistic distorted-wave collision strengths and oscillator strengths for the 45Δ=0 transitions with n=2 in the 79 O-like ions with 14¡Z¡92.
At. Data Nucl. Data Tables 82, 357 (2002)

hν + Si^{6+}	Excitation	0-10,000 Ry	Th
hν + P^{7+}	Excitation	0-10,000 Ry	Th

hν + **S**$^{8+}$	Excitation	0-10,000 Ry	Th
hν + **Cl**$^{9+}$	Excitation	0-10,000 Ry	Th
hν + **Ar**$^{10+}$	Excitation	0-10,000 Ry	Th
hν + **K**$^{11+}$	Excitation	0-10,000 Ry	Th
hν + **Ca**$^{12+}$	Excitation	0-10,000 Ry	Th
hν + **Sc**$^{13+}$	Excitation	0-10,000 Ry	Th
hν + **Ti**$^{14+}$	Excitation	0-10,000 Ry	Th
hν + **V**$^{15+}$	Excitation	0-10,000 Ry	Th
hν + **Cr**$^{16+}$	Excitation	0-10,000 Ry	Th
hν + **Mn**$^{17+}$	Excitation	0-10,000 Ry	Th
hν + **Fe**$^{18+}$	Excitation	0-10,000 Ry	Th
hν + **Co**$^{19+}$	Excitation	0-10,000 Ry	Th
hν + **Ni**$^{20+}$	Excitation	0-10,000 Ry	Th
hν + **Cu**$^{21+}$	Excitation	0-10,000 Ry	Th
hν + **Zn**$^{22+}$	Excitation	0-10,000 Ry	Th
hν + **Ga**$^{23+}$	Excitation	0-10,000 Ry	Th
hν + **Ge**$^{24+}$	Excitation	0-10,000 Ry	Th
hν + **As**$^{25+}$	Excitation	0-10,000 Ry	Th
hν + **Se**$^{26+}$	Excitation	0-10,000 Ry	Th
hν + **Br**$^{27+}$	Excitation	0-10,000 Ry	Th
hν + **Kr**$^{28+}$	Excitation	0-10,000 Ry	Th
hν + **Rb**$^{29+}$	Excitation	0-10,000 Ry	Th
hν + **Sr**$^{30+}$	Excitation	0-10,000 Ry	Th
hν + **Y**$^{31+}$	Excitation	0-10,000 Ry	Th
hν + **Zr**$^{32+}$	Excitation	0-10,000 Ry	Th
hν + **Nb**$^{33+}$	Excitation	0-10,000 Ry	Th
hν + **Mo**$^{34+}$	Excitation	0-10,000 Ry	Th
hν + **Tc**$^{35+}$	Excitation	0-10,000 Ry	Th
hν + **Ru**$^{36+}$	Excitation	0-10,000 Ry	Th
hν + **Rh**$^{37+}$	Excitation	0-10,000 Ry	Th
hν + **Pd**$^{38+}$	Excitation	0-10,000 Ry	Th
hν + **Ag**$^{39+}$	Excitation	0-10,000 Ry	Th
hν + **Cd**$^{40+}$	Excitation	0-10,000 Ry	Th
hν + **In**$^{41+}$	Excitation	0-10,000 Ry	Th
hν + **Sn**$^{42+}$	Excitation	0-10,000 Ry	Th
hν + **Sb**$^{43+}$	Excitation	0-10,000 Ry	Th
hν + **Te**$^{44+}$	Excitation	0-10,000 Ry	Th
hν + **I**$^{45+}$	Excitation	0-10,000 Ry	Th
hν + **Xe**$^{46+}$	Excitation	0-10,000 Ry	Th
hν + **Cs**$^{47+}$	Excitation	0-10,000 Ry	Th
hν + **Ba**$^{48+}$	Excitation	0-10,000 Ry	Th
hν + **La**$^{49+}$	Excitation	0-10,000 Ry	Th
hν + **Ce**$^{50+}$	Excitation	0-10,000 Ry	Th
hν + **Pr**$^{51+}$	Excitation	0-10,000 Ry	Th
hν + **Nd**$^{52+}$	Excitation	0-10,000 Ry	Th
hν + **Pm**$^{53+}$	Excitation	0-10,000 Ry	Th
hν + **Sm**$^{54+}$	Excitation	0-10,000 Ry	Th
hν + **Eu**$^{55+}$	Excitation	0-10,000 Ry	Th
hν + **Gd**$^{56+}$	Excitation	0-10,000 Ry	Th
hν + **Tb**$^{57+}$	Excitation	0-10,000 Ry	Th
hν + **Dy**$^{58+}$	Excitation	0-10,000 Ry	Th
hν + **Ho**$^{59+}$	Excitation	0-10,000 Ry	Th
hν + **Er**$^{60+}$	Excitation	0-10,000 Ry	Th
hν + **Tm**$^{61+}$	Excitation	0-10,000 Ry	Th
hν + **Yb**$^{62+}$	Excitation	0-10,000 Ry	Th
hν + **Lu**$^{63+}$	Excitation	0-10,000 Ry	Th
hν + **Hf**$^{64+}$	Excitation	0-10,000 Ry	Th

hν + $\mathbf{Ta}^{65+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{W}^{66+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Re}^{67+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Os}^{68+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Ir}^{69+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Pt}^{70+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Au}^{71+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Hg}^{72+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Tl}^{73+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Pb}^{74+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Bi}^{75+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Po}^{76+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{At}^{77+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Rn}^{78+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Fr}^{79+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Ra}^{80+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Ac}^{81+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Th}^{82+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{Pa}^{81+}$	Excitation	0-10,000 Ry	Th
hν + $\mathbf{U}^{82+}$	Excitation	0-10,000 Ry	Th

1028. H. Merabet, R. Bruch, J. Hanni, M. Bailey, A. L. Godunov, J. H. McGuire, D. V. Fursa, I. Bray, K. Bartschat, H. C. Tseng, C. D. Lin
Scattering angle-integrated (total) and magnetic sublevel cross-sections and degree of linear polarization for electron and proton induced excitation [HeI (1snp) $^1P^0$ (n=2-5)] of helium.
At. Data Nucl. Data Tables 83, 45 (2003)

e + He	Excitation	$3x10^{-5} - 1.4$ MeV	E/T

1029. A. K. Bhatia, E. Landi, H. E. Mason
Atomic data and spectral line intensities for Ni XXI.
At. Data Nucl. Data Tables 83, 71 (2003)

e + $\mathbf{Ni}^{20+}$	Excitation	85-425 Ry	Th

1030. A. K. Bhatia, R. J. Thomas, E. Landi
Atomic data and spectral line intensities for Ne III.
At. Data Nucl. Data Tables 83, 113 (2003)

e + $\mathbf{Ne}^{2+}$	Excitation	5-45 Ry	Th

1031. A. K. Bhatia, G. A. Doschek
Atomic data and spectral line intensities for Fe XVII.
At. Data Nucl. Data Tables 85, 1 (2003)

e + $\mathbf{Fe}^{16+}$	Excitation	58.5-425 Ry	Th

1032. C. A. Ramsbottom, K. L. Bell, F. P. Keenan, A. Matthews
Effective collision strengths for electron impact excitation of Si VIII.
At. Data Nucl. Data Tables 85, 69 (2003)

e + $\mathbf{Si}^{7+}$	Excitation	$10^4 - 10^7$ K	Th

1033. A. K. Bhatia, E. Landi
Atomic data and spectral line intensities for S IX.
At. Data Nucl. Data Tables 85, 169 (2003)

e + S^{8+}	Excitation	25-125 Ry	Th

1034. N. J. Wilson, K. L. Bell
Effective collision strengths for electron impact excitation of Cl II.
At. Data Nucl. Data Tables 85, 255 (2003)

e + Cl^{+}	Excitation	1000-1,000,000 K	Th

1035. M. S. Dimitrijevic, S. Sahal-Brechot
Stark broadening of Ag I spectral lines.
At. Data Nucl. Data Tables 85, 269 (2003)

e + Ag	Line Broadening	2500-50,000 K	Th

1036. A. K. Bhatia, E. Landi
Atomic data and spectral line intensities for Si VIII.
At. Data Nucl. Data Tables 85, 317 (2003)

e + Si^{7+}	Excitation	20-80 Ry	Th

1037. P. L. Bartlett, A. T. Stelbovics
Electron-impact ionization cross sections for elements Z=1 to Z-54.
At. Data Nucl. Data Tables 86, 235 (2004)

e + H	Ionization	5-10,000 eV	Th
e + He	Ionization	5-10,000 eV	Th
e + Li	Ionization	5-10,000 eV	Th
e + Be	Ionization	5-10,000 eV	Th
e + B	Ionization	5-10,000 eV	Th
e + C	Ionization	5-10,000 eV	Th
e + N	Ionization	5-10,000 eV	Th
e + O	Ionization	5-10,000 eV	Th
e + F	Ionization	5-10,000 eV	Th
e + Ne	Ionization	5-10,000 eV	Th
e + Na	Ionization	5-10,000 eV	Th
e + Mg	Ionization	5-10,000 eV	Th
e + Al	Ionization	5-10,000 eV	Th
e + Si	Ionization	5-10,000 eV	Th
e + P	Ionization	5-10,000 eV	Th
e + S	Ionization	5-10,000 eV	Th
e + Cl	Ionization	5-10,000 eV	Th
e + Ar	Ionization	5-10,000 eV	Th
e + Ca	Ionization	5-10,000 eV	Th
e + Sc	Ionization	5-10,000 eV	Th
e + Ti	Ionization	5-10,000 eV	Th
e + V	Ionization	5-10,000 eV	Th
e + Cr	Ionization	5-10,000 eV	Th
e + Mn	Ionization	5-10,000 eV	Th
e + Fe	Ionization	5-10,000 eV	Th
e + Co	Ionization	5-10,000 eV	Th
e + Ni	Ionization	5-10,000 eV	Th
e + Cu	Ionization	5-10,000 eV	Th
e + Zn	Ionization	5-10,000 eV	Th
e + Ga	Ionization	5-10,000 eV	Th
e + Ge	Ionization	5-10,000 eV	Th
e + As	Ionization	5-10,000 eV	Th
e + Se	Ionization	5-10,000 eV	Th

e + Br	Ionization	5-10,000 eV	Th
e + Kr	Ionization	5-10,000 eV	Th
e + Rb	Ionization	5-10,000 eV	Th
e + Sr	Ionization	5-10,000 eV	Th
e + Y	Ionization	5-10,000 eV	Th
e + Zr	Ionization	5-10,000 eV	Th
e + Nb	Ionization	5-10,000 eV	Th
e + Mo	Ionization	5-10,000 eV	Th
e + Tc	Ionization	5-10,000 eV	Th
e + Ru	Ionization	5-10,000 eV	Th
e + Rh	Ionization	5-10,000 eV	Th
e + Pd	Ionization	5-10,000 eV	Th
e + Ag	Ionization	5-10,000 eV	Th
e + Cd	Ionization	5-10,000 eV	Th
e + In	Ionization	5-10,000 eV	Th
e + Sn	Ionization	5-10,000 eV	Th
e + Sb	Ionization	5-10,000 eV	Th
e + Te	Ionization	5-10,000 eV	Th
e + I	Ionization	5-10,000 eV	Th
e + Xe	Ionization	5-10,000 eV	Th

1038. G. Liang, G. Dong, J. Zeng
Atomic data and spectral line intensities for Ar XIII.
At. Data Nucl. Data Tables 88, 83 (2004)

e + $\mathbf{Ar}^{12+}$	Excitation	$10^5 - 10^7$ K	Th

1039. J. Y. Zhong, J. Zhang, J. L. Zeng, G. Zhao, M. F. Gu
Energy levels, transition probabilities, and electron impact excitations for possible X-ray line emissions of Ni-like tantalum ions.
At. Data Nucl. Data Tables 89, 101 (2005)

e + $\mathbf{Ta}^{45+}$	Excitation	4-600 Ry	Th

1040. W. Eissner, E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ar XII.
At. Data Nucl. Data Tables 89, 139 (2005)

e + $\mathbf{Ar}^{11+}$	Excitation	35-175 Ry	Th

1041. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ne III.
At. Data Nucl. Data Tables 89, 195 (2005)

e + $\mathbf{Ne}^{2+}$	Excitation	5.2-25 Ry	Th

1042. I. Murakami, U. I. Safronova, A. A. Vasilyev, T. Kato
Excitation energies, radiative and autoionization rates, dielectronic satellite lines, and dielectronic recombination rates to excited states for B-like oxygen.
At. Data Nucl. Data Tables 90, 1 (2005)

e + $\mathbf{O}^{3+}$	Recombination	0.1-120 eV	Th

1043. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ca XIV.
At. Data Nucl. Data Tables 90, 177 (2005)

e + $\mathbf{Ca}^{13+}$	Excitation	45-255 Ry	Th

1044. J. Zeng, J. Zhong, G. Zhao, J. Yuan
Electron impact collision strengths and oscillator strengths for Ni-like Nd, Sm, Eu, Gd, Ta, and W ions.
At. Data Nucl. Data Tables 90, 259 (2005)

e + Nd^{32+}	Excitation	5-20,000 eV	Th
e + Sm^{34+}	Excitation	5-20,000 eV	Th
e + Eu^{35+}	Excitation	5-20,000 eV	Th
e + Gd^{36+}	Excitation	5-20,000 eV	Th
e + Ta^{45+}	Excitation	5-20,000 eV	Th
e + W^{46+}	Excitation	5-20,000 eV	Th

1045. M. Adibzadeh, C. E. Theodosiou
Elastic electron scattering from inert-gas atoms.
At. Data Nucl. Data Tables 91, 8 (2005)

e + He	Elastic Scattering	1-1000 eV	Th
e + Ne	Elastic Scattering	1-1000 eV	Th
e + Ar	Elastic Scattering	1-1000 eV	Th
e + Kr	Elastic Scattering	1-1000 eV	Th
e + Xe	Elastic Scattering	1-1000 eV	Th
e + He	Angular Scattering	1-1000 eV	Th
e + Ne	Angular Scattering	1-1000 eV	Th
e + Ar	Angular Scattering	1-1000 eV	Th
e + Kr	Angular Scattering	1-1000 eV	Th
e + Xe	Angular Scattering	1-1000 eV	Th
e + He	Total Scattering	1-1000 eV	Th
e + Ne	Total Scattering	1-1000 eV	Th
e + Ar	Total Scattering	1-1000 eV	Th
e + Kr	Total Scattering	1-1000 eV	Th
e + Xe	Total Scattering	1-1000 eV	Th

1046. A. K. Bhatia, E. Landi, W. Eissner
Atomic data and spectral line intensities for Mg V.
At. Data Nucl. Data Tables 92, 105 (2006)

e + Mg^{4+}	Excitation	10-50 Ry	Th

1047. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ar XI.
At. Data Nucl. Data Tables 92, 305 (2006)

e + Ar^{10+}	Excitation	30-150 Ry	Th

1048. T. Tabata, T. Shirai, M. Sataka, H. Kubo
Analytic cross sections for electron impact collisions with nitrogen molecules.
At. Data Nucl. Data Tables 92, 375 (2006)

e + $\mathbf{N_2}$	Dissociation	$10^{-2} - 10^4$ eV	E/T
e + $\mathbf{N_2}^+$	Dissociation	$10^{-2} - 10^4$ eV	E/T
e + $\mathbf{N_2}$	Elastic Scattering	$10^{-2} - 10^4$ eV	E/T
e + $\mathbf{N_2}$	Total Scattering	$10^{-2} - 10^4$ eV	E/T
e + $\mathbf{N_2}$	Excitation	$10^{-2} - 10^4$ eV	E/T
e + $\mathbf{N_2}^+$	Excitation	$10^{-2} - 10^4$ eV	E/T
e + $\mathbf{N_2}$	Ionization	$10^{-2} - 10^4$ eV	E/T
e + $\mathbf{N_2}^+$	Ionization	$10^{-2} - 10^4$ eV	E/T

1049. H. Suno, T. Kato
Cross section database for carbon atoms and ions: Electron-impact ionization, excitation, and charge exchange in collisions with hydrogen atoms.
At. Data Nucl. Data Tables 92, 407 (2006)

e + C	Excitation	$10^{-1} - 10^{7}$ eV	E/T
e + C^{+-5+}	Excitation	$10^{-1} - 10^{7}$ eV	E/T
e + C	Ionization	$10^{-1} - 10^{7}$ eV	E/T
e + C^{+-5+}	Ionization	$10^{-1} - 10^{7}$ eV	E/T

1050. J. Y. Zhong, G. Zhao, J. Zhang
Energy levels, transition probabilities, and electron impact excitations for La XXX.
At. Data Nucl. Data Tables 92, 481 (2006)

e + La^{29+}	Excitation	10-10,000 eV	Th

1051. S. D. Loch, J. Colgan, M. C. Witthoeft, M. S. Pindzola, C. P. Ballance, D. M. Mitnik, D. C. Griffin, M. G. O'Mullane, N. R. Badnell, H. P. Summers
Generalised collisional-radiative model for light elements. A: Data for the Li isonuclear sequence.
At. Data Nucl. Data Tables 92, 813 (2006)

e + Li^{+}	Recombination	0.1-10,000 eV	Th
e + Li^{2+}	Recombination	0.1-10,000 eV	Th
e + Li	Excitation	0.1-10,000 eV	Th
e + Li^{+}	Excitation	0.1-10,000 eV	Th
e + Li^{2+}	Excitation	0.1-10,000 eV	Th
e + Li	Ionization	0.1-10,000 eV	Th
e + Li^{+}	Ionization	0.1-10,000 eV	Th
e + Li^{2+}	Ionization	0.1-10,000 eV	Th

1052. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Mg VI.
At. Data Nucl. Data Tables 93, 1 (2007)

e + Mg^{5+}	Excitation	12-60 Ry	Th

1053. B. M. McLaughlin, M. P. Scott, A. G. Sunderland, C. J. Noble, V. M. Burke, C. A. Ramsbottom, R.H.G. Reid, A. Hibbert, K. L. Bell, P. G. Burke
Electron collisions with Fe-peak elements: Forbidden transitions between the low lying valence states $3d^6$, $3d^5 4s$, and $3d^5 4p$ of Fe III.
At. Data Nucl. Data Tables 93, 55 (2007)

e + Fe^{2+}	Excitation	$2000 - 10^{6}$ K	Th

1054. J. Zeng, G. Zhao, J. Yuan
Electron impact collision strengths and oscillator strengths for Ge-, Ga-, Zn-, Cu-, Ni-, and Co-like Au ions.
At. Data Nucl. Data Tables 93, 199 (2007)

e + $Au^{47+-52+}$	Excitation	5-40,000 eV	Th

1055. A. K. Bhatia, E. Landi
Atomic data and spectral line intensities for Si XI.
At. Data Nucl. Data Tables 93, 275 (2007)

e + Si^{10+}	Excitation	35-175 Ry	Th

1056. G. Liang, G. Zhao, J. Zeng
Electron impact collision strengths in Si IX, Si X, and Si XI.
At. Data Nucl. Data Tables 93, 375 (2007)

e + Si^{8+-10+}	Excitation	10-2000 eV	Th

1057. A. K. Bhatia, E. Landi
Atomic data and spectral line intensities for Mg IX.
At. Data Nucl. Data Tables 93, 742 (2007)

e + Mg^{8+}	Excitation	25-125 Ry	Th

3.2.3 Heavy Particles Collisions

1058. S. Hossain, A. L. Landers, N. Stolterfoht, J. A. Tanis
Interference phenomena associated with electron-emission from H_2 by (1-5)-MeV H^+ impact.
Phys. Rev. A 72, 010701 (2005)

H^+ + H_2	Ionization	1-5 MeV	Exp

1059. T. Kirchner, A.C.F. Santos, H. Luna, M. M. Sant'Anna, W. S. Melo, G. M. Sigaud, E. C. Montenegro
Charge-state-correlated cross sections for electron loss, capture, and ionization in C^{3+} -Ne collisions.
Phys. Rev. A 72, 012707 (2005)

C^{3+} + Ne	Charge Transfer	1-5 MeV	E/T
C^{3+} + Ne	Ionization	1-5 MeV	E/T

1060. J. C. Holtgrave, P. J. Wolf
Pressure broadening and line shifting of atomic strontium $5s^2\ ^1S_0$ -¿ 5s5p $^3P_1$ and 5s5p $^3P_{0,1,2}$ -¿ 5s6s $^3S_1$ absorption transitions induced by noble-gas collisions.
Phys. Rev. A 72, 012711 (2005)

Sr + He	Line Broadening	660-1390 K	Exp
Sr + Ne	Line Broadening	660-1390 K	Exp
Sr + Ar	Line Broadening	660-1390 K	Exp
Sr + Kr	Line Broadening	660-1390 K	Exp
Sr + Xe	Line Broadening	660-1390 K	Exp
Sr + He	Interaction Potentials	660-1390 K	Exp
Sr + Ne	Interaction Potentials	660-1390 K	Exp
Sr + Ar	Interaction Potentials	660-1390 K	Exp
Sr + Kr	Interaction Potentials	660-1390 K	Exp
Sr + Xe	Interaction Potentials	660-1390 K	Exp

1061. H. T. Schmidt, J. Jensen, P. Reinhed, R. Schuch, K. Stochkel, H. Zettergren, H. Cederquist, L. Bagge, H. Danared, A. Kaellberg, H. Schmidt-Boecking, C. L. Cocke
Recoil-ion momentum distributions for transfer ionization in fast proton-He collisions.
Phys. Rev. A 72, 012713 (2005)

H^+ + He	Charge Transfer	1.4-5.8 MeV	E/T
H^+ + He	Ionization	1.4-5.8 MeV	E/T

1062. C.-N. Liu, S.-C. Cheng, A.-T. Le, C. D. Lin
Charge transfer in slow collisions of C^{6+} with H below 1 keV/amu.
Phys. Rev. A 72, 012717 (2005)

$\mathbf{C^{6+} + H}$	Charge Transfer	1-1000 eV	Th

1063. Y. Ning, B. He, C. L. Liu, J. Yan, J. G. Wang
Importance of the electron capture to the continuum mechanism in heavy-particle collisions of He^{2+} with $C^{5+}(1s)$.
Phys. Rev. A 72, 022702 (2005)

$\mathbf{He^{2+} + C^{5+}}$	Charge Transfer	30-10,000 keV/u	Th
$\mathbf{He^{2+} + C^{5+}}$	Ionization	30-10,000 keV/u	Th

1064. S. C. Cheng, B. D. Esry
Lattice approach for alpha + H^{2+} collisions.
Phys. Rev. A 72, 022704 (2005)

$\mathbf{He^{2+} + H_2{}^+}$	Charge Transfer	6 keV/u	Th

1065. D. J. Haxton, T. N. Rescigno, C. W. McCurdy
Topology of the adiabatic potential energy surfaces for the resonance states of the water anion.
Phys. Rev. A 72, 022705 (2005)

H + OH	Interaction Potentials		Th
O + H + H	Interaction Potentials		Th
$\mathbf{O + H_2}$	Interaction Potentials		Th

1066. E. R. Custidiano, M. M. Jakas
Classical-trajectory Monte Carlo calculations of the electronic stopping cross section for keV protons and antiprotons impinging on hydrogen atoms.
Phys. Rev. A 72, 022708 (2005)

$\mathbf{H^+ + H}$	Charge Transfer	1-1000 eV	Th
$\mathbf{H^+ + H}$	Ionization	1-1000 eV	Th

1067. B. Seredyuk, R. W. McCullough, H. B. Gilbody
One-electron capture mechanisms in collisions of He-like O and C ions with molecules of astrophysical interest.
Phys. Rev. A 72, 022710 (2005)

$\mathbf{C^{4+} + CH_4}$	Charge Transfer	200-1500 eV/u	Exp
$\mathbf{O^{6+} + H_2O}$	Charge Transfer	200-1500 eV/u	Exp
$\mathbf{O^{6+} + CH_4}$	Charge Transfer	200-1500 eV/u	Exp
$\mathbf{O^{6+} + CO_2}$	Charge Transfer	200-1500 eV/u	Exp

1068. Lj. M. Ignjatovic, A. A. Mihajlov
Rate coefficient for the chemi-ionization in slow Li*(n)+Li and Na*(n)+Na collisions.
Phys. Rev. A 72, 022715 (2005)

Li + Li	Association	600-1200 K	Th
Na + Na	Association	600-1200 K	Th
Li + Li	Ionization	600-1200 K	Th
Na + Na	Ionization	600-1200 K	Th

1069. S. Otranto, R. E. Olson
Autoionization of He atoms by partially stripped ion impact.
Phys. Rev. A 72, 022716 (2005)

H^+ + He	Excitation	25 keV/u	Th
He^+ + He	Excitation	25 keV/u	Th
H^+ + He	Ionization	25 keV/u	Th
He^+ + He	Ionization	25 keV/u	Th

1070. D. J. Phalen, M. S. Pindzola, F. Robicheaux
Alignment effects in charge transfer and excitation for H^+ and He^{2+} collisions with $H_2{}^+$.
Phys. Rev. A 72, 022720 (2005)

H^+ + $H_2{}^+$	Charge Transfer	4-25 keV/u	Th
He^{2+} + $H_2{}^+$	Charge Transfer	4-25 keV/u	Th
H^+ + $H_2{}^+$	Excitation	4-25 keV/u	Th
He^{2+} + $H_2{}^+$	Excitation	4-25 keV/u	Th

1071. E. Wells, V. Krishnamurthi, K. D. Carnes, N. G. Johnson, H. D. Baxter, D. Moore, K. M. Bloom, B. M. Barnes, H. Tawara, I. Ben-Itzhak
Proton-carbon monoxide collisions from 10 keV and 14 MeV.
Phys. Rev. A 72, 022726 (2005)

H^+ + CO	Dissociation	10-14,000 keV	Exp
H^+ + CO	Charge Transfer	10-14,000 keV	Exp
H^+ + CO	Ionization	10-14,000 keV	Exp

1072. D. Wang, E. E. Eyler, P. L. Gould, W. C. Stwalley
State-selective detection of near-dissociation ultracold KRb X $^1\Sigma^+$ and α $^3\Sigma^+$ molecules.
Phys. Rev. A 72, 035202 (2005)

K + Rb	Association	Ultracold	Exp
K + Rb	Interaction Potentials	Ultracold	Exp

1073. D. A. Mazziotti
Variational two-electron reduced density matrix theory for many-electron atoms and molecules: Implementation of the spin- and symmetry-adapted T_2 condition through first-order semidefinite programming.
Phys. Rev. A 72, 032510 (2005)

H + F	Interaction Potentials		Th
Be + H_2	Interaction Potentials		Th
B + H	Interaction Potentials		Th
C + H_2	Interaction Potentials		Th
N + N	Interaction Potentials		Th
N + H_3	Interaction Potentials		Th
H_2 + O	Interaction Potentials		Th
CH + H_3	Interaction Potentials		Th

1074. A. Larson, A. E. Orel
Wave-packet study of the products formed in dissociative recombination of HeH^+.
Phys. Rev. A 72, 032701 (2005)

H^+ + He	Interaction Potentials	0-2 eV	Th

1075. X. Chu, A. Dalgarno, G. C. Groenenboom
Polarizabilities of Sc and Ti atoms and dispersion coefficients for their interaction with helium atoms.
Phys. Rev. A 72, 032703 (2005)

Sc + He	Interaction Potentials		Th
Ti + He	Interaction Potentials		Th

1076. F. Mezdari, K. Wohrer-Beroff, M. Chabot, G. Martinet, S. Della Negra, P. Desequelles, H. Hamrita, A. LePadellec
Ionization cross sections of small cationic carbon clusters in high-energy collisions with helium atoms and stability of multiply charged species.
Phys. Rev. A 72, 032707 (2005)

$\mathbf{C_3{}^+ + He}$	Ionization	v=2.6 a.u.	Exp
$\mathbf{C_5{}^+ + He}$	Ionization	v=2.6 a.u.	Exp
$\mathbf{C_8{}^+ + He}$	Ionization	v=2.6 a.u.	Exp
$\mathbf{C_{10}{}^+ + He}$	Ionization	v=2.6 a.u.	Exp
$\mathbf{C_4{}^+ + He}$	Ionization	v=2.6 a.u.	Exp
$\mathbf{C_7{}^+ + He}$	Ionization	v=2.6 a.u.	Exp
$\mathbf{C_9{}^+ + He}$	Ionization	v=2.6 a.u.	Exp
$\mathbf{C_6{}^+ + He}$	Ionization	v=2.6 a.u.	Exp

1077. A.L.F. de Barros, S. Martinez, F. Zappa, S. Suarez, G. Bernardi, G. Jalbert, L.F.S. Coelho, N. V. de Castro Faria
H_2 and N_2 ionization and dissociative ionization by C^- and O^- ions at intermediate velocities: Direct and electron loss channels.
Phys. Rev. A 72, 032708 (2005)

$\mathbf{C^- + H_2}$	Dissociation	v=1.07-2.14 a.u.	Exp
$\mathbf{O^- + H_2}$	Dissociation	v=1.07-2.14 a.u.	Exp
$\mathbf{O^- + N_2}$	Dissociation	v=1.07-2.14 a.u.	Exp
$\mathbf{C^- + H_2}$	Ionization	v=1.07-2.14 a.u.	Exp
$\mathbf{O^- + H_2}$	Ionization	v=1.07-2.14 a.u.	Exp
$\mathbf{O^- + N_2}$	Ionization	v=1.07-2.14 a.u.	Exp

1078. L. B. Zhao, P. C. Stancil, J.-P. Gu, G. Hirsch, R. J. Buenker, T. W. Imai, M. Kimura
Charge transfer between S^{2+} and He: A comparative study of quantal and semiclassical approaches.
Phys. Rev. A 72, 032719 (2005)

$\mathbf{S^{2+} + He}$	Charge Transfer	1-10,000 eV	Th
$\mathbf{S^{2+} + He}$	Interaction Potentials	1-10,000 eV	Th

1079. P. Beiersdorfer, M. Bitter, M. Marion, R. E. Olson
Charge-exchange-produced K-shell x-ray emission from Ar^{16+} in a tokamak plasma with neutral-beam injection.
Phys. Rev. A 72, 032725 (2005)

$\mathbf{Ar^{17+} + H}$	Charge Transfer	80 keV	E/T
$\mathbf{Ar^{17+} + D}$	Charge Transfer	80 keV	E/T

1080. O. Abu-Haija, E. Y. Kamber, S. M. Ferguson, N. Stolterfoht
Single-electron capture processes in slow collisions of He^{2+} ions with O_2, NH_3, N_2, and CO_2.
Phys. Rev. A 72, 042701 (2005)

$\mathbf{He^{2+} + CO_2}$	Charge Transfer	25-400 eV/amu	Exp
$\mathbf{He^{2+} + N_2}$	Charge Transfer	25-400 eV/amu	Exp
$\mathbf{He^{2+} + NH_3}$	Charge Transfer	25-400 eV/amu	Exp
$\mathbf{He^{2+} + O_2}$	Charge Transfer	25-400 eV/amu	Exp

1081. T. Stoecklin, A. Voronin
Strong isotope effect in ultracold collision of $N_2{}^+$ (v=1, j=0) with He: A case study of virtual-state scattering.
Phys. Rev. A 72, 042714 (2005)

$\mathbf{N_2{}^+ + He}$	De-excitation	$10^{-6} - 2000\ cm^{-1}$	Th

1082. M. Buser, L. Frommhold
Collision-induced rototranslational absorption in compressed methane gas.
Phys. Rev. A 72, 042715 (2005)

$\mathbf{CH_4 + CH_4}$	Interchange reaction	163-297 K	Th
$\mathbf{CH_4 + CH_4}$	Energy Transfer	163-297 K	Th

1083. K. Stochkel, O. Eidem, H. Cederquist, H. Zettergren, P. Reinhed, R. Schuch, C. L. Cocke, S. B. Levin, V. N. Ostrovsky, A. Kaelberg, A. Simonsson, J. Jensen, H. T. Schmidt
Two-center interference in fast $proton - H_2 - electron$ transfer and excitation processes.
Phys. Rev. A 72, 050703 (2005)

$\mathbf{H^+ + H_2}$	Charge Transfer	1-1.3 MeV	E/T
$\mathbf{H^+ + H_2}$	Excitation	1-1.3 MeV	E/T

1084. F. Fremont, A. Hajaji, C. Leclercq, J. Soret, J. A. Tanis, B. Sulik, J.-Y. Chesnel
Fast oscillating structures in electron spectra following He^{q+} + He collisions (q=1,2) at low projectile energies.
Phys. Rev. A 72, 050704 (2005)

$\mathbf{He^+ + He}$	Ionization	20-40 keV	Exp
$\mathbf{He^{2+} + He}$	Ionization	20-40 keV	Exp

1085. N. G. Johnson, R. N. Mello, M. E. Lundy, J. Kapplinger, E. Parke, K. D. Carnes, I. Ben-Itzhak, E. Wells
Single ionization of hydrogen molecules by fast protons as a function of the molecular alignment.
Phys. Rev. A 72, 052711 (2005)

$\mathbf{H^+ + H_2}$	Ionization	4 MeV	Exp

1086. C. M. Dutta, J. P. Gu, G. Hirsch, R. J. Beunker, P. Nordlander, M. Kimura
Charge-transfer processes in F^{2+} + H -¿ $F^+ + H^+$ collisions and the reverse process at low-keV energies.
Phys. Rev. A 72, 052715 (2005)

$\mathbf{F^{2+} + H}$	Charge Transfer	0.02-10 keV/u	Th
$\mathbf{F^{2+} + H}$	Excitation	0.02-10 keV/u	Th

1087. Y. Kurokawa, H. Nakashima, H. Nakatsuji
Free iterative-complement-interaction calculations of the hydrogen molecule.
Phys. Rev. A 72, 062502 (2005)

H + H	Interaction Potentials	0-4 a.u.	Th

1088. A. Pashov, O. Docenko, M. Tamanis, R. Ferber, H. Knoeckel, E. Tiemann
Potentials for modeling cold collisions between Na (3S) and Rb (5S) atoms.
Phys. Rev. A 72, 062505 (2005)

Na + Rb	Interaction Potentials	2-14 $\AA$	Exp

1089. U. Galster, F. Baumgartner, U. Mueller, H. Helm, M. Jungen
Experimental and quantum-chemical studies on the three-particle fragmentation of neutral triatomic hydrogen.
Phys. Rev. A 72, 062506 (2005)

$\mathbf{H + H_2}$	Interaction Potentials	2-8 a_0	E/T

1090. M. S. Pindzola, T. G. Lee, T. Minami, D. R. Schultz
Excitation and charge transfer in p+H(2s) collisions.
Phys. Rev. A 72, 062703 (2005)

$\mathbf{H^+ + H}$	Charge Transfer	1-100 keV	Th
$\mathbf{H^+ + H}$	Excitation	1-100 keV	Th

1091. M. Kavcic, K. Toekesi
Double 1s shell ionization of Si induced in collisions with 1-3-MeV protons.
Phys. Rev. A 72, 062704 (2005)

$\mathbf{H^+ + Si}$	Ionization	1-3 MeV	Exp

1092. A. B. Voitkiv
Eikonal model for projectile-electron excitation and loss in relativistic collisions.
Phys. Rev. A 72, 062705 (2005)

$\mathbf{O^{7+} + He}$	Excitation	0.1-100 GeV/u	Th
$\mathbf{Kr^{35+} + H}$	Excitation	0.1-100 GeV/u	Th
$\mathbf{O^{7+} + He}$	Ionization	0.1-100 GeV/u	Th
$\mathbf{Kr^{35+} + H}$	Ionization	0.1-100 GeV/u	Th

1093. M. Foster, J. L. Peacher, M. Schulz, A. Hasan, D. H. Madison
Precollision and postcollision electron-electron correlation effects for intermediate-energy proton-impact ionization of helium.
Phys. Rev. A 72, 062708 (2005)

$\mathbf{H^+ + He}$	Total Scattering	75 keV	Th
$\mathbf{H^+ + He}$	Ionization	75 keV	Th

1094. T. Ferger, D. Fischer, M. Schulz, R. Moshammer, A. B. Voitkiv, B. Najjari, J. Ullrich
Mutual ionization in 200-keV $H^- +$ He collisions.
Phys. Rev. A 72, 062709 (2005)

$\mathbf{H^- + He}$	Detachment	200 keV	Exp
$\mathbf{H^- + He}$	Ionization	200 keV	Exp

1095. D. Ohsawa, Y. Sato, Y. Okada, V. P. Shevelko, F. Soga
6.0-10.0-MeV/u $He^{2+} - ion - induced$ electron emission from water vapor.
Phys. Rev. A 72, 062710 (2005)

$\mathbf{He^{2+} + H_2O}$	Ionization	6-10 MeV/u	Exp

1096. R. T. Pedlow, S.F.C. O'Rourke, D.S.F. Crothers
Fully differential cross sections for 3.6 MeV u^{-1} $Au^{Zp+} + He$ collisions.
Phys. Rev. A 72, 062719 (2005)

$\mathbf{Au^{24+} + He}$	Total Scattering	3.6 MeV/u	Th
$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/u	Th
$\mathbf{Au^{24+} + He}$	Ionization	3.6 MeV/u	Th
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/u	Th

1097. S. Martinez, G. Bernardi, P. Focke, D. Fregenal, S. Suarez
Orientation effects in H_2 dissociation by He^{2+} impact at vp=1 and 2 a.u.
Phys. Rev. A 72, 062722 (2005)

$\mathbf{He^{2+} + H_2}$	Dissociation	1-2 a.u.	Exp
$\mathbf{He^{2+} + H_2}$	Total Scattering	1-2 a.u.	Exp

1098. H. Brauning, R. Trassl, A. Theiss, A. Diehl, E. Salzborn, M. Keim, A. Achenbach, H. J. Luedde, T. Kirchner
Charge transfer in $Li^{2+} + He^{2+}$ and $Li^{2+} + Li^{3+}$ collisions.
J. Phys. B 38, 2311 (2005)

$\mathbf{Li^{2+} + He^{2+}}$	Charge Transfer	6-148 keV	Exp
$\mathbf{Li^{2+} + Li^{3+}}$	Charge Transfer	6-148 keV	Exp

1099. S. Legendre, E. Giglio, M. Tarisien, A. Cassimi, B. Gervais, L. Adoui
Isotopic effects in water dication fragmentation.
J. Phys. B 38, L233 (2005)

$\mathbf{Ni^{25+} + H_2O}$	Dissociation	11.7 MeV	E/T
$\mathbf{Ni^{25+} + HDO}$	Dissociation	11.7 MeV	E/T
$\mathbf{Ni^{25+} + H_2O}$	Charge Transfer	11.7 MeV	E/T
$\mathbf{Ni^{25+} + HDO}$	Charge Transfer	11.7 MeV	E/T
$\mathbf{Ni^{25+} + H_2O}$	Ionization	11.7 MeV	E/T
$\mathbf{Ni^{25+} + HDO}$	Ionization	11.7 MeV	E/T

1100. M. Zapukhlyak, T. Kirschner, H. J. Luedde, S. Knoop, R. Morgenstern, R. Hoekstra
Inner- and outer-shell electron dynamics in proton collisions with sodium atoms.
J. Phys. B 38, 2353 (2005)

$\mathbf{H^{+} + Na}$	Charge Transfer	2-100 keV	E/T
$\mathbf{H^{+} + Na}$	Excitation	2-100 keV	E/T
$\mathbf{H^{+} + Na}$	Ionization	2-100 keV	E/T

1101. P. Sobocinski, Z. D. Pesic, R. Hellhammer, N. Stolterfoht, B. Sulik, S. Legendre, J.-Y. Chesnel
Fragmentation of water molecules in slow $He^{2+} + H_2O$ collisions.
J. Phys. B 38, 2495 (2005)

$\mathbf{He^{2+} + H_2O}$	Dissociation	1-5 keV	Th

1102. A. Burgess, J. A. Tully
On proton excitation of forbidden lines in positive ions.
J. Phys. B 38, 2629 (2005)

$\mathbf{H^{+} + S^{3+}}$	Excitation	100-40,000 eV	Th
$\mathbf{H^{+} + Ar^{13+}}$	Excitation	100-40,000 eV	Th
$\mathbf{H^{+} + Fe^{13+}}$	Excitation	100-40,000 eV	Th

1103. V. P. Shevelko, H. Tawara, O. V. Ivanov, T. Miyoshi, K. Noda, Y. Sato, A. V. Subbotin, I. Yu. Tolstikhina
Target density effects in collisions of fast ions with solid targets.
J. Phys. B 38, 2675 (2005)

$\mathbf{C^{4+–6+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Ne^{8+–10+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Mg^{10+–12+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Si^{12+–14+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Cl^{4+} + H_2}$	Charge Transfer	100-40,000 keV/u	E/T

$Ar^{13+-18+}$ + C	Charge Transfer	100-40,000 keV/u	E/T
$Fe^{19+-26+}$ + C	Charge Transfer	100-40,000 keV/u	E/T
C^{4+-6+} + C	Ionization	100-40,000 keV/u	E/T
Ne^{8+-10+} + C	Ionization	100-40,000 keV/u	E/T
$Mg^{10+-12+}$ + C	Ionization	100-40,000 keV/u	E/T
$Si^{12+-14+}$ + C	Ionization	100-40,000 keV/u	E/T
$Ar^{13+-18+}$ + C	Ionization	100-40,000 keV/u	E/T
$Fe^{19+-26+}$ + C	Ionization	100-40,000 keV/u	E/T

1104. A. Surzhykov, S. Fritzsche
Electron angular and energy distributions following the ionization of highly charged proejctile ions.
J. Phys. B 38, 2711 (2005)

U^{91+} + H^+	Ionization	1 GeV/u	Th

1105. V. D. Rodriguez, P. Macri, R. Gayet
$H_2{}^+$ ionization by ultra-short electromagnetic pulses investigated through a non-perturbative Coulomb-Volkov approach.
J. Phys. B 38, 2775 (2005)

U^{92+} + $H_2{}^+$	Ionization	1 GeV/u	Th

1106. T. J. McCarthy, D. E. Murnick, M. Salvermoser, A. Ulrich
Non-thermal Doppler-broadened $Lyman - \alpha$ line shape in resonant dissociation fo H_2.
J. Phys. B 38, 3043 (2005)

Ne_2 + H_2	Line Broadening	300 K	Exp
$Ne_2{}^*$ + H_2	Line Broadening	300 K	Exp
Ne_2 + H_2	Dissociation	300 K	Exp
$Ne_2{}^*$ + H_2	Dissociation	300 K	Exp
Ne_2 + H_2	Energy Transfer	300 K	Exp
$Ne_2{}^*$ + H_2	Energy Transfer	300 K	Exp
Ne_2 + H_2	Excitation	300 K	Exp
$Ne_2{}^*$ + H_2	Excitation	300 K	Exp

1107. S. Knoop, M. Keim, H. J. Luedde, T. Kirchner, R. Morgenstern, R. Hoekstra
State selective single-electron capture in O^{6+} + Na collisions.
J. Phys. B 38, 3163 (2005)

O^{6+} + Na	Charge Transfer	1-9 keV/u	E/T
O^{6+} + Na	Ionization	1-9 keV/u	E/T

1108. C. Dimopoulou, M. E. Galassi, R. Moshammer, R. D. Rivarola, D. Fischer, C. Hoehr, J. Ullrich
Electron emission from fragmentation of CO_2 by fast proton impact.
J. Phys. B 38, 3173 (2005)

H^+ + CO_2	Dissociation	6 MeV	E/T
H^+ + CO_2	Ionization	6 MeV	E/T

1109. D. Rabli, R. McCarroll
Completeness of an adiabatic expansion using reaction coordinates to describe rearrangement processes in ion-atom collisions: Application to the C^{4+} + H system.
J. Phys. B 38, 3311 (2005)

C^{4+} + H	Charge Transfer	3-11 a.u.	Th
C^{4+} + H	Interaction Potentials	3-11 a.u.	Th

1110. K. Motohashi, T. Takahashi, N. Takahashi, S. Tsurubuchi
Emission cross sections in low-energy collisions between He^+, Ne^+ ions and CF_4 molecule.
J. Phys. B 38, 3339 (2005)

He^+ + CF_4	Fluorescence	1-5000 eV	Exp
Ne^+ + CF_4	Fluorescence	1-5000 eV	Exp

1111. S. Ben Yaghlane, S. Lahmar, Z. Ben Lakhdar, M. Hochlaf
Stable and metastable states of SN^-.
J. Phys. B 38, 3395 (2005)

S^- + N	Interaction Potentials	2-6 bohr	Th
S + N^-	Interaction Potentials	2-6 bohr	Th

