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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**, 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. In Part 1, the Atomic and Molecular Data Information System (AMDIS) of the International Atomic Energy Agency is presented. In Part 2, the indexed papers are listed separately for structure and spectra, atomic and molecular collisions, and surface interactions. 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/

In addition to the regular publication of the Bulletin, the **IAEA** Atomic and Molecular Data Unit also performs selective retrospective retrievals from the entire (1950-present) bibliographic data base on request. Retrievals are free of charge and can be made on all of the information indexed in the Bulletin.

Vienna, June 2006 The Editors

News on the Atomic and Molecular Data Unit

As mentioned in the previous edition, the Atomic and Molecular Data Unit normally operates three to four Co-ordinated Reasearch Projects (CRP) at the same time. 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.). Two CRPs ended in 2005. Results from these CRPs, "Data for molecular processes in edge plasmas" and "Atomic and molecular data for fusion diagnostics", have been published in the IAEA APID Series: volumes 13 and 14, which can be purchased on request. The new generated data have been introduced into ALADDIN, the A+M Data Unit's numerical database (http://www-amdis.iaea.org/ALADDIN/). Two new CRPs on "Atomic and molecular data for plasma modelling" and "Atomic data for heavy element impurities" held their first Research Coodinated Meetings in September and November 2005 respectively. A new CRP on "Data for surface composition dynamics relevant to erosion processes" will hold its first RCM in November 2006. 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/

The ability to carry out calculations of A+M data through Internet interfaces is of great interest to estimate parameters such as cross sections when no reliable data have been measured or calculated. The A+M Data Unit has encouraged this web calculation approach and already provides such web tools on the Unit home page to calculate various cross sections and rate coefficients. Recently, a new code written by Fainstein for the calculation of differential and total cross sections for single ionization of hydrogenic and helium targets by fast ions has been implemented. Also, with the collaboration of Dubois, the interface to calculate excitation cross sections of bare nuclei with hydrogenic atoms has been extended to include ionization processes. New functionalities have been introduced and the web interface improved with proposed default values for a number of parameters.

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

The numerical database ALADDIN 3.0 has an entirely redesigned interface. Searches are performed more efficiently by using any possible search criteria combinations along with a filtering function that allows the user to obtain insights into the contents of the database. 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. All data from ALADDIN have been reviewed to implement version 3.0. This work is complete for the "atomic and molecular data". The review of the "surface interactions data" is in progress.

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

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 data retrieval system. It contains more than 40,000 bibliographic entries with atomic, molecular and plasma-surface interaction data of interest to fusion research, 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, **A L**abelled **A**tomic **D**ata **IN**terface, is a database system developed to provide a standard and flexible format and interface for the exchange and management of numerical atomic, molecular and plasma-material interaction data of interest to fusion research, originally designed by R. Hulse at the Princeton Plasma Physics Laboratory. This system has been adopted by the IAEA and the Atomic Data Centre Network, an international group of fourteen data centres from several countries, for the exchange of data since 1988.
AMDIS provides a web interface to the ALADDIN Database, accessible from the Unit homepage at **http://www-amdis.iaea.org**. Simple to use, the interface facilitates searches for recommended or evaluated atomic, molecular, plasma-surface interaction and material properties data. An ALADDIN entry consists of searchable labels that characterize the process, 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.

Chapter 2

INDEXATION

2.1 Structure and Spectra

H	Trans. prob., Oscill. Strengths	E/T	114
He	Trans. prob., Oscill. Strengths	E/T	114
He	Trans. prob., Oscill. Strengths	E/T	116
$\mathbf{Be}^{+}$	Energy Levels, Wavelengths	E/T	29
$\mathbf{Be}^{2+}$	Energy Levels, Wavelengths	E/T	30
Be	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Be}^{+}$	Trans. prob., Oscill. Strengths	E/T	114
Be	Trans. prob., Oscill. Strengths	E/T	116
B	Energy Levels, Wavelengths	E/T	52
B	Trans. prob., Oscill. Strengths	E/T	114
C	Trans. prob., Oscill. Strengths	E/T	64
C	Trans. prob., Oscill. Strengths	E/T	96
$\mathbf{C}^{0+-4+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{N}^{+}$	Trans. prob., Oscill. Strengths	E/T	82
$\mathbf{N}^{0+-5+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{O}^{2+}$	Energy Levels, Wavelengths	E/T	8
$\mathbf{O}^{3+}$	Energy Levels, Wavelengths	E/T	26
$\mathbf{O}^{+}$	Trans. prob., Oscill. Strengths	E/T	63
$\mathbf{O}^{3+}$	Trans. prob., Oscill. Strengths	E/T	87
$\mathbf{O}^{0+-6+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{F}^{3+}$	Energy Levels, Wavelengths	E/T	8
$\mathbf{F}^{4+}$	Energy Levels, Wavelengths	E/T	26
F	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Ne}^{0+-7+}$	Energy Levels, Wavelengths	E/T	19
$\mathbf{Ne}^{5+}$	Energy Levels, Wavelengths	E/T	26
$\mathbf{Ne}^{2+}$	Trans. prob., Oscill. Strengths	E/T	88
Ne	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Ne}^{+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Ne}^{4+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Ne}^{6+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Ne}^{7+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Na}^{0+-2+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Na}^{4+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Na}^{5+-8+}$	Trans. prob., Oscill. Strengths	E/T	114
Mg	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Mg}^{+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Mg}^{3+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Mg}^{5+}$	Trans. prob., Oscill. Strengths	E/T	114
$\mathbf{Mg}^{6+-10+}$	Trans. prob., Oscill. Strengths	E/T	114
Mg	Trans. prob., Oscill. Strengths	E/T	116

Ca^{14+}	Trans. prob., Oscill. Strengths	E/T	114
Ca^{16+}	Trans. prob., Oscill. Strengths	E/T	114
Ca^{17+}	Trans. prob., Oscill. Strengths	E/T	114
Ca	Trans. prob., Oscill. Strengths	E/T	116
Sc	Trans. prob., Oscill. Strengths	E/T	114
Sc^{+}	Trans. prob., Oscill. Strengths	E/T	114
Ti^{11+}	Energy Levels, Wavelengths	E/T	58
Ti^{17+}	Trans. prob., Oscill. Strengths	E/T	104
Ti^{0+-3+}	Trans. prob., Oscill. Strengths	E/T	114
Ti^{7+}	Trans. prob., Oscill. Strengths	E/T	114
Ti^{8+-20+}	Trans. prob., Oscill. Strengths	E/T	114
V^{0+-3+}	Trans. prob., Oscill. Strengths	E/T	114
Cr^{7+}	Trans. prob., Oscill. Strengths	E/T	103
Cr	Trans. prob., Oscill. Strengths	E/T	114
Cr^{+}	Trans. prob., Oscill. Strengths	E/T	114
Cr^{4+}	Trans. prob., Oscill. Strengths	E/T	114
Cr^{5+}	Trans. prob., Oscill. Strengths	E/T	114
Cr^{9+}	Trans. prob., Oscill. Strengths	E/T	114
Cr$^{10+-22+}$	Trans. prob., Oscill. Strengths	E/T	114
Mn	Trans. prob., Oscill. Strengths	E/T	114
Mn^{+}	Trans. prob., Oscill. Strengths	E/T	114
Mn^{5+}	Trans. prob., Oscill. Strengths	E/T	114
Fe^{4+}	Energy Levels, Wavelengths	E/T	2
Fe^{12+}	Energy Levels, Wavelengths	E/T	3
Fe^{14+}	Energy Levels, Wavelengths	E/T	7
Fe^{24+}	Energy Levels, Wavelengths	E/T	16
Fe^{6+}	Energy Levels, Wavelengths	E/T	24
Fe$^{16+-18+}$	Energy Levels, Wavelengths	E/T	25
Fe^{13+}	Energy Levels, Wavelengths	E/T	44
Fe$^{20+-23+}$	Energy Levels, Wavelengths	E/T	57
Fe^{+}	Trans. prob., Oscill. Strengths	E/T	65
Fe^{3+}	Trans. prob., Oscill. Strengths	E/T	68
Fe^{19+}	Trans. prob., Oscill. Strengths	E/T	72
Fe^{11+}	Trans. prob., Oscill. Strengths	E/T	73
Fe^{2+}	Trans. prob., Oscill. Strengths	E/T	75
Fe^{6+}	Trans. prob., Oscill. Strengths	E/T	77
Fe^{+}	Trans. prob., Oscill. Strengths	E/T	81
Fe^{13+}	Trans. prob., Oscill. Strengths	E/T	91
Fe^{+}	Trans. prob., Oscill. Strengths	E/T	98
Fe^{0+-2+}	Trans. prob., Oscill. Strengths	E/T	114
Fe^{6+}	Trans. prob., Oscill. Strengths	E/T	114
Fe^{7+}	Trans. prob., Oscill. Strengths	E/T	114
Fe^{9+}	Trans. prob., Oscill. Strengths	E/T	114
Fe$^{10+-16+}$	Trans. prob., Oscill. Strengths	E/T	114
Fe^{18+}	Trans. prob., Oscill. Strengths	E/T	114
Fe$^{19+-24+}$	Trans. prob., Oscill. Strengths	E/T	114
Fe^{22+}	Trans. prob., Oscill. Strengths	E/T	117
Fe^{23+}	Trans. prob., Oscill. Strengths	E/T	118
Co	Trans. prob., Oscill. Strengths	E/T	114
Co^{+}	Trans. prob., Oscill. Strengths	E/T	114
Ni^{15+}	Energy Levels, Wavelengths	E/T	44
Ni^{24+}	Energy Levels, Wavelengths	E/T	49
Ni^{3+}	Trans. prob., Oscill. Strengths	E/T	70
Ni^{25+}	Trans. prob., Oscill. Strengths	E/T	79
Ni^{15+}	Trans. prob., Oscill. Strengths	E/T	91
Ni^{0+-2+}	Trans. prob., Oscill. Strengths	E/T	114
Ni^{13+}	Trans. prob., Oscill. Strengths	E/T	114

$Ni^{14+–18+}$	Trans. prob., Oscill. Strengths	E/T	114
Ni^{20+}	Trans. prob., Oscill. Strengths	E/T	114
$Ni^{21+–26+}$	Trans. prob., Oscill. Strengths	E/T	114
Cu^{+}	Trans. prob., Oscill. Strengths	E/T	93
Cu	Trans. prob., Oscill. Strengths	E/T	114
Cu^{+}	Trans. prob., Oscill. Strengths	E/T	114
Cu	Trans. prob., Oscill. Strengths	E/T	121
Zn^{26+}	Energy Levels, Wavelengths	E/T	49
Zn^{16+}	Trans. prob., Oscill. Strengths	E/T	108
Zn	Trans. prob., Oscill. Strengths	E/T	114
Zn^{+}	Trans. prob., Oscill. Strengths	E/T	114
Ga	Trans. prob., Oscill. Strengths	E/T	114
Ga^{+}	Trans. prob., Oscill. Strengths	E/T	114
Ge	Trans. prob., Oscill. Strengths	E/T	114
Ge^{+}	Trans. prob., Oscill. Strengths	E/T	114
As	Trans. prob., Oscill. Strengths	E/T	114
Br^{2+}	Trans. prob., Oscill. Strengths	E/T	83
Br	Trans. prob., Oscill. Strengths	E/T	114
Kr^{22+}	Energy Levels, Wavelengths	E/T	23
Kr	Energy Levels, Wavelengths	E/T	42
Kr^{7+}	Trans. prob., Oscill. Strengths	E/T	78
Kr^{22+}	Trans. prob., Oscill. Strengths	E/T	108
Kr	Trans. prob., Oscill. Strengths	E/T	114
Kr^{+}	Trans. prob., Oscill. Strengths	E/T	114
Rb^{+}	Energy Levels, Wavelengths	E/T	46
Rb	Trans. prob., Oscill. Strengths	E/T	114
Sr	Trans. prob., Oscill. Strengths	E/T	114
Sr^{+}	Trans. prob., Oscill. Strengths	E/T	114
Sr	Trans. prob., Oscill. Strengths	E/T	116
Y	Trans. prob., Oscill. Strengths	E/T	114
Y^{+}	Trans. prob., Oscill. Strengths	E/T	114
Mo^{13+}	Trans. prob., Oscill. Strengths	E/T	78
Mo^{33+}	Trans. prob., Oscill. Strengths	E/T	100
Mo	Trans. prob., Oscill. Strengths	E/T	114
Mo^{33+}	Trans. prob., Oscill. Strengths	E/T	119
Rh^{31+}	Trans. prob., Oscill. Strengths	E/T	108
Rh	Trans. prob., Oscill. Strengths	E/T	114
Pd^{+}	Energy Levels, Wavelengths	E/T	4
Ag^{+}	Energy Levels, Wavelengths	E/T	20
Ag	Trans. prob., Oscill. Strengths	E/T	114
Cd	Trans. prob., Oscill. Strengths	E/T	114
Cd^{+}	Trans. prob., Oscill. Strengths	E/T	114
In	Trans. prob., Oscill. Strengths	E/T	114
In^{+}	Trans. prob., Oscill. Strengths	E/T	114
Sn	Trans. prob., Oscill. Strengths	E/T	114
Sn^{+}	Trans. prob., Oscill. Strengths	E/T	114
I	Trans. prob., Oscill. Strengths	E/T	114
Xe	Energy Levels, Wavelengths	E/T	14
Xe^{+}	Energy Levels, Wavelengths	E/T	14
Xe^{6+}	Energy Levels, Wavelengths	E/T	21
$Xe^{7+–9+}$	Energy Levels, Wavelengths	E/T	22
$Xe^{18+–26+}$	Energy Levels, Wavelengths	E/T	35
Xe^{6+}	Energy Levels, Wavelengths	E/T	39
Xe^{32+}	Energy Levels, Wavelengths	E/T	43
Xe^{8+}	Energy Levels, Wavelengths	E/T	53
Xe^{7+}	Trans. prob., Oscill. Strengths	E/T	84
Xe	Trans. prob., Oscill. Strengths	E/T	101

Xe^{4+}	Trans. prob., Oscill. Strengths	E/T	102
Xe^{40+}	Trans. prob., Oscill. Strengths	E/T	108
Xe^{5+}	Trans. prob., Oscill. Strengths	E/T	109
Xe	Trans. prob., Oscill. Strengths	E/T	110
Xe	Trans. prob., Oscill. Strengths	E/T	114
Xe^{+}	Trans. prob., Oscill. Strengths	E/T	114
Cs	Energy Levels, Wavelengths	E/T	13
Cs^{51+}	Energy Levels, Wavelengths	E/T	49
Cs	Trans. prob., Oscill. Strengths	E/T	114
Ba^{34+}	Energy Levels, Wavelengths	E/T	43
Ba	Energy Levels, Wavelengths	E/T	56
Ba	Trans. prob., Oscill. Strengths	E/T	114
Ba^{+}	Trans. prob., Oscill. Strengths	E/T	114
La^{8+}	Energy Levels, Wavelengths	E/T	5
La^{9+}	Energy Levels, Wavelengths	E/T	18
Ce$^{28+-31+}$	Energy Levels, Wavelengths	E/T	10
Ce^{9+}	Energy Levels, Wavelengths	E/T	33
Pr^{+}	Energy Levels, Wavelengths	E/T	31
Pr^{2+}	Energy Levels, Wavelengths	E/T	31
Pr^{2+}	Energy Levels, Wavelengths	E/T	36
Pr^{+}	Energy Levels, Wavelengths	E/T	38
Pr^{+}	Trans. prob., Oscill. Strengths	E/T	114
Nd^{38+}	Energy Levels, Wavelengths	E/T	43
Nd^{32+}	Trans. prob., Oscill. Strengths	E/T	86
Nd^{+}	Trans. prob., Oscill. Strengths	E/T	114
Eu	Trans. prob., Oscill. Strengths	E/T	114
Gd^{42+}	Energy Levels, Wavelengths	E/T	43
Dy	Trans. prob., Oscill. Strengths	E/T	114
Er	Trans. prob., Oscill. Strengths	E/T	114
Tm	Trans. prob., Oscill. Strengths	E/T	114
Yb^{+}	Energy Levels, Wavelengths	E/T	15
Yb^{48+}	Energy Levels, Wavelengths	E/T	43
Yb^{2+}	Energy Levels, Wavelengths	E/T	48
Yb	Energy Levels, Wavelengths	E/T	62
Yb	Trans. prob., Oscill. Strengths	E/T	114
Yb^{+}	Trans. prob., Oscill. Strengths	E/T	114
Lu	Trans. prob., Oscill. Strengths	E/T	114
Ta	Energy Levels, Wavelengths	E/T	37
Ta^{45+}	Trans. prob., Oscill. Strengths	E/T	90
Ta	Trans. prob., Oscill. Strengths	E/T	114
W$^{30+-36+}$	Energy Levels, Wavelengths	E/T	32
W^{42+}	Energy Levels, Wavelengths	E/T	32
W^{18+}	Trans. prob., Oscill. Strengths	E/T	113
W	Trans. prob., Oscill. Strengths	E/T	114
Re^{+}	Trans. prob., Oscill. Strengths	E/T	76
Ir^{5+}	Energy Levels, Wavelengths	E/T	17
Ir	Energy Levels, Wavelengths	E/T	50
Ir	Trans. prob., Oscill. Strengths	E/T	114
Au^{57+}	Energy Levels, Wavelengths	E/T	43
Au$^{44+-51+}$	Energy Levels, Wavelengths	E/T	51
Au$^{42+-50+}$	Energy Levels, Wavelengths	E/T	61
Au^{65+}	Trans. prob., Oscill. Strengths	E/T	108
Au	Trans. prob., Oscill. Strengths	E/T	114
Hg	Trans. prob., Oscill. Strengths	E/T	114
Tl^{80+}	Energy Levels, Wavelengths	E/T	40
Tl	Trans. prob., Oscill. Strengths	E/T	114
Pb^{38+}	Energy Levels, Wavelengths	E/T	32

Pb$^{41+-44+}$	Energy Levels, Wavelengths	E/T	32
Pb^{50+}	Energy Levels, Wavelengths	E/T	32
Pb	Trans. prob., Oscill. Strengths	E/T	114
Pb^{50+}	Trans. prob., Oscill. Strengths	E/T	114
Bi^{80+}	Energy Levels, Wavelengths	E/T	12
Bi^{61+}	Energy Levels, Wavelengths	E/T	43
Bi	Trans. prob., Oscill. Strengths	E/T	114
Th^{86+}	Energy Levels, Wavelengths	E/T	12
Th^{87+}	Energy Levels, Wavelengths	E/T	12
U^{88+}	Energy Levels, Wavelengths	E/T	12
U^{89+}	Energy Levels, Wavelengths	E/T	12
U^{49+}	Energy Levels, Wavelengths	E/T	32
U$^{51+-54+}$	Energy Levels, Wavelengths	E/T	32
U^{60+}	Energy Levels, Wavelengths	E/T	32
U	Trans. prob., Oscill. Strengths	E/T	114
Li Z= 11-20	Trans. prob., Oscill. Strengths	E/T	105
Be Z= 6-36	Trans. prob., Oscill. Strengths	E/T	83
Be Z= 4-10	Trans. prob., Oscill. Strengths	E/T	111
Be Z= 4-10	Trans. prob., Oscill. Strengths	E/T	112
Be Z= 5-10	Trans. prob., Oscill. Strengths	E/T	117
N Z= 7-17	Energy Levels, Wavelengths	E/T	55
O Z= 8-20	Energy Levels, Wavelengths	E/T	55
O Z= 11-30	Trans. prob., Oscill. Strengths	E/T	71
Ne Z= 42-90	Energy Levels, Wavelengths	E/T	11
Mg Z= 15-18	Trans. prob., Oscill. Strengths	E/T	115
Si Z= 40-42	Trans. prob., Oscill. Strengths	E/T	108
P Z= 26-32	Trans. prob., Oscill. Strengths	E/T	120
Ca Z= 22-47	Energy Levels, Wavelengths	E/T	9
Ti Z= 51-83	Energy Levels, Wavelengths	E/T	59
Ni Z= 74-84	Energy Levels, Wavelengths	E/T	27
Ni Z= 62-64	Trans. prob., Oscill. Strengths	E/T	86
Ni Z= 73-74	Trans. prob., Oscill. Strengths	E/T	86
Cu Z= 29-34	Trans. prob., Oscill. Strengths	E/T	78
Ge Z= 37-42	Trans. prob., Oscill. Strengths	E/T	83
As Z= 37-42	Trans. prob., Oscill. Strengths	E/T	83
Pd Z= 49-100	Trans. prob., Oscill. Strengths	E/T	92
Tm Z= 79-83	Energy Levels, Wavelengths	E/T	6

2.2 Atomic and Molecular Collisions

2.2.1 Photon Collisions

Cd + Kr	Fluorescence	Undef.	E/T	127
Cd + Kr	Photoexcitation	Undef.	E/T	127
Ba^{+} + He	Fluorescence	3-30 K	Exp	126
Ba^{+*} + He	Fluorescence	3-30 K	Exp	126
hν + Sn	Photoionization	60.6 eV	E/T	122
hν + Xe	Photoionization	100-200 eV	Exp	123
hν + Ca	Photoionization	389 nm	Exp	124
hν + H^{-}	Photoionization	0.117-2 eV	Th	125
hν + H	Photoionization	0.117-2 eV	Th	125
hν + He	Photoionization	0.117-2 eV	Th	125
hν + He	Photoexcitation	76.2-77.4 eV	Exp	128
hν + He	Photoionization	76.2-77.4 eV	Exp	128
hν + O^{+}	Photoionization	30-130 eV	Th	129