1112. A. B. Voitkiv, B. Najjari
Two-centre dielectronic transitions in fast highly charged ion-atom collisions.
J. Phys. B 38, 3587 (2005)

C^{5+} + He	Total Scattering	3.5-75 MeV	Th
O^{7+} + He	Total Scattering	3.5-75 MeV	Th
C^{5+} + He	Ionization	3.5-75 MeV	Th
O^{7+} + He	Ionization	3.5-75 MeV	Th

1113. M. Keim, A. Werner, D. Hasselkamp, K.-H. Schartner, H. J. Luedde, A. Achenbach, T. Kirchner
$Lyman - \alpha$ **line polarization after proton impact on atomic hydrogen.**
J. Phys. B 38, 4045 (2005)

H^+ + H	Charge Transfer	1-1000 keV	E/T
H^+ + H	Excitation	1-1000 keV	E/T

1114. F. Alvarado, R. Hoekstra, T. Schlathoelter
Dissociation of water molecules upon keV H^+- and $He^{q+} - induced$ ionization.
J. Phys. B 38, 4085 (2005)

H^+ + H_2O	Dissociation	3-24 keV	Exp
He^+ + H_2O	Dissociation	3-24 keV	Exp
He^{2+} + H_2O	Dissociation	3-24 keV	Exp
H^+ + H_2O	Ionization	3-24 keV	Exp
He^+ + H_2O	Ionization	3-24 keV	Exp
He^{2+} + H_2O	Ionization	3-24 keV	Exp

1115. Q. Chen, X. H. Ren, S. S. Pu, F. Wang
Non-adiabatic time-dependent mean-field description for ion-atom collisions: Application to H^+ + Na(3s) -¿ H^+ + Na(3p) case.
J. Phys. B 38, 4291 (2005)

H^+ + Na	Excitation	0.5-50 keV	E/T

1116. A. S. Dickinson
Radiative association of H and D.
J. Phys. B 38, 4329 (2005)

H + D	Association	10-1000 deg K	Th
H + D	Interaction Potentials	10-1000 deg K	Th
H + D	Fluorescence	10-1000 deg K	Th

1117. I. I. Beterov, D. B. Tretyakov, I. I. Ryabtsev, N. N. Bezuglov, K. Miculis, A. Ekers, A. N. Klucharev
Collisional and thermal ionization of sodium Rydberg atoms III. Experiment and theory for nS and nD states with n = 8-20 in crossed atomic beams.
J. Phys. B 38, 4349 (2005)

Na + Na	Association	420-630 K	E/T
Na* + Na	Association	420-630 K	E/T

1118. M. Wernli, P. Valiron, A. Faure, L. Wiesenfeld, P. Jankowski, K. Szalewicz
Improved low-temperature rate constants for rotational excitation of CO by H_2.
Astron. Astrophys. 446, 367 (2006)

CO + H_2	Excitation	1-520 cm^{-1}	Th

1119. F. Lique, M.-L. Dubernet, A. Spielfiedel, N. Feautrier
Rotational excitation of sulfur monoxide in collision with helium at high temperature.
Astron. Astrophys. 450, 399 (2006)

He + SO	Excitation	50-300 K	Th

1120. F. Lique, A. Spielfiedel, J. Cernicharo
Rotational excitations of carbon monosulfide by collisions with helium.
Astron. Astrophys. 451, 1125 (2006)

He + CS	Interchange reaction	10-300 K	Th

1121. B. J. Wargelin, P. Beiersdorfer, P. A. Neill, R. E. Olson, J. H. Scofield
Charge-exchange spectra of hydrogenic and He-like iron.
Astrophys. J., Part 1 634, 687 (2005)

Fe^{24+} + N_2	Charge Transfer	10 eV/amu	Exp
Fe^{25+} + N_2	Charge Transfer	10 eV/amu	Exp

1122. P. Barragan, L. F. Errea, L. Mendez, I. Rabadan, A. Riera
Calculation of rate coefficients for electron capture in collisions of O^{2+} and N^{2+} ions with H.
Astrophys. J., Part 1 636, 544 (2005)

N^{2+} + H	Charge Transfer	0.001-10,000 eV	Th
O^{2+} + H	Charge Transfer	0.001-10,000 eV	Th

1123. G. Barinovs, M. C. van Hemert
CH^+ radiative association.
Astrophys. J., Part 1 636, 923 (2005)

C^+ + H	Association	0-1000 K	Th

1124. A. P. Palov, M. D. Gray, D. Field, G. G. Balint-Kurti
Modeling of the SiO circumstellar maser: Rate coefficients for the vibrationally-rotationally inelastic scattering of H+SiO.
Astrophys. J., Part 1 639, 204 (2006)

H + SiO	Excitation	2000-4000 K	Th

1125. D. Bodewits, R. Hoekstra, B. Seredyuk, R. W. McCullough, G. H. Jones, A.G.G.M. Tielens
Charge exchange emission from solar wind helium ions.
Astrophys. J., Part 1 642, 573 (2006)

$\mathbf{He^{2+} + H_2O}$	Charge Transfer	0.2-10.0 keV/amu	Exp
$\mathbf{He^{2+} + CH_4}$	Charge Transfer	0.2-10.0 keV/amu	Exp
$\mathbf{He^{2+} + CO}$	Charge Transfer	0.2-10.0 keV/amu	Exp
$\mathbf{He^{2+} + CO_2}$	Charge Transfer	0.2-10.0 keV/amu	Exp

1126. M. Kimura, L. Pichl, Y. Li, H.-P. Liebermann, R. J. Buenker, I. F. Schneider
Steric effect in O^+/H_2 and H^+/H_2O collisions - Charge transfer in H_2O^+ and H_3O^+ collision intermediate systems.
Eur. Phys. J. D 38, 85 (2006)

$\mathbf{H^+ + H_2O}$	Charge Transfer	10-10,000 eV	Th
$\mathbf{O^+ + H_2}$	Charge Transfer	10-10,000 eV	Th

1127. R. Martinez, J. D. Sierra, M. Gonzalez
Cross sections of the $O^+ + H_2$ -¿ OH^+ + H ion-molecule reaction and isotopic variants (D_2, HD): Quasiclassical trajectory study and comparison with experiments.
J. Chem. Phys. 123, 174312 (2005)

$\mathbf{O^+ + H_2}$	Interchange reaction	0.01-6.0 eV	Th
$\mathbf{O^+ + HD}$	Interchange reaction	0.01-6.0 eV	Th
$\mathbf{O^+ + D_2}$	Interchange reaction	0.01-6.0 eV	Th

1128. T. Gonzalez-Lezana, A. Aguado, M. Paniagua, O. Roncero
Quantum approaches for the insertion dynamics of the $H^+ + D_2$ and $D^+ + H_2$ reactive collisions.
J. Chem. Phys. 123, 194309 (2005)

$\mathbf{H^+ + H_2}$	Interchange reaction	0.0-2.0 eV	Th
$\mathbf{H^+ + D_2}$	Interchange reaction	0.0-2.0 eV	Th
$\mathbf{D^+ + H_2}$	Interchange reaction	0.0-2.0 eV	Th

1129. S. Atahan, M. H. Alexander, E. J. Rackham
Cross sections and thermal rate constants for the isotope exchange reaction: $D(^2S) + OH(^2\Pi)$ -¿ $OD(^2\Pi) + H(^2S)$.
J. Chem. Phys. 123, 204306 (2005)

D + OH	Interchange reaction	0-500 K	Th

1130. L. Banares, F. J. Aoiz, T. Gonzalez-Lezana, V. J. Herrero, I. Tanarro
Influence of rotation and isotope effects on the dynamics of the $N(^2D) + H_2$ reactive system and of its deuterated variants.
J. Chem. Phys. 123, 224301 (2005)

$\mathbf{N + H_2}$	Interchange reaction	0.0-0.5 eV	Th

1131. F. Gogtas
Quantum wave-packet calculation of reaction probabilities, cross sections, and rate constants for Li + $H_2{}^+$ reaction.
J. Chem. Phys. 123, 244301 (2005)

$\mathbf{Li + H_2}$	Interchange reaction	0.0-2.0 eV	Th

1132. Y. Lu, S.-Y. Lee, D. H. Zhang
A full dimensional time-dependent wave packet study for the H_4 four-center, collision induced dissociation, and single exchange reactions: Reaction probabilities for J = 0.
J. Chem. Phys. 124, 011101 (2006)

$\mathbf{H_2 + H_2}$	Interchange reaction	0.0-6.0 eV	Th

1133. S. Y. Lin, H. Guo
Exact quantum dynamics of $N(^2D)$ + H_2 -¿ NH + H reaction: Cross-sections, rate constants, and dependence on reactant rotation.
J. Chem. Phys. 124, 031101 (2006)

$\mathbf{N + H_2}$	Interchange reaction	9,909,5 eV	Th

1134. T.J.D. Kumar, A. Saieswari, S. Kumar
Elastic and charge transfer processes in H^+ + CO collisions.
J. Chem. Phys. 124, 034314 (2006)

$\mathbf{H^+ + CO}$	Elastic Scattering	9.5 eV	Th
$\mathbf{H^+ + CO}$	Charge Transfer	9.5 eV	Th

1135. W. Wang, E. Santos, J. Brandao
Theoretical rate coefficients for the exchange reaction OH + D -¿ OD + H.
J. Chem. Phys. 124, 074305 (2006)

OH + H	Interchange reaction	100-1000 K	Th
OH + D	Interchange reaction	100-1000 K	Th

1136. P. F. Weck, N. Balakrishnan, J. Brandao, C. Rosa, W. Wang
Dynamics of the $O(^3P)$ + H_2 reaction at low temperatures: Comparison of quasiclassical trajectory with quantum scattering calculations.
J. Chem. Phys. 124, 074308 (2006)

$\mathbf{O + H_2}$	Interchange reaction	0-0.6 eV	Th

1137. B. Yang, P. C. Stancil, N. Balakrishnan, R. C. Forrey
Quenching of rotationally excited CO by collisions with H_2.
J. Chem. Phys. 124, 104304 (2006)

$\mathbf{H_2 + CO}$	Excitation	$10^{-6} - 15,000\ cm^{-1}$	Th

1138. L. Liu, Y. Li, J. M. Farrar
Dynamics study of the reaction $OH^- + C_2H_2$ -¿ $C_2H^- + H_2O$ with crossed beams and density-functional theory calculations.
J. Chem. Phys. 124, 124317 (2006)

$\mathbf{OH^- + C_2H_2}$	Interchange reaction	0.37-1.40 eV	E/T

1139. R. Martinez, J. M. Lucas, X. Gimenez, A. Aguilar, M. Gonzalez
Exact quantum dynamics study of the O^+ + $H_2(v$ = 0, j = 0) -¿ OH^+ + H ion-molecule reaction and comparison with quasiclassical trajectory calculations.
J. Chem. Phys. 124, 144301 (2006)

$\mathbf{O^+ + H_2}$	Interchange reaction	0.00-0.75 eV	Th

1140. A. Le Padellec, E. M. Staicu-Casagrande, T. Nzeyimana, E. A. Naji, X. Urbain
Reactive collisions between CH^+ and O^-.
J. Chem. Phys. 124, 154304 (2006)

CH^+ + O^-	Interchange reaction	0.01-10.00 eV	Exp

1141. P. Honvault, B. Bussery-Honvault, J.-M. Launay, F. J. Aoiz, L. Banares
Quantum mechanical and quasiclassical trajectory scattering calculations for the $C(^1D)$ + H_2 reaction on the second excited 1 ^1A" potential energy surface.
J. Chem. Phys. 124, 154314 (2006)

C + H_2	Interchange reaction	80 MeV	Th

1142. D. Wang
A full dimensional, nine-degree-of-freedom, time-dependent quantum dynamics study for the H_2 + C_2H reaction.
J. Chem. Phys. 124, 201105 (2006)

H_2 + C_2H	Interchange reaction	0-1.0 eV	Th

1143. F. Dong, S.-H. Lee, K. Liu
A crossed-beam study of the F + HD -¿ DF + H reaction: The direct scattering channel.
J. Chem. Phys. 124, 224312 (2006)

F + H_2	Interchange reaction	1.18-4.00 kcal/mol	Exp
F + HD	Interchange reaction	1.18-4.00 kcal/mol	Exp

1144. P. Defazio, C. Petrongolo
Renner-Teller quantum dynamics of the $N(^2D)$ + H_2 -¿ NH + H reaction.
J. Chem. Phys. 125, 064308 (2006)

N + H_2	Interchange reaction	1.0 eV	Th

1145. R. Krems, M. J. Jamieson, A. Dalgarno
The ^1D–^3P transitions in atomic oxygen induced by impact with atomic hydrogen.
Astrophys. J., Part 1 647, 1531 (2006)

O + H	Excitation	1000-10,000 K	Th

1146. G. Lapicki
Testing the ECPSSR theory and its modifications with ratios of antiproton-to-proton ionization cross sections.
Nucl. Instrum. Methods Phys. Res. B 241, 34 (2005)

H^+ + H	Ionization	10^{-3} – 10 MeV	Th
H^+ + He	Ionization	10^{-3} – 10 MeV	Th
H^+ + Ti	Ionization	10^{-3} – 10 MeV	Th
H^+ + Cu	Ionization	10^{-3} – 10 MeV	Th
H^+ + Se	Ionization	10^{-3} – 10 MeV	Th
H^+ + Nb	Ionization	10^{-3} – 10 MeV	Th
H^+ + Au	Ionization	10^{-3} – 10 MeV	Th

1147. A. Dubois, J. Caillat, J. P. Hansen, I. Dundvor, F. Fremont, P. Sobocinski, J.-Y. Chesnel, R. Gayet, J. Fu, M. J. Fitzpatrick, W. F. Smith, M. J. Fitzpatrick
Classical and quantal methods in atomic and molecular collisions.
Nucl. Instrum. Methods Phys. Res. B 241, 48 (2005)

H^+ + H	Charge Transfer	0.5-145 keV	Th
He^{2+} + H_2	Charge Transfer	0.5-145 keV	Th
O^{5+} + H_2	Charge Transfer	0.5-145 keV	Th
Ar^{2+} + H_2	Charge Transfer	0.5-145 keV	Th

1148. J. F. Reading, J. Fu, M. J. Fitzpatrick
A critique of finite Hilbert basis set calculations for the angular distribution of ionized electrons produced in p + H impact at 20 keV.
Nucl. Instrum. Methods Phys. Res. B 241, 54 (2005)

$\mathbf{H^+ + H}$	Ionization	20 keV	Th

1149. P. S. Krstic
Vibrationally resolved collisions in cold hydrogen plasma.
Nucl. Instrum. Methods Phys. Res. B 241, 58 (2005)

$\mathbf{H^+ + H_2}$	Charge Transfer	0.5-100 eV	Th
$\mathbf{H^+ + H_2{}^+}$	Charge Transfer	0.5-100 eV	Th
$\mathbf{H_2{}^+ + H}$	Charge Transfer	0.5-100 eV	Th

1150. R. Mehta, N. K. Puri, Ajay Kumar, A. Kumar, B. P. Mohanty, P. Balouria, I. M. Govil, M. L. Garg, T. Nandi, A. Ahamad, G. Lapicki
L x-ray production in $_{57}La$, $_{58}Ce$, $_{60}Nd$ and $_{62}Sm$ by 35-60 MeV carbon and oxygen ions.
Nucl. Instrum. Methods Phys. Res. B 241, 63 (2005)

$\mathbf{C^{4+} + La}$	Ionization	35-60 MeV	Exp
$\mathbf{C^{4+} + Ce}$	Ionization	35-60 MeV	Exp
$\mathbf{C^{4+} + Nd}$	Ionization	35-60 MeV	Exp
$\mathbf{C^{4+} + Sm}$	Ionization	35-60 MeV	Exp
$\mathbf{O^{5+} + La}$	Ionization	35-60 MeV	Exp
$\mathbf{O^{5+} + Ce}$	Ionization	35-60 MeV	Exp
$\mathbf{O^{5+} + Nd}$	Ionization	35-60 MeV	Exp
$\mathbf{O^{5+} + Sm}$	Ionization	35-60 MeV	Exp

1151. S. Jones, D. H. Madison, J. H. Macek
Single and double ionization of helium by the impact of fast charged particles.
Nucl. Instrum. Methods Phys. Res. B 241, 73 (2005)

$\mathbf{C^{6+} + He}$	Total Scattering	6 keV; 100 MeV/amu	Th
$\mathbf{C^{6+} + He}$	Ionization	6 keV; 100 MeV/amu	Th

1152. S. Yu. Ovchinnikov, J. H. Macek
Sturmian theory of electron energy distributions in low energy ion-atom collisions.
Nucl. Instrum. Methods Phys. Res. B 241, 78 (2005)

$\mathbf{H^- + He}$	Ionization	5-25 keV	Th
$\mathbf{H + He}$	Ionization	5-25 keV	Th

1153. R. D. DuBois
Electron loss in MeV/u collisions between many-electron projectiles and targets.
Nucl. Instrum. Methods Phys. Res. B 241, 87 (2005)

$\mathbf{Ne^{2+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ne^{2+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ne^{2+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ne^{3+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ne^{3+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ne^{3+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ne^{4+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ne^{4+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp

$\mathbf{Ne^{4+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ar^{+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ar^{+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ar^{+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ar^{2+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ar^{2+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Ar^{2+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Xe^{3+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Xe^{3+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{Xe^{3+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{U^{4+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{U^{4+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{U^{4+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{U^{6+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{U^{6+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{U^{6+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{U^{10+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{U^{10+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp
$\mathbf{U^{10+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp

1154. Y. C. Yu, J. Y. Hsu, K. M. Chen
K-shell X-ray production of In and Sn by proton, helium, and lithium ions.
Nucl. Instrum. Methods Phys. Res. B 241, 90 (2005)

$\mathbf{H^{+} + In}$	Ionization	1-10 MeV	Exp
$\mathbf{H^{+} + Sn}$	Ionization	1-10 MeV	Exp
$\mathbf{He^{2+} + In}$	Ionization	1-10 MeV	Exp
$\mathbf{He^{2+} + Sn}$	Ionization	1-10 MeV	Exp
$\mathbf{Li^{2+} + In}$	Ionization	1-10 MeV	Exp
$\mathbf{Li^{2+} + Sn}$	Ionization	1-10 MeV	Exp
$\mathbf{Li^{3+} + In}$	Ionization	1-10 MeV	Exp
$\mathbf{Li^{3+} + Sn}$	Ionization	1-10 MeV	Exp

1155. F. Naab, J. L. Duggan, O. W. Holland, F. D. McDaniel, G. Lapicki
Measurements and calculations of M-shell X-ray production in Er, Yb and Lu by 0.75-6 MeV He ions.
Nucl. Instrum. Methods Phys. Res. B 241, 94 (2005)

$\mathbf{He^{+} + Er}$	Ionization	0.75-6.0 MeV	E/T
$\mathbf{He^{+} + Yb}$	Ionization	0.75-6.0 MeV	E/T
$\mathbf{He^{+} + Lu}$	Ionization	0.75-6.0 MeV	E/T

1156. E. Wells, K. D. Carnes, H. Tawara, R. Ali, E. Y. Sidky, C. Illescas, I. Ben-Itzhak
One- and two-electron processes in collisions between hydrogen molecules and slow highly charged ions.
Nucl. Instrum. Methods Phys. Res. B 241, 101 (2005)

$\mathbf{C^{6+} + H_2}$	Charge Transfer	1-5 MeV	Exp
$\mathbf{C^{6+} + D_2}$	Charge Transfer	1-5 MeV	Exp
$\mathbf{Ar^{11+} + H_2}$	Charge Transfer	1-5 MeV	Exp
$\mathbf{Ar^{11+} + D_2}$	Charge Transfer	1-5 MeV	Exp

1157. O. Abu-Haija, S. A. Al-Faify, G. Olmez, S. M. Ferguson, E. Y. Kamber
State-selective single-electron capture by Ar^{4+} and Ar^{5+} ions from N_2, O_2 and CF_4 molecules.
Nucl. Instrum. Methods Phys. Res. B 241, 109 (2005)

Ar^{4+} + N_2	Charge Transfer	200-250 eV	Exp
Ar^{4+} + O_2	Charge Transfer	200-250 eV	Exp
Ar^{4+} + CF_4	Charge Transfer	200-250 eV	Exp
Ar^{5+} + N_2	Charge Transfer	200-250 eV	Exp
Ar^{5+} + O_2	Charge Transfer	200-250 eV	Exp
Ar^{5+} + CF_4	Charge Transfer	200-250 eV	Exp
Ar^{4+} + N_2	Interaction Potentials	200-250 eV	Exp
Ar^{4+} + O_2	Interaction Potentials	200-250 eV	Exp
Ar^{4+} + CF_4	Interaction Potentials	200-250 eV	Exp
Ar^{5+} + N_2	Interaction Potentials	200-250 eV	Exp
Ar^{5+} + O_2	Interaction Potentials	200-250 eV	Exp
Ar^{5+} + CF_4	Interaction Potentials	200-250 eV	Exp

1158. T. Ehrenreich, K. Miller, P. Gee, Q. Kessel, E. Pollack, W. W. Smith, N. Djuric, J. Lozano, S. J. Smith, A. Chutjian
Photon emission resulting from collisions of O^{5+} with CO.
Nucl. Instrum. Methods Phys. Res. B 241, 125 (2005)

O^{5+} + CO	Excitation	2.2 keV/amu	Exp

1159. S. J. Cipolla, B. P. Hill
Relative intensities of L X-rays excited by 75-300 keV proton impact on elements with Z = 39-50.
Nucl. Instrum. Methods Phys. Res. B 241, 129 (2005)

H^+ + Y	Excitation	75-300 keV	Exp
H^+ + Zr	Excitation	75-300 keV	Exp
H^+ + Nb	Excitation	75-300 keV	Exp
H^+ + Mo	Excitation	75-300 keV	Exp
H^+ + Rh	Excitation	75-300 keV	Exp
H^+ + Pd	Excitation	75-300 keV	Exp
H^+ + Ag	Excitation	75-300 keV	Exp
H^+ + Sn	Excitation	75-300 keV	Exp
H^+ + Y	Ionization	75-300 keV	Exp
H^+ + Zr	Ionization	75-300 keV	Exp
H^+ + Nb	Ionization	75-300 keV	Exp
H^+ + Mo	Ionization	75-300 keV	Exp
H^+ + Rh	Ionization	75-300 keV	Exp
H^+ + Pd	Ionization	75-300 keV	Exp
H^+ + Ag	Ionization	75-300 keV	Exp
H^+ + Sn	Ionization	75-300 keV	Exp

1160. J. A. Perez, R. E. Olson
Relative state selective capture cross sections for low energy collisions between highly charged bare ions and neutral atoms.
Nucl. Instrum. Methods Phys. Res. B 241, 134 (2005)

N^{7+} + O	Charge Transfer	1-100 eV/u	Th
O^{8+} + H	Charge Transfer	1-100 eV/u	Th
N^{7+} + O	Excitation	1-100 eV/u	Th
O^{8+} + H	Excitation	1-100 eV/u	Th

1161. H. Martinez, B. E. Fuentes
Absolute differential and total cross sections for N^+ formation from the interaction of $N_2{}^+$ with He and Ar.
Nucl. Instrum. Methods Phys. Res. B 241, 459 (2005)

$\mathbf{N_2^+ + He}$	Dissociation	1-5 keV	Exp
$\mathbf{N_2^+ + Ar}$	Dissociation	1-5 keV	Exp
$\mathbf{N_2^+ + He}$	Total Scattering	1-5 keV	Exp
$\mathbf{N_2^+ + Ar}$	Total Scattering	1-5 keV	Exp

1162. R. Dey, A. C. Roy
Ejected electron energy distribution in the ionization of atomic hydrogen by C^{6+} impact.
Nucl. Instrum. Methods Phys. Res. B 243, 28 (2005)

$\mathbf{C^{6+} + H}$	Total Scattering	2.5 MeV/amu	Th
$\mathbf{C^{6+} + H}$	Ionization	2.5 MeV/amu	Th

1163. K. Kawatsura, K. Takahiro, M. Sataka, M. Imai, K. Komaki, H. Sugai, H. Shibata
Ejected-electron spectra from Rydberg states in high-energy collisions of O^{3+} ions with He.
Nucl. Instrum. Methods Phys. Res. B 245, 44 (2006)

$\mathbf{O^{3+} + He}$	Excitation	32 MeV	Exp
$\mathbf{O^{3+} + He}$	Ionization	32 MeV	Exp

1164. P. Verma, P. H. Mokler, A. Brauning-Demian, H. Brauning, C. Kozhuharov, F. Bosch, D. Liesen, S. Hagmann, Th. Stoehlker, Z. Stachura, D. Banas, A. Orsic-Muthig, M. Schoeffler, D. Sierpowski, U. Spillmann, S. Tashenov, S. Toleikis, M. A. Wahab
Probing superheavy quasimolecular collisions with incoming inner shell vacancies.
Nucl. Instrum. Methods Phys. Res. B 245, 56 (2006)

$\mathbf{U^{73+} + Au}$	Excitation	69 MeV/u	Exp
$\mathbf{U^{86+} + Au}$	Excitation	69 MeV/u	Exp
$\mathbf{U^{88+} + Au}$	Excitation	69 MeV/u	Exp
$\mathbf{U^{91+} + Au}$	Excitation	69 MeV/u	Exp

1165. L. Adoui, T. Muranaka, M. Tarisien, S. Legendre, G. Laurent, A. Cassimi, J.-Y. Chesnel, X. Flechard, F. Fremont, B. Gervais, E. Giglio, D. Hennecart
Swift heavy ion-induced small molecule fragmentation dynamics.
Nucl. Instrum. Methods Phys. Res. B 245, 94 (2006)

$\mathbf{O^{7+} + CO}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Si^{15+} + H_2}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Si^{15+} + D_2}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Ni^{24+} + CO_2}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Ni^{25+} + H_2O}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Ni^{25+} + HDO}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Xe^{44+} + H_2O}$	Dissociation	6.7-13.6 MeV/u	Exp

1166. M. Nekab, A. Kahoul
Semi-empirical and empirical L X-ray production cross sections for elements with 50 ¡ Z ¡ 92 for protons of 0.5-3.0 MeV.
Nucl. Instrum. Methods Phys. Res. B 245, 395 (2006)

$\mathbf{H^+ + A}$	Excitation	0.5-3.0 MeV	Exp
$\mathbf{H^+ + A}$	Ionization	0.5-3.0 MeV	Exp

1167. M. Goudarzi, F. Shokouhi, M. Lamehi-Rachti, P. Oliaiy
L-subshell and total M-shell X-ray production cross sections of Ta, W, Pt, Au, Pb and Bi by 0.7-2.4 MeV protons.
Nucl. Instrum. Methods Phys. Res. B 247, 217 (2006)

$\mathbf{H^+ + Ta}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + W}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Pt}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Au}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Pb}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Bi}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Ta}$	Ionization	0.7-2.4 MeV	Exp
$\mathbf{H^+ + W}$	Ionization	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Pt}$	Ionization	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Au}$	Ionization	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Pb}$	Ionization	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Bi}$	Ionization	0.7-2.4 MeV	Exp

1168. N. P. Barradas, E. Alves, C. Jeynes, M. Tosaki
Accurate simulation of backscattering spectra in the presence of sharp resonances.
Nucl. Instrum. Methods Phys. Res. B 247, 381 (2006)

$\mathbf{H^+ + C}$	Elastic Scattering	1.8-6.0 MeV	Exp
$\mathbf{H^+ + Si}$	Elastic Scattering	1.8-6.0 MeV	Exp
$\mathbf{H^+ + C}$	Interaction Potentials	1.8-6.0 MeV	Exp
$\mathbf{H^+ + Si}$	Interaction Potentials	1.8-6.0 MeV	Exp

1169. S. Ouziane, A. Amokrane, I. Toumert, A. Noureddine, A. Pape
Proton induced L and L-subshell X-ray cross-sections in Sm and Yb at 1-2.5 MeV.
Nucl. Instrum. Methods Phys. Res. B 249, 73 (2006)

$\mathbf{H^+ + Sm}$	Excitation	1-2.5 MeV	E/T
$\mathbf{H^+ + Yb}$	Excitation	1-2.5 MeV	E/T
$\mathbf{H^+ + Sm}$	Ionization	1-2.5 MeV	E/T
$\mathbf{H^+ + Yb}$	Ionization	1-2.5 MeV	E/T

1170. H. Martinez
Absolute cross sections for the production of positive atomic ions from dissociative collisions of $H_3{}^+$, $D_3{}^+$ and $HD_2{}^+$ in He.
Nucl. Instrum. Methods Phys. Res. B 249, 89 (2006)

$\mathbf{H_3{}^+ + He}$	Dissociation	1-5 keV	Exp
$\mathbf{HD_2{}^+ + He}$	Dissociation	1-5 keV	Exp
$\mathbf{D_3{}^+ + He}$	Dissociation	1-5 keV	Exp
$\mathbf{H_3{}^+ + He}$	Total Scattering	1-5 keV	Exp
$\mathbf{HD_2{}^+ + He}$	Total Scattering	1-5 keV	Exp
$\mathbf{D_3{}^+ + He}$	Total Scattering	1-5 keV	Exp

1171. K. L. Streib, T. L. Alford, J. W. Mayer
Experimental verification of theoretical cross sections for FIB-PIXE.
Nucl. Instrum. Methods Phys. Res. B 249, 92 (2006)

$\mathbf{H^+ + Cr}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Cu}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Ge}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Ag}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{H^+ + W}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Au}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Cr}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Cu}$	Excitation	0.3-3.5 MeV	Exp

Be^+ + Ge	Excitation	0.3-3.5 MeV	Exp
Be^+ + Ag	Excitation	0.3-3.5 MeV	Exp
Be^+ + W	Excitation	0.3-3.5 MeV	Exp
Be^+ + Au	Excitation	0.3-3.5 MeV	Exp
H^+ + Cr	Ionization	0.3-3.5 MeV	Exp
H^+ + Cu	Ionization	0.3-3.5 MeV	Exp
H^+ + Ge	Ionization	0.3-3.5 MeV	Exp
H^+ + Ag	Ionization	0.3-3.5 MeV	Exp
H^+ + W	Ionization	0.3-3.5 MeV	Exp
H^+ + Au	Ionization	0.3-3.5 MeV	Exp
Be^+ + Cr	Ionization	0.3-3.5 MeV	Exp
Be^+ + Cu	Ionization	0.3-3.5 MeV	Exp
Be^+ + Ge	Ionization	0.3-3.5 MeV	Exp
Be^+ + Ag	Ionization	0.3-3.5 MeV	Exp
Be^+ + W	Ionization	0.3-3.5 MeV	Exp
Be^+ + Au	Ionization	0.3-3.5 MeV	Exp

1172. A. Caciolli, M. Chiari, A. Climent-Font, M. T. Fernandez-Jimenez, G. Garcia-Lopez, F. Lucarelli, S. Nava, A. Zucchiatti
Proton elastic scattering cross-sections on F, C and Li from 3 to 7 MeV.
Nucl. Instrum. Methods Phys. Res. B 249, 95 (2006)

H^+ + Li	Elastic Scattering	3-7 MeV	Exp
H^+ + C	Elastic Scattering	3-7 MeV	Exp
H^+ + F	Elastic Scattering	3-7 MeV	Exp

1173. A. Caciolli, M. Chiari, A. Climent-Font, M. T. Fernandez-Jimenez, G. Garcia-Lopez, F. Lucarelli, S. Nava, A. Zucchiatti
Measurements of gamma-ray emission induced by protons on fluorine and lithium.
Nucl. Instrum. Methods Phys. Res. B 249, 98 (2006)

H^+ + Li	Excitation	3-5.7 MeV	Exp
H^+ + F	Excitation	3-5.7 MeV	Exp
H^+ + Li	Ionization	3-5.7 MeV	Exp
H^+ + F	Ionization	3-5.7 MeV	Exp

1174. J. C. Banks, W. R. Wampler, J. F. Browning, B. L. Doyle
Cross sections for 165 deg **backscattering of 8.0-11.7 MeV α from carbon.**
Nucl. Instrum. Methods Phys. Res. B 249, 101 (2006)

He^{2+} + C	Elastic Scattering	8-11.7 MeV	Exp
He^{2+} + C	Total Scattering	8-11.7 MeV	Exp

1175. M. A. Munoz-Marquez, G. S. Parkinson, D. P. Woodruff, A. Hentz, P. L. Grande, G. Schiwietz, T. J. Wood, C. Boney, S. P. Tear, P. Bailey, T.C.Q. Noakes
Energy loss in medium-energy ion scattering: A combined theoretical and experimental study of the model system Y on Si(111).
Phys. Rev. B 72, 075415 (2005)

H^+ + Si	Ionization	100 keV	E/T
H^+ + Y	Ionization	100 keV	E/T

1176. G. Laurent, J. Fernandez, S. Legendre, M. Tarisien, L. Adoui, A. Cassimi, X. Frechard, F. Fremont, B. Gervais, E. Giglio, J. P. Grandin, F. Martin
Kinematically complete study of dissociative ionization of D_2 by ion impact.
Phys. Rev. Lett. 96, 173201 (2006)

S^{15+} + H_2	Dissociation	13.6 MeV/u	Exp
S^{15+} + D_2	Dissociation	13.6 MeV/u	Exp
S^{15+} + H_2	Excitation	13.6 MeV/u	Exp
S^{15+} + D_2	Excitation	13.6 MeV/u	Exp
S^{15+} + H_2	Ionization	13.6 MeV/u	Exp
S^{15+} + D_2	Ionization	13.6 MeV/u	Exp

1177. C. Zhu, J. F. Babb, A. Dalgarno
Theoretical study of sodium and potassium resonance lines pressure broadened by helium atoms.
Phys. Rev. A 73, 012506 (2006)

Na + He	Line Broadening	158-3000 K	Th
K + He	Line Broadening	158-3000 K	Th

1178. D. Lisak, J. T. Hodges, R. Ciurylo
Comparison of semiclassical line-shape models to rovibrational H_2O spectra measured by frequency-stabilized cavity ring-down spectroscopy.
Phys. Rev. A 73, 012507 (2006)

H_2O + He	Line Broadening	300 K	Exp
H_2O + H_2O	Line Broadening	300 K	Exp
H_2O + N_2	Line Broadening	300 K	Exp
H_2O + SF_6	Line Broadening	300 K	Exp
N_2 + N_2	Line Broadening	300 K	Exp

1179. H. Tawara, E. Takacs, T. Suta, K. Makonyi, L. P. Ratliff, J. D. Gillaspy
K x rays produced in collisions of bare ions with atoms: Contribution of multiple-electron transfer in Kr^{36+}, Ar^{18+}, and Ne^{10+} + Ar collisions.
Phys. Rev. A 73, 012704 (2006)

Ne^{9+} + Ar	Charge Transfer	4 keV/u	Exp
Ne^{10+} + Ar	Charge Transfer	4 keV/u	Exp
Ar^{17+} + Ar	Charge Transfer	4 keV/u	Exp
Ar^{18+} + Ar	Charge Transfer	4 keV/u	Exp
Kr^{35+} + Ar	Charge Transfer	4 keV/u	Exp
Kr^{36+} + Ar	Charge Transfer	4 keV/u	Exp

1180. M. Pajek, D. Banas, J. Braziewicz, M. Czarnota, A. Bienkowski, M. Jaskola, A. Korman, D. Trautmann, G. Lapicki
M-shell ionization of heavy elements by 0.1-1.0 MeV/amu $^{1,2}H$ and $^{3,4}He$ ions.
Phys. Rev. A 73, 012709 (2006)

H + Ta	Ionization	0.1-1 MeV/u	E/T
H + W	Ionization	0.1-1 MeV/u	E/T
H + Re	Ionization	0.1-1 MeV/u	E/T
H + Os	Ionization	0.1-1 MeV/u	E/T
H + Ir	Ionization	0.1-1 MeV/u	E/T
H + Pt	Ionization	0.1-1 MeV/u	E/T
H + Au	Ionization	0.1-1 MeV/u	E/T
H + Bi	Ionization	0.1-1 MeV/u	E/T
H + Th	Ionization	0.1-1 MeV/u	E/T
He + Ta	Ionization	0.1-1 MeV/u	E/T
He + W	Ionization	0.1-1 MeV/u	E/T
He + Re	Ionization	0.1-1 MeV/u	E/T
He + Os	Ionization	0.1-1 MeV/u	E/T
He + Ir	Ionization	0.1-1 MeV/u	E/T

He + Pt	Ionization	0.1-1 MeV/u	E/T
He + Au	Ionization	0.1-1 MeV/u	E/T
He + Bi	Ionization	0.1-1 MeV/u	E/T
He + Th	Ionization	0.1-1 MeV/u	E/T

1181. A. S. Kadyrov, I. Bray, A. T. Stelbovics
On-shell coupled-channel approach to proton-hydrogen collisions without partial-wave expansion.
Phys. Rev. A 73, 012710 (2006)

H^+ + H	Elastic Scattering	$1-2x10^6$ eV/u	Th
H^+ + H	Charge Transfer	$1-2x10^6$ eV/u	Th

1182. V. P. Mogendorff, E.J.D. Vredenbregt, H.C.W. Beijerinck
Coupled-channel analysis of Ne* thermalization cross section.
Phys. Rev. A 73, 012712 (2006)

Ne + Ne	Elastic Scattering	0.2-0.8 mK	Th
Ne + Ne^*	Elastic Scattering	0.2-0.8 mK	Th

1183. J. Caillat, N. Sisourat, A. Dubois, I. Dundvor, J. P. Hansen
Orientation effects in He^{2+} - $H_2{}^+$ collisions at intermediate collision energies.
Phys. Rev. A 73, 014701 (2006)

He^{2+} + $H_2{}^+$	Charge Transfer	1-56 keV/u	Th

1184. A. H.-T. Li, S. D. Chao
Comment on "Intermolecular interaction potentials of the methane dimer from the local density approximation."
Phys. Rev. A 73, 016701 (2006)

CH_4 + CH_4	Interaction Potentials		Th

1185. L. Gonzalez-Sanchez, E. Bodo, F. A. Gianturco
Quantum scattering of $OH(X^2\Pi)$ with $He(^1S)$: Propensity features in rotational relaxation at ultralow energies.
Phys. Rev. A 73, 022703 (2006)

OH + He	De-excitation	$10^{-5}-10^{-3}\ cm^{-1}$	Th
OH + He	Excitation	$10^{-5}-10^{-3}\ cm^{-1}$	Th

1186. T. Kusakabe, Y. Miyamoto, M. Kimura, H. Tawara
Charge-transfer processes in collisions of He^{2+} ions with H_2, N_2, O_2, CO, and CO_2 molecules below 4 keV/u.
Phys. Rev. A 73, 022706 (2006)

He^{2+} + H_2	Charge Transfer	0.2-2.7 keV/u	Exp
He^{2+} + CO	Charge Transfer	0.2-2.7 keV/u	Exp
He^{2+} + CO_2	Charge Transfer	0.2-2.7 keV/u	Exp
He^{2+} + N_2	Charge Transfer	0.2-2.7 keV/u	Exp
He^{2+} + O_2	Charge Transfer	0.2-2.7 keV/u	Exp

1187. J.-Y. Zhang, Z.-C. Yan, D. Vrinceanu, J. F. Babb, H. R. Sadeghpour
Long-range interactions between a He(2 ^3S) atom and a He(2 ^3P) atom for like isotopes.
Phys. Rev. A 73, 022710 (2006)

He + He	Interaction Potentials		Th

1188. S. Otranto, R. E. Olson, P. Beiersdofer
X-ray emission cross sections following charge exchange by multiply charged ions of astrophysical interest.
Phys. Rev. A 73, 022723 (2006)

$\mathbf{N^{4+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{N^{4+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{N^{4+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{N^{5+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{N^{5+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{N^{5+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{N^{6+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{N^{6+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{N^{6+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{N^{7+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{N^{7+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{4+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{4+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{4+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{5+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{5+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{5+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{6+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{6+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{6+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{7+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{7+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{7+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{8+} + H}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{8+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{8+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{O^{8+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{4+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{4+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{4+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{5+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{5+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{5+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{6+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{6+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{6+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{7+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{7+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{7+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{8+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{8+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{8+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{9+} + Ne}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{9+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{9+} + CH_4}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{9+} + CO_2}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{10+} + He}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{10+} + Ne}$	Charge Transfer	1-100,000 eV	E/T
$\mathbf{Ne^{10+} + H_2O}$	Charge Transfer	1-100,000 eV	E/T

1189. S. Eden, J. Tabet, K. Samraoui, S. Louc, B. Farizon, M. Farizon, S. Ouaskit, T. D. Maerk
Absolute cross sections for the dissociation of hydrogen cluster ions in high-

energy collisions with helium atoms.
Phys. Rev. A 73, 023201 (2006)

$\mathbf{H_3{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_4{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{27}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_5{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_7{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_9{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{11}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{13}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_6{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_8{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{10}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{12}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{14}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{15}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{16}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{17}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{18}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{19}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{20}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{21}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{22}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{23}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{24}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{25}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{26}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{28}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{29}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{30}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{31}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{32}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{33}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{34}{}^+ + He}$	Dissociation	60 keV/u	Exp
$\mathbf{H_{35}{}^+ + He}$	Dissociation	60 keV/u	Exp

1190. J. P. D'Inaco, B. D. Esry
Mass dependence of ultracold three-body collision rates.
Phys. Rev. A 73, 030702 (2006)

H + Li	Interaction Potentials	Ultracold	Th
H + K	Interaction Potentials	Ultracold	Th
Li + Li	Interaction Potentials	Ultracold	Th
Li + K	Interaction Potentials	Ultracold	Th
Na + Li	Interaction Potentials	Ultracold	Th
Na + K	Interaction Potentials	Ultracold	Th
Rb + Li	Interaction Potentials	Ultracold	Th
Rb + K	Interaction Potentials	Ultracold	Th
Cs + Li	Interaction Potentials	Ultracold	Th
Cs + K	Interaction Potentials	Ultracold	Th

1191. E. Bodo, F. A. Gianturco
Ultra low-energy behavior of an ionic replacement reaction $^3He^4He^+$ + ^4He -¿ $^4He_2{}^+$ + ^3He.
Phys. Rev. A 73, 032702 (2006)

$\mathbf{He_2{}^+ + He}$	Interchange reaction	$10^{-6} - 10^{-1}$ eV	Th

1192. K. R. Cornelius
Updated single-electron-capture cross-section scaling rule for $A^{q+} + H_2$ collisions.
Phys. Rev. A 73, 032710 (2006)

$\mathbf{H^+ + H_2}$	Charge Transfer		Th
$\mathbf{He^+ + H_2}$	Charge Transfer		Th
$\mathbf{He^{2+} + H_2}$	Charge Transfer		Th
$\mathbf{Li^{3+} + H_2}$	Charge Transfer		Th
$\mathbf{Be^{4+} + H_2}$	Charge Transfer		Th
$\mathbf{B^{2+} + H_2}$	Charge Transfer		Th
$\mathbf{C^{3+} + H_2}$	Charge Transfer		Th
$\mathbf{C^{6+} + H_2}$	Charge Transfer		Th
$\mathbf{N^{3+} + H_2}$	Charge Transfer		Th
$\mathbf{N^{7+} + H_2}$	Charge Transfer		Th
$\mathbf{O^{3+} + H_2}$	Charge Transfer		Th
$\mathbf{O^{5+} + H_2}$	Charge Transfer		Th
$\mathbf{O^{7+} + H_2}$	Charge Transfer		Th
$\mathbf{O^{8+} + H_2}$	Charge Transfer		Th
$\mathbf{Na^{11+} + H_2}$	Charge Transfer		Th
$\mathbf{Ar^{18+} + H_2}$	Charge Transfer		Th
$\mathbf{Fe^{12+} + H_2}$	Charge Transfer		Th
$\mathbf{Fe^{20+} + H_2}$	Charge Transfer		Th
$\mathbf{Kr^{36+} + H_2}$	Charge Transfer		Th

1193. Y. P. Singh, D. Misra, U. Kadhane, L. C. Tribedi
Line-resolved M-shell x-ray production cross sections of Pb and Bi induced by highly charged C and F ions.
Phys. Rev. A 73, 032712 (2006)