hν + $\mathbf{O}^{2+}$	Photoionization	30-130 eV	Th	129
hν + $\mathbf{O}^{3+}$	Photoionization	30-130 eV	Th	129
hν + $\mathbf{O}^{4+}$	Photoionization	30-130 eV	Th	129
hν + **Ne**	Photoionization	84-146 eV	Exp	130
hν + **Ar**	Photoionization	84-146 eV	Exp	130
hν + $\mathbf{H_2}^+$	Photodissociation	228-400 nm	Th	131
hν + $\mathbf{H_2}^+$	Photoionization	228-400 nm	Th	131
hν + **Ne**	Photoionization	1.5 eV	Th	132
hν + **Rb**	Photoexcitation	Undef.	Th	133
hν + $\mathbf{Rb}^*$	Photoexcitation	Undef.	Th	133
hν + **Xe**	Photoionization	800 nm	Exp	134
hν + **He**	Photoionization	84 eV	Th	135
hν + $\mathbf{Te}^-$	Photodetachment	34-130 eV	Exp	136
hν + **Ti**	Fluorescence	4996-7000 eV	E/T	137
hν + **Ti**	Photoionization	4996-7000 eV	E/T	137
hν + **He**	Photoexcitation	64.11-65.12 eV	E/T	138
hν + **He**	Photoionization	20-25 eV above threshold	E/T	139
hν + **Ar**	Photoionization	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T	140
hν + **Xe**	Photoionization	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T	140
hν + $\mathbf{N_2}$	Photoionization	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T	140
hν + $\mathbf{O_2}$	Photoionization	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T	140
hν + $\mathbf{F_2}$	Photoionization	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T	140
hν + **Rb**	Photoionization	420-600 nm	Exp	141
hν + **N**	Photoionization	8707.27 eV	Exp	142
hν + **Ar**	Photoionization	36.1-36.55 eV	Exp	143
hν + $\mathbf{H}^-$	Photodetachment	15-50 eV	Th	144
hν + $\mathbf{H}^-$	Photoionization	15-50 eV	Th	144
hν + $\mathbf{C_2H_2}$	Photoionization	285.8 eV	Th	145
hν + **Ne**	Photoionization	1.55 eV	Th	146
hν + **Ar**	Photoionization	25 eV	Th	147
hν + **Xe**	Photoionization	25 eV	Th	147
hν + $\mathbf{H_2}$	Photoionization	53.9-75.7 eV	E/T	148
hν + **CO**	Photoionization	550 eV	E/T	149
hν + $\mathbf{Li}^-$	Photodetachment	2.1-5 eV	E/T	150
hν + $\mathbf{K}^-$	Photodetachment	2.1-5 eV	E/T	150
hν + **Xe**	Photoionization	12.7 eV	E/T	151
hν + $\mathbf{H}^-$	Photodetachment	Undef.	Th	152
hν + $\mathbf{H}^-$ + **stat el fld**	Photodetachment	Undef.	Th	152
hν + $\mathbf{H_2}^+$	Photoionization	790-1064 nm	Th	153
hν + **Rb**	Total Absorption, Scattering	794.7 nm	Exp	154
hν + **Al**	Photoexcitation	105 GHz	Exp	155
hν + $\mathbf{Sm}^+$	Photoexcitation	Undef.	E/T	156
hν + $\mathbf{Na}^+$	Photoexcitation	265-1106 10^3 cm^{-1}	Th	157
hν + $\mathbf{Mg}^{2+}$	Photoexcitation	265-1106 10^3 cm^{-1}	Th	157
hν + $\mathbf{Al}^{3+}$	Photoexcitation	265-1106 10^3 cm^{-1}	Th	157
hν + $\mathbf{Si}^{4+}$	Photoexcitation	265-1106 10^3 cm^{-1}	Th	157
hν + $\mathbf{P}^{5+}$	Photoexcitation	265-1106 10^3 cm^{-1}	Th	157
hν + $\mathbf{S}^{6+}$	Photoexcitation	265-1106 10^3 cm^{-1}	Th	157
hν + **Al**	Photoexcitation	4-423 GHz	Exp	158
hν + **Kr**	Photoionization	210-410 eV	Exp	159
hν + $\mathbf{H_2}$	Photoexcitation	10.5-13.5 eV; 340-375 nm	Exp	160
hν + $\mathbf{H_2}^*$	Photoexcitation	10.5-13.5 eV; 340-375 nm	Exp	160
hν + **CO**	Photodissociation	14.8-26 eV	Exp	161
hν + $\mathbf{N_2}$	Photodissociation	14.8-26 eV	Exp	161
hν + **NO**	Photodissociation	14.8-26 eV	Exp	161
hν + $\mathbf{O_2}$	Photodissociation	14.8-26 eV	Exp	161
hν + **CO**	Fluorescence	14.8-26 eV	Exp	161

hν + $\mathbf{N_2}$	Fluorescence	14.8-26 eV	Exp	161
hν + **NO**	Fluorescence	14.8-26 eV	Exp	161
hν + $\mathbf{O_2}$	Fluorescence	14.8-26 eV	Exp	161
hν + **CO**	Photoionization	14.8-26 eV	Exp	161
hν + $\mathbf{N_2}$	Photoionization	14.8-26 eV	Exp	161
hν + **NO**	Photoionization	14.8-26 eV	Exp	161
hν + $\mathbf{O_2}$	Photoionization	14.8-26 eV	Exp	161
hν + **NO**	Photoionization	410-425 eV	Exp	162
hν + $\mathbf{N_2}$	Photodissociation	800 nm	Exp	163
hν + $\mathbf{N_2}$	Photoionization	800 nm	Exp	163
hν + **He**	Photoionization	248 nm	Th	164
hν + **Ar**	Photoexcitation	33,466-33,677 cm^{-1}	E/T	165
hν + $\mathbf{Ar^*}$	Photoexcitation	33,466-33,677 cm^{-1}	E/T	165
hν + $\mathbf{H^-}$	Photodetachment	0-10 eV	Th	166
hν + $\mathbf{D^-}$	Photodetachment	0-10 eV	Th	166
hν + $\mathbf{T^-}$	Photodetachment	0-10 eV	Th	166
hν + **He**	Photoionization	25-120 eV	Th	167
hν + **Xe**	Photoionization	675-840 eV	Th	168
hν + **Cs**	Photoionization	675-840 eV	Th	168
hν + **Ba**	Photoionization	675-840 eV	Th	168
hν + $\mathbf{Be^-}$	Photodetachment	111-121 eV	Th	169
hν + **He**	Photoionization	0-1 keV	E/T	170
hν + $\mathbf{Be^-}$	Photodetachment	0-4 a.u.	Th	171
hν + **He**	Photoionization	124-474 eV	Th	172
hν + **HCl**	Photoionization	40-60 eV	Exp	173
hν + **DCl**	Photoionization	40-60 eV	Exp	173
hν + **Kr**	Photoexcitation	120-376 nm	Exp	174
hν + **Xe**	Photoexcitation	120-376 nm	Exp	174
hν + $\mathbf{Mn^+}$	Photoionization	45-70 eV	Exp	175
hν + **CO**	Photoionization	290-340 eV	Th	176
hν + $\mathbf{N_2}$	Photoionization	350-445 eV	Exp	177
hν + $\mathbf{Na_3{}^+}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Na_4}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Na_4{}^+}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Na_5}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Na_5{}^+}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Na_6}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Na_7}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Na_8}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Mg_2}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Mg_3}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Mg_4}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Mg_5}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Mg_6}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Mg_7}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Mg_8}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Mg_9}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Mg_{10}}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + $\mathbf{Mg_{11}}$	Total Absorption, Scattering	1-7 eV	Th	178
hν + **Kr**	Photoionization	1686 eV	Exp	179
hν + $\mathbf{H^-}$	Photodetachment	10.6 μ m	Th	180
hν + $\mathbf{Eu^-}$	Photodetachment	1064 nm	Exp	181
hν + $\mathbf{Ti^{3+}}$	Photoionization	42.6-49.4 eV	Exp	182
hν + **He**	Photoionization	780 nm	Th	183
hν + **He**	Photoionization	20-40 excess eV	E/T	184
hν + **Ar**	Photoionization	20-40 excess eV	E/T	184
hν + **Fe**	Photoexcitation	6370-10,000 eV	Exp	185

hν + **Fe**	Photoionization	6370-10,000 eV	Exp	185
hν + **Xe**	Photoionization	30 above threshold (eV)	E/T	186
hν + $\mathbf{H_2}$	Photoionization	0-20 a.u.	Th	187
hν + $\mathbf{Xe_{54}}$	Photodissociation	800-100 nm	Th	188
hν + $\mathbf{Xe_{54}}$	Photoexcitation	800-100 nm	Th	188
hν + $\mathbf{Xe_{54}}$	Photoionization	800-100 nm	Th	188
hν + $\mathbf{H_2O}$	Photodissociation	17-41 eV	Exp	189
hν + $\mathbf{D_2O}$	Photodissociation	17-41 eV	Exp	189
hν + $\mathbf{H_2O}$	Fluorescence	17-41 eV	Exp	189
hν + $\mathbf{D_2O}$	Fluorescence	17-41 eV	Exp	189
hν + $\mathbf{H_2O}$	Photoexcitation	17-41 eV	Exp	189
hν + $\mathbf{D_2O}$	Photoexcitation	17-41 eV	Exp	189
hν + **CO**	Photoionization	40-50 eV	E/T	190
hν + **Cu**	Elastic Scattering	8970-9006 eV	Th	191
hν + **Cr**	Total Absorption, Scattering	38-47 eV	E/T	192
hν + **Cr**	Photoexcitation	38-47 eV	E/T	192
hν + **Cr**	Photoionization	38-47 eV	E/T	192
hν + **Ca**	Photoionization	0.12-0.28 a.u.	E/T	193
hν + $\mathbf{N_2}$	Photoionization	$10^{14} - 12x10^{14}$ W/cm^2	Exp	194
hν + $\mathbf{O_2}$	Photoionization	$10^{14} - 12x10^{14}$ W/cm^2	Exp	194
hν + **H**	Photoionization	Undef.	Th	195
hν + $\mathbf{Xe^{53+}}$	Photoionization	Undef.	Th	195
hν + $\mathbf{U^{91+}}$	Photoionization	Undef.	Th	195
hν + $\mathbf{O_2}$	Photodissociation	17-19 eV	Exp	196
hν + **Ar**	Photoionization	5.4-7.8; 8-14.65 eV	Th	197
hν + **Ne**	Fluorescence	52-55.5 eV	Exp	198
hν + **Ne**	Photoexcitation	52-55.5 eV	Exp	198
hν + **Ne**	Photoionization	52-55.5 eV	Exp	198
hν + **He**	Photoionization	795 nm	Exp	199
hν + **Ne**	Photoionization	795 nm	Exp	199
hν + **Ar**	Photoionization	795 nm	Exp	199
hν + **He**	Fluorescence	Undef.	Exp	200
hν + **He**	Photoexcitation	Undef.	Exp	200
hν + **CO**	Photodissociation	Undef.	Th	201
hν + $\mathbf{H_2{}^+}$	Photoionization	790 nm	Th	202
hν + **H**	Photoionization	0.1-1 a.u.	Th	203
hν + **Ne**	Photoionization	320-1200 eV	E/T	204
hν + **Ar**	Photoionization	320-1200 eV	E/T	204
hν + **He**	Photoionization	40-120 eV	E/T	205
hν + $\mathbf{H_2}$	Photoionization	40-120 eV	E/T	205
hν + $\mathbf{N_2}$	Photoionization	20-35 eV	E/T	206
hν + $\mathbf{Y^{3+}}$	Total Absorption, Scattering	66-82 eV	E/T	207
hν + $\mathbf{Y^{3+}}$	Photoexcitation	66-82 eV	E/T	207
hν + $\mathbf{C^{2+}}$	Photoionization	40-90 eV	E/T	208
hν + $\mathbf{Cl^-}$	Photodetachment	20-45 eV	Exp	209
hν + $\mathbf{N_2}$	Photoionization	800 nm	Th	210
hν + $\mathbf{O_2}$	Photoionization	800 nm	Th	210
hν + $\mathbf{C_2}$	Photoionization	800 nm	Th	210
hν + $\mathbf{O^-}$	Photodetachment	11,700-16,700 cm^{-1}	E/T	211
hν + $\mathbf{S^-}$	Photodetachment	11,700-16,700 cm^{-1}	E/T	211
hν + **Yb**	Photoexcitation	59.4 keV	Exp	212
hν + **Lu**	Photoexcitation	59.4 keV	Exp	212
hν + **W**	Photoexcitation	59.4 keV	Exp	212
hν + **Re**	Photoexcitation	59.4 keV	Exp	212
hν + **Au**	Photoexcitation	59.4 keV	Exp	212
hν + **Hg**	Photoexcitation	59.4 keV	Exp	212
hν + **Tl**	Photoexcitation	59.4 keV	Exp	212

hν + **He**	Photoionization	0.1-200 eV/z^2	Th	213
hν + $\mathbf{Li^+}$	Photoionization	0.1-200 eV/z^2	Th	213
hν + $\mathbf{O^{6+}}$	Photoionization	0.1-200 eV/z^2	Th	213
hν + **Ne**	Photoionization	0.1-200 eV/z^2	Th	213
hν + **Ti**	Photoionization	0.1-200 eV/z^2	Th	213
hν + **Cr**	Photoionization	0.1-200 eV/z^2	Th	213
hν + **Fe**	Photoionization	0.1-200 eV/z^2	Th	213
hν + **Ni**	Photoionization	0.1-200 eV/z^2	Th	213
hν + **Cu**	Photoionization	0.1-200 eV/z^2	Th	213
hν + **Mo**	Photoionization	0.1-200 eV/z^2	Th	213
hν + $\mathbf{Mo^{40+}}$	Photoionization	0.1-200 eV/z^2	Th	213
hν + **He**	Photoionization	153-173 eV	Th	214
hν + $\mathbf{H_3}$	Photodissociation	4500-0 cm^{-1}	Th	215
hν + **He**	Photoionization	63-529 eV	Th	216
hν + **H**	Photoionization	2700-20 $\AA$	Th	217
hν + **Be**	Photoionization	13.7-210 eV	Th	218
hν + **He**	Photoionization	159-318 eV	Th	219
hν + $\mathbf{F^-}$	Photodetachment	1400 nm	Th	220
hν + **Xe**	Fluorescence	65 eV	E/T	221
hν + $\mathbf{Xe^*}$	Fluorescence	65 eV	E/T	221
hν + **Xe**	Photoionization	65 eV	E/T	221
hν + $\mathbf{Xe^*}$	Photoionization	65 eV	E/T	221
hν + **He**	Photoionization	5.6 keV	Th	222
hν + **Ar**	Photoionization	Undef.	Exp	223
hν + $\mathbf{C^-}$	Photodetachment	0-13 eV	Th	224
hν + $\mathbf{Na_9}^+$	Photoionization	0.1-1.9 Ry	Th	225
hν + $\mathbf{Na_{41}}^+$	Photoionization	0.1-1.9 Ry	Th	225
hν + $\mathbf{H_2}$	Photoionization	800 nm	Th	226
hν + $\mathbf{D_2}$	Photoionization	800 nm	Th	226
hν + $\mathbf{H_2}$	Photodissociation	Undef.	Exp	227
hν + **He**	Photoionization	Undef.	Exp	227
hν + $\mathbf{H_2}$	Photoionization	Undef.	Exp	227
hν + **Kr**	Fluorescence	28.4-28.7 eV	Exp	228
hν + **Kr**	Photoionization	28.4-28.7 eV	Exp	228
hν + $\mathbf{N_2}$	Photodissociation	Undef.	Exp	229
hν + $\mathbf{N_2}$	Photoionization	Undef.	Exp	229
hν + **Ne**	Photoionization	865-873 eV	Exp	230
hν + **H**	Photoionization	20 keV	Th	231
hν + $\mathbf{H_2}$	Photodissociation	28-45 eV	Exp	232
hν + $\mathbf{H_2}^*$	Photodissociation	28-45 eV	Exp	232
hν + **CsCl**	Photodissociation	7-20 eV	E/T	233
hν + **CsBr**	Photodissociation	7-20 eV	E/T	233
hν + $\mathbf{Cs_2Cl_2}$	Photodissociation	7-20 eV	E/T	233
hν + $\mathbf{Cs_2Br_2}$	Photodissociation	7-20 eV	E/T	233
hν + **CsCl**	Photoexcitation	7-20 eV	E/T	233
hν + **CsBr**	Photoexcitation	7-20 eV	E/T	233
hν + $\mathbf{Cs_2Cl_2}$	Photoexcitation	7-20 eV	E/T	233
hν + $\mathbf{Cs_2Br_2}$	Photoexcitation	7-20 eV	E/T	233
hν + **CsCl**	Photoionization	7-20 eV	E/T	233
hν + **CsBr**	Photoionization	7-20 eV	E/T	233
hν + $\mathbf{Cs_2Cl_2}$	Photoionization	7-20 eV	E/T	233
hν + $\mathbf{Cs_2Br_2}$	Photoionization	7-20 eV	E/T	233
hν + $\mathbf{Ar^{7+}}$	Photoionization	52.5-54 eV	Th	234
hν + **Ne**	Photoionization	65.5-68.3 eV	Exp	235
hν + $\mathbf{H_2}$	Photodissociation	25-45 eV	E/T	236
hν + $\mathbf{H_2}$	Fluorescence	25-45 eV	E/T	236
hν + $\mathbf{H_2}^+$	Photodissociation	800-1200 nm	Th	237

hν + $\mathbf{NiC_4O_4}$	Photodissociation	800-1350 cm	Exp	238
hν + $\mathbf{FeC_5O_5}$	Photodissociation	800-1350 cm	Exp	238
hν + $\mathbf{CrC_6O_6}$	Photodissociation	800-1350 cm	Exp	238
hν + $\mathbf{NiC_4O_4}$	Photoionization	800-1350 cm	Exp	238
hν + $\mathbf{FeC_5O_5}$	Photoionization	800-1350 cm	Exp	238
hν + $\mathbf{CrC_6O_6}$	Photoionization	800-1350 cm	Exp	238
hν + $\mathbf{B^+}$	Photoionization	25-50 eV	Th	239
hν + $\mathbf{K^{7+}}$	Photoexcitation	300,000 cm^{-1}	Th	240
hν + $\mathbf{Ti^{10+}}$	Photoexcitation	300,000 cm^{-1}	Th	240
hν + $\mathbf{Fe^{17+}}$	Photoexcitation	100,000-800,000 cm^{-1}	Th	241
hν + $\mathbf{Fe^{12+}}$	Photoexcitation	600-150 $\mathring{A}$	Th	242
hν + $\mathbf{Fe^{16+}}$	Photoionization	100-2000 Ry	Th	243
hν + $\mathbf{Fe^{17+}}$	Photoionization	100-2000 Ry	Th	243
hν + $\mathbf{Fe^{18+}}$	Photoionization	100-2000 Ry	Th	243
hν + $\mathbf{Fe^{19+}}$	Photoionization	100-2000 Ry	Th	243
hν + $\mathbf{Fe^{20+}}$	Photoionization	100-2000 Ry	Th	243
hν + $\mathbf{Fe^{21+}}$	Photoionization	100-2000 Ry	Th	243
hν + $\mathbf{Fe^{22+}}$	Photoionization	100-2000 Ry	Th	243
hν + $\mathbf{Fe^{16+}}$	Photoexcitation	53-91 Ry	Th	244
hν + **CO**	Photodissociation	90,000-106,000 cm^{-1}	Th	245
hν + $\mathbf{Sn^+}$	Photoexcitation	10^5 cm^{-1}	Th	246
hν + **CO**	Photoexcitation	972-967 $\mathring{A}$	Exp	247
hν + $\mathbf{Fe^{18+}}$	Photoexcitation	1600-10 $\mathring{A}$	Th	248
hν + $\mathbf{Os^+}$	Photoexcitation	3800-1900 $\mathring{A}$	Exp	249
hν + $\mathbf{Ir^+}$	Photoexcitation	3800-1900 $\mathring{A}$	Exp	249
hν + $\mathbf{Cl^+}$	Photoexcitation	Undef.	Th	250
hν + $\mathbf{Fe^{9+}}$	Photoexcitation	0.0-9.0 Ry	Th	251
hν + $\mathbf{O^{2+}}$	Photoexcitation	232.17 nm	Exp	252
hν + $\mathbf{Ho^+}$	Photoexcitation	24,000-31,000 cm^{-1}	Exp	253
hν + $\mathbf{La_2O_3}$	Elastic Scattering	59.5 keV	E/T	255
hν + $\mathbf{CeO_2}$	Elastic Scattering	59.5 keV	E/T	255
hν + $\mathbf{Nd_2O_3}$	Elastic Scattering	59.5 keV	E/T	255
hν + $\mathbf{N_2}$	Photoionization	401 eV	Exp	256
hν + **Na**	Photoexcitation	0-12 q^2 a.u.	Th	257
hν + **Mg**	Photoionization	594-584 nm	E/T	258
hν + **Xe**	Photoionization	Threshold	Exp	259
hν + $\mathbf{Xe^*}$	Photoionization	Threshold	Exp	259
hν + $\mathbf{Ar_2}$	Photodissociation	252-294.9 eV	Exp	260
hν + $\mathbf{Ar_2}$	Photoionization	252-294.9 eV	Exp	260
hν + $\mathbf{CH_4}$	Photodissociation	295-580 eV	E/T	261
hν + **CO**	Photodissociation	295-580 eV	E/T	261
hν + $\mathbf{CO_2}$	Photodissociation	295-580 eV	E/T	261
hν + $\mathbf{N_2}$	Photodissociation	295-580 eV	E/T	261
hν + $\mathbf{O_2}$	Photodissociation	295-580 eV	E/T	261
hν + $\mathbf{C_2H_6}$	Photodissociation	295-580 eV	E/T	261
hν + $\mathbf{C_6H_6}$	Photodissociation	295-580 eV	E/T	261
hν + $\mathbf{C_4H_4O}$	Photodissociation	295-580 eV	E/T	261
hν + $\mathbf{CH_4}$	Photoexcitation	295-580 eV	E/T	261
hν + **CO**	Photoexcitation	295-580 eV	E/T	261
hν + $\mathbf{CO_2}$	Photoexcitation	295-580 eV	E/T	261
hν + $\mathbf{N_2}$	Photoexcitation	295-580 eV	E/T	261
hν + $\mathbf{O_2}$	Photoexcitation	295-580 eV	E/T	261
hν + $\mathbf{C_2H_6}$	Photoexcitation	295-580 eV	E/T	261
hν + $\mathbf{C_6H_6}$	Photoexcitation	295-580 eV	E/T	261
hν + $\mathbf{C_4H_4O}$	Photoexcitation	295-580 eV	E/T	261
hν + **Ne**	Elastic Scattering	865-1102 eV	Th	262