$\mathbf{H^+ + Pb}$	Dissociation	20-102 MeV	Exp
$\mathbf{H^+ + Bi}$	Dissociation	20-102 MeV	Exp
$\mathbf{Li^{3+} + Pb}$	Dissociation	20-102 MeV	Exp
$\mathbf{Li^{3+} + Bi}$	Dissociation	20-102 MeV	Exp
$\mathbf{C^{4+-6+} + Pb}$	Dissociation	20-102 MeV	Exp
$\mathbf{C^{4+-6+} + Bi}$	Dissociation	20-102 MeV	Exp
$\mathbf{F^{4+-9+} + Pb}$	Dissociation	20-102 MeV	Exp
$\mathbf{F^{4+-9+} + Bi}$	Dissociation	20-102 MeV	Exp
$\mathbf{H^+ + Pb}$	Ionization	20-102 MeV	Exp
$\mathbf{H^+ + Bi}$	Ionization	20-102 MeV	Exp
$\mathbf{Li^{3+} + Pb}$	Ionization	20-102 MeV	Exp
$\mathbf{Li^{3+} + Bi}$	Ionization	20-102 MeV	Exp
$\mathbf{C^{4+-6+} + Pb}$	Ionization	20-102 MeV	Exp
$\mathbf{C^{4+-6+} + Bi}$	Ionization	20-102 MeV	Exp
$\mathbf{F^{4+-9+} + Pb}$	Ionization	20-102 MeV	Exp
$\mathbf{F^{4+-9+} + Bi}$	Ionization	20-102 MeV	Exp

1194. R.J.W. Stas, J. M. McNamara, W. Hogervorst, W. Vassen
Homonuclear ionizing collisions of laser-cooled metastable helium atoms.
Phys. Rev. A 73, 032713 (2006)

He + He	Ionization	$10^{-2} - 10^2$ mK	E/T

1195. C. M. Dutta, C. Oubre, P. Nordlander, M. Kimura, A. Dalgarno
Charge-transfer cross sections in collisions of ground-state Ca and H^+.
Phys. Rev. A 73, 032714 (2006)

$\mathbf{H^+ + Ca}$	Charge Transfer	200-10,000 eV/u	Th

1196. S. Madzunkov, D. Fry, E. Lindroth, R. Schuch
Characteristic x rays from multiple-electron capture by slow highly charged Ta^{q+} ions from He and Xe atoms.
Phys. Rev. A 73, 032715 (2006)

Ta^{41+} + He	Charge Transfer	10 keV/q	Exp
Ta^{42+} + Xe	Charge Transfer	10 keV/q	Exp
Ta^{43+} + He	Charge Transfer	10 keV/q	Exp
Ta^{43+} + Xe	Charge Transfer	10 keV/q	Exp
Ta^{44+} + He	Charge Transfer	10 keV/q	Exp
Ta^{44+} + Xe	Charge Transfer	10 keV/q	Exp
Ta^{46+} + He	Charge Transfer	10 keV/q	Exp
Ta^{46+} + Xe	Charge Transfer	10 keV/q	Exp
Ta^{49+} + He	Charge Transfer	10 keV/q	Exp
Ta^{49+} + Xe	Charge Transfer	10 keV/q	Exp

1197. V. Yu. Lazur, M. V. Khoma, R. K. Janev
Asymptotic properties of the three-Coulomb-center problem eZ_1ZZ.
Phys. Rev. A 73, 032723 (2006)

He^{2+} + H_2^+	Charge Transfer	0.2-1.6 V(a.u.)	Th
Li^{3+} + H_2^+	Charge Transfer	0.2-1.6 V(a.u.)	Th
Be^{4+} + H_2^+	Charge Transfer	0.2-1.6 V(a.u.)	Th

1198. F. Ferlaino, C. D'Errico, G. Roati, M. Zaccanti, M. Inguscio, G. Modugno, A. Simoni
Feshbach spectroscopy of a K-Rb atomic mixture.
Phys. Rev. A 73, 040702 (2006)

K + Rb	Elastic Scattering	$1x10^{-6}$ K	Exp

1199. E. Juarros, P. Pellegrini, K. Kirby, R. Cote
One-photon-assisted formation of ultracold polar molecules.
Phys. Rev. A 73, 041403 (2006)

Li + H	Association	1 mK	Th
Na + H	Association	1 mK	Th

1200. T. Niederhausen, U. Thumm
Capture and ionization in laser-assisted proton-hydrogen collisions.
Phys. Rev. A 73, 041404 (2006)

H^+ + H	Charge Transfer	1.21 keV	Th
H^+ + H	Ionization	1.21 keV	Th

1201. W. Glaz, T. Bancewicz, J.-L. Godet, G. Maroulis, A. Haskopoulos
Hyper-Rayleigh light-scattering spectra determined by ab initio collisional hyperpolarizabilities of He-Ne atomic pairs.
Phys. Rev. A 73, 042708 (2006)

He + Ne	Interaction Potentials	95-295 K	Th

1202. B. Roth, P. Blythe, H. Wenz, H. Daerr, S. Schiller
Ion-neutral chemical reactions between ultracold localized ions and neutral molecules with single-particle resolution.
Phys. Rev. A 73, 042712 (2006)

$Be^+ + H_2$	Association	30 mK	Exp
$Be^+ + HD$	Association	30 mK	Exp
$Be^+ + D_2$	Association	30 mK	Exp
${H_3}^+ + O_2$	Association	30 mK	Exp

1203. S. B. Bayram, S. Kin, M. J. Welsh, J. D. Hinkle
Collisional depolarization of Zeeman coherences in the ^{133C}s 6p $^2P_{3/2}$ level: Double-resonance two-photon polarization spectroscopy.
Phys. Rev. A 73, 042713 (2006)

Cs + Ar	De-excitation	60-120 deg C	Exp
Cs^* + Ar	De-excitation	60-120 deg C	Exp

1204. F. Anis, V. Roudnev, R. Cabrera-Trujillo, B. D. Esry
Laser-assisted charge transfer in He^{2+} + H collisions.
Phys. Rev. A 73, 043414 (2006)

He^{2+} + H	Charge Transfer	1 keV	Th

1205. O. Heber, R. Golser, H. Gnaser, D. Berkovits, Y. Toker, M. Eritt, M. L. Rappaport, D. Zajfman
Lifetimes of the negative molecular hydrogen ions: ${H_2}^-$, ${D_2}^-$, and HD^-.
Phys. Rev. A 73, 060501 (2006)

${H_2}^- + H_2$	Detachment	4.2 keV	Exp
$HD^- + H_2$	Detachment	4.2 keV	Exp
${D_2}^- + H_2$	Detachment	4.2 keV	Exp

1206. S. Knoop, V. G. Hasan, R. Morgenstern, R. Hoekstra
Multielectron removal processes in He^{2+} + Na collisions.
Phys. Rev. A 73, 062703 (2006)

He^{2+} + Na	Ionization	10 keV/u	Exp

1207. M. Schulz, A. Hasan, N. V. Maydanyuk, M. Foster, B. Tooke, D. H. Madison
Kinematically complete experiment on single ionization in 75-keV p+He collisions.
Phys. Rev. A 73, 062704 (2006)

H^+ + He	Total Scattering	75 keV	E/T
H^+ + He	Ionization	75 keV	E/T

1208. Y. V. Vanne, A. Saenz, A. Dalgarno, R. C. Forrey, P. Froelich, S. Jonsell
Doubly excited autoionizing states of H_2 converging to the H(n=2) + H(n'=2) limit.
Phys. Rev. A 73, 062706 (2006)

H + H	Interaction Potentials	0-200 a_0	Th
H + H^*	Interaction Potentials	0-200 a_0	Th
H^* + H^*	Interaction Potentials	0-200 a_0	Th

1209. R. Lazauskas, J. Carbonell
Description of ^4He tetramer bound and scattering states.
Phys. Rev. A 73, 062717 (2006)

He + He	Interaction Potentials	0-120 $\mathring{A}$	Th

1210. B.-L. Zhou, J.-M. Zhu, Z.-C. Yan
Ground-state energy of HeH^+.
Phys. Rev. A 73, 064503 (2006)

$\mathbf{H^+ + He}$	Interaction Potentials		Th
$\mathbf{He^+ + H}$	Interaction Potentials		Th

1211. J. Rzadkiewicz, T. Stohlker, D. Banas, H. F. Beyer, F. Bosch, C. Brandau, C. Z. Dong, S. Fritzsche, A. Gojska, A. Gumberidze, S. Hagmann, D. C. Ionescu, C. Kozhuharov, T. Nandi, R. Reuschl, D. Sierpowski, U. Spillmann, A. Surzhykov, S. Tashenov, M. Trassinelli, S. Trotsenko
Selective population of the [1s2s] $^1S_0$ and [1s2s] $^3S_1$ states of He-like uranium.
Phys. Rev. A 74, 012511 (2006)

$\mathbf{U^{89+} + N_2}$	Ionization	98-398 MeV/u	Exp

1212. H. Suno, S. N. Rai, H.-P. Liebermann, R. J. Buenker, M. Kimura, L. Pichl
Elastic and inelastic processes in $H^+ + NH_2$ collisions between 0.5 and 1.5 keV.
Phys. Rev. A 74, 012701 (2006)

$\mathbf{H^+ + NH_2}$	Charge Transfer	0.5-1.5 keV	Th
$\mathbf{H^+ + NH_2}$	Total Scattering	0.5-1.5 keV	Th

1213. A. B. Voitkiv
Resonance transfer of excitation in fast symmetric atomic collisions.
Phys. Rev. A 74, 012718 (2006)

H + H	Excitation	1-10,000 MeV	Th
$\mathbf{H + H^*}$	Excitation	1-10,000 MeV	Th

1214. P. Barragan, A.-T. Le, C. D. Lin
Hyperspherical close-coupling calculations for electron-capture cross sections in low-energy Ne^{10+} + H(1s) collisions.
Phys. Rev. A 74, 012720 (2006)

$\mathbf{Ne^{10+} + He}$	Charge Transfer	0.01-1000 eV	Th

1215. L. F. Errea, L. Mendez, B. Pons, A. Riera, I. Sevila, J. Suarez
Semiclassical treatment of excitation and electron loss in A^{q+} + H(1s) collisions using spherical Bessel functions.
Phys. Rev. A 74, 012722 (2006)

$\mathbf{H^+ + H}$	Excitation	40-7000 keV/u	Th
$\mathbf{He^{2+} + H}$	Excitation	40-7000 keV/u	Th
$\mathbf{Li^{3+} + H}$	Excitation	40-7000 keV/u	Th
$\mathbf{Be^{4+} + H}$	Excitation	40-7000 keV/u	Th
$\mathbf{B^{5+} + H}$	Excitation	40-7000 keV/u	Th
$\mathbf{C^{6+} + H}$	Excitation	40-7000 keV/u	Th
$\mathbf{H^+ + H}$	Ionization	40-7000 keV/u	Th
$\mathbf{He^{2+} + H}$	Ionization	40-7000 keV/u	Th
$\mathbf{Li^{3+} + H}$	Ionization	40-7000 keV/u	Th
$\mathbf{Be^{4+} + H}$	Ionization	40-7000 keV/u	Th
$\mathbf{B^{5+} + H}$	Ionization	40-7000 keV/u	Th
$\mathbf{C^{6+} + H}$	Ionization	40-7000 keV/u	Th

1216. J.-Y. Zhang, Z.-C. Yan, D. Vrinceanu, J. F. Babb, H. R. Sadeghpour
Long-range interactions for He(nS)-He(n'S) and He(nS)-He(n'P).
Phys. Rev. A 74, 014704 (2006)

He + He	Interaction Potentials		Th
He* + He	Interaction Potentials		Th

1217. M. M. Sant'Anna, F. Zappa, A.C.F. Santos, L.F.S. Coelho, W. Wolff, A.L.F. de Barros, N. V. de Castro Faria
Multiple ionization of Ar by F^- impact: Projectile-electron-loss and direct-ionization collision channels.
Phys. Rev. A 74, 022701 (2006)

F^- + Ar	Ionization	0.46-1.45 a.u.	Exp

1218. S. Y. Lin, H. Guo
Quantum state-to-state cross sections for atom-diatom reactions: A Chebyshev real wave-packet approach.
Phys. Rev. A 74, 022703 (2006)

H + H_2	Association	0.08-1.4 eV	Th
N + H_2	Association	0.08-1.4 eV	Th
H + H_2	Interchange reaction	0.08-1.4 eV	Th
N + H_2	Interchange reaction	0.08-1.4 eV	Th
H + H_2	Total Scattering	0.08-1.4 eV	Th
N + H_2	Total Scattering	0.08-1.4 eV	Th

1219. J. A. Tanis, J.-Y. Chesnel, B. Sulik, B. Skogvall, P. Sobocinski, A. Cassimi, J.-P. Grandin, L. Adoui, D. Hennecart, N. Stolterfoht
Angular and high-frequency analysis of electron interference structures in 60 MeV/u Kr^{34+} + H_2 collisions.
Phys. Rev. A 74, 022707 (2006)

Kr^{34+} + H_2	Dissociation	60 MeV	Exp
Kr^{34+} + H_2	Charge Transfer	60 MeV	Exp
Kr^{34+} + H_2	Ionization	60 MeV	Exp

1220. P. Barragan, L. F. Errea, L. Mendez, I. Rabadan, A. Riera
Electron capture in collisions of N^{2+} and O^{2+} ions with H(1s) at low impact energies.
Phys. Rev. A 74, 024701 (2006)

N^{2+} + H	Charge Transfer	$10^{-2} - 10^{2}$ eV/amu	Th
O^{2+} + H	Charge Transfer	$10^{-2} - 10^{2}$ eV/amu	Th

1221. M. F. Ciappina, W. R. Cravero, M. Schulz, R. Moshammer, J. Ullrich
Theoretical description of two- and three-particle interactions in single ionization of helium by ion impact.
Phys. Rev. A 74, 042702 (2006)

C^{6+} + He	Total Scattering	3.6-100 MeV/u	Exp
Au^{24+} + He	Total Scattering	3.6-100 MeV/u	Exp
Au^{53+} + He	Total Scattering	3.6-100 MeV/u	Exp
C^{6+} + He	Ionization	3.6-100 MeV/u	Exp
Au^{24+} + He	Ionization	3.6-100 MeV/u	Exp
Au^{53+} + He	Ionization	3.6-100 MeV/u	Exp

1222. G. Jalbert, L. Silva, W. Wolff, S. D. Magalhaes, A. Medina, M. M. Sant'Anna, N. V. de Castro Faria
Strong similarities between small cluster anions and electrons colliding with argon.
Phys. Rev. A 74, 042703 (2006)

Al^- + Ar	Total Scattering	0.054-8.8 MeV	Exp
$Al_2{}^-$ + Ar	Total Scattering	0.054-8.8 MeV	Exp
$Al_3{}^-$ + Ar	Total Scattering	0.054-8.8 MeV	Exp
$Al_4{}^-$ + Ar	Total Scattering	0.054-8.8 MeV	Exp
Al^- + Ar	Detachment	0.054-8.8 MeV	Exp
$Al_2{}^-$ + Ar	Detachment	0.054-8.8 MeV	Exp
$Al_3{}^-$ + Ar	Detachment	0.054-8.8 MeV	Exp
$Al_4{}^-$ + Ar	Detachment	0.054-8.8 MeV	Exp

1223. M. Schulz, T. Ferger, D. Fischer, R. Moshammer, M. Ullrich
Multiple scattering mechanisms in simultaneous projectile-electron and target-electron ejection in H^- + He collisions.
Phys. Rev. A 74, 042705 (2006)

H^- + He	Total Scattering	200 keV	Exp
H^- + He	Detachment	200 keV	Exp
H^- + He	Ionization	200 keV	Exp

1224. S. Yu. Ovchinnikov, P. S. Krstic, J. H. Macek
Oscillations in the integral elastic cross sections for scattering of protons at inert gases.
Phys. Rev. A 74, 042706 (2006)

H^+ + He	Elastic Scattering	$10^{-4} - 1$ eV	Th
H^+ + Ne	Elastic Scattering	$10^{-4} - 1$ eV	Th
H^+ + Ar	Elastic Scattering	$10^{-4} - 1$ eV	Th

1225. J. A. Kunc
Probabilities for low-energy small-angle scattering in collisions of neutral particles.
Phys. Rev. A 74, 042715 (2006)

Li + Hg	Elastic Scattering	0.05-0.5 eV	Th
Na + Hg	Elastic Scattering	0.05-0.5 eV	Th
K + Hg	Elastic Scattering	0.05-0.5 eV	Th
Li + Hg	Total Scattering	0.05-0.5 eV	Th
Na + Hg	Total Scattering	0.05-0.5 eV	Th
K + Hg	Total Scattering	0.05-0.5 eV	Th

1226. G. N. Ogurtsov, V. M. Mikoushkin, S. Yu. Ovchinnikov, J. H. Macek
Correlated electron detachment in H^- + He collisions.
Phys. Rev. A 74, 042720 (2006)

H^- + He	Detachment	1-10 keV	E/T
H^- + He	Ionization	1-10 keV	E/T

1227. M. Purkait, S. Sounda, A. Dhara, C. R. Mandal
Double-charge-transfer cross sections in inelastic collisions of bare ions with helium atoms.
Phys. Rev. A 74, 042723 (2006)

He^{2+} + He	Charge Transfer	50-500 keV/amu	E/T
Li^{3+} + He	Charge Transfer	50-500 keV/amu	E/T
B^{5+} + He	Charge Transfer	50-500 keV/amu	E/T

1228. V. D. Ovsiannikov, J. Mitroy
Regular approach for generating van der Waals C_s coefficients to arbitrary orders.
J. Phys. B 39, 159 (2006)

H + H	Interaction Potentials		Th

1229. A. Kumar, D. Misra, A. H. Kelkar, U. Kadhane, Y. P. Singh, G. Lapicki, L. Gulyas, L. C. Tribedi
Saturation effect in projectile- and target-x-ray production in collisions between 2.5 MeV/u highly charged Cu ions and gaseous targets.
J. Phys. B 39, 331 (2006)

$\mathbf{Cu^{20+-26+} + Ne}$	Charge Transfer	2.5 MeV	Exp
$\mathbf{Cu^{20+-26+} + Ar}$	Charge Transfer	2.5 MeV	Exp
$\mathbf{Cu^{20+-26+} + Kr}$	Charge Transfer	2.5 MeV	Exp
$\mathbf{Cu^{20+-26+} + Xe}$	Charge Transfer	2.5 MeV	Exp
$\mathbf{Cu^{20+-26+} + H_2}$	Charge Transfer	2.5 MeV	Exp
$\mathbf{Cu^{20+-26+} + Ne}$	Excitation	2.5 MeV	Exp
$\mathbf{Cu^{20+-26+} + Ar}$	Excitation	2.5 MeV	Exp
$\mathbf{Cu^{20+-26+} + Kr}$	Excitation	2.5 MeV	Exp
$\mathbf{Cu^{20+-26+} + Xe}$	Excitation	2.5 MeV	Exp
$\mathbf{Cu^{20+-26+} + H_2}$	Excitation	2.5 MeV	Exp

1230. T.J.M. Zouros, B. Sulik, L. Gulyas, A. Orban
Production of projectile 1s2s2p ^4P states by transfer-loss in collisions of O^{5+} and F^{6+} ions with H_2 and He targets.
J. Phys. B 39, L45 (2006)

$\mathbf{O^{5+} + He}$	Charge Transfer	0.25-2 MeV/u	Th
$\mathbf{O^{5+} + H_2}$	Charge Transfer	0.25-2 MeV/u	Th
$\mathbf{F^{6+} + He}$	Charge Transfer	0.25-2 MeV/u	Th
$\mathbf{F^{6+} + H_2}$	Charge Transfer	0.25-2 MeV/u	Th
$\mathbf{O^{5+} + He}$	Ionization	0.25-2 MeV/u	Th
$\mathbf{O^{5+} + H_2}$	Ionization	0.25-2 MeV/u	Th
$\mathbf{F^{6+} + He}$	Ionization	0.25-2 MeV/u	Th
$\mathbf{F^{6+} + H_2}$	Ionization	0.25-2 MeV/u	Th

1231. P. Sobocinski, Z. D. Pesic, R. Hellhammer, D. Klein, B. Sulik, J.-Y. Chesnel, N. Stolterfoht
Anisotropic proton emission after fragmentation of H_2O by multiply charged ions.
J. Phys. B 39, 927 (2006)

$\mathbf{Ne^{3+} + H_2O}$	Dissociation	1-5 keV	Exp
$\mathbf{Ne^{7+} + H_2O}$	Dissociation	1-5 keV	Exp
$\mathbf{Ne^{3+} + H_2O}$	Total Scattering	1-5 keV	Exp
$\mathbf{Ne^{7+} + H_2O}$	Total Scattering	1-5 keV	Exp

1232. A. L. Godunov, J. H. McGuire, V. S. Schipakov, H.R.J. Walters, C. T. Whelan
Total cross sections for transfer ionization in fast ion-helium collisions.
J. Phys. B 39, 987 (2006)

$\mathbf{H^{+} + He}$	Charge Transfer	100-6000 keV	Th
$\mathbf{He^{2+} + He}$	Charge Transfer	100-6000 keV	Th
$\mathbf{Li^{3+} + He}$	Charge Transfer	100-6000 keV	Th
$\mathbf{H^{+} + He}$	Ionization	100-6000 keV	Th
$\mathbf{He^{2+} + He}$	Ionization	100-6000 keV	Th
$\mathbf{Li^{3+} + He}$	Ionization	100-6000 keV	Th

1233. V. I. Matveev, E. S. Gusarevich, D. U. Matrasulov, Kh. Yu. Rakhimov, Th. Stoehlker, G. Baur
Projectile electron losses in the collisions with neutral targets: Sudden-perturbation approximation.
J. Phys. B 39, 1447 (2006)

$\mathbf{U^{10+} + Ar}$	Ionization	1.4-6.5 MeV/u	Th
$\mathbf{U^{28+} + Ar}$	Ionization	1.4-6.5 MeV/u	Th
$\mathbf{U^{28+} + N_2}$	Ionization	1.4-6.5 MeV/u	Th

1234. K. Chakrabarti, J. Tennyson
R-matrix calculation of the potential energy curves for Rydberg states of carbon monoxide.
J. Phys. B 39, 1485 (2006)

C + O	Interaction Potentials	1.5-3.5 a.u.	Th
$\mathbf{C + O^+}$	Interaction Potentials	1.5-3.5 a.u.	Th
$\mathbf{C^+ + O}$	Interaction Potentials	1.5-3.5 a.u.	Th

1235. S. Otranto, R. E. Olson, J. Fiol
Angular distributions and Dalitz plots for C^{6+} ionization of He.
J. Phys. B 39, L175 (2006)

$\mathbf{C^{6+} + He}$	Total Scattering	2 MeV/u	E/T
$\mathbf{C^{6+} + He}$	Ionization	2 MeV/u	E/T

1236. A. M. Sayler, M. Leonard, K. D. Carnes, R. Cabrera-Trujillo, B. D. Esry, I. Ben-Itzhak
Preference for breaking the O-H bond over the O-D bond following HDO ionization by fast ions.
J. Phys. B 39, 1701 (2006)

$\mathbf{H^+ + H_2O}$	Dissociation	1-14 MeV/u	E/T
$\mathbf{H^+ + HDO}$	Dissociation	1-14 MeV/u	E/T
$\mathbf{F^{7+} + H_2O}$	Dissociation	1-14 MeV/u	E/T
$\mathbf{F^{7+} + HDO}$	Dissociation	1-14 MeV/u	E/T
$\mathbf{H^+ + H_2O}$	Ionization	1-14 MeV/u	E/T
$\mathbf{H^+ + HDO}$	Ionization	1-14 MeV/u	E/T
$\mathbf{F^{7+} + H_2O}$	Ionization	1-14 MeV/u	E/T
$\mathbf{F^{7+} + HDO}$	Ionization	1-14 MeV/u	E/T

1237. M. Fiori, A. B. Rocha, C. E. Bielschowsky, G. Jalbert, C. R. Garibotti
Double ionization of atoms by ion impact: Two-step models.
J. Phys. B 39, 1751 (2006)

$\mathbf{H^+ + He}$	Ionization	50-2000 keV/u	Th
$\mathbf{H^+ + He^+}$	Ionization	50-2000 keV/u	Th
$\mathbf{H^+ + Li}$	Ionization	50-2000 keV/u	Th
$\mathbf{He^{2+} + He}$	Ionization	50-2000 keV/u	Th
$\mathbf{He^{2+} + Li}$	Ionization	50-2000 keV/u	Th
$\mathbf{Li^{3+} + He}$	Ionization	50-2000 keV/u	Th

1238. M. Ivkovic, R. Zikic, S. Jovicevic, N. Konjevic
On simultaneous determination of electron impact width, ion-broadening and ion-dynamic parameter from the shape of plasma broadened non-hydrogenic atom line.
J. Phys. B 39, 1773 (2006)

$\mathbf{Kr^+ + Kr}$	Line Broadening		E/T
$\mathbf{Kr^{2+} + Kr}$	Line Broadening		E/T

1239. M. Busch, Th. Ludwig, R. Drozdowski, G. von Oppen
Anticrossing spectra of ^3He and ^4He atoms excited by $He^+ - He$ collisions.
J. Phys. B 39, 1929 (2006)

He^{+} + He	Charge Transfer		Exp
He^{+} + He	Excitation		Exp

1240. S. Knoop, V. G. Hasan, H. Ott, R. Morgenstern, R. Hoekstra
Single ionization of Na(3s) and Na*(3p) by low energy ion impact.
J. Phys. B 39, 2021 (2006)

He^{2+} + Na	Ionization	2-10 keV/u	Exp
O^{6+} + Na	Ionization	2-10 keV/u	Exp

1241. J. Ph. Karr, L. Hilico
High accuracy results for the energy levels of the molecular ions $H_2{}^{+}$, $D_2{}^{+}$ and HD^{+}, up to J = 2.
J. Phys. B 39, 2095 (2006)

H^{+} + H	Interaction Potentials		Th
H^{+} + D	Interaction Potentials		Th
D^{+} + H	Interaction Potentials		Th
D^{+} + D	Interaction Potentials		Th

1242. M. F. Ciappina, W. R. Cravero
Fully differential cross sections for C^{6+} single ionization of helium: The role of nucleus-nucleus interaction.
J. Phys. B 39, 2183 (2006)

C^{6+} + He	Total Scattering	2 MeV/u	Th
C^{6+} + He	Ionization	2 MeV/u	Th

1243. G. Halmova, J. D. Gorfinkiel, J. Tennyson
Low-energy electron collisions with C_2 using the R-matrix method.
J. Phys. B 39, 2849 (2006)

C + C	Interaction Potentials	0-10 eV	Th

1244. T. Minami, M. S. Pindzola, T.-G. Lee, D. R. Schultz
Lattice, time-dependent Schrodinger equation approach for charge transfer in collisions of Be^{4+} with atomic hydrogen.
J. Phys. B 39, 2877 (2006)

Be^{4+} + H	Charge Transfer	10-1000 keV/u	Th

1245. L. F. Errea, C. Illescas, L. Mendez, B. Pons, A. Riera, J. Suarez
Charge transfer and ionization involving argon ions and neutral hydrogen.
J. Phys. B 39, L91 (2006)

$Ar^{16+-18+}$ + H	Charge Transfer	30-300 keV/amu	Th
$Ar^{16+-18+}$ + H	Ionization	30-300 keV/amu	Th

1246. M. F. Ciappina, W. R. Cravero
Post-prior discrepancies in CDW-EIS calculations for ion impact ionization fully differential cross sections.
J. Phys. B 39, 1091 (2006)

C^{6+} + He	Total Scattering	3.6-8.3 MeV/amu	E/T
Au^{24+} + He	Total Scattering	3.6-8.3 MeV/amu	E/T
Au^{53+} + He	Total Scattering	3.6-8.3 MeV/amu	E/T
C^{6+} + He	Ionization	3.6-8.3 MeV/amu	E/T
Au^{24+} + He	Ionization	3.6-8.3 MeV/amu	E/T
Au^{53+} + He	Ionization	3.6-8.3 MeV/amu	E/T

1247. C. L. Liu, J. G. Wang, R. K. Janev
Mutual neutralization in slow H_2^+ - H^- collisions.
J. Phys. B 39, 1223 (2006)

$\mathbf{H_2^+ + H^-}$	Recombination	0.05-5 keV/u	E/T

1248. S. A. Wrathmall, D. R. Flower
A quantum-mechanical study of rotational transitions in H_2 induced by H.
J. Phys. B 39, L249 (2006)

$\mathbf{H + H_2}$	Energy Transfer	0-10,000 K	Th
$\mathbf{H + H_2}$	Interaction Potentials	0-10,000 K	Th

1249. H. Martinez, C. L. Hernandez, F. B. Yousif
Absolute differential and total cross sections for charge transfer of O^+ ground and mixed states ions in N_2.
J. Phys. B 39, 2535 (2006)

$\mathbf{O^+ + N_2}$	Charge Transfer	1-5 keV	Exp
$\mathbf{O^+ + N_2}$	Total Scattering	1-5 keV	Exp

1250. J. Fiol, S. Otranto, R. E. Olson
Critical comparison between theory and experiment for C^{6+} + He fully differential ionization cross sections.
J. Phys. B 39, L285 (2006)

$\mathbf{C^{6+} + He}$	Ionization	100 MeV/u	E/T

1251. H. Braeuning, A. Diehl, E. Salzborn
Charge transfer in homonuclear collisions of heavy ions.
J. Phys. B 39, 3255 (2006)

$\mathbf{Ar^{2+-4+} + Ar}$	Charge Transfer	2-94 keV	Exp
$\mathbf{Kr^{2+-4+} + Kr}$	Charge Transfer	2-94 keV	Exp
$\mathbf{Xe^{2+-4+} + Xe}$	Charge Transfer	2-94 keV	Exp
$\mathbf{Pb^{2+-4+} + Pb}$	Charge Transfer	2-94 keV	Exp
$\mathbf{Bi^{2+-4+} + Bi}$	Charge Transfer	2-94 keV	Exp

1252. A. B. Voitkiv, B. Najjari, N. Toshima, J. Ullrich
Two-electron capture with emission of one photon in fast collisions between a highly charged ion and a light atom.
J. Phys. B 39, 3403 (2006)

$\mathbf{Ar^{18+} + He}$	Charge Transfer	5-23 MeV/u	Th
$\mathbf{Ar^{18+} + Li}$	Charge Transfer	5-23 MeV/u	Th
$\mathbf{Ar^{18+} + Be}$	Charge Transfer	5-23 MeV/u	Th
$\mathbf{Ar^{18+} + B}$	Charge Transfer	5-23 MeV/u	Th
$\mathbf{Ar^{18+} + C}$	Charge Transfer	5-23 MeV/u	Th

1253. W. S. Melo, A.C.F. Santos, M. M. Sant'Anna, G. M. Sigaud, E. C. Montenegro
Dissociative and non-dissociative ionization of the N_2 molecule by the impact of 0.75-3.5 MeV He^+.
J. Phys. B 39, 3519 (2006)

$\mathbf{He^+ + N_2}$	Dissociation	0.75-3.5 MeV	Exp
$\mathbf{He^+ + N_2}$	Ionization	0.75-3.5 MeV	Exp

1254. T.-G. Lee
Low-energy single electron capture, target excitation and ionization in He^{2+} + Na(3s) collisions.
J. Phys. B 39, 3665 (2006)

He^{2+} + Na	Charge Transfer	2-20 keV	E/T
He^{2+} + Na	Excitation	2-20 keV	E/T
He^{2+} + Na	Ionization	2-20 keV	E/T

1255. A. B. Voitkiv, N. Toshima, J. Ullrich
Ionization of hydrogen by ion impact in the presence of a laser field resonant to bound-bound atomic transitions.
J. Phys. B 39, 3791 (2006)

C^{6+} + H	Total Scattering	1 MeV/u	Th
C^{6+} + H	Ionization	1 MeV/u	Th

1256. W. Zrafi, B. Oujia, F. X. Gadea
Theoretical study of the CsH molecule: Adiabatic and diabatic potential energy curves and dipole moments.
J. Phys. B 39, 3815 (2006)

Cs + H	Interaction Potentials	3-80 a.u.	Th

1257. T. Bergeman, J. Qi, D. Wang, Y. Huang, H. K. Pechkis, E. E. Eyler, P. L. Gould, W. C. Stwalley, R. A. Cline, J. D. Miller, D. J. Heinzen
Photoassociation of ^{85}Rb atoms into $O_u{}^+$ states near the 5S+5P atomic limits.
J. Phys. B 39, S813 (2006)

Rb + Rb	Association	$2x10^{-4}$ K	E/T
Rb + Rb*	Association	$2x10^{-4}$ K	E/T
Rb + Rb	Interaction Potentials	$2x10^{-4}$ K	E/T
Rb + Rb*	Interaction Potentials	$2x10^{-4}$ K	E/T

1258. E. van der Zwan, D. van Oosten, D. Nehari, P. van der Straten, H.T.C. Stoof
On the role of Penning ionization in photoassociation spectroscopy.
J. Phys. B 39, S825 (2006)

He + He	Association	1.9-2.7 mK	E/T
He + He*	Association	1.9-2.7 mK	E/T
He + He	Interaction Potentials	1.9-2.7 mK	E/T
He + He*	Interaction Potentials	1.9-2.7 mK	E/T

1259. G. Auboeck, C. Binder, L. Holler, V. Wippel, K. Rumpf, J. Szczepkowski, W. E. Ernst, L. Windholz
Trap loss collisions of ^6Li and ^7Li with ^{23}Na in a combined magneto-optical trap.
J. Phys. B 39, S871 (2006)

Li + Na	Energy Transfer	$3x10^{-4} - 4x10^{-4}$ K	Exp

1260. M. Aymar, O. Dulieu, F. Spiegelman
Electronic properties of francium diatomic compounds and prospects for cold molecule formation.
J. Phys. B 39, S905 (2006)

Rb + Fr	Interaction Potentials		Th
$\mathbf{Rb^+}$ **+ Rb**	Interaction Potentials		Th
$\mathbf{Rb^+}$ **+ Cs**	Interaction Potentials		Th
$\mathbf{Rb^+}$ **+ Fr**	Interaction Potentials		Th
Cs + Fr	Interaction Potentials		Th
$\mathbf{Cs^+}$ **+ Cs**	Interaction Potentials		Th
$\mathbf{Cs^+}$ **+ Fr**	Interaction Potentials		Th
Fr + Fr	Interaction Potentials		Th
$\mathbf{Fr^+}$ **+ Rb**	Interaction Potentials		Th
$\mathbf{Fr^+}$ **+ Fr**	Interaction Potentials		Th

1261. O. Docenko, M. Tamanis, J. Zaharova, R. Ferber, A. Pashov, H. Knoeckel, E. Tiemann
The coupling of the $X^1\Sigma^+$ and $a^3\Sigma^+$ states of the atom pair Na + Cs and modelling cold collisions.
J. Phys. B 39, S929 (2006)

Na + Cs	Elastic Scattering	10^{-5} K	E/T
Na + Cs	Interaction Potentials	10^{-5} K	E/T

1262. M. Vatasescu, C. M. Dion, O. Dulieu
Efficient formation of strongly bound ultracold caesium molecules by photoassociation with tunnelling.
J. Phys. B 39, S945 (2006)

Cs + Cs	Association	$1.5x10^{-4}$ K	Th
Cs + Cs*	Association	$1.5x10^{-4}$ K	Th

1263. C. Haimberger, J. Kleinert, O. Dulieu, N. P. Bigelow
Processes in the formation of ultracold NaCs.
J. Phys. B 39, S957 (2006)

Na + Cs	Association	$3x10^{-5}$ K	Exp
Na + Cs*	Association	$3x10^{-5}$ K	Exp

1264. E. Juarros, K. Kirby, R. Cote
Laser-assisted ultracold lithium-hydride molecule formation: Stimulated versus spontaneous emission.
J. Phys. B 39, S965 (2006)

H + Li*	Association	1 mK	Th
Li + H	Association	1 mK	Th

1265. S. D. Kraft, P. Staanum, J. Lange, L. Vogel, R. Wester, M. Weidemueller
Formation of ultracold LiCs molecules.
J. Phys. B 39, S993 (2006)

Li + Cs	Association	10^{-4} K	Exp

1266. U. Poschinger, W. Salzmann, R. Wester, M. Weidemueller, C. P. Koch, R. Kosloff
Theoretical model for ultracold molecule formation via adaptive feedback control.
J. Phys. B 39, S1001 (2006)

Rb + Rb	Association	10^{-4} K	Th
Rb + Rb*	Association	10^{-4} K	Th

1267. C. P. Koch, R. Kosloff, E. Luc-Koenig, F. Masnou-Seeuws, A. Crubellier
Photoassociation with chirped laser pulses: Calculation of the absolute number of molecules per pulse.
J. Phys. B 39, S1017 (2006)

Cs + Rb	Association	$0.5x10^{-4} - 1.5x10^{-4}$ K	Th
Cs + Rb*	Association	$0.5x10^{-4} - 1.5x10^{-4}$ K	Th

1268. B. Schaefer-Bung, R. Mitric, V. Bonacic-Koutecky
Photostabilization of the ultracold Rb_2 molecule by optimal control.
J. Phys. B 39, S1043 (2006)

Rb + Rb	Association		Th
Rb + Rb*	Association		Th

1269. L. Gonzalez-Sanchez, F. Marinetti, E. Bodo, F. A. Gianturco
$OH^-(X^1\Sigma^+)$ collisions with $^4He(^1S)$ at vanishing energies: A quantum analysis of rotational quenching efficiency.
J. Phys. B 39, S1203 (2006)

OH^- + He	De-excitation	$10^{-9} - 0.1\ cm^{-1}$	Th

1270. P. F. Weck, N. Balakrishnan
Dynamics of chemical reactions at cold and ultracold temperatures.
J. Phys. B 39, S1215 (2006)

O + H_2	Interchange reaction	$10^{-9} - 0.1$ eV; $10^{-4} - 100$ K	Th

1271. B. Yang, H. Perera, N. Balakrishnan, R. C. Forrey, P. C. Stancil
Quenching of rotationally excited CO in cold and ultracold collisions with H, He and H_2.
J. Phys. B 39, S1229 (2006)

CO + H	De-excitation	$10^{-5} - 10\ cm^{-1}$	Th
CO + He	De-excitation	$10^{-5} - 10\ cm^{-1}$	Th
CO + H_2	De-excitation	$10^{-5} - 10\ cm^{-1}$	Th

1272. I. S. Vogelius, L. B. Madsen, M. Drewsen
Rotational cooling of molecular ions through laser-induced coupling to the collective modes of a two-ion Coulomb crystal.
J. Phys. B 39, S1267 (2006)

Ca^+ + MgH^+	Energy Transfer	300 K	Th

1273. S. Geltman
Ultracold scattering of Rb atoms and bound states of Rb_2.
J. Phys. B 39, 4563 (2006)

Rb + Rb	Interaction Potentials	100-10,000 μ K	Th

1274. C. Bahrim, J. F. Hunt
Infrared spectroscopy for the identification of modes of vibration in a temporary HeNe molecule.
J. Phys. B 39, 4683 (2006)

He + Ne	Interaction Potentials		Th

1275. Y. Moriwaki, Y. Matsuo, Y. Fukuyama, N. Morita
Laser spectroscopic measurements of fine structure changing cross sections of alkali earth ions in collisions with molecular hydrogen (H_2, D_2).
J. Phys. B 39, 4789 (2006)

$Ca^+ + H_2$	Energy Transfer	298 K	Exp
$Ca^+ + D_2$	Energy Transfer	298 K	Exp
$Sr^+ + H_2$	Energy Transfer	298 K	Exp
$Sr^+ + D_2$	Energy Transfer	298 K	Exp
$Ba^+ + H_2$	Energy Transfer	298 K	Exp
$Ba^+ + D_2$	Energy Transfer	298 K	Exp

1276. L. Ponce, R. Taieb, V. Veniard, A. Maquet
Attosecond-scale dynamics in ion-atom collision versus laser-atom interaction.
J. Phys. B 39, 4985 (2006)

$H^+ + H$	Charge Transfer	1-2 a.u.; 1 μ m	Th
$C^{6+} + H$	Charge Transfer	1-2 a.u.; 1 μ m	Th
$Ne^{10+} + H$	Charge Transfer	1-2 a.u.; 1 μ m	Th
$H^+ + H$	Ionization	1-2 a.u.; 1 μ m	Th
$C^{6+} + H$	Ionization	1-2 a.u.; 1 μ m	Th
$Ne^{10+} + H$	Ionization	1-2 a.u.; 1 μ m	Th

1277. M. F. Ciappina, L. B. Madsen
Electron emission in energetic ion-atom collisions in the presence of coherent electromagnetic radiation.
J. Phys. B 39, 5037 (2006)

$H^+ + H$	Total Scattering	10 a.u.	Th
$He^{2+} + H$	Total Scattering	10 a.u.	Th
$C^{6+} + H$	Total Scattering	10 a.u.	Th
$H^+ + H$	Ionization	10 a.u.	Th
$He^{2+} + H$	Ionization	10 a.u.	Th
$C^{6+} + H$	Ionization	10 a.u.	Th

1278. L. B. Zhao, J. G. Wang, P. C. Stancil, J. P. Gu, H.-P. Liebermann, R. J. Buenker, M. Kimura
Radiative charge transfer in Ne^{2+} + He collisions.
J. Phys. B 39, 5151 (2006)

$Ne^{2+} + He$	Charge Transfer	$10^{-4} - 10^4$ eV	Th
$Ne^{2+*} + He$	Charge Transfer	$10^{-4} - 10^4$ eV	Th
$Ne^{2+} + He$	Fluorescence	$10^{-4} - 10^4$ eV	Th
$Ne^{2+*} + He$	Fluorescence	$10^{-4} - 10^4$ eV	Th

1279. H.J.Aa. Jensen, J. Oddershede, J. F. Ogilvie
Rotational g factors calculated for diatomic molecular cations $H_2{}^+$, HeH^+, and NeH^+.
J. Phys. B 39, 5215 (2006)

$H^+ + H$	Interaction Potentials	0.007-4 nm	Th
$H^+ + He$	Interaction Potentials	0.007-4 nm	Th
$H^+ + Ne$	Interaction Potentials	0.007-4 nm	Th

1280. F. Lique, A. Spielfiedel, G. Dhont, N. Feautrier
Ro-vibrational excitation of the SO molecule by collision with the He atom.
Astron. Astrophys. 458, 331 (2006)

He + SO	Excitation	300-800 K	Th

1281. F. Dayou, C. Balanca
Rotational excitation of SiO by collisions with helium.
Astron. Astrophys. 459, 297 (2006)

He + SiO	Excitation	10-300 K	Th

1282. M.-L. Dubernet, F. Daniel, A. Grosjean, A. Faure, P. Valiron, M. Wernli, L. Wiesenfeld, C. Rist, J. Noga, J. Tennyson
Influence of a new potential energy surface on the rotational (de)excitation of H_2O by H_2 at low temperature.
Astron. Astrophys. 460, 323 (2006)

H_2 + H_2O	Excitation	5-20 K	Th

1283. L. Machin, E. Roueff
Collisional excitation of monodeuterated ammonia NH_2D by helium.
Astron. Astrophys. 460, 953 (2006)

He + NH_3	Excitation	0-100 K	Th
He + NH_2D	Excitation	0-100 K	Th

1284. F. Lique, A. Spielfiedel
Ro-vibrational excitation of CS by He.
Astron. Astrophys. 462, 1179 (2007)

He + CS	Excitation	300-1500 K	Th

1285. M. Wernli, L. Wiesenfeld, A. Faure, P. Valiron
Rotational excitation of HC_3N by H_2 and He at low temperatures.
Astron. Astrophys. 464, 1147 (2007)

He + HC_3N	Excitation	5-100 K	Th
H_2 + HC_3N	Excitation	5-100 K	Th

1286. L. Machin, E. Roueff
Collisional excitation of doubly deuterated ammonia ND_2H by helium.
Astron. Astrophys. 465, 647 (2007)

He + NH_3	Excitation	5-100 K	Th
He + ND_2H	Excitation	5-100 K	Th

1287. D. Fischer, K. Stochkel, H. Cederquist, H. Zettergren, P. Reinhed, R. Schuch, A. Kaellberg, A. Simonsson, H. T. Schmidt
Experimental separation of the Thomas charge-transfer process in high-velocity p-He collisions.
Phys. Rev. A 73, 052713 (2006)

H^+ + He	Charge Transfer	7.5-12.5 MeV	E/T
H^+ + He	Total Scattering	7.5-12.5 MeV	E/T

1288. K. M. Dunseath, M. Terao-Dunseath
Laser-assisted electron-helium scattering at very low collision energies.
Phys. Rev. A 73, 053407 (2006)

C + He	Elastic Scattering	0.2-2.5 eV	E/T
C + He	Total Scattering	0.2-2.5 eV	E/T

1289. J. G. Wang, B. He, Y. Ning, C. L. Liu, J. Yan, P. C. Stancil, D. R. Schultz
Charge transfer ionization in collisions of Si^{3+} with H from low to high energy.
Phys. Rev. A 74, 052709 (2006)

$\mathbf{Si^{3+} + H}$	Charge Transfer	$10^{-2} - 10^{6}$ eV/u	E/T
$\mathbf{Si^{3+} + H}$	Ionization	$10^{-2} - 10^{6}$ eV/u	E/T

1290. Y. P. Singh, A. Kumar, U. Kadhane, L. C. Tribedi, D. Trautmann
Projectile atomic number dependence of the relativistic effect on the K-shell ionization of high Z elements under heavy-ion impact.
Phys. Rev. A 74, 052714 (2006)

$\mathbf{C^{4+} + Sb}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{C^{4+} + Au}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{C^{4+} + Bi}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{O^{4+} + Sb}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{O^{4+} + Au}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{O^{4+} + Bi}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{O^{5+} + Sb}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{O^{5+} + Au}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{O^{5+} + Bi}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{O^{7+} + Sb}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{O^{7+} + Au}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{O^{7+} + Bi}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{S^{7+–10+} + Sb}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{S^{7+–10+} + Au}$	Ionization	2-6.25 MeV/u	E/T
$\mathbf{S^{7+–10+} + Bi}$	Ionization	2-6.25 MeV/u	E/T

1291. A. Mack, T. K. Clark, R. C. Forrey, N. Balakrishnan, T.-G. Lee, P. C. Stancil
Cold He + H_2 collisions near dissociation.
Phys. Rev. A 74, 052718 (2006)

$\mathbf{He + H_2}$	Dissociation	0.0001-1 eV	Th
$\mathbf{He + H_2}$	De-excitation	0.0001-1 eV	Th
$\mathbf{He + H_2}$	Energy Transfer	0.0001-1 eV	Th

1292. M. Gustafsson, L. Frommhold
Infrared absorption by $H_2 - Ar$ collisional complexes and the anisotropy of the intermolecular interaction potential.
Phys. Rev. A 74, 054703 (2006)

$\mathbf{Ar + H_2}$	Interaction Potentials	195 K	Th

1293. R. Tobola, J. Klos, F. Lique, G. Chalasinski, M. H. Alexander
Rotational excitation and de-excitation of PN molecules by He atoms.
Astron. Astrophys. 468, 1123 (2007)

He + PN	Excitation	0-2500 cm^{-1}	Th

1294. E. Abrahamsson, R. V. Krems
Fine-structure excitation of O I and C I by impact with atomic hydrogen.
Astrophys. J., Part 1 654, 1171 (2007)

H + C	Excitation	0-1000 K	Th
H + O	Excitation	0-1000 K	Th

1295. S. Sounda, A. Dhara, M. Purkait, C. R. Mandal
State selective electron capture in partially stripped ion-atom interaction at intermediate and high energies.
Eur. Phys. J. D 38, 257 (2006)

C^{+-5+} + H	Charge Transfer	50-200 keV/amu	Th
N^{+-5+} + H	Charge Transfer	50-200 keV/amu	Th
O^{+-5+} + H	Charge Transfer	50-200 keV/amu	Th
C^{+-5+} + H	Excitation	50-200 keV/amu	Th
N^{+-5+} + H	Excitation	50-200 keV/amu	Th
O^{+-5+} + H	Excitation	50-200 keV/amu	Th

1296. M. S. Weng, A. Schinner, A. Sharma, P. Sigmund
Primary electron spectra from swift heavy-ion impact – Scaling relations and estimates from modified Bohr theory.
Eur. Phys. J. D 39, 209 (2006)

C + He	Total Scattering	0.1-1.48 MeV/amu	Th
C^{2+} + He	Total Scattering	0.1-1.48 MeV/amu	Th
C^{4+} + He	Total Scattering	0.1-1.48 MeV/amu	Th
C^{6+} + He	Total Scattering	0.1-1.48 MeV/amu	Th
C + He	Ionization	0.1-1.48 MeV/amu	Th
C^{2+} + He	Ionization	0.1-1.48 MeV/amu	Th
C^{4+} + He	Ionization	0.1-1.48 MeV/amu	Th
C^{6+} + He	Ionization	0.1-1.48 MeV/amu	Th

1297. D. H. Jakubassa-Amundsen
Competing processes for electron capture to continuum in relativistic ion-atom collisions.
Eur. Phys. J. D 41, 267 (2007)

U^{88+} + N_2	Ionization	990 MeV/amu	Exp

1298. M. K. Pandey, R. K. Dubey, D. N. Tripathi
Charge exchange collisions of H^+/D^+ ions with alkaline Earth atoms (Ca, Mg).
Eur. Phys. J. D 41, 275 (2007)

H^+ + Mg	Charge Transfer	1-100 keV	Th
H^+ + Ca	Charge Transfer	1-100 keV	Th
D^+ + Mg	Charge Transfer	1-100 keV	Th
D^+ + Ca	Charge Transfer	1-100 keV	Th
H^+ + Mg	Total Scattering	1-100 keV	Th
H^+ + Ca	Total Scattering	1-100 keV	Th
D^+ + Mg	Total Scattering	1-100 keV	Th
D^+ + Ca	Total Scattering	1-100 keV	Th

1299. X. M. Chen, J. X. Shao, Z. H. Yang, H. Q. Zhang, Y. Cui, X. Xu, G. Q. Xiao, Y. T. Zhao, X. A. Zhang, Y. P. Zhang
K-shell ionization cross section of aluminum induced by low-energy highly charged argon ions.
Eur. Phys. J. D 41, 281 (2007)

$Ar^{12+-16+}$ + Al	Fluorescence	180-380 keV	Exp

1300. G. Garcia, E. Mejia-Ospino, A. Guerrero, I. Alvarez, C. Cisneros
Kinetic energy release for the collision-induced dissociation of CO^+.
Eur. Phys. J. D 42, 393 (2007)

CO^+ + He	Dissociation	5 keV	Exp

1301. T. Gonzalez-Lezana, O. Roncero, P. Honvault, J.-M. Launay, N. Bulut, F. J. Aoiz, L. Banares
A detailed quantum mechanical and quasiclassical trajectory study on the dynamics of the $H^+ + H_2$ -¿ $H_2 + H^+$ exchange reaction.
J. Chem. Phys. 125, 094314 (2006)

$H^+ + H_2$	Interchange reaction	0.0-1.0 eV	Th

1302. T.-G. Lee, N. Balakrishnan, R. C. Forrey, P. C. Stancil, D. R. Schultz, G. J. Ferland
State-to-state rotational transitions in H_2 + H_2 collisions at low temperatures.
J. Chem. Phys. 125, 114302 (2006)

$H_2 + H_2$	Interchange reaction	0.0-2.0 eV	Th

1303. D. H. Zhang
State-to-state quantum reactive scattering for four-atom chemical reactions: Differential cross section for the H + H_2O -¿ H_2 + OH abstraction reaction.
J. Chem. Phys. 125, 133102 (2006)

$H + H_2O$	Interchange reaction	1.4 eV	Th

1304. S.-H. Lee, F. Dong, K. Liu
A crossed-beam study of the F + HD -¿ HF + D reaction: The resonance-mediated channel.
J. Chem. Phys. 125, 133106 (2006)

$F + H_2$	Interchange reaction	1.30-4.53 kcal/mol	Exp
F + HD	Interchange reaction	1.30-4.53 kcal/mol	Exp

1305. R.-F. Lu, T.-S. Chu, Y. Zhang, K.-L. Han
Nonadiabatic effects in the H + D_2 reaction.
J. Chem. Phys. 125, 133108 (2006)

$H + H_2$	Interchange reaction	1.49-1.85 eV	Th
$H + D_2$	Interchange reaction	1.49-1.85 eV	Th

1306. D. De Fazio, V. Aquilanti, S. Cavalli, A. Aguilar, J. M. Lucas
Exact quantum calculations of the kinetic isotope effect: Cross sections and rate constants for the F + HD reaction and role of tunneling.
J. Chem. Phys. 125, 133109 (2006)

$F + H_2$	Interchange reaction	5-220 MeV	Th
F + HD	Interchange reaction	5-220 MeV	Th

1307. Z. Xie, J. M. Bowman, X. Zhang
Quasiclassical trajectory study of the reaction $H_CH_4(v_3$=0,1) -¿ CH_3 + H_2 using a new ab initio potential energy surface.
J. Chem. Phys. 125, 133120 (2006)

$H + CH_4$	Interchange reaction	2.0 eV	Th

1308. M. Hankel, S. C. Smith, R. J. Allan, S. K. Gray, G. G. Balint-Kurti
State-to-state reactive differential cross sections for the H + H_2 -¿ H_2 + H reaction on five different potential energy surfaces employing a new quantum wavepacket computer code: DIFFREALWAVE.
J. Chem. Phys. 125, 164303 (2006)

$H + H_2$	Interchange reaction	0.4-1.2 eV	Th

1309. R. Martinez, J. D. Sierra, S. K. Gray, M. Gonzalez
Time dependent quantum dynamics study of the O^+ + H_2 (v=0, j=0) -¿ OH^+ + H ion-molecule reaction and isotopic variants (D_2, HD).
J. Chem. Phys. 125, 164305 (2006)

O^+ + H_2	Interchange reaction	0.0-1.1 eV	Th

1310. L. Adam, W. Hack, G. C. McBane, H. Zhu, Z.-W. Qu, R. Schinke
Exploring Renner-Teller induced quenching in the reaction $H(^2S)$ + $NH(a^1\Delta)$: A combined experimental and theoretical study.
J. Chem. Phys. 126, 034304 (2007)

H + NH	Interchange reaction	0-1000 K	E/T
H + ND	Interchange reaction	0-1000 K	E/T
D + HD	Interchange reaction	0-1000 K	E/T
D + NH	Interchange reaction	0-1000 K	E/T

1311. R. van Harrevelt, G. Nyman, U. Manthe
Accurate quantum calculations of the reaction rates for H/D + CH_4.
J. Chem. Phys. 126, 084303 (2007)

H + CH_4	Interchange reaction	250-400 K	Th
D + CH_4	Interchange reaction	250-400 K	Th

1312. W. Wang, S. Feng, Y. Zhao
Quantum instanton evaluation of the thermal rate constants and kinetic isotope effects for SiH_4 + H -¿ SiH_3 + H_2 reaction in full Cartesian space.
J. Chem. Phys. 126, 114307 (2007)

SiH_4 + H	Interchange reaction	200-1000 K	Th

1313. D. Sokolovski, D. De Fazio, S. Cavalli, V. Aquilanti
Overlapping resonances and Regge oscillations in the state-to-state integral cross sections of the F + H_2 reaction.
J. Chem. Phys. 126, 121101 (2007)

F + H_2	Interchange reaction	25-50 MeV	Th

1314. R. V. Olkhov, I.W.M. Smith
Rate coefficients for reaction and for rotational energy transfer in collisions between CN in selected rotational levels ($X^2\Sigma^+$, v = 2, N = 0, 1, 6, 10, 15, and 20) and C_2H_2.
J. Chem. Phys. 126, 134314 (2007)

CN + C_2H_2	Excitation	300 K	Exp

1315. B. Yang, P. C. Stancil
Close-coupling study of rotational energy transfer and differential scattering in H_2O collisions with He atoms.
J. Chem. Phys. 126, 154306 (2007)

He + H_2O	Excitation	$10^{-6} - 10^{3}\ cm^{-1}$	Th

1316. A. Zanchet, P. Halvick, J. C. Rayez, B. Bussery-Honvault, P. Honvault
Cross sections and rate constants for the $C(^3P) + OH(X^2\Pi)$ -¿ $CO(X^1\Sigma^+) + H(^2S)$ reaction using a quasiclassical trajectory method.
J. Chem. Phys. 126, 184308 (2007)

C + OH	Interchange reaction	0-1 eV	Th

1317. A. M. Mebel, V. V. Kislov, M. Hayashi
Prediction of product branching ratios in the $C(^3P) + C_2H_2$ -¿ $l{-}C_3H$ + H/$c{-}C_3H$ + H/C_3 + H_2 reaction using ab initio coupled clusters calculations extrapolated to the complete basis set combined with Rice-Ramsperger-Kassel-Marcus and radiationless transition theories.
J. Chem. Phys. 126, 204310 (2007)

C + C_2H_2	Interchange reaction	0-70 kJ/mol	Th

1318. T.-S. Chu, K.-L. Han, M. Hankel, G. G. Balint-Kurti
Coriolis coupling effects in the calculation of state-to-state integral and differential cross sections for the H + D_2 reaction.
J. Chem. Phys. 126, 214303 (2007)

H + H_2	Interchange reaction	0.4-1.2 eV	Th
H + D_2	Interchange reaction	0.4-1.2 eV	Th

1319. M. Yang, J. C. Corchado
Seven-dimensional quantum dynamics study of the H + NH_3 -¿ H_2 + NH_2 reaction.
J. Chem. Phys. 126, 214312 (2007)

H + NH_3	Interchange reaction	200-2000 K	Th

1320. X. Q. Zhang, Q. Cui, J.Z.H. Zhang
Quantum dynamics study of H + NH_3 -¿ H_2 + NH_2 reaction.
J. Chem. Phys. 126, 234304 (2007)

H + NH_3	Interchange reaction	0.4-1.6 eV	Th

1321. L. Liu, E. S. Richards, J. M. Farrar
Hydride transfer reaction dynamics of OD^+ + C_3H_6.
J. Chem. Phys. 126, 244315 (2007)

OH^+ + C_3H_6	Interchange reaction	0.21-0.92 eV	E/T
OD^+ + C_3H_6	Interchange reaction	0.21-0.92 eV	E/T

1322. S. Suzuki, N. Shimakura
Single electron-capture cross sections in $C^{5+,6+}$ + C^{3+}, $N^{6+,7+}$ + N^{4+}, and $O^{7+,8+}$ + O^{5+} collisions.
J. Phys. Soc. Japan 75, 074301 (2006)

C^{5+} + C^{3+}	Charge Transfer	0.05-16 keV/amu	Th
C^{6+} + C^{3+}	Charge Transfer	0.05-16 keV/amu	Th
N^{6+} + N^{4+}	Charge Transfer	0.05-16 keV/amu	Th
N^{7+} + N^{4+}	Charge Transfer	0.05-16 keV/amu	Th
O^{7+} + O^{5+}	Charge Transfer	0.05-16 keV/amu	Th
O^{8+} + O^{5+}	Charge Transfer	0.05-16 keV/amu	Th
C^{5+} + C^{3+}	Excitation	0.05-16 keV/amu	Th
C^{6+} + C^{3+}	Excitation	0.05-16 keV/amu	Th
N^{6+} + N^{4+}	Excitation	0.05-16 keV/amu	Th
N^{7+} + N^{4+}	Excitation	0.05-16 keV/amu	Th
O^{7+} + O^{5+}	Excitation	0.05-16 keV/amu	Th
O^{8+} + O^{5+}	Excitation	0.05-16 keV/amu	Th

1323. S. Kita, S. Gotoh, T. Tanaka, N. Shimakura, M. Izawa, B. Irodionovich Kikiani
Excitation mechanisms in moderate-energy K^+ - Ne collisions.
J. Phys. Soc. Japan 76, 044301 (2007)

$\mathbf{K^+ + Ne}$	Charge Transfer	350-2000 eV	Exp
$\mathbf{K^+ + Ne}$	Total Scattering	350-2000 eV	Exp
$\mathbf{K^+ + Ne}$	Ionization	350-2000 eV	Exp

1324. M. Tanaka, Y. Takahashi, T. Shimoda, T. Furukawa, M. Yosoi, K. Takahisa, N. Shimakura, S. Yasui
Electron capture cross-sections between $^3He^+$ ion and rubidium vapor in the energy range 1.0-19 keV.
Nucl. Instrum. Methods Phys. Res. A 568, 543 (2006)

$\mathbf{He^+ + Rb}$	Charge Transfer	1-19 keV	Exp

1325. T. Miyoshi, K. Noda, Y. Sato, H. Tawara, I. Yu, I. Yu. Tolstikhina, V. P. Shevelko
Evaluation of excited nl-state distributions of fast exit ions after penetrating through solid foils. Part 1: Charge-state fractions for 4.3 MeV/u projectiles with atomic numbers Z = 6-26 passing through carbon foils.
Nucl. Instrum. Methods Phys. Res. B 251, 79 (2006)

$\mathbf{C^{2+-7+} + C}$	Charge Transfer	4.3 MeV/amu	Exp
$\mathbf{Ne^{6+-11+} + C}$	Charge Transfer	4.3 MeV/amu	Exp
$\mathbf{Si^{9+-17+} + C}$	Charge Transfer	4.3 MeV/amu	Exp
$\mathbf{C^{2+-7+} + C}$	Ionization	4.3 MeV/amu	Exp
$\mathbf{Ne^{6+-9+} + C}$	Ionization	4.3 MeV/amu	Exp
$\mathbf{Mg^{7+-11+} + C}$	Ionization	4.3 MeV/amu	Exp
$\mathbf{Si^{9+-13+} + C}$	Ionization	4.3 MeV/amu	Exp
$\mathbf{Ar^{13+-17+} + C}$	Ionization	4.3 MeV/amu	Exp

1326. T. Miyoshi, K. Noda, Y. Sato, H. Tawara, I. Yu. Tolstikhina, V. P. Shevelko
Evaluation of excited nl-state distributions of fast exit ions after penetrating through solid foils. Part 2: Determination of the nl-state distribution fractions of exit ions.
Nucl. Instrum. Methods Phys. Res. B 251, 89 (2006)

$\mathbf{Ar^{13+-18+} + C}$	Ionization	4.3-20 MeV/amu	E/T

1327. A. Kocsonya, Z. Szoekefalvi-Nagy, A. Torri, E. Rauhala, J. Raisanen
Absolute alpha particle induced gamma-ray yields for Ti-Zn.
Nucl. Instrum. Methods Phys. Res. B 251, 367 (2006)

$\mathbf{He^{2+} + Ti}$	Excitation	5-10 MeV	Exp
$\mathbf{He^{2+} + Cr}$	Excitation	5-10 MeV	Exp
$\mathbf{He^{2+} + Mn}$	Excitation	5-10 MeV	Exp
$\mathbf{He^{2+} + Fe}$	Excitation	5-10 MeV	Exp
$\mathbf{He^{2+} + Co}$	Excitation	5-10 MeV	Exp
$\mathbf{He^{2+} + Ni}$	Excitation	5-10 MeV	Exp
$\mathbf{He^{2+} + Cu}$	Excitation	5-10 MeV	Exp
$\mathbf{He^{2+} + Zn}$	Excitation	5-10 MeV	Exp
$\mathbf{He^{2+} + Ti}$	Ionization	5-10 MeV	Exp
$\mathbf{He^{2+} + Cr}$	Ionization	5-10 MeV	Exp
$\mathbf{He^{2+} + Mn}$	Ionization	5-10 MeV	Exp
$\mathbf{He^{2+} + Fe}$	Ionization	5-10 MeV	Exp
$\mathbf{He^{2+} + Co}$	Ionization	5-10 MeV	Exp
$\mathbf{He^{2+} + Ni}$	Ionization	5-10 MeV	Exp
$\mathbf{He^{2+} + Cu}$	Ionization	5-10 MeV	Exp
$\mathbf{He^{2+} + Zn}$	Ionization	5-10 MeV	Exp

1328. D. Misra, A. Kelkar, U. Kadhane, A. Kumar, L. C. Tribedi, P. D. Fainstein
Influence of Young-type interference on the forward-backward asymmetry in electron emission from H_2 in collisions with 80-MeV bare C ions.
Phys. Rev. A 74, 060701 (2006)

$\mathbf{C^{6+} + H_2}$	Interaction Potentials	80 MeV	Exp
$\mathbf{C^{6+} + H_2}$	Ionization	80 MeV	Exp

1329. S. Fazinic, M. Jaksic, L. Mandic, J. Dobrinic
Chemical dependence of second-order radiative contributions in the $K\beta$ x-ray spectra of vanadium and its compounds.
Phys. Rev. A 74, 062501 (2006)

$\mathbf{H^+ + V_2O_3}$	Fluorescence	3 MeV	Exp
$\mathbf{H^+ + VO_2}$	Fluorescence	3 MeV	Exp
$\mathbf{H^+ + V_2O_5}$	Fluorescence	3 MeV	Exp
$\mathbf{H^+ + VC}$	Fluorescence	3 MeV	Exp
$\mathbf{H^+ + VN}$	Fluorescence	3 MeV	Exp
$\mathbf{H^+ + VCl_2}$	Fluorescence	3 MeV	Exp
$\mathbf{H^+ + NH_4VO_3}$	Fluorescence	3 MeV	Exp
$\mathbf{H^+ + VOSO_4({}_5H_2O)}$	Fluorescence	3 MeV	Exp

1330. R. L. Watson, Y. Peng, V. Horvat, A. N. Perumal
Target K-vacancy production by 2.5 to 25 MeV/amu Ar, Kr, and Xe ions.
Phys. Rev. A 74, 062709 (2006)

$\mathbf{Ar^{4+–11+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Kr^{8+–23+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Kr^{8+–23+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Kr^{8+–23+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Kr^{8+–23+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Kr^{8+–23+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Kr^{8+–23+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Kr^{8+–23+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Xe + Al}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Xe^{13+–31+} + Al}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Xe^{13+–31+} + Ti}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Xe^{13+–31+} + Cu}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Xe^{13+–31+} + Zr}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Xe^{13+–31+} + Ag}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Xe^{13+–31+} + Sm}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Xe^{13+–31+} + Ta}$	Fluorescence	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Al}$	Ionization	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Ti}$	Ionization	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Cu}$	Ionization	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Zr}$	Ionization	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Ag}$	Ionization	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Sm}$	Ionization	2.5-25 MeV/u	Exp
$\mathbf{Ar^{4+–11+} + Ta}$	Ionization	2.5-25 MeV/u	Exp
$\mathbf{Kr^{8+–23+} + Al}$	Ionization	2.5-25 MeV/u	Exp
$\mathbf{Kr^{8+–23+} + Ti}$	Ionization	2.5-25 MeV/u	Exp

$Kr^{8+–23+}$ + Cu	Ionization	2.5-25 MeV/u	Exp
$Kr^{8+–23+}$ + Zr	Ionization	2.5-25 MeV/u	Exp
$Kr^{8+–23+}$ + Ag	Ionization	2.5-25 MeV/u	Exp
$Kr^{8+–23+}$ + Sm	Ionization	2.5-25 MeV/u	Exp
$Kr^{8+–23+}$ + Ta	Ionization	2.5-25 MeV/u	Exp
Xe + Al	Ionization	2.5-25 MeV/u	Exp
$Xe^{13+–31+}$ + Al	Ionization	2.5-25 MeV/u	Exp
$Xe^{13+–31+}$ + Ti	Ionization	2.5-25 MeV/u	Exp
$Xe^{13+–31+}$ + Cu	Ionization	2.5-25 MeV/u	Exp
$Xe^{13+–31+}$ + Zr	Ionization	2.5-25 MeV/u	Exp
$Xe^{13+–31+}$ + Ag	Ionization	2.5-25 MeV/u	Exp
$Xe^{13+–31+}$ + Sm	Ionization	2.5-25 MeV/u	Exp
$Xe^{13+–31+}$ + Ta	Ionization	2.5-25 MeV/u	Exp

1331. A. B. Pacheco, A. Reyes, D. A. Micha
First-principles dynamics treatment of light emission in collisions between alkali-metal atoms and noble-gas atoms at 10 keV.
Phys. Rev. A 74, 062714 (2006)

Li + He	Fluorescence	10 keV	Th
Li^* + He	Fluorescence	10 keV	Th

1332. L. Yao, L. Ju, T. Chu, K.-L. Han
Time-dependent wave-packet quantum scattering study of the reactions D^- + H_2 -¿ H^- + HD and H^- + D_2 -¿ D^- + HD.
Phys. Rev. A 74, 062715 (2006)

H^- + H_2	Interchange reaction	0.2-2.4 eV	Th
H^- + D_2	Interchange reaction	0.2-2.4 eV	Th
D^- + H_2	Interchange reaction	0.2-2.4 eV	Th

1333. P. Sigmund, A. Schinner
Electron ejection in collisions between swift heavy ions and atoms.
Nucl. Instrum. Methods Phys. Res. B 258, 116 (2007)

C + He	Ionization	0.067-11 MeV/u	Th
$C^{+–5+}$ + He	Ionization	0.067-11 MeV/u	Th
$F^{+–9+}$ + Ar	Ionization	0.067-11 MeV/u	Th

1334. J. X. Shao, X. M. Chen, B. W. Ding, H. B. Fu, Z. M. Gao, Y. W. Liu, J. Du, Y. X. Lu, Y. Cui
Double-to-single ionization ratios of helium bombarded by low-to-intermediate velocity C^{q+}, O^{q+} (q = 1 3) ions.
Nucl. Instrum. Methods Phys. Res. B 258, 340 (2007)

$C^{+–3+}$ + He	Ionization	25-500 keV/amu	E/T
$O^{+–3+}$ + He	Ionization	25-500 keV/amu	E/T

1335. A. Hentz, G. S. Parkinson, A. J. Window, P. D. Quinn, D. P. Woodruff, P. L. Grande, G. Schiwietz, P. Bailey, T.C.Q. Noakes
Inelastic energy loss in 100-keV H^+ scattering from single atoms: Theory and experiment for K, Rb, and Cs.
Phys. Rev. B 74, 125408 (2006)

H^+ + K	Elastic Scattering	100 keV	E/T
H^+ + Rb	Elastic Scattering	100 keV	E/T
H^+ + Cs	Elastic Scattering	100 keV	E/T
H^+ + K	Excitation	100 keV	E/T
H^+ + Rb	Excitation	100 keV	E/T
H^+ + Cs	Excitation	100 keV	E/T

1336. D. Borodin, I. Beigman, L. Vainshtein, A. Pospieszczyk
Close coupling approach for heavy particle collisions with an excited atom: Transitions between n=3 states in He.
Phys. Scr. 74, 464 (2006)

$\mathbf{H^+ + He}$	Excitation	$10 - 10^5$; $10 - 10^3$ eV	Th
$\mathbf{H^+ + He^*}$	Excitation	$10 - 10^5$; $10 - 10^3$ eV	Th

1337. C. L. Cocke
Momentum imaging in atomic collisions.
Phys. Scr. T110, 9 (2004)

$\mathbf{He^{2+} + He}$	Charge Transfer	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T
$\mathbf{C^{6+} + He}$	Ionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T
$\mathbf{Au^{53+} + He}$	Ionization	3.6-8 MeV/u; 1-100 eV; 2 keV	E/T

1338. M. Schulz, R. Moshammer, D. Fischer, A. A. Hasan, N. V. Maydanyuk, H. Kollmus, J. Ullrich, D. H. Madison, M. Foster, S. Jones
Three-dimensional imaging of atomic break-up processes.
Phys. Scr. T110, 149 (2004)

$\mathbf{H^+ + He}$	Ionization	0.075-100 MeV/u	Exp
$\mathbf{C^{6+} + He}$	Ionization	0.075-100 MeV/u	Exp
$\mathbf{Au^{53+} + He}$	Ionization	0.075-100 MeV/u	Exp
$\mathbf{H_2{}^+ + He}$	Ionization	0.075-100 MeV/u	Exp

1339. A. Hatakeyama, K. Enomoto, T. Yabuzaki
Properties of alkali atoms confined in a cold helium gas.
Phys. Scr. T110, 294 (2004)

Rb + He	De-excitation		Exp
$\mathbf{Rb^* + He}$	De-excitation		Exp
Cs + He	De-excitation		Exp
$\mathbf{Cs^* + He}$	De-excitation		Exp

1340. S. Jonsell, R. C. Forrey, A. Saenz, P. Froelich, A. Dalgarno
Fine structure in cold collisions of spin-polarized H(2s) atoms.
Phys. Scr. T110, 299 (2004)

H + H	De-excitation	$5x10^{-10} - 10^{-6}$ a.u.	Th
H + H	Elastic Scattering	$5x10^{-10} - 10^{-6}$ a.u.	Th
H + H	Excitation	$5x10^{-10} - 10^{-6}$ a.u.	Th
H + H	Ionization	$5x10^{-10} - 10^{-6}$ a.u.	Th

1341. H. Kohguchi, T. Suzuki
Spin-orbit conserving and changing transitions in inelastic scattering of $NO(^2\Pi)$ + Ar.
Phys. Scr. T110, 312 (2004)

NO + Ar	Excitation	516 cm^{-1}	Exp

1342. P. C. Stancil
Theoretical studies of vibrationally-resolved electron capture in low-energy ion-molecule collisions.
Phys. Scr. T110, 340 (2004)

$\mathbf{H^+ + CO}$	Charge Transfer	$10^{-1} - 10^4$ eV	Th
$\mathbf{O^{3+} + H_2}$	Charge Transfer	$10^{-1} - 10^4$ eV	Th

1343. B. Sulik, J. A. Tanis, J. Y. Chesnel, N. Stolterfoht
Young-type interferences in the ionization of the H_2 molecule by fast ions.
Phys. Scr. T110, 345 (2004)

$\mathbf{Kr^{33+} + He}$	Ionization	60-70 keV/amu	Exp
$\mathbf{Kr^{33+} + H_2}$	Ionization	60-70 keV/amu	Exp

1344. J. B. Greenwood, R. J. Mawhorter, I. Cadez, J. Lozano, S. J. Smith, A. Chutjian
The contribution of charge exchange to extreme ultra-violet and X-ray astronomy.
Phys. Scr. T110, 358 (2004)

$\mathbf{He^{2+} + He}$	Charge Transfer	0.35-20.0 keV	Exp
$\mathbf{He^{2+} + H_2O}$	Charge Transfer	0.35-20.0 keV	Exp
$\mathbf{O^{7+} + He}$	Charge Transfer	0.35-20.0 keV	Exp
$\mathbf{O^{7+} + H_2O}$	Charge Transfer	0.35-20.0 keV	Exp
$\mathbf{O^{8+} + He}$	Charge Transfer	0.35-20.0 keV	Exp
$\mathbf{O^{8+} + H_2O}$	Charge Transfer	0.35-20.0 keV	Exp
$\mathbf{Ne^{9+} + He}$	Charge Transfer	0.35-20.0 keV	Exp
$\mathbf{Ne^{9+} + H_2O}$	Charge Transfer	0.35-20.0 keV	Exp
$\mathbf{Ne^{10+} + He}$	Charge Transfer	0.35-20.0 keV	Exp
$\mathbf{Ne^{10+} + H_2O}$	Charge Transfer	0.35-20.0 keV	Exp

1345. T. Kirchner, H. J. Ludde, M. Horbatsch
Nonperturbative study of the rearrangement dynamics in ion-atom collisions with active electrons on projectile and target.
Phys. Scr. T110, 364 (2004)

$\mathbf{He^{+} + Ne}$	Charge Transfer	10-1000 keV/amu	Th
$\mathbf{He^{+} + Ne}$	Ionization	10-1000 keV/amu	Th

1346. G. N. Ogurtsov, S. Yu. Ovchinnikov, V. M. Mikoushkin
Electron emission in H^- - He, H_2 collisions.
Phys. Scr. T110, 370 (2004)

$\mathbf{H^{-} + He}$	Detachment	2-10 keV	E/T
$\mathbf{H^{-} + H_2}$	Detachment	2-10 keV	E/T

1347. M. M. Sant'Anna, H. Luna, A.C.F. Santos, C. McGrath, M. B. Shah, E. G. Cavalcanti, G. M. Sigaud, E. C. Montenegro
Multiple ionization of Ne by $H_2{}^+$ ions with correlated projectile electron loss.
Phys. Scr. T110, 374 (2004)

$\mathbf{H_2{}^{+} + Ne}$	Dissociation	0.1-4 MeV/amu	E/T
$\mathbf{H_2{}^{+} + Ne}$	Ionization	0.1-4 MeV/amu	E/T

1348. L.Ph.H. Schmidt, F. Afaneh, M. Schoeffler, J. Titze, O. Jagutzki, Th. Weber, K. E. Stiebing, R. Doerner, H. Schmidt-Boecking
Fully differential study of transfer ionization processes – a view into correlated many particle dynamics.
Phys. Scr. T110, 379 (2004)

$\mathbf{He^{2+} + He}$	Charge Transfer	6 keV	Exp
$\mathbf{He^{2+} + He}$	Ionization	6 keV	Exp

1349. T. Stoehlker, D. Banas, S. Fritzsche, A. Gumberidze, C. Kozhuharov, X. Ma, A. Orsic-Muthig, U. Spillmann, D. Sierpowski, A. Surzhykov, S. Tachenov, A. Warczak
Angular correlation and polarization studies for radiative electron capture into high-Z ions.
Phys. Scr. T110, 384 (2004)

$\mathbf{U^{92+} + N_2}$	Charge Transfer	20-400 MeV/amu	Exp
$\mathbf{U^{92+} + N_2}$	Excitation	20-400 MeV/amu	Exp

1350. L. Tong, K. Nanbu
Model for charge exchanges in $N_2{}^+$ on N_2 and $O_2{}^+$ on O_2 collisions.
Vacuum 81, 1119 (2007)

$\mathbf{N_2{}^+ + N_2}$	Charge Transfer	0-3 eV	Th
$\mathbf{O_2{}^+ + O_2}$	Charge Transfer	0-3 eV	Th

1351. K. Giri, N. Sathyamurthy
Rotational excitation in (H^-, H_2) collisions: A quantum mechanical study.
J. Phys. B 39, 4123 (2006)

$\mathbf{H^- + H_2}$	Excitation	1.66-2.79 eV	Th

1352. Y. Li, Q. Gou, T. Shi
Halo state in realistic molecular systems.
Phys. Rev. A 74, 032502 (2006)

He + He	Interaction Potentials		Th
He + K	Interaction Potentials		Th

1353. J. Rajput, S. De, A. Roy, C. P. Safvan
Kinetic energy distributions and signature of target excitation in N_2 fragmentation on collisions with Ar^{9+} ions.
Phys. Rev. A 74, 032701 (2006)

$\mathbf{Ar^{9+} + N_2}$	Dissociation	v=1 a.u.	Exp
$\mathbf{Ar^{9+} + N_2}$	Charge Transfer	v=1 a.u.	Exp
$\mathbf{Ar^{9+} + N_2}$	Ionization	v=1 a.u.	Exp

1354. A. Hasan, B. Tooke, M. Zapukhlyak, T. Kirchner, M. Schulz
Kinematically complete experiment on transfer excitation in intermediate-energy p+He collisions.
Phys. Rev. A 74, 032703 (2006)

$\mathbf{H^+ + He}$	Charge Transfer	25-75 keV	E/T
$\mathbf{H^+ + He}$	Excitation	25-75 keV	E/T

1355. M. Kajita
Collision between magnetically trapped NH molecules in the (N=0, J=1) state.
Phys. Rev. A 74, 032710 (2006)

NH + NH	Elastic Scattering	10^{-6} K	Th
NH + NH	Energy Transfer	10^{-6} K	Th

1356. L. Gulyas, A. Igarashi, T. Kirchner
Double ionization of helium by fast ion impact: Reexamination of the correlation function.
Phys. Rev. A 74, 032713 (2006)

$\mathbf{C^{6+} + He}$	Ionization	3.6-100 MeV/u	Th
$\mathbf{Au^{53+} + He}$	Ionization	3.6-100 MeV/u	Th

1357. T. Majima, Y. Nakai, T. Mizuno, H. Tsuchida, A. Itoh
Fragmentation processes of C_{60} in multiple electron loss and capture collisions of 2-MeV Si^{2+}.
Phys. Rev. A 74, 033201 (2006)

$\mathbf{Si^{2+} + C_{60}}$	Charge Transfer	2 MeV	Exp
$\mathbf{Si^{2+} + C_{60}}$	Ionization	2 MeV	Exp

1358. T. Tabata, T. Shirai
Analytic cross sections for collisions of H^+, $H_2{}^+$, $H_3{}^+$, H, H_2, and H^- with hydrogen molecules.
At. Data Nucl. Data Tables 76, 1 (2000)

$\mathbf{H^- + H_2}$	Dissociation	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H + H_2}$	Dissociation	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_2 + H_2}$	Dissociation	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_2{}^+ + H_2}$	Dissociation	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_3{}^+ + H_2}$	Dissociation	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H^- + H_2}$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H + H_2}$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H^+ + H_2}$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H^+ + H_2{}^*}$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_2 + H_2}$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_3{}^+ + H_2}$	Elastic Scattering	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H + H_2}$	Charge Transfer	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H^+ + H_2}$	Charge Transfer	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_2 + H_2}$	Charge Transfer	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_2{}^+ + H_2}$	Charge Transfer	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_3{}^+ + H_2}$	Charge Transfer	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H^+ + H_2}$	Interchange reaction	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_2{}^+ + H_2}$	Interchange reaction	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H^- + H_2}$	Detachment	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H + H_2}$	Excitation	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H^+ + H_2}$	Excitation	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H^+ + H_2{}^*}$	Excitation	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_2 + H_2}$	Excitation	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_2{}^+ + H_2}$	Excitation	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_3{}^+ + H_2}$	Excitation	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H^- + H_2}$	Ionization	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H + H_2}$	Ionization	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H^+ + H_2}$	Ionization	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_2 + H_2}$	Ionization	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_2{}^+ + H_2}$	Ionization	$10^{-2} - 10^5$ eV	E/T
$\mathbf{H_3{}^+ + H_2}$	Ionization	$10^{-2} - 10^5$ eV	E/T

1359. H. Merabet, R. Bruch, J. Hanni, M. Bailey, A. L. Godunov, J. H. McGuire, D. V. Fursa, I. Bray, K. Bartschat, H. C. Tseng, C. D. Lin
Scattering angle-integrated (total) and magnetic sublevel cross-sections and degree of linear polarization for electron and proton induced excitation [HeI (1snp) $^1P^0$ (n=2-5)] of helium.
At. Data Nucl. Data Tables 83, 45 (2003)

$\mathbf{H^+ + He}$	Excitation	$3x10^{-5} - 1.4$ MeV	E/T

1360. M. S. Dimitrijevic, S. Sahal-Brechot
Stark broadening of Ag I spectral lines.
At. Data Nucl. Data Tables 85, 269 (2003)

$\mathbf{H^+ + Ag}$	Line Broadening	2500-50,000 K	Th
$\mathbf{He^+ + Ag}$	Line Broadening	2500-50,000 K	Th

1361. H. Suno, T. Kato
Cross section database for carbon atoms and ions: Electron-impact ionization,

excitation, and charge exchange in collisions with hydrogen atoms.
At. Data Nucl. Data Tables 92, 407 (2006)

$\mathbf{C^{+-6+} + H}$	Charge Transfer	$10^{-1} - 10^{7}$ eV	E/T
$\mathbf{C^{+} + C}$	Charge Transfer	$10^{-1} - 10^{7}$ eV	E/T

1362. S. Wu, X. Zhanga, G. Li
Single-electron detachment cross sections for negative ions of transition elements colliding with gases.
At. Data Nucl. Data Tables 93, 575 (2007)

$\mathbf{Ti^{-} + N_2}$	Detachment	7-30 keV	Exp
$\mathbf{Cr^{-} + He}$	Detachment	7-30 keV	Exp
$\mathbf{Cr^{-} + N_2}$	Detachment	7-30 keV	Exp
$\mathbf{Fe^{-} + He}$	Detachment	7-30 keV	Exp
$\mathbf{Fe^{-} + N_2}$	Detachment	7-30 keV	Exp
$\mathbf{Cu^{-} + He}$	Detachment	7-30 keV	Exp
$\mathbf{Cu^{-} + Ne}$	Detachment	7-30 keV	Exp
$\mathbf{Cu^{-} + Ar}$	Detachment	7-30 keV	Exp
$\mathbf{Cu^{-} + N_2}$	Detachment	7-30 keV	Exp
$\mathbf{Ag^{-} + He}$	Detachment	7-30 keV	Exp
$\mathbf{Ag^{-} + N_2}$	Detachment	7-30 keV	Exp

3.3 Surface Interactions

1363. M. N. Faraggi, M. S. Gravielle, M. Alducin, J. I. Juaristi, V. M. Silkin
Band-structure-based collisional model for electronic excitations in ion-surface collisions.
Phys. Rev. A 72, 012901 (2005)

$\mathbf{H^{+} + Al}$	Secondary Electron Emission	100 keV	Th

1364. P. L. Grande, A. Hentz, G. Schiwietz, D. Starodub, E. Garfunkel, T. Gustafsson
Observation of collective inner-shell effects for protons backscattered from the Al(110) surface.
Phys. Rev. A 72, 012902 (2005)

$\mathbf{H^{+} + Al}$	Reflection	98 keV	E/T

1365. Y.-H. Song, Y.-N. Wang, Z. L. Miskovic
Vicinage effects in energy loss and electron emission during grazing scattering of heavy molecular ions from a solid surface.
Phys. Rev. A 72, 012903 (2005)

$\mathbf{N_2{}^{+} + C}$	Secondary Electron Emission	100-400 keV/u	Th

1366. M. J. Gordon, J. Mace, K. P. Giapis
Charge-exchange mechanisms at the threshold for inelasticity in Ne^{+} collisions with surfaces.
Phys. Rev. A 72, 012904 (2005)

$\mathbf{Ne^{+} + Mg}$	Reflection	100-400 eV	Exp
$\mathbf{Ne^{+} + Al}$	Reflection	100-400 eV	Exp
$\mathbf{Ne^{+} + Si}$	Reflection	100-400 eV	Exp
$\mathbf{Ne^{+} + P}$	Reflection	100-400 eV	Exp
$\mathbf{Ne^{+} + Mg}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp
$\mathbf{Ne^{+} + Al}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp
$\mathbf{Ne^{+} + Si}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp
$\mathbf{Ne^{+} + P}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp

1367. M. Alducin, J. I. Juaristi, R. Diez Muino, M. Roesler, P. M. Echenique
Spin-dependent electron emission from metals in the neutralization of He^+ ions.
Phys. Rev. A 72, 024901 (2005)

He^+ + Al	Secondary Electron Emission	15-500 eV	Th
He^+ + Cu	Secondary Electron Emission	15-500 eV	Th
He^+ + Au	Secondary Electron Emission	15-500 eV	Th
He^+ + Al	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th
He^+ + Cu	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th
He^+ + Au	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th

1368. L. I. Vergara, F. W. Meyer, H. F. Krause
Chemical sputtering of ATJ graphite induced by low-energy $D_2{}^+$ bombardment.
J. Nucl. Mater. 347, 118 (2005)

$H_2{}^+$ + C	Sputtering	10-250 eV	Exp
$D_2{}^+$ + C	Sputtering	10-250 eV	Exp

1369. S. B. Gilliam, S. M. Gidcumb, N. R. Parikh, D. G. Forsythe, B. K. Patnaik, J. D. Hunn, L. L. Snead, G. P. Lamaze
Retention and surface blistering of helium irradiated tungsten as a first wall material.
J. Nucl. Mater. 347, 289 (2005)

He^+ + W	Trapping, Detrapping	1.3 MeV	Exp

1370. B. B. Cipiti, G. L. Kulcinski
Helium and deuterium implantation in tungsten at elevated temperatures.
J. Nucl. Mater. 347, 298 (2005)

H^+ + W	Trapping, Detrapping	20-40 keV	Exp
He^+ + W	Trapping, Detrapping	20-40 keV	Exp
D^+ + W	Trapping, Detrapping	20-40 keV	Exp

1371. N. Hashimoto, J. D. Hunn, N. Parikh, S. Gilliam, S. Gidcumb, B. Patnaik, L. L. Snead
Microstructural analysis on helium retention of ion-irradiated and annealed tungsten foils.
J. Nucl. Mater. 347, 307 (2005)

He^+ + W	Trapping, Detrapping	1.3 MeV	Exp

1372. C. Focsa, C. Mihesan, M. Ziskind, B. Chazallon, E. Therssen, P. Desgroux, J. L. Destombes
Wavelength-selective vibrationally excited photodesorption with tunable IR sources.
J. Phys. Condens. Matter 18, S1357 (2006)

hν + H_2O	Desorption	0.32-0.42 eV	Exp

1373. E. Kobayashi, K. Mase, A. Nambu, J. Seo, S. Tanaka, T. Kalkiuchi, K. K. Okudaira, S.-I. Nagaoka, M. Tanaka
Recent progress in coincidence studies on ion desorption induced by core excitation.
J. Phys. Condens. Matter 18, S1389 (2006)

hν + Si	Desorption	98-690 eV	Exp
hν + TiO_2	Desorption	98-690 eV	Exp
hν + SiO_2	Desorption	98-690 eV	Exp
hν + H_2O + Si	Desorption	98-690 eV	Exp
hν + H_2O + SiO_2	Desorption	98-690 eV	Exp