hν + **Ne**$^{6+}$	Elastic Scattering	865-1102 eV	Th	262
hν + **Fe**$^{7+}$	Photoionization	725-755 eV	Th	263
hν + **Fe**$^{8+}$	Photoionization	725-755 eV	Th	263
hν + **O**$^{+}$	Photoionization	Undef.	Th	264
hν + **O**$^{+*}$	Photoionization	Undef.	Th	264
hν + **NO**	Photodissociation	400-430 eV	Exp	265
hν + **NO**	Photoexcitation	400-430 eV	Exp	265
hν + **NO**	Photoionization	400-430 eV	Exp	265
hν + **P**	Photoionization	10.5-25.5 eV	Th	266
hν + **Xe**	Photoionization	672-682 eV	Exp	267
hν + **He**	Photoionization	795 nm	Exp	268
hν + **Ne**	Photoionization	795 nm	Exp	268
hν + **Ar**	Photoionization	795 nm	Exp	268
hν + **Fe**$^{22+}$	Photoexcitation	Undef.	E/T	269
hν + **Fe**$^{24+}$	Photoexcitation	Undef.	E/T	269
hν + **CO**	Total Absorption, Scattering	540-590 eV	Th	270
hν + **CO**	Photodissociation	540-590 eV	Th	270
hν + **CO**	Photoionization	540-590 eV	Th	270
hν + **Mg**	Photoionization	0.145-0.215 a.u.	E/T	271
hν + **H**$^{-}$	Photodetachment	2.15 μ m	E/T	272
hν + **Cs**$^{-}$	Photodetachment	0-0.04 eV	Th	273
hν + **H**$_2{}^{+}$	Photoionization	40-200 eV	Th	274
hν + **Li**	Photoionization	120-910 eV	Exp	275
hν + **Kr**	Photoionization	14.326 keV	Exp	276
hν + **C**$_2$**H**$_6$	Photoionization	10-50 eV	Th	277
hν + **Ne**	Photoionization	614 nm	Th	278
hν + **H**	Photoionization	0.05 a.u.	Th	279
hν + **Xe**	Photoionization	670-810 eV	Th	280
hν + **Cs**	Photoionization	670-810 eV	Th	280
hν + **Ba**	Photoionization	670-810 eV	Th	280
hν + **He**	Photoionization	60-142 eV	Exp	281
hν + **Ne**	Photoionization	60-142 eV	Exp	281
hν + **NO**$_2$	Photoionization	410-420 eV	E/T	282
hν + **He**	Photoionization	100-120 eV	Th	283
hν + **H**	Elastic Scattering	14.9 keV	Exp	284
hν + **C**	Elastic Scattering	14.9 keV	Exp	284
hν + **F**	Elastic Scattering	14.9 keV	Exp	284
hν + **Al**	Elastic Scattering	14.9 keV	Exp	284
hν + **Si**	Elastic Scattering	14.9 keV	Exp	284
hν + **Ti**	Elastic Scattering	14.9 keV	Exp	284
hν + **V**	Elastic Scattering	14.9 keV	Exp	284
hν + **Fe**	Elastic Scattering	14.9 keV	Exp	284
hν + **Co**	Elastic Scattering	14.9 keV	Exp	284
hν + **Ni**	Elastic Scattering	14.9 keV	Exp	284
hν + **Cu**	Elastic Scattering	14.9 keV	Exp	284
hν + **Zn**	Elastic Scattering	14.9 keV	Exp	284
hν + **Ge**	Elastic Scattering	14.9 keV	Exp	284
hν + **Zr**	Elastic Scattering	14.9 keV	Exp	284
hν + **Nb**	Elastic Scattering	14.9 keV	Exp	284
hν + **Mo**	Elastic Scattering	14.9 keV	Exp	284
hν + **Rh**	Elastic Scattering	14.9 keV	Exp	284
hν + **Pd**	Elastic Scattering	14.9 keV	Exp	284
hν + **Ag**	Elastic Scattering	14.9 keV	Exp	284
hν + **Cd**	Elastic Scattering	14.9 keV	Exp	284
hν + **In**	Elastic Scattering	14.9 keV	Exp	284
hν + **Sn**	Elastic Scattering	14.9 keV	Exp	284
hν + **Gd**	Elastic Scattering	14.9 keV	Exp	284

hν + **Dy**	Elastic Scattering	14.9 keV	Exp	284
hν + **Ho**	Elastic Scattering	14.9 keV	Exp	284
hν + **Tm**	Elastic Scattering	14.9 keV	Exp	284
hν + **Yb**	Elastic Scattering	14.9 keV	Exp	284
hν + **W**	Elastic Scattering	14.9 keV	Exp	284
hν + **Re**	Elastic Scattering	14.9 keV	Exp	284
hν + **Ir**	Elastic Scattering	14.9 keV	Exp	284
hν + **Pt**	Elastic Scattering	14.9 keV	Exp	284
hν + **Au**	Elastic Scattering	14.9 keV	Exp	284
hν + **Hg**	Elastic Scattering	14.9 keV	Exp	284
hν + **U**	Elastic Scattering	14.9 keV	Exp	284
hν + **H**	Photoionization	14.9 keV	Exp	284
hν + **C**	Photoionization	14.9 keV	Exp	284
hν + **F**	Photoionization	14.9 keV	Exp	284
hν + **Al**	Photoionization	14.9 keV	Exp	284
hν + **Si**	Photoionization	14.9 keV	Exp	284
hν + **Ti**	Photoionization	14.9 keV	Exp	284
hν + **V**	Photoionization	14.9 keV	Exp	284
hν + **Fe**	Photoionization	14.9 keV	Exp	284
hν + **Co**	Photoionization	14.9 keV	Exp	284
hν + **Ni**	Photoionization	14.9 keV	Exp	284
hν + **Cu**	Photoionization	14.9 keV	Exp	284
hν + **Zn**	Photoionization	14.9 keV	Exp	284
hν + **Ge**	Photoionization	14.9 keV	Exp	284
hν + **Zr**	Photoionization	14.9 keV	Exp	284
hν + **Nb**	Photoionization	14.9 keV	Exp	284
hν + **Mo**	Photoionization	14.9 keV	Exp	284
hν + **Rh**	Photoionization	14.9 keV	Exp	284
hν + **Pd**	Photoionization	14.9 keV	Exp	284
hν + **Ag**	Photoionization	14.9 keV	Exp	284
hν + **Cd**	Photoionization	14.9 keV	Exp	284
hν + **In**	Photoionization	14.9 keV	Exp	284
hν + **Sn**	Photoionization	14.9 keV	Exp	284
hν + **Gd**	Photoionization	14.9 keV	Exp	284
hν + **Dy**	Photoionization	14.9 keV	Exp	284
hν + **Ho**	Photoionization	14.9 keV	Exp	284
hν + **Tm**	Photoionization	14.9 keV	Exp	284
hν + **Yb**	Photoionization	14.9 keV	Exp	284
hν + **W**	Photoionization	14.9 keV	Exp	284
hν + **Re**	Photoionization	14.9 keV	Exp	284
hν + **Ir**	Photoionization	14.9 keV	Exp	284
hν + **Pt**	Photoionization	14.9 keV	Exp	284
hν + **Au**	Photoionization	14.9 keV	Exp	284
hν + **Hg**	Photoionization	14.9 keV	Exp	284
hν + **U**	Photoionization	14.9 keV	Exp	284
hν + **He**	Photoionization	75-300 eV	Th	285
hν + **Yb**	Elastic Scattering	60 keV	Exp	286
hν + **Lu**	Elastic Scattering	60 keV	Exp	286
hν + **Hf**	Elastic Scattering	60 keV	Exp	286
hν + **H**	Photoionization	1-4 eV	Th	287
hν + **Ar**	Photoionization	Undef.	E/T	288
hν + **Xe**	Photoionization	Undef.	E/T	288
hν + $\mathbf{O_2}$	Photoionization	Undef.	E/T	288
hν + $\mathbf{H_2}$	Photoionization	75.5-103 eV	Exp	289
hν + $\mathbf{D_2}$	Photoionization	75.5-103 eV	Exp	289
hν + $\mathbf{H_2O}$	Photodissociation	531-552 eV	Exp	290
hν + $\mathbf{H_2O}$	Photoionization	531-552 eV	Exp	290

hν + $\mathbf{H_2}^+$	Photodissociation	532 nm	Th	291
hν + $\mathbf{H_2}^{+*}$	Photodissociation	532 nm	Th	291
hν + $\mathbf{N_2}$	Fluorescence	408-546 eV	Exp	292
hν + $\mathbf{N_2O}$	Fluorescence	408-546 eV	Exp	292
hν + $\mathbf{O_2}$	Fluorescence	408-546 eV	Exp	292
hν + $\mathbf{N_2}$	Photoionization	408-546 eV	Exp	292
hν + $\mathbf{N_2O}$	Photoionization	408-546 eV	Exp	292
hν + $\mathbf{O_2}$	Photoionization	408-546 eV	Exp	292
hν + **Be**	Photoionization	28-40 eV	Exp	293
hν + $\mathbf{H}^-$	Photodetachment	0.5-24 keV	Th	294
hν + $\mathbf{H}^-$	Photoionization	0.5-24 keV	Th	294
hν + **He**	Photoionization	0.5-24 keV	Th	294
hν + $\mathbf{C_{60}}$	Photoionization	20-300 eV	Exp	295
hν + $\mathbf{H_2}^+$	Photoionization	532 nm	Th	296
hν + $\mathbf{H_2}^+$	Photodissociation	785 nm	Th	297
hν + $\mathbf{HD}^+$	Photodissociation	785 nm	Th	297
hν + $\mathbf{CO_2}$	Photodissociation	800 nm	Exp	298
hν + $\mathbf{NO_2}$	Photodissociation	800 nm	Exp	298
hν + **K**	Photoionization	Few eV	Th	299
hν + $\mathbf{C_2H_4}$	Photoionization	800 nm	Th	300
hν + $\mathbf{C_6H_6}$	Photoionization	800 nm	Th	300
hν + $\mathbf{C_6H_5F}$	Photoionization	800 nm	Th	300
hν + $\mathbf{C_6H_4ClF}$	Photoionization	800 nm	Th	300
hν + $\mathbf{N_2}$	Photoionization	390 nm	Th	301
hν + $\mathbf{O_2}$	Photoionization	390 nm	Th	301
hν + $\mathbf{F_2}$	Photoionization	390 nm	Th	301
hν + **He**	Photoexcitation	30-45 eV	Th	302
hν + **He**	Photoionization	30-45 eV	Th	302
hν + $\mathbf{H_2}^+$	Photodissociation	790-800 nm	Th	303
hν + $\mathbf{H_2}^+$	Photoionization	790-800 nm	Th	303
hν + $\mathbf{H_2}^+$	Photodissociation	0.6-0.84 a.u.	Th	304
hν + $\mathbf{H_2}^+$	Photoionization	0.6-0.84 a.u.	Th	304
hν + $\mathbf{H_2}$	Photoionization	1.6 eV	Th	305
hν + $\mathbf{N_2}$	Photoionization	1.6 eV	Th	305
hν + $\mathbf{O_2}$	Photoionization	1.6 eV	Th	305
hν + **Ba**	Photoionization	100-150 eV	Th	306
hν + $\mathbf{Mn}^{2+}$	Total Absorption, Scattering	45-75 eV	Exp	307
hν + **Ar**	Photoionization	246-253 eV	E/T	308
hν + **He**	Photoionization	39-47 eV	Th	309
hν + $\mathbf{SF_6}$	Photodissociation	686-690 eV	Exp	310
hν + $\mathbf{SF_6}$	Photoionization	686-690 eV	Exp	310
hν + **He**	Photoionization	72 eV	Th	311
hν + $\mathbf{He}^*$	Photoionization	72 eV	Th	311
hν + $\mathbf{Cd}^+$	Total Absorption, Scattering	24-110 eV	Exp	312
hν + $\mathbf{Cd}^{2+}$	Total Absorption, Scattering	24-110 eV	Exp	312
hν + $\mathbf{CH_3OCH_3}$	Photodissociation	450-550 nm	Exp	313
hν + $\mathbf{CH_3OCH_3}$	Photoionization	450-550 nm	Exp	313
hν + **Kr**	Photoionization	Undef.	Exp	314
hν + $\mathbf{H_2}^+$	Photodissociation	0.76-0.88 a.u.	Th	315
hν + $\mathbf{H_2}^+$	Photoionization	0.76-0.88 a.u.	Th	315
hν + **He**	Photoionization	179-529 eV	E/T	316
hν + **He**	Photoionization	179-529 eV	E/T	317
hν + **He**	Photoionization	179-529 eV	E/T	318
hν + $\mathbf{H_2}$	Fluorescence	13.97-15.84 eV	Exp	319
hν + $\mathbf{D_2}$	Fluorescence	13.97-15.84 eV	Exp	319
hν + $\mathbf{H_2}$	Photoexcitation	13.97-15.84 eV	Exp	319
hν + $\mathbf{D_2}$	Photoexcitation	13.97-15.84 eV	Exp	319