1374. P. Saalfrank, M. Nest, I. Andrianov, T. Klamroth, D. Kroener, S. Beyvers
Quantum dynamics of laser-induced desorption from metal and semiconductor surfaces, and related phenomena.
J. Phys. Condens. Matter 18, S1425 (2006)

hν + Pt	Desorption		Th
hν + NO + Pt	Desorption		Th

1375. A. Hoffman, A. Laikhtman
Photon stimulated desorption of hydrogen from diamond surfaces via core-level excitations: Fundamental processes and applications to surface studies.
J. Phys. Condens. Matter 18, S1517 (2006)

hν + C	Desorption	150-600 eV	Exp
hν + H + C	Desorption	150-600 eV	Exp
hν + D + C	Desorption	150-600 eV	Exp

1376. M. Szymonski, A. Droba, M. Goryl, J. J. Kolodziej, F. Krok
Alkali halide decomposition and desorption by photons – the role of excited point defects and surface topographies.
J. Phys. Condens. Matter 18, S1547 (2006)

hν + RbI	Desorption	4-6 eV	Exp

1377. T. Hirayama, I. Arakawa
Exciton induced photodesorption in rare gas solids.
J. Phys. Condens. Matter 18, S1563 (2006)

hν + Ne	Desorption	16-22 eV	Exp
hν + Ar	Desorption	16-22 eV	Exp
hν + Kr	Desorption	16-22 eV	Exp

1378. R. P. Doerner
Low-energy sputtering yields of tungsten and tantalum.
J. Vac. Sci. Technol. A 23, 1545 (2005)

Xe^+ + Mo	Sputtering	30-125 eV	Exp
Xe^+ + Ta	Sputtering	30-125 eV	Exp
Xe^+ + W	Sputtering	30-125 eV	Exp

1379. Y. Suetsugu, K. Kanazawa, K. Shibata, H. Hisamatsu, K. Oide, F. Takasaki, R. V. Dostovalov, A. A. Krasnov, K. V. Zolotarev, E. S. Konstantinov, V. A. Chernov, A. E. Bondar, A. N. Shmakov
First experimental and simulation study on the secondary electron and photoelectron yield of NEG materials (Ti-Zr-V) coating under intense photon irradiation.
Nucl. Instrum. Methods Phys. Res. A 554, 92 (2005)

hν + Ti	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp
hν + V	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp
hν + Zr	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp
e + Ti	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp
e + V	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp
e + Zr	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp

1380. M. P. Seah
Erratum to "An accurate semi-empirical equation for sputtering yields, II: for neon, argon and xenon ions" [Nucl. Instr. and Meth. B 229 (2005) 348-358].
Nucl. Instrum. Methods Phys. Res. B 239, 286 (2005)

Ne^{+} + PERT	Sputtering	1-5 keV	Exp
Ar^{+} + PERT	Sputtering	1-5 keV	Exp
Xe^{+} + PERT	Sputtering	1-5 keV	Exp

1381. J. Samela, J. Kotakoski, K. Nordlund, J. Keinonen
A quantitative and comparative study of sputtering yields in Au.
Nucl. Instrum. Methods Phys. Res. B 239, 331 (2005)

Xe^{+} + Au	Sputtering	0.1-200 keV	Th

1382. J. P. Allain, D. N. Ruzic, D. A. Alman, M. D. Coventry
A model for ion-bombardment induced erosion enhancement with target temperature in liquid lithium.
Nucl. Instrum. Methods Phys. Res. B 239, 347 (2005)

Li^{+} + Li	Sputtering	200-1000 eV	Th

1383. S. Mammeri, S. Ouichaoui, R. Zemih, H. Ammi, M. Abdesselam, A. C. Chami
Sputtering yields, range and range straggling in Al following Kr^{+} ions bombardment in the energy range (20-160) keV.
Nucl. Instrum. Methods Phys. Res. B 240, 162 (2005)

Kr^{+} + Al	Sputtering	20-160 keV	Exp

1384. C. S. Lee, M. C. Chueh, Y. C. Liu, C.-Y. Hsu, S. H. Liu, W. H. Ip, S. Lee
The measurement of sputtering yields and spectrum of mass and optical emission of sputtered particles induced by ion bombardment of H_2O ice.
Nucl. Instrum. Methods Phys. Res. B 240, 345 (2005)

He^{+} + H_2O	Sputtering	15 keV	Exp
Ar^{+} + H_2O	Sputtering	15 keV	Exp
$H_3{}^{+}$ + H_2O	Sputtering	15 keV	Exp
$N_2{}^{+}$ + H_2O	Sputtering	15 keV	Exp

1385. H. Labrim, M.-F. Barthe, T. Sauvage, P. Desgardin, G. Blondiaux, C. Corbel, F. Miserque, J. P. Piron
Deuterium trapping in sintered polished UO_2 disks.
Nucl. Instrum. Methods Phys. Res. B 240, 434 (2005)

H_2 + UO_2	Trapping, Detrapping	700 deg K	Exp
D_2 + UO_2	Trapping, Detrapping	700 deg K	Exp

1386. J. W. McDonald, T. Schenkel, A. V. Hamza, D.H.G. Schneider
Material dependence of total electron emission yields following slow highly charged ion impact.
Nucl. Instrum. Methods Phys. Res. B 240, 829 (2005)

O^{8+} + C	Secondary Electron Emission	2 keV/amu	Exp
O^{8+} + Si	Secondary Electron Emission	2 keV/amu	Exp
O^{8+} + Au	Secondary Electron Emission	2 keV/amu	Exp
O^{8+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp
Xe^{12+} + C	Secondary Electron Emission	2 keV/amu	Exp
Xe^{12+} + Si	Secondary Electron Emission	2 keV/amu	Exp
Xe^{12+} + Au	Secondary Electron Emission	2 keV/amu	Exp
Xe^{12+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp
Xe^{20+} + C	Secondary Electron Emission	2 keV/amu	Exp
Xe^{20+} + Si	Secondary Electron Emission	2 keV/amu	Exp

$\mathbf{Xe^{20+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{20+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{24+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{24+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{24+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{24+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{26+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{26+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{26+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{26+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{28+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{28+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{28+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{28+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{30+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{30+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{30+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{30+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{34+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{34+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{34+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{34+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{38+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{38+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{38+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{38+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{40+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{40+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{40+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{40+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{44+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{44+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{44+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{44+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{48+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{48+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{48+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{48+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{52+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{52+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{52+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{52+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{52+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{52+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{52+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{52+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{58+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{58+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{58+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{58+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{64+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{64+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{64+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{64+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{69+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{69+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{69+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp

Au^{69+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp

1387. H. S. Chakraborty, T. Niederhausen, U. Thumm
On the effect of image states on resonant neutralization of hydrogen anions near metal surfaces.
Nucl. Instrum. Methods Phys. Res. B 241, 43 (2005)

H^- + Pd	Neutraliz., Ioniz., Dissoc.	1 keV	Th
H^- + Ag	Neutraliz., Ioniz., Dissoc.	1 keV	Th

1388. M. A. Karolewski
Molecular dynamics simulations of the initial stages of sputter erosion of a metal overlayer system: 2 keV Ar -¿ Cu/Ni(100).
Nucl. Instrum. Methods Phys. Res. B 243, 6 (2005)

Ar^+ + Ni	Sputtering	2 keV	Th
Ar^+ + Cu	Sputtering	2 keV	Th

1389. J. Cazaux
e-Induced secondary electron emission yield of insulators and charging effects.
Nucl. Instrum. Methods Phys. Res. B 244, 307 (2005)

e + BeO	Secondary Electron Emission	0-10 keV	E/T
e + SiO_2	Secondary Electron Emission	0-10 keV	E/T
e + LiF	Secondary Electron Emission	0-10 keV	E/T
e + BaF_2	Secondary Electron Emission	0-10 keV	E/T
e + MgO	Secondary Electron Emission	0-10 keV	E/T
e + KCl	Secondary Electron Emission	0-10 keV	E/T
e + KBr	Secondary Electron Emission	0-10 keV	E/T
e + KI	Secondary Electron Emission	0-10 keV	E/T

1390. Y. Zhao, G. Xiao, X. Zhang, Z. Yang, W. Zhan, X. Chen, F. Li
X-ray spectroscopy of hollow argon atoms formed on a beryllium surface.
Nucl. Instrum. Methods Phys. Res. B 245, 72 (2006)

$Ar^{15+–18+}$ + Be	Reflection		Exp

1391. P. Rajasekar, D. Scott, N. F. Materer
Light emission from ion-bombarded Ge(100) surfaces under continuous germane and silane exposures.
Nucl. Instrum. Methods Phys. Res. B 245, 411 (2006)

Ar^+ + Ge	Sputtering	1-5 keV	Exp
Ar^+ + GeH_4	Sputtering	1-5 keV	Exp
Ar^+ + SiH_4	Sputtering	1-5 keV	Exp

1392. S. I. Kononenko, O. V. Kalantaryan, V. I. Muratov, V. P. Zhurenko
Features of silica luminescence induced by molecular hydrogen ions.
Nucl. Instrum. Methods Phys. Res. B 246, 340 (2006)

H^+ + Si	Surface Interactions	210-420 keV	Exp
$H_2{}^+$ + Si	Surface Interactions	210-420 keV	Exp

1393. F. Gou, M. A. Gleeson, J. Villette, A. W. Kleyn
3 keV Ar scattering from unreconstructed Si(100) at grazing incidence: Molecular dynamics simulation.
Nucl. Instrum. Methods Phys. Res. B 247, 244 (2006)

Ar + Si	Reflection	3 keV	Th

1394. A. Kutana, M. J. Gordon, K. P. Giapis
Neutralization of hyperthermal Ne^+ on metal surfaces.
Nucl. Instrum. Methods Phys. Res. B 248, 16 (2006)

Ne^+ + Mg	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Al	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Si	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Ti	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Y	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Zr	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Nb	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Te	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Nd	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Gd	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Dy	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Ta	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Au	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Hf	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + At	Neutraliz., Ioniz., Dissoc.	320 eV	Exp

1395. K. Nakajima, A. Nakamoto, M. Suzuki, K. Kimura
Convoy electrons emitted by 2-MeV He^+ ions at grazing incidence on KCl(001).
Nucl. Instrum. Methods Phys. Res. B 248, 311 (2006)

He^+ + KCl	Secondary Electron Emission	2 MeV	Exp

1396. P. K. Kuiri, B. Joseph, J. Ghatak, H. P. Lenka, G. Sahu, B. S. Acharya, D. P. Mahapatra
Observation of ZnS nanoparticles sputtered from ZnS films under 2 MeV Au irradiation.
Nucl. Instrum. Methods Phys. Res. B 248, 25 (2006)

Au^+ + ZnS	Sputtering	2 MeV	Exp

1397. J. Deiwiks, G. Schiwietz, S. R. Bhattacharyya, G. Xiao, R. Hippler
Evidence for enhanced desorption of hydrogen atoms from a Si(100) surface induced by slow highly-charged ions.
Nucl. Instrum. Methods Phys. Res. B 248, 253 (2006)

Xe^{6+} + Si	Desorption	30 keV	Exp
Xe^{6+} + H + Si	Desorption	30 keV	Exp
Xe^{10+} + Si	Desorption	30 keV	Exp
Xe^{10+} + H + Si	Desorption	30 keV	Exp
Xe^{11+} + Si	Desorption	30 keV	Exp
Xe^{11+} + H + Si	Desorption	30 keV	Exp
Xe^{14+} + Si	Desorption	30 keV	Exp
Xe^{14+} + H + Si	Desorption	30 keV	Exp
Xe^{19+} + Si	Desorption	30 keV	Exp
Xe^{19+} + H + Si	Desorption	30 keV	Exp
Xe^{20+} + Si	Desorption	30 keV	Exp
Xe^{20+} + H + Si	Desorption	30 keV	Exp
Xe^{22+} + Si	Desorption	30 keV	Exp
Xe^{22+} + H + Si	Desorption	30 keV	Exp
Xe^{6+} + Si	Sputtering	30 keV	Exp
Xe^{6+} + H + Si	Sputtering	30 keV	Exp
Xe^{10+} + Si	Sputtering	30 keV	Exp

Xe^{10+} + H + Si	Sputtering	30 keV	Exp
Xe^{11+} + Si	Sputtering	30 keV	Exp
Xe^{11+} + H + Si	Sputtering	30 keV	Exp
Xe^{14+} + Si	Sputtering	30 keV	Exp
Xe^{14+} + H + Si	Sputtering	30 keV	Exp
Xe^{19+} + Si	Sputtering	30 keV	Exp
Xe^{19+} + H + Si	Sputtering	30 keV	Exp
Xe^{20+} + Si	Sputtering	30 keV	Exp
Xe^{20+} + H + Si	Sputtering	30 keV	Exp
Xe^{22+} + Si	Sputtering	30 keV	Exp
Xe^{22+} + H + Si	Sputtering	30 keV	Exp

1398. A. H. Dogar, A. Qayyum
Study of the cascading effect on photon emission from sputtered excited carbon atoms and ions.
Nucl. Instrum. Methods Phys. Res. B 248, 259 (2006)

Ar^+ + C	Sputtering	10 keV	Exp

1399. P.-G. Fournier, O. Varenne, A. Nortier, J. Baudon, M. Boustimi
Light emission from Be and BeO surfaces bombarded by 5 keV Kr^+ ions.
Nucl. Instrum. Methods Phys. Res. B 249, 153 (2006)

Kr^+ + Be	Surface Interactions	5 keV	Exp
Kr^+ + BeO	Surface Interactions	5 keV	Exp
Kr^+ + Be	Sputtering	5 keV	Exp
Kr^+ + BeO	Sputtering	5 keV	Exp

1400. S. Kusanagi, H. Kobayashi
Study of SiO_2 surface sputtering by a 250-550 keV He^+ ion beam during high-resolution Rutherford backscattering measurements.
Nucl. Instrum. Methods Phys. Res. B 249, 421 (2006)

He^+ + SiO_2	Sputtering	250-550 keV	Exp

1401. Y. Morimoto, Y. Tanaka, A. Ide-Ektessabi
Low energy ion induced secondary electron emission coefficient of magnesium oxide films.
Nucl. Instrum. Methods Phys. Res. B 249, 440 (2006)

Ne^+ + MgO	Secondary Electron Emission	0-2000 eV	Exp

1402. Y. Hirohata, T. Yamada, Y. Yamauchi, T. Hino, T. Nagasaka, T. Muroga
Deuterium and helium retentions of V-4Cr-4Ti alloy used as first wall of breeding blanket in a fusion reactor.
J. Nucl. Mater. 348, 33 (2006)

H^+ + Ti	Trapping, Detrapping	1.7-5.0 keV	Exp
H^+ + V	Trapping, Detrapping	1.7-5.0 keV	Exp
H^+ + Cr	Trapping, Detrapping	1.7-5.0 keV	Exp
He^+ + Ti	Trapping, Detrapping	1.7-5.0 keV	Exp
He^+ + V	Trapping, Detrapping	1.7-5.0 keV	Exp
He^+ + Cr	Trapping, Detrapping	1.7-5.0 keV	Exp
D^+ + Ti	Trapping, Detrapping	1.7-5.0 keV	Exp
D^+ + V	Trapping, Detrapping	1.7-5.0 keV	Exp
D^+ + Cr	Trapping, Detrapping	1.7-5.0 keV	Exp

1403. R. M. Van Ginhoven, A. Chartier, C. Meis, W. J. Weber, L. R. Corrales
Theoretical study of helium insertion and diffusion in 3C-SiC.
J. Nucl. Mater. 348, 51 (2006)

H^+ + Ti	Trapping, Detrapping		Th
H^+ + V	Trapping, Detrapping		Th
H^+ + Cr	Trapping, Detrapping		Th
He^+ + SiC	Trapping, Detrapping		Th

1404. M. A. Munoz-Marquez, G. S. Parkinson, D. P. Woodruff, A. Hentz, P. L. Grande, G. Schiwietz, T. J. Wood, C. Boney, S. P. Tear, P. Bailey, T.C.Q. Noakes
Energy loss in medium-energy ion scattering: A combined theoretical and experimental study of the model system Y on Si(111).
Phys. Rev. B 72, 075415 (2005)

H^+ + Si	Reflection	100 keV	E/T
H^+ + Y	Reflection	100 keV	E/T

1405. L. G. Glazov, S. Tougaard
Electron backscattering from surfaces: Azimuth-resolved distributions.
Phys. Rev. B 72, 085406 (2005)

e + Al	Reflection	300-2000 eV	Th
e + Au	Reflection	300-2000 eV	Th

1406. HP. Winter, S. Lederer, H. Winter, C. Lemell, J. Burgdorfer
Kinetic electron emission induced by grazing scattering of slow atoms: Local probe of the Compton profile near the Fermi edge.
Phys. Rev. B 72, 161402 (2005)

Ne + Al	Secondary Electron Emission	3-5 keV	Exp
Ar + Al	Secondary Electron Emission	3-5 keV	Exp

1407. M. Commisso, M. Minniti, A. Sindona, A. Bonanno, A. Oliva, R. A. Baragiola, P. Riccardi
Kinetic electron excitation in the interaction of slow Kr^+ ions with Al surfaces.
Phys. Rev. B 72, 165419 (2005)

Kr^+ + Al	Secondary Electron Emission	1-8 keV	Exp

1408. Y. Ekinci, J. P. Toennies
Elastic and rotationally inelastic diffraction of D_2 molecules from the LiF(001) surface.
Phys. Rev. B 72, 205430 (2005)

D_2 + LiF	Reflection	300 deg K	Exp

1409. V. Tuboltsev, P. Jaklanen, M. Kolodyazhnaya, J. Raisanen
Composition dependence of $Si_{1-x}Ge_x$ sputter yield.
Phys. Rev. B 72, 205434 (2005)

Ar^+ + Si	Sputtering	3 keV	E/T
Ar^+ + Ge	Sputtering	3 keV	E/T

1410. B. D. Teolis, R. A. Vidal, J. Shi, R. A. Baragiola
Mechanisms of O_2 sputtering from water ice by keV ions.
Phys. Rev. B 72, 245422 (2005)

Ar^+ + H_2O	Sputtering	100 keV	Exp

1411. Z. Sroubek, X. Chen, J. A. Yarmoff
Ion formation and kinetic electron emission during the impact of slow atomic metal particles on metal surfaces.
Phys. Rev. B 73, 045427 (2006)

Na^+ + Ru	Secondary Electron Emission	50 eV	Exp
Na^+ + Au	Sputtering	50 eV	Exp

1412. M. Tan, B. V. King
Population inversion of metastable Ni atoms sputtered from Ni(100), $Ni_3Al(100)$, **and NiAl(110).**
Phys. Rev. B 73, 075414 (2006)

Ar^+ + Ni	Sputtering	4 keV	Exp
Ar^+ + NiAl	Sputtering	4 keV	Exp
Ar^+ + Ni_3Al	Sputtering	4 keV	Exp

1413. X. Chen, Z. Sroubek, J. A. Yarmoff
Formation of multiply charged Al ions by direct recoil.
Phys. Rev. B 73, 132408 (2006)

Si^+ + Al	Sputtering	1-5 keV	E/T

1414. S. Prawer, S. Rubanov, S. M. Hearne, D. N. Jamieson, R. Kalish
Spatial extent of band bending in diamond due to ion impact as measured by secondary electron emission: Experiment and theory.
Phys. Rev. B 73, 153202 (2006)

e + C	Secondary Electron Emission	1-30 keV	Exp
e + Ga	Secondary Electron Emission	1-30 keV	Exp

1415. G. A. Grieves, T. M. Orlando
The importance of pores in the electron stimulated production of D_2 **and** O_2 **in low temperature ice.**
Surf. Sci. 593, 180 (2005)

e + H_2O	Desorption	100 eV	Exp

1416. L. Markowski
Electron-stimulated desorption from alkali halide surfaces: Yield and kinetic-energy distributions of positive alkali ions.
Surf. Sci. 593, 187 (2005)

e + LiF	Desorption	300-600 eV	Exp
e + NaCl	Desorption	300-600 eV	Exp

1417. B. V. Yakshihnskiy, T. E. Madey
Temperature-dependent DIET of alkalis from SiO_2 **films: Comparison with a lunar sample.**
Surf. Sci. 593, 202 (2005)

K + Na	Adsorption, Desorption	300 deg K; 200 eV	Exp
K + SiO_2	Adsorption, Desorption	300 deg K; 200 eV	Exp
e + Na + SiO_2	Desorption	300 deg K; 200 eV	Exp
e + K + SiO_2	Desorption	300 deg K; 200 eV	Exp
e + Ba + SiO_2	Desorption	300 deg K; 200 eV	Exp

1418. P. E. Trevisanutto, P. V. Sushko, A. L. Shluger, K. M. Beck, M. Henyk, A. G. Joly, W. P. Hess
A mechanism of photo-induced desorption of oxygen atoms from MgO nanocrystals.
Surf. Sci. 593, 210 (2005)

hν + MgO	Desorption	4.7 eV	E/T

1419. K. Wettergren, B. Kasemo, D. Chakarov
Photodesorption of NO from graphite(0001) surface mediated by silver clusters.
Surf. Sci. 593, 235 (2005)

hν + C	Desorption	3.5 eV	Exp
hν + NO + C	Desorption	3.5 eV	Exp

1420. G. Comtet, G. Dujardin
Electronic processes producing O^+ ion photodesorption from oxygen adsorbed on Si(111)7x7.
Surf. Sci. 593, 256 (2005)

hν + Si	Desorption	108 eV	Exp
hν + O + Si	Desorption	108 eV	Exp

1421. T. Tachibana, Y. Yamauchi, T. Miura, T. Hirayama, M. Sakurai, I. Arakawa
Photodesorption of ionized water clusters from water physisorbed on rare gas solids.
Surf. Sci. 593, 264 (2005)

hν + H_2O + Ne	Desorption	6-1000 eV	Exp
hν + H_2O + Ar	Desorption	6-1000 eV	Exp
hν + H_2O + Kr	Desorption	6-1000 eV	Exp
hν + H_2O + Xe	Desorption	6-1000 eV	Exp

1422. A. Nambu, E. Kobayashi, M. Mori, K. K. Okudaira, N. Ueno, K. Mase
Isotope effects in $H^+(D^+)$ desorption induced by $4a_1$ ¡- 0 1s resonant transition of condensed H_2O (D_2O).
Surf. Sci. 593, 269 (2005)

hν + H_2O	Desorption	525-555 eV	Exp
hν + D_2O	Desorption	525-555 eV	Exp

1423. S.-I. Nagaoka, K. Mase
Ion desorption caused by N 1s core-level photoexcitation of N_2O on Si(100) surface.
Surf. Sci. 593, 276 (2005)

hν + SiO_2	Desorption	390-450 eV	Exp
hν + N_2O + SiO_2	Desorption	390-450 eV	Exp

1424. S. Takahashi, K. Nagata, M. Tona, M. Sakurai, N. Nakamura, C. Yamada, S. Ohtani
DIET in highly charged ion interaction with silicon surfaces.
Surf. Sci. 593, 318 (2005)

Xe^{26+} + Si	Desorption	520-1000 keV	Exp
Xe^{26+} + H_2 + Si	Desorption	520-1000 keV	Exp
Xe^{34+} + Si	Desorption	520-1000 keV	Exp
Xe^{34+} + H_2 + Si	Desorption	520-1000 keV	Exp
Xe^{44+} + Si	Desorption	520-1000 keV	Exp

Xe^{44+} + H_2 + Si	Desorption	520-1000 keV	Exp
Xe^{50+} + Si	Desorption	520-1000 keV	Exp
Xe^{50+} + H_2 + Si	Desorption	520-1000 keV	Exp
Xe^{26+} + Si	Sputtering	520-1000 keV	Exp
Xe^{26+} + H_2 + Si	Sputtering	520-1000 keV	Exp
Xe^{34+} + Si	Sputtering	520-1000 keV	Exp
Xe^{34+} + H_2 + Si	Sputtering	520-1000 keV	Exp
Xe^{44+} + Si	Sputtering	520-1000 keV	Exp
Xe^{44+} + H_2 + Si	Sputtering	520-1000 keV	Exp
Xe^{50+} + Si	Sputtering	520-1000 keV	Exp
Xe^{50+} + H_2 + Si	Sputtering	520-1000 keV	Exp

1425. Y. Baba, T. Sekiguchi, I. Shimoyama
Desorption of cluster ions from frozen gases following high-density electronic excitation.
Surf. Sci. 593, 324 (2005)

He^+ + Ar	Sputtering	0-10 keV	E/T
He^+ + CH_4	Sputtering	0-10 keV	E/T
He^+ + N_2	Sputtering	0-10 keV	E/T

1426. T. Ito, I. Bolotin, R. Zhang, B. Makarenko, B. Bahrim, J. W. Rabalais
Electron-ion/atom coincidence measurements of 3 keV He^+ interacting with a SiH(100)-(2 x 1) surface.
Surf. Sci. 594, 54 (2005)

He^+ + SiH	Reflection	3 keV	Exp
He^+ + SiH	Secondary Electron Emission	3 keV	Exp

1427. B. Bahrim, B. Makarenko, J. W. Rabalais
Band gap effect on H^- ion survival near Cu surfaces.
Surf. Sci. 594, 62 (2005)

H^+ + Cu	Reflection	6 eV; 5 keV	E/T
H^- + Cu	Neutraliz., Ioniz., Dissoc.	6 eV; 5 keV	E/T

1428. Y. Rosandi, H. M. Urbassek
Grazing incidence impact of ions on an adatom-covered surface: Molecular-dynamics study of sputtering, surface-damage formation and ion-induced adatom mobility.
Surf. Sci. 600, 1260 (2006)

Ar^+ + Pt	Reflection	5 keV	Th
Ar^+ + Pt	Sputtering	5 keV	Th

1429. A. J. Nelson, T. E. Felter, K. J. Wu, C. Evans, J. L. Ferreira, W. J. Siekhaus, W. McLean
Uranium passivation by C^+ implantation: A photoemission and secondary ion mass spectrometry study.
Surf. Sci. 600, 1319 (2006)

C^+ + U	Chemical Reactions	33 keV	Exp

1430. V. N. Ageev, Yu. A. Kuznetsov, T. E. Madey
Electron stimulated desorption of cesium atoms from germanium-covered tungsten.
Surf. Sci. 600, 2163 (2006)

e + Ge	Sputtering	0-150 eV	Exp
e + W	Sputtering	0-150 eV	Exp
e + Cs + Ge	Sputtering	0-150 eV	Exp
e + Cs + W	Sputtering	0-150 eV	Exp

1431. E. A. Garcia, C. Gonzalez Pascual, P. G. Bolcatto, M.C.G. Passeggi, E. C. Goldberg
Ion fractions in the scattering of hydrogen on different reconstructed silicon surfaces.
Surf. Sci. 600, 2195 (2006)

H + Si	Reflection	1-4 keV	Th

1432. W. Zheng, A. Gallagher
Hydrogen dissociation on high-temperature tungsten.
Surf. Sci. 600, 2207 (2006)

H_2 + W	Neutraliz., Ioniz., Dissoc.	4.5 eV	Exp

1433. G. F. Liu, J. A. Yarmoff
Charge exchange between low energy alkali ions and cerium oxide surfaces.
Surf. Sci. 600, 2293 (2006)

Na^+ + CeO_2	Reflection	1-4.5 keV	Exp

1434. F. J. Kontur, J. C. Lancaster, F. B. Dunning
The dynamics of He^+ ion neutralization at a xenon film: Energy- and spin-resolved studies.
Surf. Sci. 600, 2543 (2006)

He^+ + Xe	Reflection	10-500 eV	Exp
He^+ + Xe	Secondary Electron Emission	10-500 eV	Exp

1435. M. Tan, B. V. King
Deexcitation of sputtered metastable aluminum atoms.
Surf. Sci. 600, 2771 (2006)

Ar^+ + NiAl	Sputtering	4 keV	Exp
Ar^+ + Ni_3Al	Sputtering	4 keV	Exp

1436. A. M. Borisov, E. S. Mashkova, A. S. Nemov, E. S. Parilis
Effect of radiation damage on ion-induced electron emission from highly oriented pyrolytic graphite.
Vacuum 80, 295 (2005)

$N_2{}^+$ + C	Secondary Electron Emission	30 keV	Exp

1437. M. Rosler, N. Pauly, A. Dubus, R. Diez Muino, M. Alducin
Influence of plasmon-assisted charge exchange processes on ion-induced electron emission from metals.
Vacuum 80, 554 (2006)

H^+ + Mg	Secondary Electron Emission	10-100 eV	Th

1438. H. Gnaser, R. Golser
Verification of long-lived molecular hydrogen anions ($H_n{}^-$, $D_n{}^-$, n=2,3) by secondary-ion mass spectrometry.
Phys. Rev. A 73, 021202 (2006)

Cs^{+} + TiH_2	Sputtering	14.5 keV	Exp
Cs^{+} + TiD_2	Sputtering	14.5 keV	Exp
Cs^{+} + H_2 + H	Sputtering	14.5 keV	Exp

1439. C. C. Montanari, J. E. Miraglia
Stopping power for swift dressed ions.
Phys. Rev. A 73, 024901 (2006)

He + Al	Neutraliz., Ioniz., Dissoc.	1-10,000 keV/u	Th
He + Zn	Neutraliz., Ioniz., Dissoc.	1-10,000 keV/u	Th
He^{+} + Al	Neutraliz., Ioniz., Dissoc.	1-10,000 keV/u	Th
He^{+} + Zn	Neutraliz., Ioniz., Dissoc.	1-10,000 keV/u	Th

1440. M. B. Sahana, P. Skog, Gy. Vikor, R.T.R. Kumar, R. Schuch
Guiding of highly charged ions by highly ordered SiO_2 nanocapillaries.
Phys. Rev. A 73, 040901 (2006)

Ne^{7+} + SiO_2	Reflection	7 keV	Exp

1441. J. Sjakste, A. G. Borisov, J. P. Gauyacq
Ionization of Rydberg atoms colliding with a metal surface.
Phys. Rev. A 73, 042903 (2006)

Xe + Al	Neutraliz., Ioniz., Dissoc.	0.005-0.01 a.u.	Th
Xe^{*} + Al	Neutraliz., Ioniz., Dissoc.	0.005-0.01 a.u.	Th

1442. B. Obreshkov, U. Thumm
Neutralization of H^{-} near vicinal metal surfaces.
Phys. Rev. A 74, 012901 (2006)

H^{-} + Na	Neutraliz., Ioniz., Dissoc.	1 keV	Th
H^{-} + Al	Neutraliz., Ioniz., Dissoc.	1 keV	Th
H^{-} + Cu	Neutraliz., Ioniz., Dissoc.	1 keV	Th

1443. H. Watanabe, S. Takahashi, M. Tona, N. Yoshiyasu, N. Nakamura, M. Sakurai, C. Yamada, S. Ohtani
Dissipation of potential energy through x-ray emission in slow highly charged ion-surface collisions.
Phys. Rev. A 74, 042901 (2006)

$I^{34+–53+}$ + Si	Surface Interactions	119-186 keV	Exp
$I^{34+–53+}$ + Si	Neutraliz., Ioniz., Dissoc.	119-186 keV	Exp

1444. J.-C. Karam, J. Grucker, M. Boustimi, G. Vassilev, J. Reinhardt, C. Mainos, V. Bocvarski, J. Robert, J. Baudon, F. Perales
Surface-induced vibrational excitation of metastable nitrogen molecules traversing a micro-slip copper grating: A probe of surface profiles.
J. Phys. B 39, 1937 (2006)

N_2 + Cu	Reflection	150 MeV	Exp

1445. S. Lederer, H. Winter
Energy loss of 100-keV hydrogen atoms during grazing scattering from Cu(111).
Phys. Rev. A 73, 054901 (2006)

H^{+} + Cu	Reflection	100 keV	Exp
H^{+} + Cu	Secondary Electron Emission	100 keV	Exp

1446. P. Traeskelin, K. Nordlund, J. Keinonen
H, He, Ne, Ar-bombardment of amorphous hydrocarbon structures.
J. Nucl. Mater. 357, 1 (2006)

H + C	Sputtering	5-10 eV	Th
He + C	Sputtering	5-10 eV	Th
Ne + C	Sputtering	5-10 eV	Th
Ar + C	Sputtering	5-10 eV	Th
H + C	Trapping, Detrapping	5-10 eV	Th
He + C	Trapping, Detrapping	5-10 eV	Th
Ne + C	Trapping, Detrapping	5-10 eV	Th
Ar + C	Trapping, Detrapping	5-10 eV	Th

1447. L. I. Vergara, F. W. Meyer, H. F. Krause, P. Traeskelin, K. Nordlund, E. Salonen
Methane production from ATJ graphite by slow atomic and molecular D ions: Evidence for projectile molecule-size-dependent yields at low energies.
J. Nucl. Mater. 357, 9 (2006)

$\mathbf{H^+ + C}$	Sputtering	5-100 eV	Exp
$\mathbf{H_2{}^+ + C}$	Sputtering	5-100 eV	Exp
$\mathbf{H_3{}^+ + C}$	Sputtering	5-100 eV	Exp
$\mathbf{D^+ + C}$	Sputtering	5-100 eV	Exp
$\mathbf{D_2{}^+ + C}$	Sputtering	5-100 eV	Exp
$\mathbf{D_3{}^+ + C}$	Sputtering	5-100 eV	Exp

1448. A. D. Quastel, J. W. Davis, A. A. Haasz, R. G. Macaulay-Newcombe
Effect of $post - D^+ - irradiation$ **time delay and pre-TDS heating on D retention in single crystal tungsten.**
J. Nucl. Mater. 359, 8 (2006)

$\mathbf{H^+ + W}$	Trapping, Detrapping	500 eV	Exp
$\mathbf{D^+ + W}$	Trapping, Detrapping	500 eV	Exp

1449. H. T. Lee, A. A. Haasz, J. W. Davis, R. G. Macaulay-Newcombe
Hydrogen and helium trapping in tungsten under single and sequential irradiations.
J. Nucl. Mater. 360, 196 (2006)

$\mathbf{H^+ + W}$	Trapping, Detrapping	500 eV	Exp
$\mathbf{He^+ + W}$	Trapping, Detrapping	500 eV	Exp
$\mathbf{D^+ + W}$	Trapping, Detrapping	500 eV	Exp

1450. J. H. Liang, M. Mayer, J. Roth, M. Balden, W. Eckstein
Hydrogen isotopic effects on the chemical erosion of graphite induced by ion irradiation.
J. Nucl. Mater. 363-365, 184 (2006)

$\mathbf{H^+ + C}$	Sputtering	10-1000 eV	Th
$\mathbf{D^+ + C}$	Sputtering	10-1000 eV	Th
$\mathbf{T^+ + C}$	Sputtering	10-1000 eV	Th

1451. A. V. Golubeva, M. Mayer, J. Roth, V. A. Kurnaev, O. V. Ogorodnikova
Deuterium retention in rhenium-doped tungsten.
J. Nucl. Mater. 363-365, 893 (2006)

$\mathbf{H^+ + W}$	Trapping, Detrapping	200 eV	Exp
$\mathbf{H^+ + Re}$	Trapping, Detrapping	200 eV	Exp
$\mathbf{D^+ + W}$	Trapping, Detrapping	200 eV	Exp
$\mathbf{D^+ + Re}$	Trapping, Detrapping	200 eV	Exp

1452. H. T. Lee, A. A. Haasz, J. W. Davis, R. G. Macaulay-Newcombe, D. G. Whyte, G. M. Wright
Hydrogen and helium trapping in tungsten under simultaneous irradiations.
J. Nucl. Mater. 363-365, 898 (2006)

$\mathbf{H^+ + W}$	Trapping, Detrapping	500 eV	Exp
$\mathbf{He^+ + W}$	Trapping, Detrapping	500 eV	Exp
$\mathbf{D^+ + W}$	Trapping, Detrapping	500 eV	Exp

1453. E. Igarashi, Y. Nishikawa, T. Nakahata, A. Yoshikawa, M. Oyaidzu, Y. Oya, K. Okuno
Dependence of implantation temperature on chemical behavior of energetic deuterium implanted into tungsten carbide.
J. Nucl. Mater. 363-365, 910 (2006)

$\mathbf{H_2{}^+ + C}$	Trapping, Detrapping	1 keV	Exp
$\mathbf{H_2{}^+ + W}$	Trapping, Detrapping	1 keV	Exp
$\mathbf{D_2{}^+ + C}$	Trapping, Detrapping	1 keV	Exp
$\mathbf{D_2{}^+ + W}$	Trapping, Detrapping	1 keV	Exp
$\mathbf{D_2{}^+ + WC}$	Trapping, Detrapping	1 keV	Exp

1454. H. Miyauchi, A. Yoshikawa, M. Oyaidzu, Y. Oya, A. Sagara, N. Noda, K. Okuno
Ion fluence dependence on chemical behavior of energetic deuterium implanted into oxygen-contained boron film.
J. Nucl. Mater. 363-365, 925 (2006)

$\mathbf{H_2{}^+ + B}$	Trapping, Detrapping	1 keV	Exp
$\mathbf{D_2{}^+ + B}$	Trapping, Detrapping	1 keV	Exp

1455. Y. Oya, H. Miyauchi, T. Suda, Y. Nishikawa, T. Oda, K. Okuno, S. Tanaka
Effects of helium implantation on hydrogen isotope retention behavior in SiC.
J. Nucl. Mater. 363-365, 933 (2006)

$\mathbf{He^+ + SiC}$	Trapping, Detrapping	1-1.3 keV	Exp
$\mathbf{H_2{}^+ + C}$	Trapping, Detrapping	1-1.3 keV	Exp
$\mathbf{H_2{}^+ + Si}$	Trapping, Detrapping	1-1.3 keV	Exp
$\mathbf{D_2{}^+ + C}$	Trapping, Detrapping	1-1.3 keV	Exp
$\mathbf{D_2{}^+ + Si}$	Trapping, Detrapping	1-1.3 keV	Exp
$\mathbf{D_2{}^+ + SiC}$	Trapping, Detrapping	1-1.3 keV	Exp

1456. Y. Yamauchi, Y. Hirohata, T. Hino
Deuterium retention and desorption behavior in oxidized ferritic steel.
J. Nucl. Mater. 363-365, 984 (2006)

$\mathbf{H_2{}^+ + Fe}$	Trapping, Detrapping	1.7 keV	Exp
$\mathbf{H_2{}^+ + SS}$	Trapping, Detrapping	1.7 keV	Exp
$\mathbf{D_2{}^+ + Fe}$	Trapping, Detrapping	1.7 keV	Exp
$\mathbf{D_2{}^+ + SS}$	Trapping, Detrapping	1.7 keV	Exp

1457. I. I. Arkhipov, S. L. Kanashenko, V. M. Sharapov, R. Kh. Zalavutdinov, A. E. Gorodetsky
Deuterium trapping in ion-damaged tungsten single crystal.
J. Nucl. Mater. 363-365, 1168 (2006)

$\mathbf{He^+ + W}$	Trapping, Detrapping	12-20 keV	Exp
$\mathbf{H_2{}^+ + W}$	Trapping, Detrapping	12-20 keV	Exp
$\mathbf{D_2{}^+ + W}$	Trapping, Detrapping	12-20 keV	Exp

1458. M. Balden, C. Adelhelm, E. de Juan Pardo, J. Roth
Chemical erosion by deuterium impact on carbon films doped with nanometer-sized carbide crystallites.
J. Nucl. Mater. 363-365, 1173 (2006)

H_2^+ + C	Sputtering	90-3000 eV	Exp
D_2^+ + C	Sputtering	90-3000 eV	Exp

1459. I. Bizyukov, K. Krieger, N. Azarenkov, Ch. Linsmeier, S. Levchuk
Tungsten sputtering and accumulation of implanted carbon and deuterium by simultaneous bombardment with D and C ions.
J. Nucl. Mater. 363-365, 1184 (2006)

H_3^+ + W	Sputtering	9-12 keV	Exp
D_3^+ + W	Sputtering	9-12 keV	Exp
C_2^- + W	Sputtering	9-12 keV	Exp
H_3^+ + W	Trapping, Detrapping	9-12 keV	Exp
D_3^+ + W	Trapping, Detrapping	9-12 keV	Exp
C_2^- + W	Trapping, Detrapping	9-12 keV	Exp

1460. T. Ono, K. Shibata, T. Kenmotsu, T. Muramoto, Z. Li, T. Kawamura
Extended incident-angle dependence formula for physical sputtering.
J. Nucl. Mater. 363-365, 1266 (2006)

H^+ + C	Sputtering	0.2-1.0 keV	Th
H^+ + Fe	Sputtering	0.2-1.0 keV	Th
H^+ + W	Sputtering	0.2-1.0 keV	Th
D^+ + C	Sputtering	0.2-1.0 keV	Th
D^+ + Fe	Sputtering	0.2-1.0 keV	Th
D^+ + W	Sputtering	0.2-1.0 keV	Th

1461. H. Yamaoka, N. Tanaka, Y. Matsumoto, M. Nishiura, K. Tsumori, S. Takeuchi, H. Sugawara, K. Shinto, A. Okamoto, M. Sasao, M. Wada
Particle reflections of low energy light ions from a vanadium alloy (V-4Cr-4Ti).
J. Nucl. Mater. 363-365, 1304 (2006)

H + Ti	Reflection	0.7-2 keV	E/T
H + V	Reflection	0.7-2 keV	E/T
H + Cr	Reflection	0.7-2 keV	E/T
He + Ti	Reflection	0.7-2 keV	E/T
He + V	Reflection	0.7-2 keV	E/T
He + Cr	Reflection	0.7-2 keV	E/T
O + Ti	Reflection	0.7-2 keV	E/T
O + V	Reflection	0.7-2 keV	E/T
O + Cr	Reflection	0.7-2 keV	E/T

1462. D. M. Duffy, A. M. Rutherford
Including the effects of electronic stopping and electron-ion interactions in radiation damage simulations.
J. Nucl. Mater. 19, 016207 (2007)

Fe^+ + Fe	Surface Interactions	10 keV	Th

1463. A. Jablonski, F. Salvat
Solid state effect in simulations of electron elastic backscattering.
Nucl. Instrum. Methods Phys. Res. B 251, 371 (2006)

e + Al	Reflection	200-1000 eV	Th
e + Cu	Reflection	200-1000 eV	Th
e + Ag	Reflection	200-1000 eV	Th
e + Au	Reflection	200-1000 eV	Th

1464. M. Cholewa, H. O. Moser, L. Huang, S. P. Lau, J. Yoo, S. J. An, G.-C. Yi, G. Xingyu, A.T.S. Wee, A. Bettiol, F. Watt, B. Fischer
Secondary electron emission properties of III-nitride/ZnO coaxial heterostructures under ion and X-ray bombardment.
Nucl. Instrum. Methods Phys. Res. B 254, 55 (2007)

H^+ + CsI	Secondary Electron Emission	2-48 MeV	Exp
H^+ + GaN	Secondary Electron Emission	2-48 MeV	Exp
H^+ + ZnO	Secondary Electron Emission	2-48 MeV	Exp
C^+ + CsI	Secondary Electron Emission	2-48 MeV	Exp
C^+ + GaN	Secondary Electron Emission	2-48 MeV	Exp
C^+ + ZnO	Secondary Electron Emission	2-48 MeV	Exp

1465. M. A. Karolewski
The initial sputtering of Cu(100) by 1 keV O_2 projectiles.
Nucl. Instrum. Methods Phys. Res. B 254, 59 (2007)

${O_2}^+$ + Cu	Sputtering	1 keV	Th

1466. V. I. Shulga
Comparative study of silicon and germanium sputtering by 1-20 keV Ar ions.
Nucl. Instrum. Methods Phys. Res. B 254, 200 (2007)

Ar^+ + Si	Sputtering	1-20 keV	Th
Ar^+ + Ge	Sputtering	1-20 keV	Th

1467. M. Timonova, B.-J. Lee, B. J. Thijsse
Sputter erosion of Si(001) using a new silicon MEAM potential and different thermostats.
Nucl. Instrum. Methods Phys. Res. B 255, 195 (2007)

Ar + Si	Sputtering	500 eV	Th

1468. S. J. Stuart, P. S. Krstic, T. A. Embry, C. O. Reinhold
Methane production by deuterium impact at carbon surfaces.
Nucl. Instrum. Methods Phys. Res. B 255, 202 (2007)

H_2 + C	Chemical Reactions	7.5-60 eV	Th
D_2 + C	Chemical Reactions	7.5-60 eV	Th
H_2 + C	Sputtering	7.5-60 eV	Th
D_2 + C	Sputtering	7.5-60 eV	Th

1469. S. Zimmermann, H. M. Urbassek
Sputtering of Au by cluster impact.
Nucl. Instrum. Methods Phys. Res. B 255, 208 (2007)

Au + Au	Sputtering	0.16-64 keV	Th

1470. T. Muramoto, T. Kenmotsu
MD simulation of sputtering on surface index and surface roughness dependence.
Nucl. Instrum. Methods Phys. Res. B 255, 214 (2007)

Ar + Cu	Sputtering	0.1-5.0 keV	Th
W + W	Sputtering	0.1-5.0 keV	Th

1471. T. Okazawa, K. Shibuya, T. Nishimura, Y. Kido
Charge states of medium energy He ions scattered from single and poly-crystal surfaces.
Nucl. Instrum. Methods Phys. Res. B 256, 1 (2007)

He^+ + Ni	Reflection	80-120 keV	Exp
He^+ + Cu	Reflection	80-120 keV	Exp

1472. D. Valdes, R. C. Monreal, V. A. Esaulov
Hybridization effects on the Auger neutralization process of He^+ on Ag(110) surface.
Nucl. Instrum. Methods Phys. Res. B 256, 6 (2007)

He^+ + Ag	Reflection	1-2 keV	Th
He^+ + Ag	Neutraliz., Ioniz., Dissoc.	1-2 keV	Th

1473. N. V. Novikov, Ya. A. Teplova, V. V. Bondurko
Energy and charge distributions of fast nitrogen ions reflected from metal surface at grazing incidence.
Nucl. Instrum. Methods Phys. Res. B 256, 21 (2007)

N^+ + Pt	Reflection	1 MeV	Th

1474. M. Boudjema, K. Belghanem, R. Zemih, M. Richard-Viard, C. Benazeth
Characteristic velocity of inner-shell charge exchange of low energy Ne ions scattered from a polycrystalline Ni surface.
Nucl. Instrum. Methods Phys. Res. B 256, 30 (2007)

Ne^+ + Ni	Reflection	2-12 keV	Exp
Ne^+ + Ni	Neutraliz., Ioniz., Dissoc.	2-12 keV	Exp

1475. J. C. Lancaster, F. J. Kontur, G. K. Walters, F. B. Dunning
Neutralization of low-energy He^+ ions at a magnesium surface.
Nucl. Instrum. Methods Phys. Res. B 256, 37 (2007)

He^+ + Mg	Reflection	15-60 eV	Exp
He^+ + Mg	Secondary Electron Emission	15-60 eV	Exp
He^+ + Mg	Neutraliz., Ioniz., Dissoc.	15-60 eV	Exp

1476. N. Pauly, A. Dubus, M. Roesler
Backward and forward electron emission induced by helium projectiles incident on thin carbon foils: Influence of charge changing processes.
Nucl. Instrum. Methods Phys. Res. B 256, 41 (2007)

He + C	Secondary Electron Emission	0.2-2.0 MeV	Th
He^+ + C	Secondary Electron Emission	0.2-2.0 MeV	Th
He^{2+} + C	Secondary Electron Emission	0.2-2.0 MeV	Th

1477. H. R. Dunham, S. Wethekam, J. C. Lancaster, F. B. Dunning
Ionization of xenon Rydberg atoms at Si(100) surfaces.
Nucl. Instrum. Methods Phys. Res. B 256, 46 (2007)

Xe + Si	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp
Xe + Si	Sputtering	300 deg K	Exp

1478. Z. L. Miskovic, Y.-N. Wang, Y.-H. Song
Dynamics of fast molecular ions in solids and plasmas: A review of recent theoretical developments.
Nucl. Instrum. Methods Phys. Res. B 256, 57 (2007)

$N_2{}^+$ + C	Secondary Electron Emission		Th

1479. M. Kato, R. Souda
Elastic and inelastic collision of low energy proton scattering from rare gas solids.
Nucl. Instrum. Methods Phys. Res. B 256, 71 (2007)

$\mathbf{H^+ + Ar}$	Reflection	50-500 eV	E/T
$\mathbf{H^+ + Kr}$	Reflection	50-500 eV	E/T
$\mathbf{H^+ + Xe}$	Reflection	50-500 eV	E/T

1480. J. A. Scheer, P. Wahlstroem, P. Wurz
Scattering of light molecules from Al_2O_3 surfaces.
Nucl. Instrum. Methods Phys. Res. B 256, 76 (2007)

$\mathbf{He^+ + Al_2O_3}$	Reflection	390-1210 eV	Exp
$\mathbf{C^+ + Al_2O_3}$	Reflection	390-1210 eV	Exp
$\mathbf{O^+ + Al_2O_3}$	Reflection	390-1210 eV	Exp
$\mathbf{Ne^+ + Al_2O_3}$	Reflection	390-1210 eV	Exp
$\mathbf{H_2{}^+ + Al_2O_3}$	Reflection	390-1210 eV	Exp

1481. N. Bundaleski, G. Gligoric, N. Ivanovic, Z. Ristic
Inelastic energy losses of He^+ ions singly scattered from polycrystalline chromium.
Nucl. Instrum. Methods Phys. Res. B 256, 86 (2007)

$\mathbf{He^+ + Cr}$	Reflection	0.7-2.0 keV	Exp
$\mathbf{He^+ + Cr}$	Neutraliz., Ioniz., Dissoc.	0.7-2.0 keV	Exp

1482. S.-I. Kitazawa, S. Yamamoto, M. Asano, Y. Saitoh, S. Ishiyama
Radiation-induced luminescence from TiO_2 by 10, 20 and 30 keV oxygen ion irradiations.
Nucl. Instrum. Methods Phys. Res. B 256, 233 (2007)

$\mathbf{O^+ + TiO_2}$	Surface Interactions	10-30 keV	Exp

1483. M. Kumar, S. A. Khan, F. Singh, A. Tripathi, D. K. Avasthi, A. C. Pandey
Influence of grain size on electronic sputtering of LiF thin films.
Nucl. Instrum. Methods Phys. Res. B 256, 328 (2007)

$\mathbf{Ag^{25+} + LiF}$	Sputtering	120 MeV	Exp

1484. N. Matsunami, M. Sataka, S. Okayasu, M. Tazawa
Electronic sputtering of nitrides by high-energy ions.
Nucl. Instrum. Methods Phys. Res. B 256, 333 (2007)

$\mathbf{Cl^+ + Al_2O_3}$	Sputtering	55-200 MeV	Exp
$\mathbf{Cl^+ + Si_3N_4}$	Sputtering	55-200 MeV	Exp
$\mathbf{Cl^+ + TiO_2}$	Sputtering	55-200 MeV	Exp
$\mathbf{Cl^+ + SiO_2}$	Sputtering	55-200 MeV	Exp
$\mathbf{Cl^+ + SrTiO_3}$	Sputtering	55-200 MeV	Exp
$\mathbf{Cl^+ + MgO}$	Sputtering	55-200 MeV	Exp
$\mathbf{Cl^+ + ZrO_2}$	Sputtering	55-200 MeV	Exp
$\mathbf{Cl^+ + AlN}$	Sputtering	55-200 MeV	Exp
$\mathbf{Cl^+ + CeO_2}$	Sputtering	55-200 MeV	Exp
$\mathbf{Cl^+ + ZnO}$	Sputtering	55-200 MeV	Exp
$\mathbf{Cl^+ + Y_2O_3}$	Sputtering	55-200 MeV	Exp
$\mathbf{Cl^+ + MgAl_2O_4}$	Sputtering	55-200 MeV	Exp
$\mathbf{Ar^+ + Al_2O_3}$	Sputtering	55-200 MeV	Exp
$\mathbf{Ar^+ + Si_3N_4}$	Sputtering	55-200 MeV	Exp
$\mathbf{Ar^+ + TiO_2}$	Sputtering	55-200 MeV	Exp

$Ar^+ + SiO_2$	Sputtering	55-200 MeV	Exp
$Ar^+ + SrTiO_3$	Sputtering	55-200 MeV	Exp
$Ar^+ + MgO$	Sputtering	55-200 MeV	Exp
$Ar^+ + ZrO_2$	Sputtering	55-200 MeV	Exp
$Ar^+ + AlN$	Sputtering	55-200 MeV	Exp
$Ar^+ + CeO_2$	Sputtering	55-200 MeV	Exp
$Ar^+ + ZnO$	Sputtering	55-200 MeV	Exp
$Ar^+ + Y_2O_3$	Sputtering	55-200 MeV	Exp
$Ar^+ + MgAl_2O_4$	Sputtering	55-200 MeV	Exp
$Ni^+ + Al_2O_3$	Sputtering	55-200 MeV	Exp
$Ni^+ + Si_3N_4$	Sputtering	55-200 MeV	Exp
$Ni^+ + TiO_2$	Sputtering	55-200 MeV	Exp
$Ni^+ + SiO_2$	Sputtering	55-200 MeV	Exp
$Ni^+ + SrTiO_3$	Sputtering	55-200 MeV	Exp
$Ni^+ + MgO$	Sputtering	55-200 MeV	Exp
$Ni^+ + ZrO_2$	Sputtering	55-200 MeV	Exp
$Ni^+ + AlN$	Sputtering	55-200 MeV	Exp
$Ni^+ + CeO_2$	Sputtering	55-200 MeV	Exp
$Ni^+ + ZnO$	Sputtering	55-200 MeV	Exp
$Ni^+ + Y_2O_3$	Sputtering	55-200 MeV	Exp
$Ni^+ + MgAl_2O_4$	Sputtering	55-200 MeV	Exp
$Xe^+ + Al_2O_3$	Sputtering	55-200 MeV	Exp
$Xe^+ + Si_3N_4$	Sputtering	55-200 MeV	Exp
$Xe^+ + TiO_2$	Sputtering	55-200 MeV	Exp
$Xe^+ + SiO_2$	Sputtering	55-200 MeV	Exp
$Xe^+ + SrTiO_3$	Sputtering	55-200 MeV	Exp
$Xe^+ + MgO$	Sputtering	55-200 MeV	Exp
$Xe^+ + ZrO_2$	Sputtering	55-200 MeV	Exp
$Xe^+ + AlN$	Sputtering	55-200 MeV	Exp
$Xe^+ + CeO_2$	Sputtering	55-200 MeV	Exp
$Xe^+ + ZnO$	Sputtering	55-200 MeV	Exp
$Xe^+ + Y_2O_3$	Sputtering	55-200 MeV	Exp
$Xe^+ + MgAl_2O_4$	Sputtering	55-200 MeV	Exp

1485. E. B. Boyko, A. S. Kamyshan, F. F. Komarov, A. E. Lagutin
Interaction of fast hydrogen ions with silicon surface at glancing angles of incidence.
Nucl. Instrum. Methods Phys. Res. B 256, 359 (2007)

$H^+ + Si$	Sputtering	380 keV	Exp

1486. A. M. Borisov, E. S. Mashkova, A. S. Nemov, Yu. S. Virgiliev
Sputtering of HOPG under high-dose ion irradiation.
Nucl. Instrum. Methods Phys. Res. B 256, 363 (2007)

$N_2{}^+ + C$	Sputtering	30 keV	Exp

1487. HP. Winter, F. Aumayr, C. Lemell, J. Burgdorfer, S. Lederer, H. Winter
Kinetic electron emission by grazing atom scattering from clean flat metal surfaces.
Nucl. Instrum. Methods Phys. Res. B 256, 455 (2007)

He + Al	Secondary Electron Emission	3-16 keV	Exp
Ne + Al	Secondary Electron Emission	3-16 keV	Exp
Ar + Al	Secondary Electron Emission	3-16 keV	Exp

1488. E. Sideras-Haddad, T. Schenkel, D. B. Rebuli, A. Persaud, S. Shrivastava, D. H. Schneider, B. Mwakikunga

Electron emission and defect formation in the interaction of slow, highly charged ions with diamond surfaces.
Nucl. Instrum. Methods Phys. Res. B 256, 464 (2007)

$\mathbf{P^{5+–13+} + C}$	Secondary Electron Emission	35-400 keV	Exp
$\mathbf{Xe^{34+–44+} + C}$	Secondary Electron Emission	35-400 keV	Exp

1489. M. Commisso, M. Minniti, A. Sindona, A. Bonanno, A. Oliva, R. A. Baragiola, P. Riccardi
The role of atomic collisions in kinetic electron emission from Al surfaces by slow ions.
Nucl. Instrum. Methods Phys. Res. B 256, 474 (2007)

$\mathbf{Na^{+} + Al}$	Secondary Electron Emission	474 keV	Th
$\mathbf{Kr^{+} + Al}$	Secondary Electron Emission	474 keV	Th

1490. A. Dubus, N. Pauly, M. Roesler
Electron transport effects in ion induced electron emission.
Nucl. Instrum. Methods Phys. Res. B 256, 478 (2007)

$\mathbf{H^{+} + Al}$	Secondary Electron Emission	25-3000 keV	Th

1491. P. Iza, L. S. Farenzena, E. F. da Silveira
Effects of projectile track charging on the H^- secondary ion velocity distribution.
Nucl. Instrum. Methods Phys. Res. B 256, 483 (2007)

$\mathbf{N^{+} + H_2O}$	Sputtering	1.7 MeV	E/T

1492. T. S. Wang, Y. T. Zhao, H. B. Peng, S. W. Wang, Y. Fang, D. J. Ding, G. Q. Xiao
Potential sputtering of target ions by Ar^{q+}, Pb^{q+} projectiles from a silicon surface.
Nucl. Instrum. Methods Phys. Res. B 256, 497 (2007)

$\mathbf{Ar^{+} + Si}$	Sputtering	160-400 keV	Exp
$\mathbf{Ar^{11+} + Si}$	Sputtering	160-400 keV	Exp
$\mathbf{Ar^{13+} + Si}$	Sputtering	160-400 keV	Exp
$\mathbf{Ar^{15+} + Si}$	Sputtering	160-400 keV	Exp
$\mathbf{Ar^{16+} + Si}$	Sputtering	160-400 keV	Exp
$\mathbf{Pb^{4+} + Si}$	Sputtering	160-400 keV	Exp
$\mathbf{Pb^{20+} + Si}$	Sputtering	160-400 keV	Exp
$\mathbf{Pb^{24+} + Si}$	Sputtering	160-400 keV	Exp
$\mathbf{Pb^{30+} + Si}$	Sputtering	160-400 keV	Exp
$\mathbf{Pb^{32+} + Si}$	Sputtering	160-400 keV	Exp
$\mathbf{Pb^{35+} + Si}$	Sputtering	160-400 keV	Exp

1493. V. V. Bobkov, S. P. Gokov, V. V. Gritsyna, V. T. Gritsyna, D. I. Shevchenko, S. S. Alimov
Mechanisms of formation of sputtered particles in excited states at Ar^+ ion bombardment of oxide targets.
Nucl. Instrum. Methods Phys. Res. B 256, 501 (2007)

$\mathbf{Ar^{+} + Al_2O_3}$	Sputtering	20 keV	Exp
$\mathbf{Ar^{+} + MgO}$	Sputtering	20 keV	Exp

1494. G. Lanzano, E. De Filippo, S. Hagmann, H. Rothard, C. Volant
In-flight emission of projectile Auger electrons from highly energetic heavy ions (20 MeV/u ¡ E ¡ 100 MeV/u) colliding with carbon foils.
Nucl. Instrum. Methods Phys. Res. B 256, 510 (2007)

$\mathbf{Ni^{14+} + C}$	Secondary Electron Emission	20-100 MeV/u	Exp
$\mathbf{Ni^{19+} + C}$	Secondary Electron Emission	20-100 MeV/u	Exp
$\mathbf{Kr^{32+} + C}$	Secondary Electron Emission	20-100 MeV/u	Exp
$\mathbf{Kr^{34+} + C}$	Secondary Electron Emission	20-100 MeV/u	Exp

1495. N. N. Andrianova, A. M. Borisov, E. S. Mashkova, A. S. Nemov, E. S. Parilis, A. I. Sorokin, Yu. S. Virgiliev
Ion-induced electron emission of glassy carbons.
Nucl. Instrum. Methods Phys. Res. B 256, 515 (2007)

$\mathbf{Ar^{+} + C}$	Secondary Electron Emission	30 keV	Exp
$\mathbf{N_2{}^{+} + C}$	Secondary Electron Emission	30 keV	Exp

1496. W. Meissl, M. C. Simon, J. R. Crespo Lopez-Urrutia, H. Tawara, J. Ullrich, HP. Winter, F. Aumayr
Highly charged ion-induced potential electron emission from clean Au(111): Dependence on the projectile angle of incidence.
Nucl. Instrum. Methods Phys. Res. B 256, 520 (2007)

$\mathbf{Ar^{11+} + Au}$	Secondary Electron Emission	2.2-4.2 keV/amu	Exp
$\mathbf{Ar^{17+} + Au}$	Secondary Electron Emission	2.2-4.2 keV/amu	Exp
$\mathbf{Xe^{26+} + Au}$	Secondary Electron Emission	2.2-4.2 keV/amu	Exp
$\mathbf{Xe^{32+} + Au}$	Secondary Electron Emission	2.2-4.2 keV/amu	Exp
$\mathbf{Xe^{36+} + Au}$	Secondary Electron Emission	2.2-4.2 keV/amu	Exp
$\mathbf{Xe^{40+} + Au}$	Secondary Electron Emission	2.2-4.2 keV/amu	Exp
$\mathbf{Xe^{44+} + Au}$	Secondary Electron Emission	2.2-4.2 keV/amu	Exp
$\mathbf{Xe^{48+} + Au}$	Secondary Electron Emission	2.2-4.2 keV/amu	Exp
$\mathbf{Xe^{50+} + Au}$	Secondary Electron Emission	2.2-4.2 keV/amu	Exp

1497. K. Nakajima, S. Yamasaki, M. Suzuki, K. Kimura
Secondary ion emission from a KCl(001) surface by grazing-angle incidence of swift heavy ions.
Nucl. Instrum. Methods Phys. Res. B 256, 524 (2007)

$\mathbf{O^{2+} + KCl}$	Reflection	3 MeV	Exp
$\mathbf{O^{2+} + KCl}$	Sputtering	3 MeV	Exp

1498. H. Ogawa, N. Fujimoto, T. Ohata, M. Nagano, K. Ishii, N. Sakamoto, T. Kaneko
Dependence of secondary electron emission on the emergent angle of 1 MeV/u H^{+}, He^{2+} and Li^{3+} penetrating a thin carbon foil.
Nucl. Instrum. Methods Phys. Res. B 256, 532 (2007)

$\mathbf{H^{+} + C}$	Secondary Electron Emission	1 MeV/amu	Exp
$\mathbf{He^{2+} + C}$	Secondary Electron Emission	1 MeV/amu	Exp
$\mathbf{Li^{3+} + C}$	Secondary Electron Emission	1 MeV/amu	Exp

1499. C. S. Lee, W. Ip, S. H. Liu, G. Y. Hsu, S. Lee
Light emission of sputtered particles induced by ion bombardment on water-enriched molecular ices.
Nucl. Instrum. Methods Phys. Res. B 256, 626 (2007)

$\mathbf{He^{+} + H_2O}$	Reflection	15 keV	Exp
$\mathbf{He^{+} + CH_4}$	Reflection	15 keV	Exp
$\mathbf{He^{+} + NH_3}$	Reflection	15 keV	Exp
$\mathbf{N^{+} + H_2O}$	Reflection	15 keV	Exp
$\mathbf{N^{+} + CH_4}$	Reflection	15 keV	Exp
$\mathbf{N^{+} + NH_3}$	Reflection	15 keV	Exp

$Ar^+ + H_2O$	Reflection	15 keV	Exp
$Ar^+ + CH_4$	Reflection	15 keV	Exp
$Ar^+ + NH_3$	Reflection	15 keV	Exp
${H_3}^+ + H_2O$	Reflection	15 keV	Exp
${H_3}^+ + CH_4$	Reflection	15 keV	Exp
${H_3}^+ + NH_3$	Reflection	15 keV	Exp
${N_2}^+ + H_2O$	Reflection	15 keV	Exp
${N_2}^+ + CH_4$	Reflection	15 keV	Exp
${N_2}^+ + NH_3$	Reflection	15 keV	Exp
$He^+ + H_2O$	Sputtering	15 keV	Exp
$He^+ + CH_4$	Sputtering	15 keV	Exp
$He^+ + NH_3$	Sputtering	15 keV	Exp
$N^+ + H_2O$	Sputtering	15 keV	Exp
$N^+ + CH_4$	Sputtering	15 keV	Exp
$N^+ + NH_3$	Sputtering	15 keV	Exp
$Ar^+ + H_2O$	Sputtering	15 keV	Exp
$Ar^+ + CH_4$	Sputtering	15 keV	Exp
$Ar^+ + NH_3$	Sputtering	15 keV	Exp
${H_3}^+ + H_2O$	Sputtering	15 keV	Exp
${H_3}^+ + CH_4$	Sputtering	15 keV	Exp
${H_3}^+ + NH_3$	Sputtering	15 keV	Exp
${N_2}^+ + H_2O$	Sputtering	15 keV	Exp
${N_2}^+ + CH_4$	Sputtering	15 keV	Exp
${N_2}^+ + NH_3$	Sputtering	15 keV	Exp

1500. R. D. Geil, M. Mendenhall, R. A. Weller, B. R. Rogers
Effects of multiple scattering and surface roughness on medium energy backscattering spectra.
Nucl. Instrum. Methods Phys. Res. B 256, 631 (2007)

$He^+ + Si$	Reflection	270 keV	Th
$He^+ + Ta$	Reflection	270 keV	Th
$He^+ + ZrO_2$	Reflection	270 keV	Th

1501. L. G. Glazov, I. Pazsit
Invariant-embedding and cognate kinetic descriptions of particle reflection/emission from surfaces.
Nucl. Instrum. Methods Phys. Res. B 256, 638 (2007)

e + Au	Reflection	100-4000 eV	Th

1502. A. Sindona, S. A. Rudi, S. Maletta, R. A. Baragiola, G. Falcone, P. Riccardi
Fermi edge singularities in ion-induced electron emission from plane metal surfaces.
Nucl. Instrum. Methods Phys. Res. B 257, 438 (2007)

$Ar^+ + Al$	Secondary Electron Emission	130-1000 eV	Th

1503. D. Emfietzoglou, H. Nikjoo, A. Pathak, N. Sathish
A comparison of secondary electron spectra from proton-impact ionization on water in the liquid and solid phases.
Nucl. Instrum. Methods Phys. Res. B 257, 609 (2007)

$H^+ + H_2O$	Secondary Electron Emission	1 MeV	Th

1504. M. Minniti, M. Commisso, A. Sindona, P. Barone, A. Bonanno, A. Oliva, P. Riccardi
The role of Al-Auger electrons in kinetic electron emission from Al surfaces by slow Ne^+ and Na^+ ions.
Nucl. Instrum. Methods Phys. Res. B 257, 618 (2007)

$Ne^+ + Al$	Secondary Electron Emission	1.0-10 keV	Exp
$Na^+ + Al$	Secondary Electron Emission	1.0-10 keV	Exp

1505. Q. Ran, D. Matsiev, D. J. Auerbach, A. M. Wodtke
Direct translation-to-vibrational energy transfer of HCl on gold: Measurement of absolute vibrational excitation probabilities.
Nucl. Instrum. Methods Phys. Res. B 258, 1 (2007)

HCl + Au	Reflection	0.59-1.37 eV	Exp

1506. S. Wethekam, H. Winter
Study on interactions of He atoms and ions with an Al(111) surface.
Nucl. Instrum. Methods Phys. Res. B 258, 7 (2007)

He + Al	Reflection	0-20 keV	Exp
$He^+ + Al$	Reflection	0-20 keV	Exp

1507. P. Rousseau, H. Khemliche, P. Roncin
Auger rates on NaCl(001), effect of the final state and modeling via an effective length.
Nucl. Instrum. Methods Phys. Res. B 258, 13 (2007)

$He^+ + NaCl$	Reflection	1000 eV	Exp
$F^+ + NaCl$	Reflection	1000 eV	Exp
$Ne^+ + NaCl$	Reflection	1000 eV	Exp
$He^+ + NaCl$	Neutraliz., Ioniz., Dissoc.	1000 eV	Exp
$F^+ + NaCl$	Neutraliz., Ioniz., Dissoc.	1000 eV	Exp
$Ne^+ + NaCl$	Neutraliz., Ioniz., Dissoc.	1000 eV	Exp

1508. S. N. Markin, D. Primetzhofer, J. E. Valdes, E. Taglauer, P. Bauer
Neutralization of low energy He^+ ions by Cu in the Auger regime.
Nucl. Instrum. Methods Phys. Res. B 258, 18 (2007)

$He^+ + Cu$	Reflection	1.9-3.0 keV	Exp
$He^+ + Cu$	Neutraliz., Ioniz., Dissoc.	1.9-3.0 keV	Exp

1509. M. S. Gravielle, J. E. Miraglia
Axial grazing collisions with insulator surfaces.
Nucl. Instrum. Methods Phys. Res. B 258, 21 (2007)

$H^+ + LiF$	Reflection	100 keV	Th
$H^+ + LiF$	Secondary Electron Emission	100 keV	Th

1510. M. Kato, R. Souda
Energy spectrum shape of low energy ion scattering from insulators and its similarity to asymmetric spectrum shape observed in core level XPS from metals.
Nucl. Instrum. Methods Phys. Res. B 258, 28 (2007)

$H^+ + Ar$	Reflection	500 eV	Th

1511. S. P. Chenakin, R. Kolarova, S. N. Markin, D. Primetzhofer, P. Bauer
Influence of screening and electronic stopping on LEIS spectra.
Nucl. Instrum. Methods Phys. Res. B 258, 32 (2007)

$He^+ + Cu$	Reflecion	1-100 keV	Th

1512. D. Primetzhofer, S. N. Markin, R. Kolarova, M. Draxler, R. Beikler, E. Taglauer, P. Bauer
On the surface sensitivity of angular scans in LEIS.
Nucl. Instrum. Methods Phys. Res. B 258, 36 (2007)

He^+ + Cu	Reflection	1.8-88.0 keV	Exp

1513. K. Khalal-Kouache, A. C. Chami, M. Boudjema, C. Benazeth
Monte Carlo simulation of charge exchange processes in the scattering of 4 keV He^+ ions by an amorphous silicon surface.
Nucl. Instrum. Methods Phys. Res. B 258, 40 (2007)

He^+ + Si	Reflection	4 keV	Th

1514. R. Sandoval, F. A. Gutierrez, H. Jouin
Surface-plasmon-assisted electron capture in H^+/Mg and H^+/Al collisions.
Nucl. Instrum. Methods Phys. Res. B 258, 44 (2007)

H^+ + Mg	Reflection		Th
H^+ + Al	Reflection		Th
H^+ + Mg	Neutraliz., Ioniz., Dissoc.		Th
H^+ + Al	Neutraliz., Ioniz., Dissoc.		Th

1515. S. Wethekam, H. Winter
Effect of thermal vibrations and their correlations on grazing scattering of atoms from crystal surfaces.
Nucl. Instrum. Methods Phys. Res. B 258, 48 (2007)

He + Al	Reflection		Th

1516. F. B. Dunning, S. Wethekam, H. R. Dunham, J. C. Lancaster
Charge transfer rates for xenon Rydberg atoms at metal and semiconductor surfaces.
Nucl. Instrum. Methods Phys. Res. B 258, 61 (2007)

Xe + Au	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp

1517. S. Lederer, H. Winter, HP. Winter
Energy loss and electron emission during grazing scattering of fast noble gas atoms from an Al(111) surface.
Nucl. Instrum. Methods Phys. Res. B 258, 87 (2007)

He + Al	Reflection	1.2-12 keV	Th
Ne + Al	Reflection	1.2-12 keV	Th
Ar + Al	Reflection	1.2-12 keV	Th
He + Al	Secondary Electron Emission	1.2-12 keV	Th
Ne + Al	Secondary Electron Emission	1.2-12 keV	Th
Ar + Al	Secondary Electron Emission	1.2-12 keV	Th

1518. H. Rothard, R. Moshammer, J. Ullrich, H. Kollmus, R. Mann, S. Hagmann, T.J.M. Zouros
Differential multi-electron emission induced by swift highly charged gold ions penetrating carbon foils.
Nucl. Instrum. Methods Phys. Res. B 258, 91 (2007)

Au^{24+} + Al	Secondary Electron Emission	11 MeV/u	Exp

1519. M. Minniti, M. Commisso, A. Sindona, A. Bonanno, A. Oliva, P. Riccardi
Electron emission in the interaction of 300 eV Na^+ ions with Al surfaces.
Nucl. Instrum. Methods Phys. Res. B 258, 96 (2007)

Na^+ + Al	Secondary Electron Emission	300 eV	Exp

1520. F. Haranger, Ph. Boduch, H. Lebius, L. Maunoury, H. Rothard, B. Ban-d'Etat
Electron yields from uranium dioxide under impact of slow Xe ions.
Nucl. Instrum. Methods Phys. Res. B 258, 99 (2007)

$\mathbf{Xe^{10+} + UO_2}$	Secondary Electron Emission	0.03-81 keV	Exp
$\mathbf{Xe^{15+} + UO_2}$	Secondary Electron Emission	0.03-81 keV	Exp
$\mathbf{Xe^{25+} + UO_2}$	Secondary Electron Emission	0.03-81 keV	Exp
$\mathbf{Xe^{10+} + UO_2}$	Sputtering	0.03-81 keV	Exp
$\mathbf{Xe^{15+} + UO_2}$	Sputtering	0.03-81 keV	Exp
$\mathbf{Xe^{25+} + UO_2}$	Sputtering	0.03-81 keV	Exp

1521. F. J. Kontur, J. C. Lancaster, F. B. Dunning
Electron ejection by He^+ ion impact at rare-gas films: Energy- and spin-resolved studies.
Nucl. Instrum. Methods Phys. Res. B 258, 104 (2007)

$\mathbf{He^{+} + Ar}$	Secondary Electron Emission	10-500 eV	Exp
$\mathbf{He^{+} + Kr}$	Secondary Electron Emission	10-500 eV	Exp
$\mathbf{He^{+} + Xe}$	Secondary Electron Emission	10-500 eV	Exp

1522. A. M. Borisov, E. S. Mashkova
Ion beam-induced electron emission from carbon-based materials.
Nucl. Instrum. Methods Phys. Res. B 258, 109 (2007)

$\mathbf{N_2{}^{+} + C}$	Secondary Electron Emission	30 keV	Exp

1523. Y. Zhao, G. Xiao, X. Zhang, Z. Yang, Y. Zhang, W. Zhan, X. Chen, F. Li
X-ray emission of hollow atoms formed by highly charged argon and xenon ions below a beryllium surface.
Nucl. Instrum. Methods Phys. Res. B 258, 121 (2007)

$\mathbf{Ar^{16+–18+} + Be}$	Surface Interactions	204-450 keV	Exp
$\mathbf{Xe^{28+–30+} + Be}$	Surface Interactions	204-450 keV	Exp
$\mathbf{Ar^{16+–18+} + Be}$	Neutraliz., Ioniz., Dissoc.	204-450 keV	Exp
$\mathbf{Xe^{28+–30+} + Be}$	Neutraliz., Ioniz., Dissoc.	204-450 keV	Exp

1524. M. Unipan, A. Robin, R. Morgenstern, R. Hoekstra
Investigation of spin-polarized surfaces with multiple electron capture spectroscopy.
Nucl. Instrum. Methods Phys. Res. B 258, 125 (2007)

$\mathbf{He^{2+} + Fe}$	Secondary Electron Emission	100 eV	Exp
$\mathbf{He^{2+} + Ni}$	Secondary Electron Emission	100 eV	Exp

1525. B. Solleder, C. Lemell, K. Tokesi, J. Burgdorfer
Electron emission by N^{6+} ions scattered at a magnetized iron surface.
Nucl. Instrum. Methods Phys. Res. B 258, 130 (2007)

$\mathbf{N^{6+} + Ni}$	Secondary Electron Emission		Th

1526. M. Tona, H. Watanabe, S. Takahashi, N. Nakamura, N. Yoshiyasu, M. Sakurai, C. Yamada, S. Ohtani
Potential sputtering from a Si surface by very highly charged ion impact.
Nucl. Instrum. Methods Phys. Res. B 258, 163 (2007)

$\mathbf{I^{50+} + Si}$	Sputtering	150 keV	Exp
$\mathbf{I^{50+} + SiO_2}$	Sputtering	150 keV	Exp

1527. Y. Sakuma, N. Shinde, M. Kato, S. Yagi, K. Soda
Effect of residual oxygen in Si(111)-7 x 7 surface on Si^+ and Si^{2+} sputter yields.
Nucl. Instrum. Methods Phys. Res. B 258, 230 (2007)

Ar + Si	Sputtering	11 keV	Exp

1528. F. W. Meyer, H. Zhang, L. I. Vergara, H. F. Krause
Chemical sputtering of room temperature ATJ graphite and HOPG by slow atomic and molecular D ions.
Nucl. Instrum. Methods Phys. Res. B 258, 264 (2007)

H^+ + C	Sputtering	5-300 eV	Exp
$H_2{}^+$ + C	Sputtering	5-300 eV	Exp
$H_3{}^+$ + C	Sputtering	5-300 eV	Exp
D^+ + C	Sputtering	5-300 eV	Exp
$D_2{}^+$ + C	Sputtering	5-300 eV	Exp
$D_3{}^+$ + C	Sputtering	5-300 eV	Exp

1529. M. Reinelt, Ch. Linsmeier
Enhanced room temperature erosion of ultra-thin carbon films on beryllium, titanium and tantalum by deuterium ions.
Nucl. Instrum. Methods Phys. Res. B 258, 270 (2007)

$H_3{}^+$ + C	Sputtering	1-1.3 eV	Exp
$D_3{}^+$ + C	Sputtering	1-1.3 eV	Exp

1530. C. O. Reinhold, P. S. Krstic, S. J. Stuart
Time scales of chemical sputtering of carbon.
Nucl. Instrum. Methods Phys. Res. B 258, 274 (2007)

H + C	Sputtering	7.5-60 eV	Exp
H_2 + C	Sputtering	7.5-60 eV	Exp
D + C	Sputtering	7.5-60 eV	Exp
D_2 + C	Sputtering	7.5-60 eV	Exp

1531. W. Schustereder, B. Rasul, N. Endstrasser, F. Zappa, V. Grill, P. Scheier, T. D. Maerk
Sticking coefficient and SIMS of hydrocarbons on fusion relevant plasma-sprayed tungsten surfaces.
Nucl. Instrum. Methods Phys. Res. B 258, 278 (2007)

$CH_3{}^+$ + W	Adsorption, Desorption	0-100 eV	Exp
$CD_3{}^+$ + W	Adsorption, Desorption	0-100 eV	Exp

1532. A. Lawicki, B. Pranszke, A. Kowalski, Ch. Ottinger
Balmer line emission from low-energy impact of H^+, $H_2{}^+$ and $H_3{}^+$ ions in a beam on a tungsten surface.
Nucl. Instrum. Methods Phys. Res. B 259, 861 (2007)

H^+ + W	Reflection	30-1000 eV	Exp
$H_2{}^+$ + W	Reflection	30-1000 eV	Exp
$H_3{}^+$ + W	Reflection	30-1000 eV	Exp

1533. A. Hentz, G. S. Parkinson, A. J. Window, P. D. Quinn, D. P. Woodruff, P. L. Grande, G. Schiwietz, P. Bailey, T.C.Q. Noakes
Inelastic energy loss in 100-keV H^+ scattering from single atoms: Theory and experiment for K, Rb, and Cs.
Phys. Rev. B 74, 125408 (2006)

$\mathbf{H^+ + K}$	Reflection	100 keV	E/T
$\mathbf{H^+ + Rb}$	Reflection	100 keV	E/T
$\mathbf{H^+ + Cs}$	Reflection	100 keV	E/T

1534. A. Sarasola, V. M. Silkin, A. Arnau
Role of surface states in Auger neutralization of He^+ ions on Ag surfaces.
Phys. Rev. B 75, 045104 (2007)

$\mathbf{He^+ + Ag}$	Reflection		E/T
$\mathbf{He^+ + Ag}$	Neutraliz., Ioniz., Dissoc.		E/T

1535. M. Minniti, M. Commisso, A. Sindona, E. Sicilia, A. Bonanno, P. Barone, R. A. Baragiola, P. Riccardi
Kinetic electron emission from Al surfaces by slow ions.
Phys. Rev. B 75, 045424 (2007)

$\mathbf{Na^+ + Al}$	Secondary Electron Emission	150-4000 eV	Exp
$\mathbf{Na^+ + Al}$	Neutraliz., Ioniz., Dissoc.	150-4000 eV	Exp

1536. M. Fama, B. D. Teolis, D. A. Bahr, R. A. Baragiola
Role of electron capture in ion-induced electronic sputtering of insulators.
Phys. Rev. B 75, 100101 (2007)

$\mathbf{H^+ + O_2}$	Sputtering	25-240 keV	Exp

1537. D. Valdes, J. M. Blanco, V. A. Esaulov, R. C. Monreal
Azimuth-dependent Auger neutralization of He^+ on Ag(111) and (110) surfaces.
Phys. Rev. B 75, 165404 (2007)

$\mathbf{He^+ + Ag}$	Reflection	4 keV	Th
$\mathbf{He^+ + Ag}$	Neutraliz., Ioniz., Dissoc.	4 keV	Th

1538. Y. Hatano, A. Livshits, A. Busnyuk, M. Nomura, K. Hasizume, M. Sugisaki, Y. Nakamura, N. Ohyabu, K. Watanabe
Kinetics of dissociative absorption of hydrogen through Nb surface covered by oxygen.
Phys. Scr. T108, 14 (2004)

$\mathbf{H_2 + Nb}$	Adsorption, Desorption		Exp

1539. V. Kh. Alimov
Deuterium retention in pure and mixed plasma facing materials.
Phys. Scr. T108, 46 (2004)

$\mathbf{H^+ + Be}$	Chemical Reactions	3-10 keV	Exp
$\mathbf{H^+ + C}$	Chemical Reactions	3-10 keV	Exp
$\mathbf{H^+ + BeO}$	Chemical Reactions	3-10 keV	Exp
$\mathbf{H^+ + WO_3}$	Chemical Reactions	3-10 keV	Exp
$\mathbf{H^+ + WC}$	Chemical Reactions	3-10 keV	Exp
$\mathbf{D^+ + Be}$	Chemical Reactions	3-10 keV	Exp
$\mathbf{D^+ + C}$	Chemical Reactions	3-10 keV	Exp
$\mathbf{D^+ + BeO}$	Chemical Reactions	3-10 keV	Exp
$\mathbf{D^+ + WO_3}$	Chemical Reactions	3-10 keV	Exp
$\mathbf{D^+ + WC}$	Chemical Reactions	3-10 keV	Exp
$\mathbf{H^+ + Be}$	Trapping, Detrapping	3-10 keV	Exp
$\mathbf{H^+ + C}$	Trapping, Detrapping	3-10 keV	Exp
$\mathbf{H^+ + BeO}$	Trapping, Detrapping	3-10 keV	Exp

$\mathbf{H^+ + WO_3}$	Trapping, Detrapping	3-10 keV	Exp
$\mathbf{H^+ + WC}$	Trapping, Detrapping	3-10 keV	Exp
$\mathbf{D^+ + Be}$	Trapping, Detrapping	3-10 keV	Exp
$\mathbf{D^+ + C}$	Trapping, Detrapping	3-10 keV	Exp
$\mathbf{D^+ + BeO}$	Trapping, Detrapping	3-10 keV	Exp
$\mathbf{D^+ + WO_3}$	Trapping, Detrapping	3-10 keV	Exp
$\mathbf{D^+ + WC}$	Trapping, Detrapping	3-10 keV	Exp

1540. L. Begrambekov, O. Buzhinsky, A. Gordeev, E. Miljaeva, P. Leitkin, P. Shigin
TDS investigation of hydrogen retention in graphites and carbon based materials.
Phys. Scr. T108, 72 (2004)

$\mathbf{H_2{}^+ + C}$	Trapping, Detrapping	200 eV	Exp

1541. T. M. Orlando, D. Oh, M. T. Sieger, C. D. Lane
Electron collisions with complex targets: Diffraction effects in stimulated desorption.
Phys. Scr. T110, 256 (2004)

e + Si	Desorption	20-30 eV	Exp
e + Cl	Desorption	20-30 eV	Exp
e + Cl + Si	Desorption	20-30 eV	Exp

1542. M. T. Suter, P. U. Andersson, J.B.C. Pettersson
Molecular beam studies of carbon monoxide interactions with water ice.
Phys. Scr. T110, 350 (2004)

$\mathbf{CO + H_2O}$	Desorption	0.1-0.9 eV	Exp
$\mathbf{CO + H_2O}$	Reflection	0.1-0.9 eV	Exp

1543. B. Ban-d'Etat, F. Haranger, Ph. Boduch, S. Bouffard, H. Lebius, L. Maunoury, J. Y. Pacquet, H. Rothard, C. Clerc, F. Garrido, L. Thome, R. Hellhammer, Z. Pesic, N. Stolterfoht
Potential and kinematic sputtering of UO_2 by slow highly charged ions.
Phys. Scr. T110, 389 (2004)

$\mathbf{Xe^{10+} + UO_2}$	Sputtering	8-81 keV	Exp
$\mathbf{Xe^{15+} + UO_2}$	Sputtering	8-81 keV	Exp
$\mathbf{Xe^{25+} + UO_2}$	Sputtering	8-81 keV	Exp

1544. C. Diaz, H. F. Busnengo, P. Riviere, F. Martin, A. Salin, P. Nieto, D. Farias
Theoretical and experimental study of the scattering of H_2 from Pd(111).
Phys. Scr. T110, 394 (2004)

$\mathbf{H_2 + Pd}$	Reflection	100-150 MeV	E/T

1545. M. S. Gravielle
Grazing ion-surface collisions.
Phys. Scr. T110, 398 (2004)

$\mathbf{H^+ + Al}$	Secondary Electron Emission	100 keV	Exp

1546. F. W. Meyer, H. F. Krause, V. A. Morozov, C. R. Vane, L. I. Vergara
Site-specific neutralization of slow multicharged ions incident on solid surfaces.
Phys. Scr. T110, 403 (2004)

$\mathbf{F^{7+} + Au}$	Reflection	4-5 keV	Exp
$\mathbf{F^{7+} + RbI}$	Reflection	4-5 keV	Exp
$\mathbf{Ne^{8+} + Au}$	Reflection	4-5 keV	Exp
$\mathbf{Ne^{8+} + RbI}$	Reflection	4-5 keV	Exp
$\mathbf{Ar^{2+} + Au}$	Reflection	4-5 keV	Exp
$\mathbf{Ar^{2+} + RbI}$	Reflection	4-5 keV	Exp
$\mathbf{Ar^{11+} + Au}$	Reflection	4-5 keV	Exp
$\mathbf{Ar^{11+} + RbI}$	Reflection	4-5 keV	Exp
$\mathbf{F^{7+} + Au}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp
$\mathbf{F^{7+} + RbI}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp
$\mathbf{Ne^{8+} + Au}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp
$\mathbf{Ne^{8+} + RbI}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp
$\mathbf{Ar^{2+} + Au}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp
$\mathbf{Ar^{2+} + RbI}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp
$\mathbf{Ar^{11+} + Au}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp
$\mathbf{Ar^{11+} + RbI}$	Neutraliz., Ioniz., Dissoc.	4-5 keV	Exp

1547. A. A. Haasz, J. W. Davis
Erosion of carbon in dual-beam experiments: An overview.
Phys. Scr. T111, 68 (2004)

$\mathbf{H + C}$	Sputtering	100-300 eV	Exp
$\mathbf{H^{+} + C}$	Sputtering	100-300 eV	Exp
$\mathbf{He^{+} + C}$	Sputtering	100-300 eV	Exp
$\mathbf{C^{+} + C}$	Sputtering	100-300 eV	Exp
$\mathbf{O^{+} + C}$	Sputtering	100-300 eV	Exp
$\mathbf{Ar^{+} + C}$	Sputtering	100-300 eV	Exp
$\mathbf{D^{+} + C}$	Sputtering	100-300 eV	Exp

1548. M. Balden, E. de Juan Pardo, H. Maier, P. Starke, U. Fantz
Chemical erosion behaviour of doped graphites under hydrogen impact: A comparison of ion beam experiments and planar inductively coupled RF plasmas.
Phys. Scr. T111, 123 (2004)