hν + **Er**	Fluorescence	9.2 keV	E/T	320
hν + **Er**	Photoionization	9.2 keV	E/T	320
hν + **Xe**	Photoexcitation	664-694 eV	Exp	321
hν + **Xe**	Photoionization	664-694 eV	Exp	321
hν + **Sr**	Photoionization	0.21-0.158 a.u.	Th	322
hν + **He**	Photoionization	800-1800 nm	Exp	323
hν + **Ne**	Photoionization	800-1800 nm	Exp	323
hν + **Ar**	Photoionization	800-1800 nm	Exp	323
hν + $\mathbf{Na_2}$	Fluorescence	4545-5145 $\AA$	Exp	324
hν + **CO**	Photodissociation	7.78-22.94 eV	Th	325
hν + $\mathbf{H_2S}$	Photodissociation	7.78-22.94 eV	Th	325
hν + **TlH**	Photodissociation	7.78-22.94 eV	Th	325
hν + **CO**	Photoionization	7.78-22.94 eV	Th	325
hν + $\mathbf{H_2S}$	Photoionization	7.78-22.94 eV	Th	325
hν + **TlH**	Photoionization	7.78-22.94 eV	Th	325
hν + $\mathbf{C}^{2+}$	Photoionization	292-325 eV	E/T	326
hν + $\mathbf{CF_3SF_5}$	Total Absorption, Scattering	8-60 eV	E/T	327
hν + $\mathbf{CF_3SF_5}$	Photoionization	8-60 eV	E/T	327
hν + $\mathbf{Fe}^{22+}$	Photoexcitation	10 $\AA$	Th	328
hν + $\mathbf{Fe}^{19+}$	Photoexcitation	Undef.	Th	329
hν + $\mathbf{Na}^{3+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Mg}^{4+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Al}^{5+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Si}^{6+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{P}^{7+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{S}^{8+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Cl}^{9+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Ar}^{10+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{K}^{11+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Ca}^{12+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Sc}^{13+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Ti}^{14+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{V}^{15+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Cr}^{16+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Mn}^{17+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Fe}^{18+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Co}^{19+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Ni}^{20+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Cu}^{21+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Zn}^{22+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Ga}^{23+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Ge}^{24+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{As}^{25+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Se}^{26+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Br}^{27+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Kr}^{28+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Rb}^{29+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Sr}^{30+}$	Photoexcitation	$0.0-3x10^6\ cm^{-1}$	Th	330
hν + $\mathbf{Ni}^{3+}$	Photoexcitation	0.0-2.0 Ry	Th	331
hν + $\mathbf{Ar}^{12+}$	Photoexcitation	0.0-35.0 Ry	Th	332
hν + $\mathbf{Ar}^{13+}$	Photoexcitation	0.0-35.0 Ry	Th	332
hν + $\mathbf{Ar}^{14+}$	Photoexcitation	0.0-35.0 Ry	Th	332
hν + $\mathbf{Fe}^{3+}$	Photoexcitation	0.0-100,000 $\AA$	Th	333
hν + $\mathbf{N}^{2+}$	Photoionization	0.0-150.0 eV	Exp	334
hν + $\mathbf{N}^{3+}$	Photoionization	0.0-150.0 eV	Exp	334
hν + $\mathbf{O}^{3+}$	Photoionization	0.0-150.0 eV	Exp	334
hν + $\mathbf{O}^{4+}$	Photoionization	0.0-150.0 eV	Exp	334

hν + $\mathbf{F}^{3+}$	Photoionization	0.0-150.0 eV	Exp	334
hν + $\mathbf{F}^{4+}$	Photoionization	0.0-150.0 eV	Exp	334
hν + $\mathbf{Ne}^{4+}$	Photoionization	0.0-150.0 eV	Exp	334
hν + **Pt**	Photoexcitation	5230-2068 $\AA$	Exp	335
hν + **Xe**	Photoionization	108,347 cm^{-1}	E/T	336
hν + **He**	Photoionization	20-450 excess eV	E/T	337
hν + **Mg**	Photoionization	3.3-3.6 eV	E/T	338
hν + **Ne**	Photoexcitation	10-33 eV	E/T	339
hν + $\mathbf{H}_2$	Photodissociation	795 nm	Exp	340
hν + $\mathbf{H}_2$	Photoionization	795 nm	Exp	340
hν + $\mathbf{Na}^{10+}$	Fluorescence	3.6 eV	Th	341
hν + $\mathbf{Na}^{10+}$	Photoionization	3.6 eV	Th	341
hν + $\mathbf{CH}_4$	Photoexcitation	18-51 eV; 80 eV	Exp	342
hν + **He**	Photoionization	795 nm	E/T	343
hν + **Ne**	Photoionization	795 nm	E/T	343
hν + **Ar**	Photoionization	795 nm	E/T	343
hν + **B**	Total Absorption, Scattering	390-550 eV	E/T	344
hν + **C**	Total Absorption, Scattering	390-550 eV	E/T	344
hν + **CO**	Total Absorption, Scattering	390-550 eV	E/T	344
hν + $\mathbf{CO}_2$	Total Absorption, Scattering	390-550 eV	E/T	344
hν + $\mathbf{N}_2$	Total Absorption, Scattering	390-550 eV	E/T	344
hν + $\mathbf{N}_2\mathbf{O}$	Total Absorption, Scattering	390-550 eV	E/T	344
hν + $\mathbf{O}_2$	Total Absorption, Scattering	390-550 eV	E/T	344
hν + $\mathbf{C}_2\mathbf{H}_2$	Total Absorption, Scattering	390-550 eV	E/T	344
hν + $\mathbf{CS}_2$	Total Absorption, Scattering	390-550 eV	E/T	344
hν + **OCS**	Total Absorption, Scattering	390-550 eV	E/T	344
hν + **B**	Photoexcitation	390-550 eV	E/T	344
hν + **C**	Photoexcitation	390-550 eV	E/T	344
hν + **CO**	Photoexcitation	390-550 eV	E/T	344
hν + $\mathbf{CO}_2$	Photoexcitation	390-550 eV	E/T	344
hν + $\mathbf{N}_2$	Photoexcitation	390-550 eV	E/T	344
hν + $\mathbf{N}_2\mathbf{O}$	Photoexcitation	390-550 eV	E/T	344
hν + $\mathbf{O}_2$	Photoexcitation	390-550 eV	E/T	344
hν + $\mathbf{C}_2\mathbf{H}_2$	Photoexcitation	390-550 eV	E/T	344
hν + $\mathbf{CS}_2$	Photoexcitation	390-550 eV	E/T	344
hν + **OCS**	Photoexcitation	390-550 eV	E/T	344
hν + **B**	Photoionization	390-550 eV	E/T	344
hν + **C**	Photoionization	390-550 eV	E/T	344
hν + **CO**	Photoionization	390-550 eV	E/T	344
hν + $\mathbf{CO}_2$	Photoionization	390-550 eV	E/T	344
hν + $\mathbf{N}_2$	Photoionization	390-550 eV	E/T	344
hν + $\mathbf{N}_2\mathbf{O}$	Photoionization	390-550 eV	E/T	344
hν + $\mathbf{O}_2$	Photoionization	390-550 eV	E/T	344
hν + $\mathbf{C}_2\mathbf{H}_2$	Photoionization	390-550 eV	E/T	344
hν + $\mathbf{CS}_2$	Photoionization	390-550 eV	E/T	344
hν + **OCS**	Photoionization	390-550 eV	E/T	344
hν + **Hg**	Photoionization	15-17 eV	E/T	345
hν + $\mathbf{H}_2{}^+$	Photodissociation	790 nm	E/T	346
hν + $\mathbf{Cl}^{+}$	Photoexcitation	1000 $\AA$	Exp	347
hν + $\mathbf{Cl}^{2+}$	Photoexcitation	1000 $\AA$	Exp	347
hν + $\mathbf{N}_2$	Photoexcitation	950 $\AA$	Exp	348
hν + $\mathbf{S}^{6+}$	Photoexcitation	75-20 $\AA$	E/T	349
hν + $\mathbf{S}^{7+}$	Photoexcitation	75-20 $\AA$	E/T	349
hν + $\mathbf{S}^{8+}$	Photoexcitation	75-20 $\AA$	E/T	349
hν + $\mathbf{S}^{9+}$	Photoexcitation	75-20 $\AA$	E/T	349
hν + $\mathbf{S}^{10+}$	Photoexcitation	75-20 $\AA$	E/T	349