$\mathbf{H^{+} + C}$	Sputtering	30 eV	Exp
$\mathbf{H^{+} + SiC}$	Sputtering	30 eV	Exp
$\mathbf{H^{+} + TiC_4}$	Sputtering	30 eV	Exp
$\mathbf{H^{+} + VC_4}$	Sputtering	30 eV	Exp
$\mathbf{H^{+} + WC_4}$	Sputtering	30 eV	Exp
$\mathbf{H^{+} + ZrC_4}$	Sputtering	30 eV	Exp
$\mathbf{D^{+} + C}$	Sputtering	30 eV	Exp
$\mathbf{D^{+} + SiC}$	Sputtering	30 eV	Exp
$\mathbf{D^{+} + TiC_4}$	Sputtering	30 eV	Exp
$\mathbf{D^{+} + VC_4}$	Sputtering	30 eV	Exp
$\mathbf{D^{+} + WC_4}$	Sputtering	30 eV	Exp
$\mathbf{D^{+} + ZrC_4}$	Sputtering	30 eV	Exp

1549. E. Salonen
Overview of the atomistic modeling of the chemical erosion of carbon.
Phys. Scr. T111, 133 (2004)

$\mathbf{H^{+} + C}$	Sputtering	2-5 keV	E/T
$\mathbf{D^{+} + C}$	Sputtering	2-5 keV	E/T

1550. D. A. Alman, D. N. Ruzic
Molecular dynamics simulation of hydrocarbon reflection and dissociation coefficients from fusion-relevant carbon surfaces.
Phys. Scr. T111, 145 (2004)

$C + C$	Reflection	0.01-10 eV	Th
$CH + C$	Reflection	0.01-10 eV	Th
$CH_2 + C$	Reflection	0.01-10 eV	Th
$CH_3 + C$	Reflection	0.01-10 eV	Th
$CH_4 + C$	Reflection	0.01-10 eV	Th
$C_2H_2 + C$	Reflection	0.01-10 eV	Th
$C_2 + C$	Reflection	0.01-10 eV	Th
$C_2H + C$	Reflection	0.01-10 eV	Th
$C_2H_3 + C$	Reflection	0.01-10 eV	Th

1551. W. Jacob, C. Hopf, M. Schlueter
Chemical sputtering of carbon materials due to combined bombardment by ions and atomic hydrogen.
Phys. Scr. T124, 32 (2006)

$H^+ + C$	Sputtering	10-1000 eV	E/T
$He^+ + C$	Sputtering	10-1000 eV	E/T
$Ne^+ + C$	Sputtering	10-1000 eV	E/T
$D^+ + C$	Sputtering	10-1000 eV	E/T
$T^+ + C$	Sputtering	10-1000 eV	E/T

1552. J. Roth
Status of knowledge of chemical erosion of carbon and critical issues for extrapolation to ITER.
Phys. Scr. T124, 37 (2006)

$C + C$	Adsorption, Desorption	$1 - 10^4$ eV	Exp
$CH + C$	Adsorption, Desorption	$1 - 10^4$ eV	Exp
$CH_2 + C$	Adsorption, Desorption	$1 - 10^4$ eV	Exp
$CH_3 + C$	Adsorption, Desorption	$1 - 10^4$ eV	Exp
$CH_4 + C$	Adsorption, Desorption	$1 - 10^4$ eV	Exp
$C_2H_5 + C$	Adsorption, Desorption	$1 - 10^4$ eV	Exp
$C_2H + C$	Adsorption, Desorption	$1 - 10^4$ eV	Exp
$C_2H_3 + C$	Adsorption, Desorption	$1 - 10^4$ eV	Exp
$H^+ + C$	Sputtering	$1 - 10^4$ eV	Exp
$D^+ + C$	Sputtering	$1 - 10^4$ eV	Exp

1553. F. W. Meyer, L. I. Vergara, H. F. Krause
Recent ORNL measurements of chemical sputtering of ATJ graphite by slow atomic and molecular D ions.
Phys. Scr. T124, 44 (2006)

$H^+ + C$	Sputtering	3-13 eV	Exp
$H_2{}^+ + C$	Sputtering	3-13 eV	Exp
$H_3{}^+ + C$	Sputtering	3-13 eV	Exp
$D^+ + C$	Sputtering	3-13 eV	Exp
$D_2{}^+ + C$	Sputtering	3-13 eV	Exp
$D_3{}^+ + C$	Sputtering	3-13 eV	Exp

1554. K. Nordlund
Atomistic simulations of plasma-wall interactions in fusion reactors.
Phys. Scr. T124, 53 (2006)

$H^+ + C$	Sputtering	1-100 eV	Th
$D^+ + C$	Sputtering	1-100 eV	Th

1555. J. Marian, L. A. Zepeda-Ruiz, G. H. Gilmer, E. M. Bringa, T. Rognlien
Simulations of carbon sputtering in amorphous hydrogenated samples.
Phys. Scr. T124, 65 (2006)

$\mathbf{H^+ + C}$	Sputtering	10-150 eV	Th
$\mathbf{D^+ + C}$	Sputtering	10-150 eV	Th
$\mathbf{T^+ + C}$	Sputtering	10-150 eV	Th

1556. V. Kh. Alimov, J. Roth
Hydrogen isotope retention in plasma-facing materials: Review of recent experimental results.
Phys. Scr. T128, 6 (2007)

$\mathbf{H^+ + C}$	Surface Interactions	150-1500 eV	Exp
$\mathbf{H^+ + W}$	Surface Interactions	150-1500 eV	Exp
$\mathbf{D^+ + C}$	Surface Interactions	150-1500 eV	Exp
$\mathbf{D^+ + W}$	Surface Interactions	150-1500 eV	Exp
$\mathbf{H^+ + C}$	Trapping, Detrapping	150-1500 eV	Exp
$\mathbf{H^+ + W}$	Trapping, Detrapping	150-1500 eV	Exp
$\mathbf{D^+ + C}$	Trapping, Detrapping	150-1500 eV	Exp
$\mathbf{D^+ + W}$	Trapping, Detrapping	150-1500 eV	Exp

1557. F. W. Meyer, P. S. Krstic, L. I. Vergara, H. F. Krause, C. O. Reinhold, S. J. Stuart
Low energy chemical sputtering of ATJ graphite by atomic and molecular deuterium ions.
Phys. Scr. T128, 50 (2007)

$\mathbf{H^+ + C}$	Sputtering	5-180 eV	E/T
$\mathbf{H_2{}^+ + C}$	Sputtering	5-180 eV	E/T
$\mathbf{H_3{}^+ + C}$	Sputtering	5-180 eV	E/T
$\mathbf{D^+ + C}$	Sputtering	5-180 eV	E/T
$\mathbf{D_2{}^+ + C}$	Sputtering	5-180 eV	E/T
$\mathbf{D_3{}^+ + C}$	Sputtering	5-180 eV	E/T

1558. K. Heinola, T. Ahlgren, E. Vainonen-Ahlgren, J. Likonen, J. Keinonen
Deuterium irradiation-induced defect concentrations in tungsten.
Phys. Scr. T128, 91 (2007)

$\mathbf{H^+ + W}$	Trapping, Detrapping	5-30 keV	Exp
$\mathbf{D^+ + W}$	Trapping, Detrapping	5-30 keV	Exp

1559. W. M. Shu, A. Kawasuso, Y. Miwa, E. Wakai, G.-N. Luo, T. Yamanishi
Microstructure dependence of deuterium retention and blistering in the near-surface region of tungsten exposed to high flux deuterium plasmas of 38 eV at 315 K.
Phys. Scr. T128, 96 (2007)

$\mathbf{H_2{}^+ + W}$	Trapping, Detrapping	76 eV	Exp
$\mathbf{D_2{}^+ + W}$	Trapping, Detrapping	76 eV	Exp

1560. M. Reinelt, Ch. Linsmeier
Temperature programmed desorption of 1 keV deuterium implanted into clean beryllium.
Phys. Scr. T128, 111 (2007)

$\mathbf{H^+ + Be}$	Trapping, Detrapping	1 keV	Exp
$\mathbf{D^+ + Be}$	Trapping, Detrapping	1 keV	Exp

1561. M. Balden, C. Adelhelm
Characterization and erosion of metal-containing carbon films.
Phys. Scr. T128, 121 (2007)

H_3^+ + C	Sputtering	30-600 eV	Exp
D_3^+ + C	Sputtering	30-600 eV	Exp

1562. K.O.E. Henriksson, K. Voertler, S. Dreissigacker, K. Nordlund, J. Keinonen
Sticking of atomic hydrogen on the tungsten (001) surface.
Surf. Sci. 600, 3167 (2006)

H + W	Adsorption, Desorption	$3x10^{-3} - 10$ eV	Th

1563. S.-G. Wang, D.-B. Cao, Y.-W. Li, J. Wang, H. Jiao
CH_4 dissociation on Ni surfaces: Density functional theory study.
Surf. Sci. 600, 3226 (2006)

CH_4 + Ni	Neutraliz., Ioniz., Dissoc.		Th

1564. I. Nakamura, Y. Kobayashi, H. Hamada, T. Fujitani
Adsorption behavior and reaction properties of NO and CO on Rh (111).
Surf. Sci. 600, 3235 (2006)

CO + Rh	Adsorption, Desorption		E/T
NO + Rh	Adsorption, Desorption		E/T

1565. A. Al-Halabi, P. C. Sanfelix, S. Holloway, G.-J. Kroes, G. R. Darling
Protons colliding with ice: Bouncing, sticking, splashing.
Surf. Sci. 600, 4247 (2006)

H^+ + H_2O	Adsorption, Desorption	0-4 eV	Th
H^+ + H_2O	Desorption	0-4 eV	Th
H^+ + H_2O	Sputtering	0-4 eV	Th

1566. M. Dapor
Energy loss spectra of low primary energy ($E_0 \leq$ 1 keV) electrons backscattered by silicon dioxide.
Surf. Sci. 600, 4728 (2006)

e + SiO_2	Reflection	250-1000 eV	Th

1567. E. Molinari, M. Tomellini
On the role of electron-hole pair excitation in the kinetics of atom recombination at metal surfaces.
Surf. Sci. 601, 1 (2007)

H + Pt	Neutraliz., Ioniz., Dissoc.		Th
H + D + Ni	Neutraliz., Ioniz., Dissoc.		Th
H + D + Pt	Neutraliz., Ioniz., Dissoc.		Th
H^+ + Ni	Neutraliz., Ioniz., Dissoc.		Th
H + Pt	Trapping, Detrapping		Th
H + D + Ni	Trapping, Detrapping		Th
H + D + Pt	Trapping, Detrapping		Th
H^+ + Ni	Trapping, Detrapping		Th

1568. B. Obreshkov, U. Thumm
"Step-up" versus "step-down" scattering asymmetry in the neutralization of H^- on free-electron vicinal metal surfaces.
Surf. Sci. 601, 622 (2007)

H^- + Cu	Reflection	50 eV	Th
H^- + Cu	Neutraliz., Ioniz., Dissoc.	50 eV	Th

1569. A. Sindona, S. A. Rudi, S. Maletta, R. A. Baragiola, G. Falcone, P. Riccardi
Auger electron emission from metals induced by low energy ion bombardment: Effect of the band structure and Fermi edge singularity.
Surf. Sci. 601, 1205 (2007)

$\mathbf{Ar^+ + Al}$	Secondary Electron Emission	130-1000 eV	Th

1570. M. Kurahashi, X. Sun, Y. Yamauchi
Low energy secondary electrons ejected by metastable helium (He*) beam: Observation of He* spin dependence.
Surf. Sci. 601, 1371 (2007)

He + Fe	Secondary Electron Emission		Exp

1571. K. Yamamoto, T. Shibata, N. Ogiwara, M. Kinsho
Secondary electron emission yields from the J-PARC RCS vacuum components.
Vacuum 81, 788 (2007)

e + TiN	Secondary Electron Emission	0.5-5.0 keV	Exp

1572. Suharyanto, S. Michizono, Y. Saito, Y. Yamano, S. Kobayashi
Secondary electron emission of TiN-coated alumina ceramics.
Vacuum 81, 799 (2007)

$\mathbf{e + Al_2O_3}$	Secondary Electron Emission	0.5-5.0 keV	Exp
e + TiN	Secondary Electron Emission	0.5-5.0 keV	Exp

1573. M. Terasawa
Coulomb explosion following electronic excitation in ion-solid interaction.
Vacuum 81, 142 (2006)

$\mathbf{Xe^{15+} + Al}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{15+} + Si}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{15+} + Ni}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{15+} + Cu}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{27+} + Al}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{27+} + Si}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{27+} + Ni}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{27+} + Cu}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{28+} + Al}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{28+} + Si}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{28+} + Ni}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{28+} + Cu}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{31+} + Al}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{31+} + Si}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{31+} + Ni}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{31+} + Cu}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{35+} + Al}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{35+} + Si}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{35+} + Ni}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{35+} + Cu}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{40+} + Al}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{40+} + Si}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{40+} + Ni}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{40+} + Cu}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{44+} + Al}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{44+} + Si}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{44+} + Ni}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp
$\mathbf{Xe^{44+} + Cu}$	Sputtering	300 keV; $80 - 10^4$ keV	Exp

1574. A. A. Almulhem
Calculation of neutral fraction for ion neutralization at metal surfaces by bulk-plasmon excitation.
Vacuum 81, 150 (2006)

$\mathbf{H^+ + Al}$	Neutraliz., Ioniz., Dissoc.	0.1-0.5 keV	Th
$\mathbf{H^+ + Al}$	Sputtering	0.1-0.5 keV	Th

1575. K. Pyszniak, A. Drozdziel, M. Turek, A. Wojtowicz, J. Sielanko
Secondary ion emission from Ti and Si targets induced by medium energy Ar^+ ion bombardment – Experiment and computer simulation.
Vacuum 81, 1145 (2007)

$\mathbf{Ar^+ + Si}$	Sputtering	20-30 keV	E/T
$\mathbf{Ar^+ + Ti}$	Sputtering	20-30 keV	E/T

1576. Lj. D. Nedeljkovic, N. N. Nedeljkovic, D. K. Bozanic
Ionization distances of multiply charged Rydberg ions approaching solid surfaces.
Phys. Rev. A 74, 032901 (2006)

$\mathbf{C^{5+} + Al}$	Neutraliz., Ioniz., Dissoc.	v=10^{-5} - 1 a.u.	Th
$\mathbf{N^{6+} + Al}$	Neutraliz., Ioniz., Dissoc.	v=10^{-5} - 1 a.u.	Th
$\mathbf{O^{7+} + Al}$	Neutraliz., Ioniz., Dissoc.	v=10^{-5} - 1 a.u.	Th
$\mathbf{Ar^{17+} + Al}$	Neutraliz., Ioniz., Dissoc.	v=10^{-5} - 1 a.u.	Th

3.4 Data Collection, Bibliographic and Progress Report

1577. J. Woodall, M. Agundez, A. J. Markwick-Kemper, T. J. Millar
The UMIST database for astrochemistry 2006.
Astron. Astrophys. 466, 1196 (2007)

A + A + Al	Data Collection, Bibliography		Th

3.5 Fusion Research of General Interest

1578. O. Novotny, R. Plasil, A. Pysanenko, I. Korolov, J. Glosik
The recombination of $D_3{}^+$ and $D_5{}^+$ ions with electrons in deuterium containing plasma.
J. Phys. B 39, 2561 (2006)

$\mathbf{e + H_3{}^+ + Al}$	Fusion Research of Gen. Interest	130-300 K	Exp
$\mathbf{e + D_3{}^+ + Al}$	Fusion Research of Gen. Interest	130-300 K	Exp
$\mathbf{e + H_5{}^+ + Al}$	Fusion Research of Gen. Interest	130-300 K	Exp
$\mathbf{e + D_5{}^+ + Al}$	Fusion Research of Gen. Interest	130-300 K	Exp

3.6 Particle Beam-Matter Interactions

1579. M. N. Faraggi, M. S. Gravielle, M. Alducin, J. I. Juaristi, V. M. Silkin
Band-structure-based collisional model for electronic excitations in ion-surface collisions.
Phys. Rev. A 72, 012901 (2005)

$\mathbf{H^+ + Al + Al}$	Part. Beam-Matter Interaction	100 keV	Th

1580. P. L. Grande, A. Hentz, G. Schiwietz, D. Starodub, E. Garfunkel, T. Gustafsson
Observation of collective inner-shell effects for protons backscattered from the Al(110) surface.
Phys. Rev. A 72, 012902 (2005)

$\mathbf{H^+ + Al + Al}$	Part. Beam-Matter Interaction	98 keV	E/T

1581. Y.-H. Song, Y.-N. Wang, Z. L. Miskovic
Vicinage effects in energy loss and electron emission during grazing scattering of heavy molecular ions from a solid surface.
Phys. Rev. A 72, 012903 (2005)

$\mathbf{N_2{}^+ + C + Al}$	Part. Beam-Matter Interaction	100-400 keV/u	Th

1582. G. A. Bocan, J. E. Miraglia
Plasmon decay mechanisms in proton-solid collisions.
Phys. Rev. A 72, 042903 (2005)

$\mathbf{H^+ + Na + Al}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th
$\mathbf{H^+ + Mg + Al}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th
$\mathbf{H^+ + K + Al}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th

1583. O. N. Rosmej, A. Blazevic, S. Korostiy, R. Bock, D.H.H. Hoffmann, S. A. Pikuz Jr., V. P. Efremov, V. E. Fortov, A. Fertman, T. Mutin, T. A. Pikuz, A. Ya. Faenov
Charge state and stopping dynamics of fast heavy ions in dense matter.
Phys. Rev. A 72, 052901 (2005)

$\mathbf{Ca^{15+} + SiO_2 + Al}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp
$\mathbf{Ca^{16+} + SiO_2 + Al}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp
$\mathbf{Ca^{17+} + SiO_2 + Al}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp
$\mathbf{Ca^{18+} + SiO_2 + Al}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp
$\mathbf{Ca^{19+} + SiO_2 + Al}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp

1584. S. Heredia-Avalos, R. Garcia-Molina, J. M. Fernandez-Varea, I. Abril
Calculated energy loss of swift He, Li, B, and N ions in SiO_2, Al_2O_3, **and** ZrO_2**.**
Phys. Rev. A 72, 052902 (2005)

$\mathbf{He^+ + Al_2O_3 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{He^+ + SiO_2 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{He^+ + ZrO_2 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{Li^{2+} + Al_2O_3 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{Li^{2+} + SiO_2 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{Li^{2+} + ZrO_2 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{B^{4+} + Al_2O_3 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{B^{4+} + SiO_2 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{B^{4+} + ZrO_2 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{N^{6+} + Al_2O_3 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{N^{6+} + SiO_2 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{N^{6+} + ZrO_2 + Al}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T

1585. V. P. Shevelko, H. Tawara, O. V. Ivanov, T. Miyoshi, K. Noda, Y. Sato, A. V. Subbotin, I. Yu. Tolstikhina
Target density effects in collisions of fast ions with solid targets.
J. Phys. B 38, 2675 (2005)

$\mathbf{C^{4+–6+} + C + Al}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Ne^{8+–10+} + C + Al}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T

$Mg^{10+-12+}$ + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$Si^{12+-14+}$ + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$Ar^{13+-18+}$ + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$Fe^{19+-26+}$ + C + Al	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T

1586. I. B. Smirnov
Modeling of ionization produced by fast charged particles in gases.
Nucl. Instrum. Methods Phys. Res. A 554, 474 (2005)

e + Ar + Al	Part. Beam-Matter Interaction	$10^2 - 10^5$ eV	E/T

1587. M. Bianconi, N. P. Barradas, L. Correra
The stopping cross-section of aluminum for He ions.
Nucl. Instrum. Methods Phys. Res. B 239, 127 (2005)

He^+ + Al + Al	Part. Beam-Matter Interaction	0.1-3.0 MeV	Exp

1588. C. Pascual-Izarra, N. P. Barradas, G. Garcia, A. Climent-Font
Experimental stopping forces for He, C, O, Al and Si ions in Al_2O_3 in the energy range of 40-1250 keV/nucleon.
Nucl. Instrum. Methods Phys. Res. B 239, 135 (2005)

He^+ + Al_2O_3 + Al	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp
C^+ + Al_2O_3 + Al	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp
O^+ + Al_2O_3 + Al	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp
Al^+ + Al_2O_3 + Al	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp
Si^+ + Al_2O_3 + Al	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp

1589. S. Mammeri, S. Ouichaoui, R. Zemih, H. Ammi, M. Abdesselam, A. C. Chami
Sputtering yields, range and range straggling in Al following Kr^+ ions bombardment in the energy range (20-160) keV.
Nucl. Instrum. Methods Phys. Res. B 240, 162 (2005)

Kr^+ + Al + Al	Part. Beam-Matter Interaction	20-160 keV	Exp

1590. J. Oddershede, J. R. Sabin, R. Cabrera-Trujillo
Comparison of shell corrections in the Bohr and Bethe formulations of stopping power.
Nucl. Instrum. Methods Phys. Res. B 241, 144 (2005)

He + He Z= ?-? + Al	Part. Beam-Matter Interaction	25-500 eV	Th
He^{2+} + He + Al	Part. Beam-Matter Interaction	25-500 eV	Th
He^{2+} + Ne + Al	Part. Beam-Matter Interaction	25-500 eV	Th
He^{2+} + Ar + Al	Part. Beam-Matter Interaction	25-500 eV	Th
Ne + He Z= ?-? + Al	Part. Beam-Matter Interaction	25-500 eV	Th
Al + He Z= ?-? + Al	Part. Beam-Matter Interaction	25-500 eV	Th

1591. J. Y. Hsu, Y. C. Yu, J. H. Liang, K. M. Chen
Experimental stopping forces in aluminum and silver by $^3He/^4He$, $^6Li/7Li$ and $^{10}B/^{11}B$ ions.
Nucl. Instrum. Methods Phys. Res. B 241, 155 (2005)

He^+ + Al + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
He^+ + Ag + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
Li^+ + Al + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
Li^+ + Ag + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
B^+ + Al + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
B^+ + Ag + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp

1592. J. Y. Hsu, J. H. Liang, Y. C. Yu, K. M. Chen
Energy straggling of He, Li, and B isotopes in aluminum and silver.
Nucl. Instrum. Methods Phys. Res. B 241, 160 (2005)

H^+ + Al + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
H^+ + Ag + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
Li^+ + Al + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
Li^+ + Ag + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
B^+ + Al + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
B^+ + Ag + Al	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp

1593. Y. Zhang, W. J. Weber, A. Razpet, G. Possnert
Electronic stopping powers for Be, Ca and Ti in SiC.
Nucl. Instrum. Methods Phys. Res. B 242, 82 (2005)

Be^+ + SiC + Al	Part. Beam-Matter Interaction	40-680 keV/u	E/T
Ca^+ + SiC + Al	Part. Beam-Matter Interaction	40-680 keV/u	E/T
Ti^+ + SiC + Al	Part. Beam-Matter Interaction	40-680 keV/u	E/T

1594. A. E. Stuchbery, A. N. Wilson, P. M. Davidson
Equilibrium charge-state distributions for S and Si ions emerging from iron and gadolinium targets with velocities near their K-shell electron velocity.
Nucl. Instrum. Methods Phys. Res. B 243, 265 (2005)

Si^+ + Fe + Al	Part. Beam-Matter Interaction	84-237 MeV	Exp
Si^+ + Ga + Al	Part. Beam-Matter Interaction	84-237 MeV	Exp
S^+ + Fe + Al	Part. Beam-Matter Interaction	84-237 MeV	Exp
S^+ + Ga + Al	Part. Beam-Matter Interaction	84-237 MeV	Exp

1595. A. L'Hoir, L. Adoui, F. Barrue, A. Billebaud, F. Bosch, A. Brauning-Demian, H. Brauning, A. Cassimi, M. Chevallier, C. Cohen, D. Dauvergne, C. E. Demonchy, L. Giot, R. Kirsch, A. Gumberidze, C. Kozhuharov, D. Liesen, W. Mittig, P. H. Mokler, S. Pita, J.-C. Poizat, C. Ray, P. Roussel-Chomaz, H. Rothard, J.-P. Rozet, Th. Stoehlker, M. Tarisien, E. Testa, S. Toleikis, M. Toulemonde, D. Vernhet
Ion slowing down and charge exchange at small impact parameters selected by channeling: Superdensity effects.
Nucl. Instrum. Methods Phys. Res. B 245, 1 (2005)

Pb^{56+} + Si + Al	Part. Beam-Matter Interaction	29 MeV/u	E/T
U^{91+} + Si + Al	Part. Beam-Matter Interaction	29 MeV/u	E/T

1596. F. Gruener, F. Bell
First-principles-simulation of both charge state and stopping power of swift heavy ions in solids.
Nucl. Instrum. Methods Phys. Res. B 245, 15 (2005)

Ni^{13+} + C + Al	Part. Beam-Matter Interaction	1 MeV/u	Th
Ni^{17+} + C + Al	Part. Beam-Matter Interaction	1 MeV/u	Th
Ni^{22+} + C + Al	Part. Beam-Matter Interaction	1 MeV/u	Th

1597. A. Fettouhi, H. Geissel, A. Schinner, P. Sigmund
Stopping of high-Z ions at intermediate velocities.
Nucl. Instrum. Methods Phys. Res. B 245, 22 (2005)

Xe^+ + C + Al	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th
Au^+ + C + Al	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th
Pb^+ + C + Al	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th
U^+ + C + Al	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th

1598. L. L. Balashova, A. A. Sokolik
Alignment dependence of the stopping effective charge of swift excited ions in the degenerate electron gas.
Nucl. Instrum. Methods Phys. Res. B 245, 28 (2005)

He + C + Al	Part. Beam-Matter Interaction		Th
$\mathbf{Li^+}$ **+ C + Al**	Part. Beam-Matter Interaction		Th

1599. A. Fettouhi, H. Weick, M. Portillo, F. Becker, D. Boutin, H. Geissel, R. K. Knoebel, J. Kurcewicz, W. Kurcewicz, J. Kurpeta, Yu. Litvinov, R. J. Livesay, D. J. Morrissey, G. Muenzenberg, J. A. Nolen, H. Ogawa, N. Sakamoto, C. Scheidenberger, J. Stadlmann, M. Winkler, N. Yao
Gas-solid effect in mean charge and slowing down of uranium ions at 60.2 and 200 MeV/u.
Nucl. Instrum. Methods Phys. Res. B 245, 32 (2005)

$\mathbf{U^{81+}}$ **+ B + Al**	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+}}$ **+ C + Al**	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+}}$ **+ Ne + Al**	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+}}$ **+ Si + Al**	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+}}$ **+ Cl + Al**	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+}}$ **+ Ti + Al**	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+}}$ **+ Cu + Al**	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+}}$ **+ Br + Al**	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+}}$ **+ Pd + Al**	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+}}$ **+ Xe + Al**	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+}}$ **+ Au + Al**	Part. Beam-Matter Interaction	60-200 MeV/u	Exp

1600. A. Blazevic, H. G. Bohlen, W. von Oertzen, V. V. Balashov, A. V. Stysin
Charge-state resolved energy spectra of swift ^{22}Ne ions passing through thin carbon foils.
Nucl. Instrum. Methods Phys. Res. B 245, 41 (2006)

$\mathbf{Ne^{7+–10+}}$ **+ C + Al**	Part. Beam-Matter Interaction	2 MeV/u	Th

1601. A. Itoh, M. Kaneda, S. Satoh, K. Ishii, H. Tsuchida
Energy loss of swift protons in liquid water and ethanol.
Nucl. Instrum. Methods Phys. Res. B 245, 76 (2006)

$\mathbf{H^+ + H_2O}$ **+ Al**	Part. Beam-Matter Interaction	1.7-2.0 MeV	Exp

1602. M. A. Gagliardi, A. W. Hunt
Monte Carlo simulations of slow-positron production from normal and glancing incident targets.
Nucl. Instrum. Methods Phys. Res. B 245, 347 (2006)

e + Al + Al	Part. Beam-Matter Interaction	0.01-10 MeV	Th
e + Si + Al	Part. Beam-Matter Interaction	0.01-10 MeV	Th

1603. M. Lindenblatt, E. Pehlke, A. Duvenbeck, B. Rethfeld, A. Wucher
Kinetic excitation of solids: The concept of electronic friction.
Nucl. Instrum. Methods Phys. Res. B 246, 333 (2006)

H + Al + Al	Part. Beam-Matter Interaction	2-10 eV	Th

1604. H. Paul
A comparison of recent stopping power tables for light and medium-heavy ions with experimental data, and applications to radiotherapy dosimetry.
Nucl. Instrum. Methods Phys. Res. B 247, 166 (2006)

$\mathbf{H^+ + H_2O + Al}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
$\mathbf{H^+ + N_2 + Al}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
$\mathbf{H^+ + O_2 + Al}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
$\mathbf{Li^+ + Ag + Al}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
$\mathbf{Li^+ + H_2O + Al}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
$\mathbf{Li^+ + N_2 + Al}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
$\mathbf{Li^+ + O_2 + Al}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
$\mathbf{C^+ + C + Al}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
$\mathbf{A^+ + A + Al}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T

1605. A. D. Fertman, T. Yu. Mutin, M. M. Basko, A. A. Golubev, T. V. Kulevoy, R. P. Kuybeda, V. I. Pershin, I. V. Roudskoy, B. Yu. Sharkov
Stopping power measurements for 100-keV/u Cu ions in hydrogen and nitrogen.
Nucl. Instrum. Methods Phys. Res. B 247, 199 (2006)

$\mathbf{Cu^+ + H_2 + Al}$	Part. Beam-Matter Interaction	100 keV/u	E/T
$\mathbf{Cu^+ + N_2 + Al}$	Part. Beam-Matter Interaction	100 keV/u	E/T

1606. H. Paul, A. Schinner
Statistical analysis of stopping data for protons and alphas in compounds.
Nucl. Instrum. Methods Phys. Res. B 249, 1 (2006)

$\mathbf{H^+ + H_2O + Al}$	Part. Beam-Matter Interaction	$10^{-3} - 1$ MeV	E/T

1607. R. Garcia-Molina, I. Abril, C. D. Denton, S. Heredia-Avalos
Allotropic effects on the energy loss of swift H^+ and He^+ ion beams through thin foils.
Nucl. Instrum. Methods Phys. Res. B 249, 6 (2006)

$\mathbf{H^+ + C + Al}$	Part. Beam-Matter Interaction	10-10,000 keV/amu	Th

1608. V. Kuzmin
Range parameters of heavy ions in carbon calculated with first-principles potentials.
Nucl. Instrum. Methods Phys. Res. B 249, 13 (2006)

$\mathbf{Au^+ + C + Al}$	Part. Beam-Matter Interaction	1-1000 keV	Th

1609. Y. Zhang, J. Jensen, G. Possnert, D. A. Grove, D. E. McCready, B. W. Arey, W. J. Weber
Electronic stopping forces of heavy ions in metal oxides.
Nucl. Instrum. Methods Phys. Res. B 249, 18 (2006)

$\mathbf{He^+ + ZrO_2 + Al}$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T
$\mathbf{He^+ + Ta_2O_5 + Al}$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T
$\mathbf{He^+ + Nb_2O_5 + Al}$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T
$\mathbf{C^+ + ZrO_2 + Al}$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T
$\mathbf{F^+ + Ta_2O_5 + Al}$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T
$\mathbf{F^+ + Nb_2O_5 + Al}$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T

1610. S. Damache, S. Ouichaoui, D. Moussa, A. Dib
Effects of the projectile electronic structure on stopping parameters for nickel.
Nucl. Instrum. Methods Phys. Res. B 249, 22 (2006)

$\mathbf{H^+ + Ni + Al}$	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp
$\mathbf{He^{2+} + Ni + Al}$	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp
$\mathbf{D^+ + Ni + Al}$	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp

1611. D. Emfietzoglou, H. Nikjoo, A. Pathak
Electronic cross sections for proton transport in liquid water based on optical-data models.
Nucl. Instrum. Methods Phys. Res. B 249, 26 (2006)

$\mathbf{H^+ + H_2O + Al}$	Part. Beam-Matter Interaction	50-10,000 keV	Th

1612. J. C. Moreno-Marin, I. Abril, S. Heredia-Avalos, R. Garcia-Molina
Electronic energy loss of swift H^+ and He^+ ions in solids with material science applications.
Nucl. Instrum. Methods Phys. Res. B 249, 29 (2006)

$\mathbf{H^+ + Ti + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
$\mathbf{H^+ + Fe + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
$\mathbf{H^+ + Ge + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
$\mathbf{H^+ + Pd + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
$\mathbf{H^+ + LiF + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
$\mathbf{H^+ + Si_3N_4 + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
$\mathbf{He^+ + Ti + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
$\mathbf{He^+ + Fe + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
$\mathbf{He^+ + Ge + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
$\mathbf{He^+ + Pd + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
$\mathbf{He^+ + LiF + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
$\mathbf{He^+ + Si_3N_4 + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th

1613. S. Amadon, W. A. Lanford
He stopping power and straggle in Al, Ti, Co, Cu, Ag, Ta and Au from 1.5 to 4 MeV.
Nucl. Instrum. Methods Phys. Res. B 249, 34 (2006)

$\mathbf{He^+ + Al + Al}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
$\mathbf{He^+ + Ti + Al}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
$\mathbf{He^+ + Co + Al}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
$\mathbf{He^+ + Cu + Al}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
$\mathbf{He^+ + Ag + Al}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
$\mathbf{He^+ + Ta + Al}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
$\mathbf{He^+ + Au + Al}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp

1614. J.A.M. Pereira
Extension of the Brandt-Kitagawa model for Hartree-Fock electronic densities.
Nucl. Instrum. Methods Phys. Res. B 249, 38 (2006)

$\mathbf{Li^+ + Al + Al}$	Part. Beam-Matter Interaction		Th
$\mathbf{O^+ + Al + Al}$	Part. Beam-Matter Interaction		Th

1615. K. Takahiro, K. Kawatsura, B. Tsuchiya, S. Nagata
Difference in stopping cross section factor for ^4He ions between polycrystalline diamond and glassy carbon.
Nucl. Instrum. Methods Phys. Res. B 249, 43 (2006)

$\mathbf{He^+ + C + Al}$	Part. Beam-Matter Interaction	1.4-4.0 MeV	Exp

1616. Y. C. Yu, J. Y. Hsu, J. H. Liang, K. M. Chen
Energy loss straggling of energetic ^3He and ^6Li ions into polymer foils.
Nucl. Instrum. Methods Phys. Res. B 249, 47 (2006)

He^{+} + H + Al	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp
He^{+} + C + Al	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp
Li^{+} + H + Al	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp
Li^{+} + C + Al	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp

1617. J. Perkowski, J. Andrzejewski, A. Climent-Font, G. Knyazheva, V. Lyapin, T. Malkiewicz, A. Munoz-Martin, W. H. Trzaska
Stopping power measurement of $^{4}8Ca$ in a broad energy range in solid absorbers.
Nucl. Instrum. Methods Phys. Res. B 249, 55 (2006)

Ca^{+} + C + Al	Part. Beam-Matter Interaction	5-250 MeV	Exp
Ca^{+} + Ni + Al	Part. Beam-Matter Interaction	5-250 MeV	Exp
Ca^{+} + Au + Al	Part. Beam-Matter Interaction	5-250 MeV	Exp

1618. S. P. Chenakin, S. N. Markin, E. Steinbauer, M. Draxler, P. Bauer
Electronic stopping of hydrogen ions deduced from TOF-LEIS spectra.
Nucl. Instrum. Methods Phys. Res. B 249, 58 (2006)

H^{+} + Au + Al	Part. Beam-Matter Interaction	0.33-10 keV	Exp
D^{+} + Au + Al	Part. Beam-Matter Interaction	0.33-10 keV	Exp

1619. E. Strub, W. Bohne, J. Roehrich
Determination of the energy loss of various elements in metal foils with the TOF-ERDA setup at the ISL Berlin.
Nucl. Instrum. Methods Phys. Res. B 249, 62 (2006)

He^{2+} + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
He^{2+} + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
He^{2+} + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
B^{+} + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
B^{+} + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
B^{+} + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
O^{+} + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
O^{+} + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
O^{+} + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Al^{+} + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Al^{+} + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Al^{+} + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Si^{+} + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Si^{+} + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Si^{+} + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Cu^{+} + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Cu^{+} + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Cu^{+} + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Ba^{+} + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Ba^{+} + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Ba^{+} + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Au^{+} + Fe + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Au^{+} + Ag + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp
Au^{+} + Au + Al	Part. Beam-Matter Interaction	6-86 MeV	Exp

1620. R. Gonzalez-Arrabal, V. A. Khodyrev, N. Gordillo, G. Garcia, D. O. Boerma
The Coulomb explosion of swift $C_2{}^{+}$ molecules under channeling conditions.
Nucl. Instrum. Methods Phys. Res. B 249, 65 (2006)

C^{+} + Si + Al	Part. Beam-Matter Interaction	1.8 MeV/amu	Exp
C$_2{}^{+}$ + Si + Al	Part. Beam-Matter Interaction	1.8 MeV/amu	Exp

1621. H. Amekura, O. A. Plaksin, N. Umeda, K. Kono, N. Kishimoto, Ch. Buchal
Concentration profiles of Zn ions implanted with 60 keV for nanoparticle formation in silica glass.
Vacuum 80, 802 (2006)

$\mathbf{Zn^+ + SiO_2 + Al}$	Part. Beam-Matter Interaction	60 keV	Exp

1622. C. C. Montanari, J. E. Miraglia
Stopping power for swift dressed ions.
Phys. Rev. A 73, 024901 (2006)

He + Al + Al	Part. Beam-Matter Interaction	1-10,000 keV/u	Th
He + Zn + Al	Part. Beam-Matter Interaction	1-10,000 keV/u	Th
$\mathbf{He^+ + Al + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/u	Th
$\mathbf{He^+ + Zn + Al}$	Part. Beam-Matter Interaction	1-10,000 keV/u	Th

1623. E. Lamour, B. Gervais, J.-P. Rozet, D. Vernhet
Production and transport of long-lifetime excited states in preequilibrium ion-solid collisions.
Phys. Rev. A 73, 042715 (2006)

$\mathbf{Ar^{18+} + C + Al}$	Part. Beam-Matter Interaction	13.6 MeV/u	Exp

1624. C. D. Archubi, J. C. Eckardt, G. H. Lantschner, N. R. Arista
Angular effects in the energy loss of slow protons and helium ions transmitted through thin Al and Au films.
Phys. Rev. A 73, 042901 (2006)

$\mathbf{H^+ + Al + Al}$	Part. Beam-Matter Interaction	10 keV	Exp
$\mathbf{H^+ + Au + Al}$	Part. Beam-Matter Interaction	10 keV	Exp
$\mathbf{He^+ + Al + Al}$	Part. Beam-Matter Interaction	10 keV	Exp
$\mathbf{He^+ + Au + Al}$	Part. Beam-Matter Interaction	10 keV	Exp

1625. B. Sundaravel, C. David, A. K. Balamurugan, S. Rajagopalan, A. K. Tyagi, B. K. Panigrahi, K.G.M. Nair, B. Viswanathan
Charge-state dependence of energy loss of MeV dimers in GaAs(100).
Phys. Rev. A 73, 042902 (2006)

$\mathbf{C^+ + GaAs + Al}$	Part. Beam-Matter Interaction	0.5-1 MeV	Exp
$\mathbf{O^+ + GaAs + Al}$	Part. Beam-Matter Interaction	0.5-1 MeV	Exp
$\mathbf{O_2{}^+ + GaAs + Al}$	Part. Beam-Matter Interaction	0.5-1 MeV	Exp
$\mathbf{O_2{}^{3+} + GaAs + Al}$	Part. Beam-Matter Interaction	0.5-1 MeV	Exp
$\mathbf{C_2{}^+ + GaAs + Al}$	Part. Beam-Matter Interaction	0.5-1 MeV	Exp

1626. A. J. Garcia, J. E. Miraglia
Influence of surface channeling in the stopping of protons colliding with LiF surfaces.
Phys. Rev. A 74, 012902 (2006)

$\mathbf{H^+ + LiF + Al}$	Part. Beam-Matter Interaction	100-400 keV	Th

1627. D. M. Duffy, A. M. Rutherford
Including the effects of electronic stopping and electron-ion interactions in radiation damage simulations.
J. Nucl. Mater. 19, 016207 (2007)

$\mathbf{Fe^+ + Fe + Al}$	Part. Beam-Matter Interaction	10 keV	Th

1628. D. Y. Smith, M. Inokuti, W. Karstens, E. Shiles
Mean excitation energy for the stopping power of light elements.
Nucl. Instrum. Methods Phys. Res. B 250, 1 (2006)

$\mathbf{H^+ + C + Al}$	Part. Beam-Matter Interaction		E/T
$\mathbf{H^+ + Al + Al}$	Part. Beam-Matter Interaction		E/T
$\mathbf{H^+ + Si + Al}$	Part. Beam-Matter Interaction		E/T

1629. Y. Zhang, W. J. Weber, D. A. Grove, J. Jensen, G. Possnert
Electronic stopping powers for heavy ions in niobium and tantalum pentoxides.
Nucl. Instrum. Methods Phys. Res. B 250, 62 (2006)

$\mathbf{He^+ + Ta_2O_5 + Al}$	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T
$\mathbf{He^+ + Nb_2O_5 + Al}$	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T
$\mathbf{Li^+ + Ta_2O_5 + Al}$	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T
$\mathbf{Li^+ + Nb_2O_5 + Al}$	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T
$\mathbf{Be^+ + Ta_2O_5 + Al}$	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T
$\mathbf{Be^+ + Nb_2O_5 + Al}$	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T
$\mathbf{O^+ + Ta_2O_5 + Al}$	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T
$\mathbf{O^+ + Nb_2O_5 + Al}$	Part. Beam-Matter Interaction	100-1300 keV/amu	E/T

1630. T. Miyoshi, K. Noda, Y. Sato, H. Tawara, I. Yu, I. Yu. Tolstikhina, V. P. Shevelko
Evaluation of excited nl-state distributions of fast exit ions after penetrating through solid foils. Part 1: Charge-state fractions for 4.3 MeV/u projectiles with atomic numbers Z = 6-26 passing through carbon foils.
Nucl. Instrum. Methods Phys. Res. B 251, 79 (2006)

$\mathbf{C^{2+} + C + Al}$	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp
$\mathbf{O^{3+} + C + Al}$	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp
$\mathbf{Ne^{4+} + C + Al}$	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp
$\mathbf{Mg^{5+} + C + Al}$	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp
$\mathbf{Si^{5+} + C + Al}$	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp
$\mathbf{Ar^{8+} + C + Al}$	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp
$\mathbf{Ca^{6+} + C + Al}$	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp
$\mathbf{Fe^{9+} + C + Al}$	Part. Beam-Matter Interaction	4.3 MeV/amu	Exp

1631. T. Miyoshi, K. Noda, Y. Sato, H. Tawara, I. Yu. Tolstikhina, V. P. Shevelko
Evaluation of excited nl-state distributions of fast exit ions after penetrating through solid foils. Part 2: Determination of the nl-state distribution fractions of exit ions.
Nucl. Instrum. Methods Phys. Res. B 251, 89 (2006)

$\mathbf{Ar^{13+–18+} + C + Al}$	Part. Beam-Matter Interaction	4.3-20 MeV/amu	E/T

1632. T.D.M. Weijers-Dall, H. Timmers, K. Stenstroem, P. Persson, A. Pergiegiaj, X. Wang, M. Graczyk, T. Osipowicz, M. Q. Ren, D. J. O'Connor, H. J. Whitlow
Measurements of the stopping forces for heavy ions in Ge, Ag and Au using novel 'polka-dot' detectors.
Nucl. Instrum. Methods Phys. Res. B 251, 352 (2006)

$\mathbf{C^+ + Ge + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp
$\mathbf{C^+ + Au + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp
$\mathbf{N^+ + Ge + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp
$\mathbf{N^+ + Ag + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp
$\mathbf{N^+ + Au + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp
$\mathbf{O^+ + Ge + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp
$\mathbf{O^+ + Au + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp
$\mathbf{F^+ + Ge + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp
$\mathbf{F^+ + Ag + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp
$\mathbf{F^+ + Au + Al}$	Part. Beam-Matter Interaction	0-60 MeV	Exp

1633. D. Mancusi, L. Sihver, K. Gustafsson, C. La Tessa, S. B. Guetersloh, C. J. Zeitlin, J. Miller, L. H. Heilbronn, K. Niita, T. Sato, H. Nakashima, T. Murakami, Y. Iwata
PHITS - benchmark of partial charge-changing cross sections for intermediate-mass systems.
Nucl. Instrum. Methods Phys. Res. B 254, 30 (2007)

$\mathbf{Ar^+ + C + Al}$	Part. Beam-Matter Interaction	400 MeV/amu	E/T
$\mathbf{Ar^+ + Al + Al}$	Part. Beam-Matter Interaction	400 MeV/amu	E/T
$\mathbf{Ar^+ + Cu + Al}$	Part. Beam-Matter Interaction	400 MeV/amu	E/T
$\mathbf{Ar^+ + Sn + Al}$	Part. Beam-Matter Interaction	400 MeV/amu	E/T
$\mathbf{Ar^+ + Pb + Al}$	Part. Beam-Matter Interaction	400 MeV/amu	E/T

1634. J. Miranda, J. C. Pineda
Chemical effects in the stopping cross sections of protons in rare earth fluorides.
Nucl. Instrum. Methods Phys. Res. B 254, 39 (2007)

$\mathbf{H^+ + NdF_3 + Al}$	Part. Beam-Matter Interaction	0.5-0.7 MeV	Exp
$\mathbf{H^+ + SmF_3 + Al}$	Part. Beam-Matter Interaction	0.5-0.7 MeV	Exp
$\mathbf{H^+ + GdF_3 + Al}$	Part. Beam-Matter Interaction	0.5-0.7 MeV	Exp
$\mathbf{H^+ + HoF_3 + Al}$	Part. Beam-Matter Interaction	0.5-0.7 MeV	Exp

1635. M. Dapor, L. Calliari, M. Filippi
Computational and experimental study of π and $\pi + \sigma$ plasmon loss spectra for low energy (¡1000 eV) electrons impinging on highly oriented pyrolitic graphite (HOPG).
Nucl. Instrum. Methods Phys. Res. B 255, 276 (2007)

$\mathbf{e + C + Al}$	Part. Beam-Matter Interaction	500 eV	Th

1636. M. Imai, M. Sataka, K. Kawatsura, K. Takahiro, K. Komaki, H. Shibata, H. Sugai, K. Nishio
Charge state evolution of 2 MeV/u sulfur ion passing through thin carbon foil.
Nucl. Instrum. Methods Phys. Res. B 256, 11 (2007)

$\mathbf{S^{6+} + C + Al}$	Part. Beam-Matter Interaction	2 MeV/u	Exp
$\mathbf{S^{7+} + C + Al}$	Part. Beam-Matter Interaction	2 MeV/u	Exp
$\mathbf{S^{8+} + C + Al}$	Part. Beam-Matter Interaction	2 MeV/u	Exp

1637. L. G. Glazov, P. Sigmund
Energy-loss spectra of light relativistic ions.
Nucl. Instrum. Methods Phys. Res. B 256, 50 (2007)

$\mathbf{H^+ + Si + Al}$	Part. Beam-Matter Interaction	150 MeV	Th

1638. Z. L. Miskovic, Y.-N. Wang, Y.-H. Song
Dynamics of fast molecular ions in solids and plasmas: A review of recent theoretical developments.
Nucl. Instrum. Methods Phys. Res. B 256, 57 (2007)

$\mathbf{{N_2}^+ + C + Al}$	Part. Beam-Matter Interaction		Th

1639. M. Kato, R. Souda
Elastic and inelastic collision of low energy proton scattering from rare gas solids.
Nucl. Instrum. Methods Phys. Res. B 256, 71 (2007)

$\mathbf{H^+ + Ar + Al}$	Part. Beam-Matter Interaction	50-500 eV	E/T
$\mathbf{H^+ + Kr + Al}$	Part. Beam-Matter Interaction	50-500 eV	E/T
$\mathbf{H^+ + Xe + Al}$	Part. Beam-Matter Interaction	50-500 eV	E/T

1640. P. L. Grande, A. Hentz, R. P. Pezzi, I.J.R. Baumvol, G. Schiwietz
An analytical energy-loss line shape for high depth resolution in ion-beam analysis.
Nucl. Instrum. Methods Phys. Res. B 256, 92 (2007)

$\mathbf{H^+ + A + Al}$	Part. Beam-Matter Interaction		Th

1641. M. Kaneda, S. Sato, M. Shimizu, Z. He, K. Ishii, H. Tsuchida, A. Itoh
Energy loss and small angle scattering of swift protons passing through liquid ethanol target.
Nucl. Instrum. Methods Phys. Res. B 256, 97 (2007)

$\mathbf{H^+ + C_2H_5OH + Al}$	Part. Beam-Matter Interaction	2 MeV	E/T

1642. V. Kuzmin
On the correlation between nuclear and electronic stopping of heavy ions in light targets.
Nucl. Instrum. Methods Phys. Res. B 256, 105 (2007)

$\mathbf{C^+ + Au + Al}$	Part. Beam-Matter Interaction	1-1000 keV	Th
$\mathbf{Au^+ + C + Al}$	Part. Beam-Matter Interaction	1-1000 keV	Th

1643. M. C. Tufan, H. Gumus, O. Kabadayi
Calculation of the electronic stopping cross-sections of compounds for low energy protons by using molecular orbitals.
Nucl. Instrum. Methods Phys. Res. B 256, 118 (2007)

$\mathbf{H^+ + H_2O + Al}$	Part. Beam-Matter Interaction		Th
$\mathbf{H^+ + CH_4 + Al}$	Part. Beam-Matter Interaction		Th

1644. E. A. Figueroa, N. R. Arista, J. C. Eckardt, G. H. Lantschner
Determination of the difference between the mean and the most probable energy loss of low-energy proton beams traversing thin solid foils.
Nucl. Instrum. Methods Phys. Res. B 256, 126 (2007)

$\mathbf{H^+ + Bi + Al}$	Part. Beam-Matter Interaction	3-9 keV	Exp

1645. C. D. Denton, I. Abril, R. Garcia-Molina, S. Heredia-Avalos
Alignment effects in the interaction of $H_2{}^+$ molecules with thin foils.
Nucl. Instrum. Methods Phys. Res. B 256, 137 (2007)

$\mathbf{H_2{}^+ + C + Al}$	Part. Beam-Matter Interaction	0.5 MeV/amu	Th

1646. J. Zuloaga, Z. L. Miskovic, F. O. Goodman
Energy loss and deflection of fast ions under glancing incidence upon a graphene sheet.
Nucl. Instrum. Methods Phys. Res. B 256, 162 (2007)

$\mathbf{H^+ + C + Al}$	Part. Beam-Matter Interaction		Th

1647. I. Abril, J. C. Moreno-Marin, J. M. Fernandez-Varea, C. D. Denton, S. Heredia-Avalos, R. Garcia-Molina
Calculation of the energy loss of swift H and He ions in Ag using the dielectric formalism: The role of inner-shell ionization.
Nucl. Instrum. Methods Phys. Res. B 256, 172 (2007)

$\mathbf{H^+ + Ag + Al}$	Part. Beam-Matter Interaction	$10^2 - 10^5$ keV/amu	Th
$\mathbf{He^+ + Ag + Al}$	Part. Beam-Matter Interaction	$10^2 - 10^5$ keV/amu	Th

1648. G. Lanzano, E. De Filippo, S. Hagmann, H. Rothard, C. Volant
In-flight emission of projectile Auger electrons from highly energetic heavy ions (20 MeV/u ¡ E ¡ 100 MeV/u) colliding with carbon foils.
Nucl. Instrum. Methods Phys. Res. B 256, 510 (2007)

$\mathbf{Ni^{14+} + C + Al}$	Part. Beam-Matter Interaction	20-100 MeV/u	Exp
$\mathbf{Ni^{19+} + C + Al}$	Part. Beam-Matter Interaction	20-100 MeV/u	Exp
$\mathbf{Kr^{32+} + C + Al}$	Part. Beam-Matter Interaction	20-100 MeV/u	Exp
$\mathbf{Kr^{34+} + C + Al}$	Part. Beam-Matter Interaction	20-100 MeV/u	Exp

1649. H. Ogawa, N. Fujimoto, T. Ohata, M. Nagano, K. Ishii, N. Sakamoto, T. Kaneko
Dependence of secondary electron emission on the emergent angle of 1 MeV/u H^+, He^{2+} and Li^{3+} penetrating a thin carbon foil.
Nucl. Instrum. Methods Phys. Res. B 256, 532 (2007)

$\mathbf{H^{+} + C + Al}$	Part. Beam-Matter Interaction	1 MeV/amu	Exp
$\mathbf{He^{2+} + C + Al}$	Part. Beam-Matter Interaction	1 MeV/amu	Exp
$\mathbf{Li^{3+} + C + Al}$	Part. Beam-Matter Interaction	1 MeV/amu	Exp

1650. G. Sun, M. Doebeli, A. M. Mueller, M. Stocker, M. Suter, L. Wacker
Energy loss and straggling of heavy ions in silicon nitride in the low MeV energy range.
Nucl. Instrum. Methods Phys. Res. B 256, 586 (2007)

$\mathbf{Li^{+} + SiN + Al}$	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp
$\mathbf{B^{+} + SiN + Al}$	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp
$\mathbf{C^{+} + SiN + Al}$	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp
$\mathbf{O^{+} + SiN + Al}$	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp
$\mathbf{S^{+} + SiN + Al}$	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp
$\mathbf{Fe^{+} + SiN + Al}$	Part. Beam-Matter Interaction	0.4-4.0 MeV	Exp

1651. T. Kaneko, S. Ikegami
Average charge of MeV/atom carbon cluster ions impacted on foils.
Nucl. Instrum. Methods Phys. Res. B 258, 57 (2007)

$\mathbf{C^{+} + C + Al}$	Part. Beam-Matter Interaction	1-2 MeV	Th
$\mathbf{C^{+} + Al + Al}$	Part. Beam-Matter Interaction	1-2 MeV	Th
$\mathbf{C_2{}^{+} + C + Al}$	Part. Beam-Matter Interaction	1-2 MeV	Th
$\mathbf{C_2{}^{+} + Al + Al}$	Part. Beam-Matter Interaction	1-2 MeV	Th

1652. T. Miyoshi, K. Noda, H. Tawara, I. Yu. Tolstikhina, V. P. Shevelko
Distribution of exit silicon ions over excited states after penetrating through carbon foils at 2.65, 4.3 and 6.0 MeV/u.
Nucl. Instrum. Methods Phys. Res. B 258, 329 (2007)

$\mathbf{C^{2+} + C + Al}$	Part. Beam-Matter Interaction	2.65-6.0 MeV/u	Exp
$\mathbf{O^{3+} + C + Al}$	Part. Beam-Matter Interaction	2.65-6.0 MeV/u	Exp
$\mathbf{Ne^{4+} + C + Al}$	Part. Beam-Matter Interaction	2.65-6.0 MeV/u	Exp
$\mathbf{Si^{5+} + C + Al}$	Part. Beam-Matter Interaction	2.65-6.0 MeV/u	Exp

1653. M. Zadro, A. Di Pietro, P. Figuera, M. Fisichella, M. Lattuada, A. Maggio, F. Pansini, M. Papa, V. Scuderi, O. Yu. Goryunov, V. V. Ostashko
Stopping power of helium gas for ^9Be ions from 2 to 31 MeV.
Nucl. Instrum. Methods Phys. Res. B 259, 836 (2007)

$\mathbf{Be^{+} + He + Al}$	Part. Beam-Matter Interaction	2-31 MeV	Exp

1654. M. Kitagawa
Theoretical solutions of stopping power in cylindrical many-electron systems.
Vacuum 81, 160 (2006)

H^+ + Al + Al	Part. Beam-Matter Interaction	1-50 MeV	Th

1655. M. Moneta
A model for energy loss and straggling of slow ions in electron gas with intraband exchange.
Vacuum 81, 1195 (2007)

H^+ + Ni + Al	Part. Beam-Matter Interaction		Th
H^+ + Gd + Al	Part. Beam-Matter Interaction		Th

1656. H. Paul, A. Schinner
Empirical stopping power tables for ions from $_3Li$ to $_{18}Ar$ and from 0.001 to 1000 MeV/nucleon in solids and gases.
At. Data Nucl. Data Tables 85, 377 (2003)

Li + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Li + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T

Be + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Be + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
B + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T

C + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
C + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
N + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T

O + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
O + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
F + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T

F + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ne + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T

Na + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Na + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Mg + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T

Al + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Al + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Si + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T

P + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
P + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
S + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T

Cl + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Cl + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + He + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Be + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + C + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Ne + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Al + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Si + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Ar + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Ti + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Fe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Ni + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Cu + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Ge + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Kr + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Mo + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Ag + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Sn + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Xe + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Gd + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + W + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Pt + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Au + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Pb + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + U + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + H_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + H_2O + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + CH_4 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + CO_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + N_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + O_2 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T
Ar + Al_2O_3 + Al	Part. Beam-Matter Interaction	0.001-1000 MeV	E/T

3.7 Interactions of Atomic Particles with Fields

1657. A. V. Turbiner, J. C. Lopez Vieyra, N. L. Guevara
Exotic $H_3{}^{2+}$ ion in a strong magnetic field: Linear configuration.
Phys. Rev. A 72, 023403 (2005)

$H_3{}^{2+}$ + Al	Atom Field Interaction	Th

1658. K. M. Dunseath, M. Terao-Dunseath, G. Bourhis
Selection rules for laser-assisted electron-atom collisions with the laser field normal to the scattering plane.
Phys. Rev. A 72, 033410 (2005)

e + He + Al	Atom Field Interaction	4-22 eV	Th

1659. A. S. Alnaser, M. Zamkov, X. M. Tong, C. M. Maharjan, P. Ranitovic, C. L. Cocke, I. V. Litvinyuk
Resonant excitation during strong-field dissociative ionization.
Phys. Rev. A 72, 041402 (2005)

O_2 + Al	Atom Field Interaction	550-1800 nm	Exp

1660. C. M. Maharjan, A. S. Alnaser, X. M. Tong, B. Ulrich, P. Ranitovic, S. Ghimire, Z. Chang, I. V. Litvinyuk, C. L. Cocke
Momentum imaging of doubly charged ions of Ne and Ar in the sequential ionization region.
Phys. Rev. A 72, 041403 (2005)

Ne + Al	Atom Field Interaction	800 nm	Exp
Ar + Al	Atom Field Interaction	800 nm	Exp

1661. M. Buser, L. Frommhold
Collision-induced rototranslational absorption in compressed methane gas.
Phys. Rev. A 72, 042715 (2005)

CH_4 + Al	Atom Field Interaction	163-297 K	Th

1662. E. J. Angstmann, T. H. Dinh, V. V. Flambaum
Parity nonconservation in atomic Zeeman transitions.
Phys. Rev. A 72, 052108 (2005)

K + Al	Atom Field Interaction	0-1 T	Th
Rb + Al	Atom Field Interaction	0-1 T	Th
Cs + Al	Atom Field Interaction	0-1 T	Th
Ba^+ + Al	Atom Field Interaction	0-1 T	Th
Au + Al	Atom Field Interaction	0-1 T	Th
Tl + Al	Atom Field Interaction	0-1 T	Th
Fr + Al	Atom Field Interaction	0-1 T	Th

1663. A. Chattopadhyay, C. Sinha
Ionization of a hydrogenic ion by electron and positron impact in the presence of a laser field.
Phys. Rev. A 72, 053406 (2005)

e + He^+ + Al	Atom Field Interaction	200-500 eV	Th

1664. C. Rangan, R.J.A. Murray
Theory of detection of angular momentum states in Rydberg atoms using half-cycle pulses.
Phys. Rev. A 72, 053409 (2005)

H + Al	Atom Field Interaction	0.001-0.009 a.u.	Th
H^* + Al	Atom Field Interaction	0.001-0.009 a.u.	Th
Cs + Al	Atom Field Interaction	0.001-0.009 a.u.	Th
Cs^* + Al	Atom Field Interaction	0.001-0.009 a.u.	Th

1665. L. G. Marcassa, A.R.L. Caires, V. A. Nascimento, O. Dulieu, J. Weiner, V. S. Bagnato
Storage ring to investigate cold unidimensional atomic collisions.
Phys. Rev. A 72, 060701 (2005)

Rb + Rb + Al	Atom Field Interaction	10 cm/s	Exp
Rb + Rb* + Al	Atom Field Interaction	10 cm/s	Exp

1666. A. Krug, A. Buchleitner
Universal ionization threshold for strongly driven Rydberg states.
Phys. Rev. A 72, 061402 (2005)

H + Al	Atom Field Interaction	8.9-36 GHz	Th
Li + Al	Atom Field Interaction	8.9-36 GHz	Th
Na + Al	Atom Field Interaction	8.9-36 GHz	Th
Rb + Al	Atom Field Interaction	8.9-36 GHz	Th

1667. A. V. Lugovskoy, I. Bray
Sudden perturbation of hydrogen atoms by intense ultrashort laser pulses.
Phys. Rev. A 72, 063402 (2005)

H + Al	Atom Field Interaction	$10^{-3} - 0.2$ a.u.	Th

1668. M. G. Dimova, M. S. Kaschiev, S. I. Vinitsky
The Kantorovich method for high-accuracy calculations of a hydrogen atom in a strong magnetic field: Low-lying excited states.
J. Phys. B 38, 2337 (2005)

H + Al	Atom Field Interaction	$0 - 10^{13}$ Ga	Th

1669. M. N. Guimaraes, F. V. Prudente
A study of the confined hydrogen atom using the finite element method.
J. Phys. B 38, 2811 (2005)

H + Al	Atom Field Interaction		Th

1670. S. Cohen, S. I. Themelis
Construction of RKR-QDT atomic model potentials for the calculation of Lithium polarizabilities and hyper-polarizabilities.
J. Phys. B 38, 3705 (2005)

Li + Al	Atom Field Interaction		Th

1671. O. Guyetand, M. Gisselbrecht, A. Huetz, P. Agostini, R. Taieb, V. Veniard, A. Maquet, L. Antonucci, O. Boyko, C. Valentin, D. Douillet
Multicolour above-threshold ionization of helium: Quantum interference effects in angular distributions.
J. Phys. B 38, L357 (2005)

He + Al	Atom Field Interaction	810 nm	E/T

1672. V. A. Pazdzersky, A. V. Koval
Angular photoelectron spectra for atom ionization in an intense two-colour laser field.
J. Phys. B 38, 3945 (2005)

H + Al	Atom Field Interaction	1.93 eV	Th
Xe + Al	Atom Field Interaction	1.93 eV	Th

1673. M. Ortiz, R. Mayo
Measurement of the Stark broadening for several lines of singly ionized gold.
J. Phys. B 38, 3953 (2005)

Au^+ + Al	Atom Field Interaction		Exp

1674. M. Madine, H. W. van der Hart
Competition between multi-photon emission of the 1s and the 2s electron from He 1s2s ^1S.
J. Phys. B 38, 3963 (2005)

He + Al	Atom Field Interaction	11.2-49.50 eV	Th
He^* + Al	Atom Field Interaction	11.2-49.50 eV	Th

1675. M. Awasthi, Y. V. Vanne, A. Saenz
Non-perturbative solution of the time-dependent Schrodinger equation describing H_2 in intense short laser pulses.
J. Phys. B 38, 3973 (2005)

He + Al	Atom Field Interaction	2-30 eV	Th
H_2 + Al	Atom Field Interaction	2-30 eV	Th

1676. V. N. Ostrovsky
High harmonic generation by anions and atoms: Effect of initial/final-state wavefunctions.
J. Phys. B 38, 4399 (2005)

H + Al	Atom Field Interaction		Th
H^* + Al	Atom Field Interaction		Th
B + Al	Atom Field Interaction		Th
F^- + Al	Atom Field Interaction		Th
Ne + Al	Atom Field Interaction		Th
I^- + Al	Atom Field Interaction		Th
Xe + Al	Atom Field Interaction		Th

1677. R. J. Pelaez, V. R. Gonzalez, F. Rodriguez, J. A. Aparicio, S. Mar
Stark parameters of neutral helium 318.8 nm line.
Astron. Astrophys. 453, 751 (2006)

He + Al	Atom Field Interaction	318.8 nm	Exp

1678. S.Y.T. van de Meerakker, N. Vanhaecke, H. L. Bethlem, G. Meijer
Transverse stability in a Stark decelerator.
Phys. Rev. A 73, 023401 (2006)

OH + Al	Atom Field Interaction		E/T

1679. X. Dai, E.-B.W. Lerch, S. R. Leone
Coherent control through near-resonant Raman transitions.
Phys. Rev. A 73, 023404 (2006)

Li_2 + Al	Atom Field Interaction	12,500 cm^{-1}	E/T

1680. E. S. Shuman, T. F. Gallagher
Microwave spectroscopy of autoionizing Ba $5d_{3/2}nl$ states.
Phys. Rev. A 73, 032511 (2006)

Ba + Al	Atom Field Interaction	50-70 GHz	Exp
Ba^* + Al	Atom Field Interaction	50-70 GHz	Exp

1681. F. Ferlaino, C. D'Errico, G. Roati, M. Zaccanti, M. Inguscio, G. Modugno, A. Simoni
Feshbach spectroscopy of a K-Rb atomic mixture.
Phys. Rev. A 73, 040702 (2006)

K + Rb + Al	Atom Field Interaction	$1x10^{-6}$ K	Exp

1682. E. Juarros, P. Pellegrini, K. Kirby, R. Cote
One-photon-assisted formation of ultracold polar molecules.
Phys. Rev. A 73, 041403 (2006)

Li + H + Al	Atom Field Interaction	1 mK	Th
Na + H + Al	Atom Field Interaction	1 mK	Th

1683. T. Niederhausen, U. Thumm
Capture and ionization in laser-assisted proton-hydrogen collisions.
Phys. Rev. A 73, 041404 (2006)

H^+ + H + Al	Atom Field Interaction	1.21 keV	Th

1684. J. Sjakste, A. G. Borisov, J. P. Gauyacq
Ionization of Rydberg atoms colliding with a metal surface.
Phys. Rev. A 73, 042903 (2006)

Xe + Al + Al	Atom Field Interaction	0.005-0.01 a.u.	Th
Xe^* + Al + Al	Atom Field Interaction	0.005-0.01 a.u.	Th

1685. J. McKenna, M. Suresh, B. Srigengan, I. D. Williams, W. A. Bryan, E.M.L. English, S. L. Stebbings, W. R. Newell, I.C.E. Turcu, J. M. Smith, E. J. Divall, C. J. Hooker, A. J. Langley, J. L. Collier
Ultrafast ionization study of N_2 in intense linearly and circularly polarized laser fields.
Phys. Rev. A 73, 043401 (2006)

N_2 + Al	Atom Field Interaction	790 nm	Exp

1686. K. J. LaGattuta
Behavior of ${H_2}^+$ and H_2 in strong laser fields simulated by fermion molecular dynamics.
Phys. Rev. A 73, 043404 (2006)

H_2 + Al	Atom Field Interaction	758 nm	Th
${H_2}^+$ + Al	Atom Field Interaction	758 nm	Th

1687. T. Topcu, F. Robicheaux
Radiative cascade of highly excited hydrogen atoms in strong magnetic fields.
Phys. Rev. A 73, 043405 (2006)

H + Al	Atom Field Interaction		Th
H^* + Al	Atom Field Interaction		Th

1688. G. Yang, Y. Zheng, X. Chi
Photodetachment of H^- in a static electric field near an elastic wall.
Phys. Rev. A 73, 043413 (2006)

H^- + Al	Atom Field Interaction	0.75-1.05 eV	Th

1689. F. Anis, V. Roudnev, R. Cabrera-Trujillo, B. D. Esry
Laser-assisted charge transfer in He^{2+} + H collisions.
Phys. Rev. A 73, 043414 (2006)

He^{2+} + H + Al	Atom Field Interaction	1 keV	Th

1690. R. N. Coffee, L. Fang, G. N. Gibson
Light-induced potentials ignite dissociation of $N_2{}^{2+}$.
Phys. Rev. A 73, 043417 (2006)

N_2 + Al	Atom Field Interaction	400-1200 nm	Exp

1691. T. Rieger, T. Junglen, S. A. Rangwala, G. Rempe, P.W.H. Pinkse, J. Bulthuis
Water vapor at a translational temperature of 1 K.
Phys. Rev. A 73, 061402 (2006)

H_2O + Al	Atom Field Interaction	1 K	Exp
D_2O + Al	Atom Field Interaction	1 K	Exp

1692. C. Ruiz, L. Plaja, R. Taieb, V. Veniard, A. Maquet
Quantum and semiclassical simulations in intense $laser - H_2{}^+$ interactions.
Phys. Rev. A 73, 063411 (2006)

$H_2{}^+$ + Al	Atom Field Interaction	0.043 a.u.	Th

1693. L.-Y. Peng, Q. Wang, A. F. Starace
Photodetachment of H^- by a short laser pulse in crossed static electric and magnetic fields.
Phys. Rev. A 74, 023402 (2006)

H^- + Al	Atom Field Interaction	0-500 cm^{-1}	Th

1694. C. B. Madsen, L. B. Madsen
High-order harmonic generation from arbitrarily oriented diatomic molecules including nuclear motion and field-free alignment.
Phys. Rev. A 74, 023403 (2006)

H_2 + Al	Atom Field Interaction	800 nm	Th
D_2 + Al	Atom Field Interaction	800 nm	Th
N_2 + Al	Atom Field Interaction	800 nm	Th
O_2 + Al	Atom Field Interaction	800 nm	Th

1695. X. Guan
Oscillator strength spectrum of hydrogen in strong magnetic and electric fields with arbitrary mutual orientation.
Phys. Rev. A 74, 023413 (2006)

H + Al	Atom Field Interaction	10^8 V/m	Th

1696. I. A. Ivanov, A. S. Kheifets
Single-photon double ionization of helium in the presence of dc electric field.
Phys. Rev. A 74, 042710 (2006)

He + Al	Atom Field Interaction	85-90 eV	Th

1697. R. Santra, R. W. Dunford, L. Young
Spin-orbit effect on strong-field ionization of krypton.
Phys. Rev. A 74, 043403 (2006)

Kr + Al	Atom Field Interaction	800 nm	Th

1698. S.-M. Wang, K.-J. Yuan, Y.-Y. Niu, Y.-C. Han, S.-L. Cong
Phase control of the photofragment branching ratio of the HI molecule in two intense few-cycle laser pulses.
Phys. Rev. A 74, 043406 (2006)

HI + Al	Atom Field Interaction	10^{13} W/cm^2	Th

1699. J. McKenna, M. Suresh, B. Srigengan, I. D. Williams, W. A. Bryan, E.M.L. English, S. L. Stebbings, W. R. Newell, I.C.E. Turcu, J. M. Smith, E. J. Divall, C. J. Hooker, A. J. Langley, J. L. Collier
Rescattering-enhanced dissociation of a molecular ion.
Phys. Rev. A 74, 043409 (2006)

$CO_2$$^+$ + Al	Atom Field Interaction	$3x10^{13} - 6x10^{16}$ W/cm^2	Exp

1700. H. Ohmura, F. Ito, M. Tachiya
Phase-sensitive molecular ionization induced by a phase-controlled two-color laser field in methyl halides.
Phys. Rev. A 74, 043410 (2006)

CH_3I + Al	Atom Field Interaction	$10^{12} - 10^{13}$ W/cm^2	Exp
CH_3Cl + Al	Atom Field Interaction	$10^{12} - 10^{13}$ W/cm^2	Exp
CH_3Br + Al	Atom Field Interaction	$10^{12} - 10^{13}$ W/cm^2	Exp
CH_3F + Al	Atom Field Interaction	$10^{12} - 10^{13}$ W/cm^2	Exp

1701. P. Q. Wang, A. M. Sayler, K. D. Carnes, J. F. Xia, M. A. Smith, B. D. Esry, I. Ben-Itzhak
Dissociation of $H_2{}^+$ in intense femtosecond laser fields studied by coincidence three-dimensional momentum imaging.
Phys. Rev. A 74, 043411 (2006)

$H_2{}^+$ + Al	Atom Field Interaction	790 nm	E/T

1702. J. M. Menendez, I. Martin, A. M. Velasco
Molecular quantum defect orbital study of the Stark effect in the H_3 molecule.
Phys. Rev. A 74, 043413 (2006)

H_3 + Al	Atom Field Interaction		Th

1703. M. Vafaee, H. Sabzyan, Z. Vafaee, A. Katanforoush
Detailed instantaneous ionization rate of $H_2{}^+$ in an intense laser field.
Phys. Rev. A 74, 043416 (2006)

$H_2{}^+$ + Al	Atom Field Interaction	10^{14} W/cm^2	Th

1704. E. Shchekinova, C. Chandre, T. Uzer
Phase-space structures and ionization dynamics of the hydrogen atom in elliptically polarized microwaves.
Phys. Rev. A 74, 043417 (2006)

H + Al	Atom Field Interaction		Th

1705. K.-J. Yuan, Z. Sun, S.-L. Cong, N. Lou
Molecular photoelectron spectrum in ultrashort laser fields: Autler-Townes splitting under rotational and aligned effects.
Phys. Rev. A 74, 043421 (2006)

Na_2 + Al	Atom Field Interaction	2.5-7.5, 10^{11} W/cm^2	Th

1706. E. L. Foley, F. M. Levinton
A collisional-radiative model including sublevel parameters (CRISP) for H-alpha radiation.
J. Phys. B 39, 443 (2006)

H + Al	Atom Field Interaction		Th
e + H + Al	Atom Field Interaction		Th

1707. A. K. Kazansky, N. M. Kabachnik
Non-stationary treatment of energy distribution of electrons in resonant double ionization of Ne by ultra-short pulses.
J. Phys. B 39, L53 (2006)

Ne + Al	Atom Field Interaction	871.7 eV	Th

1708. K. Hoshina, A. Hishikawa, K. Kato, T. Sako, K. Yamanouchi, E. J. Takahashi, Y. Nabekawa, K. Midorikawa
Dissociative ATI of H_2 and D_2 in intense soft x-ray laser fields.
J. Phys. B 39, 813 (2006)

H_2 + Al	Atom Field Interaction	41.7 eV	Exp
D_2 + Al	Atom Field Interaction	41.7 eV	Exp

1709. L.A.A. Nikolopoulos, P. Lambropoulos
Helium double ionization signals under soft-x-ray coherent radiation.
J. Phys. B 39, 883 (2006)

He + Al	Atom Field Interaction	41.85-51.15 eV	Th

1710. D. Dimitrovski, E. A. Solov'ev
Ionization of negative ions and atoms by electric pulses: Zigzag dependence on pulse duration.
J. Phys. B 39, 895 (2006)

H^- + Al	Atom Field Interaction		Th
H + Al	Atom Field Interaction		Th
He^- + Al	Atom Field Interaction		Th

1711. M. Busch, Th. Ludwig, R. Drozdowski, G. von Oppen
Anticrossing spectra of ^3He and ^4He atoms excited by $He^+ - He$ collisions.
J. Phys. B 39, 1929 (2006)

He^+ + He + Al	Atom Field Interaction		Exp

1712. S. Djurovic, R. J. Pelaez, M. Cirisan, J. A. Aparicio, S. Mar
Stark widths of Xe II lines in a pulsed plasma.
J. Phys. B 39, 2901 (2006)

Xe^+ + Al	Atom Field Interaction		Exp

1713. M. Vincke, D. Baye
Hydrogen molecular ion in an aligned strong magnetic field by the Lagrange-mesh method.
J. Phys. B 39, 2605 (2006)

$H_2{}^+$ + Al	Atom Field Interaction	2-2000 10^5 T	Th

1714. X. Liu, C. F. de Morisson Faria, W. Becker, P. B. Corkum
Attosecond electron thermalization by laser-driven electron recollision in atoms.
J. Phys. B 39, L305 (2006)

Ne + Al	Atom Field Interaction		Th

1715. R. Casini, R. M. Sainz
Scattering polarization of hydrogen lines in the presence of turbulent electric fields.
J. Phys. B 39, 3241 (2006)

H + Al	Atom Field Interaction		Exp

1716. I. Sundvor, J. P. Hansen, R. Taieb
On the description of nuclear dynamics in ionization of diatomic molecules in short strong electromagnetic fields.
J. Phys. B 39, 3299 (2006)

$\mathbf{H_2}^+$ **+ Al**	Atom Field Interaction		Th

1717. X. Li, Z. Xu, F. B. Rosmej
Exchange energy shifts under dense plasma conditions.
J. Phys. B 39, 3373 (2006)

$\mathbf{Al^{11+}}$ **+ Al**	Atom Field Interaction		Th

1718. A. B. Voitkiv, N. Toshima, J. Ullrich
Ionization of hydrogen by ion impact in the presence of a laser field resonant to bound-bound atomic transitions.
J. Phys. B 39, 3791 (2006)

$\mathbf{C^{6+}}$ **+ H + Al**	Atom Field Interaction	1 MeV/u	Th

1719. T. Bergeman, J. Qi, D. Wang, Y. Huang, H. K. Pechkis, E. E. Eyler, P. L. Gould, W. C. Stwalley, R. A. Cline, J. D. Miller, D. J. Heinzen
Photoassociation of ^{85}Rb **atoms into** $O_u{}^+$ **states near the 5S+5P atomic limits.**
J. Phys. B 39, S813 (2006)

Rb + Rb + Al	Atom Field Interaction	$2x10^{-4}$ K	E/T
Rb + Rb* + Al	Atom Field Interaction	$2x10^{-4}$ K	E/T

1720. E. van der Zwan, D. van Oosten, D. Nehari, P. van der Straten, H.T.C. Stoof
On the role of Penning ionization in photoassociation spectroscopy.
J. Phys. B 39, S825 (2006)

He + He + Al	Atom Field Interaction	1.9-2.7 mK	E/T
He + He* + Al	Atom Field Interaction	1.9-2.7 mK	E/T

1721. M. Vatasescu, C. M. Dion, O. Dulieu
Efficient formation of strongly bound ultracold caesium molecules by photoassociation with tunnelling.
J. Phys. B 39, S945 (2006)

Cs + Cs + Al	Atom Field Interaction	$1.5x10^{-4}$ K	Th
Cs + Cs* + Al	Atom Field Interaction	$1.5x10^{-4}$ K	Th

1722. C. Haimberger, J. Kleinert, O. Dulieu, N. P. Bigelow
Processes in the formation of ultracold NaCs.
J. Phys. B 39, S957 (2006)

Na + Cs + Al	Atom Field Interaction	$3x10^{-5}$ K	Exp
Na + Cs* + Al	Atom Field Interaction	$3x10^{-5}$ K	Exp

1723. E. Juarros, K. Kirby, R. Cote
Laser-assisted ultracold lithium-hydride molecule formation: Stimulated versus spontaneous emission.
J. Phys. B 39, S965 (2006)

H + Li* + Al	Atom Field Interaction	1 mK	Th
Li + H + Al	Atom Field Interaction	1 mK	Th

1724. S. D. Kraft, P. Staanum, J. Lange, L. Vogel, R. Wester, M. Weidemueller
Formation of ultracold LiCs molecules.
J. Phys. B 39, S993 (2006)

Li + Cs + Al	Atom Field Interaction	10^{-4} K	Exp

1725. U. Poschinger, W. Salzmann, R. Wester, M. Weidemueller, C. P. Koch, R. Kosloff
Theoretical model for ultracold molecule formation via adaptive feedback control.
J. Phys. B 39, S1001 (2006)

Rb + Rb + Al	Atom Field Interaction	10^{-4} K	Th
Rb + Rb* + Al	Atom Field Interaction	10^{-4} K	Th

1726. C. P. Koch, R. Kosloff, E. Luc-Koenig, F. Masnou-Seeuws, A. Crubellier
Photoassociation with chirped laser pulses: Calculation of the absolute number of molecules per pulse.
J. Phys. B 39, S1017 (2006)

Cs + Rb + Al	Atom Field Interaction	$0.5x10^{-4} - 1.5x10^{-4}$ K	Th
Cs + Rb* + Al	Atom Field Interaction	$0.5x10^{-4} - 1.5x10^{-4}$ K	Th

1727. B. Schaefer-Bung, R. Mitric, V. Bonacic-Koutecky
Photostabilization of the ultracold Rb_2 molecule by optimal control.
J. Phys. B 39, S1043 (2006)

Rb + Rb + Al	Atom Field Interaction		Th
Rb + Rb* + Al	Atom Field Interaction		Th

1728. I. S. Vogelius, L. B. Madsen, M. Drewsen
Rotational cooling of molecular ions through laser-induced coupling to the collective modes of a two-ion Coulomb crystal.
J. Phys. B 39, S1267 (2006)

Ca^+ + MgH^+ + Al	Atom Field Interaction	300 K	Th

1729. Z. X. Zhao, T. Brabec
Tunnel ionization of open-shell atoms.
J. Phys. B 39, L345 (2006)

V + Al	Atom Field Interaction		Th
Ni + Al	Atom Field Interaction		Th
Nb + Al	Atom Field Interaction		Th
Pd + Al	Atom Field Interaction		Th
Ta + Al	Atom Field Interaction		Th

1730. M. F. Ciappina, L. B. Madsen
Electron emission in energetic ion-atom collisions in the presence of coherent electromagnetic radiation.
J. Phys. B 39, 5037 (2006)

H^+ + H + Al	Atom Field Interaction	10 a.u.	Th
He^{2+} + H + Al	Atom Field Interaction	10 a.u.	Th
C^{6+} + H + Al	Atom Field Interaction	10 a.u.	Th

1731. H. Ben Chaouacha, S. Sahal-Brechot, N. Ben Nessib
Semi-classical Stark broadening calculations of HeI lines in a non-ideal plasma.
Astron. Astrophys. 465, 651 (2007)

He + Al	Atom Field Interaction	5000 $\AA$	Th

1732. A. Alonso-Medina, C. Colon
Stark widths of several Pb III spectral lines in a laser-induced lead plasma.
Astron. Astrophys. 466, 399 (2007)

Pb^{2+} + Al	Atom Field Interaction	25,200 K	Exp

1733. D. L. Moskovkin, V. M. Shabaev
Zeeman effect of the hyperfine-structure levels in hydrogenlike ions.
Phys. Rev. A 73, 052506 (2006)

H + Al	Atom Field Interaction	1-10 T	Th
C^{5+} + Al	Atom Field Interaction	1-10 T	Th
O^{7+} + Al	Atom Field Interaction	1-10 T	Th
S^{15+} + Al	Atom Field Interaction	1-10 T	Th
Ca^{19+} + Al	Atom Field Interaction	1-10 T	Th
Cr^{23+} + Al	Atom Field Interaction	1-10 T	Th
Ge^{31+} + Al	Atom Field Interaction	1-10 T	Th
Xe^{53+} + Al	Atom Field Interaction	1-10 T	Th
Pb^{81+} + Al	Atom Field Interaction	1-10 T	Th
Bi^{82+} + Al	Atom Field Interaction	1-10 T	Th
U^{91+} + Al	Atom Field Interaction	1-10 T	Th

1734. L. Perotti
Ionization of Rydberg alkali-metal atoms in quasistatic electric fields: A classical view of the N^{-5} scaling of the threshold field.
Phys. Rev. A 73, 053405 (2006)

Li + Al	Atom Field Interaction	-E - E E=1/3${n_0}^5$	Th
Na + Al	Atom Field Interaction	-E - E E=1/3${n_0}^5$	Th
K + Al	Atom Field Interaction	-E - E E=1/3${n_0}^5$	Th
Rb + Al	Atom Field Interaction	-E - E E=1/3${n_0}^5$	Th
Cs + Al	Atom Field Interaction	-E - E E=1/3${n_0}^5$	Th

1735. K. M. Dunseath, M. Terao-Dunseath
Laser-assisted electron-helium scattering at very low collision energies.
Phys. Rev. A 73, 053407 (2006)

C + He + Al	Atom Field Interaction	0.2-2.5 eV	E/T

1736. C. C. Chirila, M. Lein
High-order above-threshold ionization in stretched molecules.
Phys. Rev. A 74, 051401 (2006)

${H_2}^+$ + Al	Atom Field Interaction	0-60 U_p	Th

1737. M. Zitnik, F. Penent, P. Lablanquie, A. Mihelic, K. Bucar, R. Richter, M. Alagia, S. Stranges
Effect of electric fields on the decay branching ratio of $^1P^e$ doubly excited states in helium measured by time-resolved fluorescence.
Phys. Rev. A 74, 051404 (2006)

He + Al	Atom Field Interaction	1-6 kV/cm	Exp

1738. M. Hoerndl, S. Yoshida, A. Wolf, G. Gwinner, M. Seliger, J. Burgdorfer
Classical dynamics of enhanced low-energy electron-ion recombination in storage rings.
Phys. Rev. A 74, 052712 (2006)

e + C^{6+} + Al	Atom Field Interaction	$10^{-5} - 10^{0}$ eV	E/T

1739. M. Gustafsson, L. Frommhold
Infrared absorption by $H_2 - Ar$ collisional complexes and the anisotropy of the intermolecular interaction potential.
Phys. Rev. A 74, 054703 (2006)

Ar + H_2 + Al	Atom Field Interaction	195 K	Th

1740. L. B. Zhao, P. C. Stancil
Photoionization of hydrogen in white dwarf strength magnetic fields.
Phys. Rev. A 74, 055401 (2006)

H + Al	Atom Field Interaction	0-60,000 cm^{-1}	Th

1741. D. B. Milosevic
Strong-field approximation for ionization of a diatomic molecule by a strong laser field.
Phys. Rev. A 74, 063404 (2006)

Ar + Al	Atom Field Interaction	1-2 10^{14} W/cm^2	Th
Xe + Al	Atom Field Interaction	1-2 10^{14} W/cm^2	Th
N_2 + Al	Atom Field Interaction	1-2 10^{14} W/cm^2	Th
O_2 + Al	Atom Field Interaction	1-2 10^{14} W/cm^2	Th

1742. J. Hu, M.-S. Wang, K.-L. Han, G.-Z. He
Attosecond resolution quantum dynamics between electrons and $H_2{}^+$ molecules.
Phys. Rev. A 74, 063417 (2006)

e + $H_2{}^+$ + Al	Atom Field Interaction	800-1850 nm	Th

1743. A. V. Turbiner, N. L. Guevara
$He_2{}^{2+}$ molecular ion can exist in a magnetic field.
Phys. Rev. A 74, 063419 (2006)

$He_2{}^{2+}$ + Al	Atom Field Interaction	0-4 a.u.	Th

1744. R. M. Potvliege, S. Vucic
Stark-shift induced resonances in multiphoton ionization.
Phys. Scr. 74, 655 (2006)

Ar + Al	Atom Field Interaction		Th

1745. G. G. Paulus, F. Lindner, D. B. Milosevic, W. Becker
Phase-controlled single-cycle strong-field photoionization.
Phys. Scr. T110, 120 (2004)

Xe + Al	Atom Field Interaction	1.55 eV	Exp

1746. A. Saenz
Molecular hydrogen in strong laser fields: Bond softening, enhanced ionisation, and coherent control.
Phys. Scr. T110, 126 (2004)

$\mathbf{H_2 + Al}$	Atom Field Interaction		Th

1747. K. T. Taylor, J. S. Parker, D. Dundas, K. J. Meharg, L.-Y. Peng, B.J.S. Doherty, J. F. McCann
Few-electron dynamics of atoms and molecules in intense laser fields.
Phys. Scr. T110, 154 (2004)

He + Al	Atom Field Interaction		Exp
$\mathbf{H_2{}^+ + Al}$	Atom Field Interaction		Exp

1748. M. S. Dimitrijevic, T. Ryabchikova, Z. Simic, L. C. Popovic, M. Dacic
The influence of Stark broadening on Cr II spectral line shapes in stellar atmospheres.
Astron. Astrophys. 469, 681 (2007)

$\mathbf{Cr^+ + Al}$	Atom Field Interaction	5,000-100,000 K	Th

1749. Q. Wu
Precision calculation of electronic g_J factors for n^3S_1 states of ^4He and $^7Li^+$ ion.
J. Phys. B 39, 4213 (2006)

He + Al	Atom Field Interaction		Th
$\mathbf{Li^+ + Al}$	Atom Field Interaction		Th

1750. M. Kajita
Collision between magnetically trapped NH molecules in the (N=0, J=1) state.
Phys. Rev. A 74, 032710 (2006)

NH + NH + Al	Atom Field Interaction	10^{-6} K	Th

1751. E. Wagenaars, G.M.W. Kroesen, M. D. Bowden
Investigations of Stark effects in xenon Rydberg states by laser-induced fluorescence-dip spectroscopy.
Phys. Rev. A 74, 033409 (2006)

Xe + Al	Atom Field Interaction	0-4000 V/cm	E/T
$\mathbf{Xe^* + Al}$	Atom Field Interaction	0-4000 V/cm	E/T

1752. D. Tankosic, L. C. Popovic, M. S. Dimitrijevic
Electron-impact Stark broadening parameters for Ti II and Ti III spectral lines.
At. Data Nucl. Data Tables 77, 277 (2001)

$\mathbf{Ti^+ + Al}$	Atom Field Interaction	5000-50,000 K	Th
$\mathbf{Ti^{2+} + Al}$	Atom Field Interaction	5000-50,000 K	Th

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