hν + $\mathbf{S}^{11+}$	Photoexcitation	75-20 $\AA$	E/T	349
hν + $\mathbf{S}^{12+}$	Photoexcitation	75-20 $\AA$	E/T	349
hν + $\mathbf{S}^{13+}$	Photoexcitation	75-20 $\AA$	E/T	349
hν + **O**	Photoexcitation	22 $\AA$	E/T	350
hν + $\mathbf{CH}^{+}$	Photodissociation	31,600-33,000 cm^{-1}	Th	351
hν + $\mathbf{O}_2$	Photoionization	21-26 eV	Th	352
hν + $\mathbf{Xe}^{3+}$	Photoionization	37.5-115 eV	Exp	353
hν + $\mathbf{V}^{-}$	Photodetachment	457.9-647.1 nm	Exp	354
hν + **Kr**	Photoexcitation	270 nm	Exp	355
hν + **Ca**	Photoionization	488 nm	Exp	356
hν + **NO**	Total Absorption, Scattering	530-536 eV	Th	357
hν + **NO**	Photoexcitation	530-536 eV	Th	357
hν + $\mathbf{O}_2$	Photodissociation	1-5.6 10^{14} W/cm^2	Th	358
hν + $\mathbf{F}^{2+}$	Photoionization	56.3-75.6 eV	E/T	359
hν + $\mathbf{Ne}^{3+}$	Photoionization	56.3-75.6 eV	E/T	359
hν + $\mathbf{SF}_6$	Fluorescence	25-80 eV	Exp	360
hν + $\mathbf{H}^{-}$	Photodetachment	0.011-0.028 a.u.	Th	361
hν + **Kr**	Photoexcitation	1670-1685 eV	Exp	362
hν + **Kr**	Photoionization	1670-1685 eV	Exp	362
hν + **He**	Fluorescence	69-73 eV	Exp	363
hν + **He**	Photoexcitation	69-73 eV	Exp	363
hν + **Xe**	Photoionization	$10^{16}-10^{18}$ W/cm^2	Exp	364
hν + **Ne**	Elastic Scattering	863-3900 eV	Th	365
hν + $\mathbf{Si}^{4+}$	Elastic Scattering	863-3900 eV	Th	365
hν + $\mathbf{Ar}^{8+}$	Elastic Scattering	863-3900 eV	Th	365
hν + **HCl**	Photodissociation	198-204 eV	Exp	366
hν + **DCl**	Photodissociation	198-204 eV	Exp	366
hν + **HCl**	Photoionization	198-204 eV	Exp	366
hν + **DCl**	Photoionization	198-204 eV	Exp	366
hν + **Au**	Total Absorption, Scattering	5-14.5 keV	Exp	367
hν + **Au**	Photoionization	5-14.5 keV	Exp	367
hν + **Zr**	Photoionization	59.5 keV	Exp	368
hν + **Nb**	Photoionization	59.5 keV	Exp	368
hν + **Mo**	Photoionization	59.5 keV	Exp	368
hν + **Tc**	Photoionization	59.5 keV	Exp	368
hν + **Ru**	Photoionization	59.5 keV	Exp	368
hν + **Rh**	Photoionization	59.5 keV	Exp	368
hν + **Pd**	Photoionization	59.5 keV	Exp	368
hν + **Ag**	Photoionization	59.5 keV	Exp	368
hν + **Cd**	Photoionization	59.5 keV	Exp	368
hν + **In**	Photoionization	59.5 keV	Exp	368
hν + **Sn**	Photoionization	59.5 keV	Exp	368
hν + **Sb**	Photoionization	59.5 keV	Exp	368
hν + **Te**	Photoionization	59.5 keV	Exp	368
hν + **Ce**	Photoionization	59.5 keV	Exp	368
hν + **Pr**	Photoionization	59.5 keV	Exp	368
hν + **Nd**	Photoionization	59.5 keV	Exp	368
hν + **Pm**	Photoionization	59.5 keV	Exp	368
hν + **Sm**	Photoionization	59.5 keV	Exp	368
hν + **Eu**	Photoionization	59.5 keV	Exp	368
hν + **Gd**	Photoionization	59.5 keV	Exp	368
hν + **Tb**	Photoionization	59.5 keV	Exp	368
hν + **Dy**	Photoionization	59.5 keV	Exp	368
hν + **Ho**	Photoionization	59.5 keV	Exp	368
hν + **Er**	Photoionization	59.5 keV	Exp	368
hν + **Fe**	Elastic Scattering	662 keV	Exp	369
hν + **Cu**	Elastic Scattering	662 keV	Exp	369

hν + **Zr**	Elastic Scattering	662 keV	Exp	369
hν + **Sn**	Elastic Scattering	662 keV	Exp	369
hν + **Ta**	Elastic Scattering	662 keV	Exp	369
hν + **W**	Elastic Scattering	662 keV	Exp	369
hν + $\mathbf{H_2}$	Photodissociation	790 nm	Exp	370
hν + $\mathbf{H_2}$	Photoionization	790 nm	Exp	370
hν + $\mathbf{He^+}$	Photoionization	15-200 eV	Exp	371
hν + $\mathbf{Cs^+}$	Photoionization	15-200 eV	Exp	371
hν + **Ne**	Photoionization	790 nm	Exp	372
hν + **Xe**	Photoionization	790 nm	Exp	372
hν + $\mathbf{Xe^+}$	Photoionization	790 nm	Exp	372
hν + **Ar**	Photoionization	775 nm	Exp	373
hν + $\mathbf{C^{4+}}$	Photoexcitation	Undef.	Th	374
hν + $\mathbf{N^{5+}}$	Photoexcitation	Undef.	Th	374
hν + $\mathbf{O^{6+}}$	Photoexcitation	Undef.	Th	374
hν + $\mathbf{C^{4+}}$	Photoionization	Undef.	Th	374
hν + $\mathbf{N^{5+}}$	Photoionization	Undef.	Th	374
hν + $\mathbf{O^{6+}}$	Photoionization	Undef.	Th	374
hν + $\mathbf{Ca^{8+}}$	Photoexcitation	Undef.	Th	375
hν + $\mathbf{Si^{4+}}$	Photoexcitation	Undef.	Th	376
hν + **H**	Fluorescence	0-16 THz	Th	377
hν + **Ar**	Fluorescence	210 eV	E/T	378
hν + **Ar**	Photoexcitation	210 eV	E/T	378
hν + **H**	Photoionization	10^{16} W/cm^2	Th	379
hν + $\mathbf{N_2}$	Photoionization	$10^{14}-10^{16}$ W/cm^2	Exp	380
hν + **NO**	Photodissociation	10^{14} W/cm^2	Exp	381
hν + $\mathbf{NO^{2+}}$	Photodissociation	10^{14} W/cm^2	Exp	381
hν + **NO**	Photoionization	10^{14} W/cm^2	Exp	381
hν + $\mathbf{NO^{2+}}$	Photoionization	10^{14} W/cm^2	Exp	381
hν + $\mathbf{NO^+}$	Photodissociation	$5x10^{14}$ W/cm^2	Exp	382
hν + **H**	Fluorescence	Undef.	Th	383
hν + **Ar**	Fluorescence	3500 eV	Exp	384
hν + **K**	Fluorescence	3500 eV	Exp	384
hν + **Ar**	Photoexcitation	3500 eV	Exp	384
hν + **K**	Photoexcitation	3500 eV	Exp	384
hν + **Ar**	Photoionization	3500 eV	Exp	384
hν + **K**	Photoionization	3500 eV	Exp	384
hν + $\mathbf{H_2}$	Photoionization	50-140 eV	Th	385
hν + **Mn**	Fluorescence	120 eV	Exp	386
hν + **Mn**	Photoionization	120 eV	Exp	386
hν + **NaI**	Photodissociation	320 nm	Th	387
hν + $\mathbf{H_2}^+$	Photodissociation	400 nm	Th	388
hν + **He**	Photoionization	418 nm	Exp	389
hν + $\mathbf{H_2}$	Photoionization	Undef.	Th	390
hν + $\mathbf{H_2}$	Photodissociation	20-45 eV	E/T	391
hν + $\mathbf{H_2}$	Photoexcitation	20-45 eV	E/T	391
hν + $\mathbf{H_2}$	Photoionization	20-45 eV	E/T	391
hν + **Xe**	Photoionization	54 Ry	Th	392
hν + **Cs**	Photoionization	54 Ry	Th	392
hν + **Ba**	Photoionization	54 Ry	Th	392
hν + **H**	Photoionization	150-500 eV	Th	393
hν + **OCS**	Photoionization	174.3-570.7 eV	Exp	394
hν + $\mathbf{F^-}$	Photodetachment	$10^{13}-10^{16}$ W/cm^2	E/T	395
hν + **He**	Photoionization	$10^{13}-10^{16}$ W/cm^2	E/T	395
hν + **Ne**	Photoionization	$10^{13}-10^{16}$ W/cm^2	E/T	395
hν + **Ar**	Photoionization	$10^{13}-10^{16}$ W/cm^2	E/T	395
hν + **Xe**	Photoionization	$10^{13}-10^{16}$ W/cm^2	E/T	395

hν + $\mathbf{N_2}$	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T	395
hν + $\mathbf{O_2}$	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T	395
hν + $\mathbf{C_2H_2}$	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T	395
hν + $\mathbf{F_2}$	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T	395
hν + $\mathbf{C_6H_6}$	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T	395
hν + $\mathbf{O_2}^{+}$	Photodissociation	22-35 eV	Exp	396
hν + $\mathbf{O_2}^{+}$	Photoionization	22-35 eV	Exp	396
hν + $\mathbf{O_2}^{+}$	Fluorescence	17-25 eV	Exp	397
hν + $\mathbf{O_2}^{+}$	Photoexcitation	17-25 eV	Exp	397
hν + **He**	Photoionization	0.3-0.9 a.u.	Th	398
hν + **H**	Photoionization	$0 - 4x10^{17}$ W/cm^2	Th	399
hν + $\mathbf{H}^{*}$	Photoionization	$0 - 4x10^{17}$ W/cm^2	Th	399
hν + **Xe**	Photoexcitation	10-12 eV	Exp	400
hν + **Xe**	Photoionization	10-12 eV	Exp	400
hν + $\mathbf{B}^{+}$	Photoionization	10-45 eV	Th	401
hν + $\mathbf{B}^{+*}$	Photoionization	10-45 eV	Th	401
hν + **Mo**	Total Absorption, Scattering	13.5-41.5 keV	Exp	402
hν + **Mo**	Free-Free Transition	13.5-41.5 keV	Exp	402
hν + **W**	Elastic Scattering	1.115 MeV	E/T	403
hν + **Pb**	Elastic Scattering	1.115 MeV	E/T	403
hν + **Mg**	Photoionization	1.9-6 eV	Th	404
hν + $\mathbf{Cs}^{-}$	Photodetachment	0.5-1 10^{12} W/cm^2	Th	405
hν + **H**	Photoexcitation	0.6-9.1 GW/cm^2	Th	406
hν + $\mathbf{O_2}$	Photodissociation	34-41 eV	Exp	407
hν + $\mathbf{O_2}$	Photoionization	34-41 eV	Exp	407
hν + **He**	Photoionization	70-150 eV	Th	408
hν + $\mathbf{Be}^{2+}$	Photoionization	70-150 eV	Th	408
hν + $\mathbf{C}^{4+}$	Photoionization	70-150 eV	Th	408
hν + $\mathbf{O}^{6+}$	Photoionization	70-150 eV	Th	408
hν + $\mathbf{Ne}^{8+}$	Photoionization	70-150 eV	Th	408
hν + **He**	Photon Collisions	$10^{13} - 10^{17}$ W/cm^2	E/T	409
hν + **Ne**	Photon Collisions	$10^{13} - 10^{17}$ W/cm^2	E/T	409
hν + **Ar**	Photon Collisions	$10^{13} - 10^{17}$ W/cm^2	E/T	409
hν + **Xe**	Photon Collisions	$10^{13} - 10^{17}$ W/cm^2	E/T	409
hν + **He**	Photoionization	$10^{13} - 10^{17}$ W/cm^2	E/T	409
hν + **Ne**	Photoionization	$10^{13} - 10^{17}$ W/cm^2	E/T	409
hν + **Ar**	Photoionization	$10^{13} - 10^{17}$ W/cm^2	E/T	409
hν + **Xe**	Photoionization	$10^{13} - 10^{17}$ W/cm^2	E/T	409
hν + **C**	Photon Collisions	10-300 eV	Exp	410
hν + **Ar**	Photon Collisions	10-300 eV	Exp	410
hν + **Kr**	Photon Collisions	10-300 eV	Exp	410
hν + $\mathbf{N_2}$	Photon Collisions	10-300 eV	Exp	410
hν + $\mathbf{H_2S}$	Photon Collisions	10-300 eV	Exp	410
hν + **HCl**	Photon Collisions	10-300 eV	Exp	410
hν + **C**	Photoionization	10-300 eV	Exp	410
hν + **Ar**	Photoionization	10-300 eV	Exp	410
hν + **Kr**	Photoionization	10-300 eV	Exp	410
hν + $\mathbf{N_2}$	Photoionization	10-300 eV	Exp	410
hν + $\mathbf{H_2S}$	Photoionization	10-300 eV	Exp	410
hν + **HCl**	Photoionization	10-300 eV	Exp	410
hν + $\mathbf{CO_2}^{3+}$	Photon Collisions	650-700 eV	Exp	411
hν + $\mathbf{CF_4}$	Photon Collisions	650-700 eV	Exp	411
hν + $\mathbf{BF_3}^{4+}$	Photon Collisions	650-700 eV	Exp	411
hν + $\mathbf{HCCH}^{3+}$	Photon Collisions	650-700 eV	Exp	411
hν + $\mathbf{CO_2}^{3+}$	Photodissociation	650-700 eV	Exp	411
hν + $\mathbf{CF_4}$	Photodissociation	650-700 eV	Exp	411
hν + $\mathbf{BF_3}^{4+}$	Photodissociation	650-700 eV	Exp	411

hν + $HCCH^{3+}$	Photodissociation	650-700 eV	Exp	411
hν + ${CO_2}^{3+}$	Photoionization	650-700 eV	Exp	411
hν + CF_4	Photoionization	650-700 eV	Exp	411
hν + ${BF_3}^{4+}$	Photoionization	650-700 eV	Exp	411
hν + $HCCH^{3+}$	Photoionization	650-700 eV	Exp	411
hν + He	Photon Collisions	0.1-450 eV	Exp	412
hν + H_2	Photon Collisions	0.1-450 eV	Exp	412
hν + HD	Photon Collisions	0.1-450 eV	Exp	412
hν + D_2	Photon Collisions	0.1-450 eV	Exp	412
hν + He	Photoionization	0.1-450 eV	Exp	412
hν + H_2	Photoionization	0.1-450 eV	Exp	412
hν + HD	Photoionization	0.1-450 eV	Exp	412
hν + D_2	Photoionization	0.1-450 eV	Exp	412
hν + O_3	Photon Collisions	Undef.	Exp	413
hν + $ClONO_2$	Photon Collisions	Undef.	Exp	413
hν + $HClO_4$	Photon Collisions	Undef.	Exp	413
hν + $(CH_3)_2S$	Photon Collisions	Undef.	Exp	413
hν + O_3	Total Absorption, Scattering	Undef.	Exp	413
hν + $ClONO_2$	Total Absorption, Scattering	Undef.	Exp	413
hν + $HClO_4$	Total Absorption, Scattering	Undef.	Exp	413
hν + $(CH_3)_2S$	Total Absorption, Scattering	Undef.	Exp	413
NH_3	Photon Collisions	Undef.	Exp	413
NH_3	Photoionization	Undef.	Exp	413
nhν + ${H_2}^+$	Photodissociation	228-400 nm	Th	131
nhν + ${H_2}^+$	Photoionization	228-400 nm	Th	131
nhν + Ne	Photoionization	1.5 eV	Th	132
nhν + Ne	Photoionization	1.55 eV	Th	146
nhν + N_2	Photodissociation	800 nm	Exp	163
nhν + N_2	Photoionization	800 nm	Exp	163
nhν + He	Photoionization	248 nm	Th	164
nhν + H^-	Photodetachment	10.6 μ m	Th	180
nhν + He	Photoionization	780 nm	Th	183
nhν + Ar^{7+}	Photoionization	52.5-54 eV	Th	234
nhν + Ne	Photoionization	65.5-68.3 eV	Exp	235
nhν + ${H_2}^+$	Photoionization	532 nm	Th	296
nhν + HD^+	Photodissociation	785 nm	Th	297
nhν + CO_2	Photodissociation	800 nm	Exp	298
nhν + NO_2	Photodissociation	800 nm	Exp	298
nhν + He	Photoionization	39-47 eV	Th	309
nhν + Xe	Photoionization	$10^{16}-10^{18}$ W/cm^2	Exp	364
nhν + N_2	Photoionization	$10^{14}-10^{16}$ W/cm^2	Exp	380
2hν + Ar	Photoionization	25 eV	Th	147
2hν + Xe	Photoionization	25 eV	Th	147
2hν + H	Photoionization	Undef.	Th	195
2hν + Xe^{53+}	Photoionization	Undef.	Th	195
2hν + U^{91+}	Photoionization	Undef.	Th	195
2hν + Ar	Photoionization	5.4-7.8; 8-14.65 eV	Th	197
2hν + H_2	Photoionization	800 nm	Th	226
2hν + D_2	Photoionization	800 nm	Th	226
3hν + Ar	Photoionization	5.4-7.8; 8-14.65 eV	Th	197
OH	Photon Collisions	Undef.	Exp	413
OH	Photoionization	Undef.	Exp	413
$(H_2O)(CO)$	Photon Collisions	Undef.	Exp	413
$(H_2O)(CO)$	Photodissociation	Undef.	Exp	413
hν + H Z= ?-?	Photoionization	10^{16} W/cm^2	Th	379
hν + H Z= ?-?	Fluorescence	Undef.	Th	383
nhν + H Z= ?-?	Photoionization	10^{16} W/cm^2	Th	379

2hν + H Z= ?-?	Fluorescence	Undef.	Th	383
hν + He Z= ?-?	Photoionization	Undef.	Th	254

2.2.2 Electron Collisions

K + Xe	Excitation	Undef.	Th	662
e + H	Recombination	4-16 K	Th	414
e + C_4H_6	Elastic Scattering	10-60 eV	Th	415
e + C_4H_6	Angular Scattering	10-60 eV	Th	415
e + H	Angular Scattering	13.6-7830 eV	Th	416
e + He^+	Angular Scattering	13.6-7830 eV	Th	416
e + Li^{2+}	Angular Scattering	13.6-7830 eV	Th	416
e + Be^{3+}	Angular Scattering	13.6-7830 eV	Th	416
e + H	Ionization	13.6-7830 eV	Th	416
e + He^+	Ionization	13.6-7830 eV	Th	416
e + Li^{2+}	Ionization	13.6-7830 eV	Th	416
e + Be^{3+}	Ionization	13.6-7830 eV	Th	416
e + H^-	Detachment	0-170 eV	Exp	417
e + H^-	Ionization	0-170 eV	Exp	417
e + Xe	Angular Scattering	16-150 eV	Exp	418
e + Xe	Fluorescence	16-150 eV	Exp	418
e + Xe	Excitation	16-150 eV	Exp	418
e + Xe	Ionization	16-150 eV	Exp	418
e + Rb	Angular Scattering	50 eV	E/T	419
e + Rb	Ionization	50 eV	E/T	419
e + He	Ionization	5.6 keV	E/T	420
e + H	Excitation	40-60 eV	E/T	421
e + B^+	Ionization	1-10 ionizing energy	E/T	422
e + C^{2+}	Ionization	1-10 ionizing energy	E/T	422
e + N^{3+}	Ionization	1-10 ionizing energy	E/T	422
e + O^{4+}	Ionization	1-10 ionizing energy	E/T	422
e + F^{5+}	Ionization	1-10 ionizing energy	E/T	422
e + Ne^{6+}	Ionization	1-10 ionizing energy	E/T	422
e + Al^{7+}	Ionization	1-10 ionizing energy	E/T	422
e + Ar^{14+}	Ionization	1-10 ionizing energy	E/T	422
e + Fe^{22+}	Ionization	1-10 ionizing energy	E/T	422
e + Ag^{43+}	Ionization	1-10 ionizing energy	E/T	422
e + Hg^{76+}	Ionization	1-10 ionizing energy	E/T	422
e + H_2	Elastic Scattering	3.1-7.5 MeV	E/T	423
e + H_2	Angular Scattering	3.1-7.5 MeV	E/T	423
e + H	Elastic Scattering	0.4-5.0 k	Th	424
e + Sc^{18+}	Recombination	0-30 eV	E/T	425
e + Sc^+	Ionization	0-1000 eV	E/T	426
e + Sr	Elastic Scattering	1-100 eV	E/T	427
e + Ba	Elastic Scattering	1-100 eV	E/T	427
e + Sr	Angular Scattering	1-100 eV	E/T	427
e + Ba	Angular Scattering	1-100 eV	E/T	427
e + Sr	Total Scattering	1-100 eV	E/T	427
e + Ba	Total Scattering	1-100 eV	E/T	427
e + Kr	Elastic Scattering	250-4500 eV	E/T	428
e + Xe	Elastic Scattering	250-4500 eV	E/T	428
e + Kr	Excitation	250-4500 eV	E/T	428
e + Xe	Excitation	250-4500 eV	E/T	428
e + Kr	Ionization	250-4500 eV	E/T	428
e + Xe	Ionization	250-4500 eV	E/T	428
e + H_2	Dissociation	0-6 eV	Th	429

e + H_2	Excitation	0-6 eV	Th	429
e + Bi^{+}	Ionization	0-100 eV	E/T	430
e + Bi^{2+}	Ionization	0-100 eV	E/T	430
e + Bi^{3+}	Ionization	0-100 eV	E/T	430
e + Bi^{4+}	Ionization	0-100 eV	E/T	430
e + Bi^{5+}	Ionization	0-100 eV	E/T	430
e + Bi^{6+}	Ionization	0-100 eV	E/T	430
e + Bi^{7+}	Ionization	0-100 eV	E/T	430
e + Bi^{8+}	Ionization	0-100 eV	E/T	430
e + Bi^{9+}	Ionization	0-100 eV	E/T	430
e + Bi^{10+}	Ionization	0-100 eV	E/T	430
e + $H_3{}^{+}$	Dissociation	0-10 eV	E/T	431
e + $H_3{}^{+}$	Recombination	0-10 eV	E/T	431
e + Pb^{79+}	Recombination	13-19 eV	E/T	432
e + He^{+}	Excitation	3-225 Ry	Th	433
e + Li^{2+}	Excitation	3-225 Ry	Th	433
e + Be^{3+}	Excitation	3-225 Ry	Th	433
e + B^{4+}	Excitation	3-225 Ry	Th	433
e + C^{5+}	Excitation	3-225 Ry	Th	433
e + O^{7+}	Excitation	3-225 Ry	Th	433
e + Ne^{9+}	Excitation	3-225 Ry	Th	433
e + Pb	Angular Scattering	5-13 eV	E/T	434
e + Pb	Excitation	5-13 eV	E/T	434
e + C_4F_6	Elastic Scattering	0.6-370 eV	Exp	435
e + C_4F_6	Excitation	0.6-370 eV	Exp	435
e + Ca	Angular Scattering	10.1-64.6 eV	Exp	436
e + Ca	Ionization	10.1-64.6 eV	Exp	436
e + Ca	Angular Scattering	20-35 eV	Exp	437
e + Ca	Excitation	20-35 eV	Exp	437
e + Ni^{+}	Recombination	25-500 eV	Th	438
e + Ni^{2+}	Recombination	25-500 eV	Th	438
e + Ni^{3+}	Recombination	25-500 eV	Th	438
e + Ni^{4+}	Recombination	25-500 eV	Th	438
e + Ni^{5+}	Recombination	25-500 eV	Th	438
e + Ni^{6+}	Recombination	25-500 eV	Th	438
e + Ni^{7+}	Recombination	25-500 eV	Th	438
e + Ni^{8+}	Recombination	25-500 eV	Th	438
e + Ni^{9+}	Recombination	25-500 eV	Th	438
e + Ni^{10+}	Recombination	25-500 eV	Th	438
e + Ni^{11+}	Recombination	25-500 eV	Th	438
e + Ni^{12+}	Recombination	25-500 eV	Th	438
e + Ni^{13+}	Recombination	25-500 eV	Th	438
e + Ni^{14+}	Recombination	25-500 eV	Th	438
e + Ni^{9+}	Ionization	25-500 eV	Th	438
e + Ni^{10+}	Ionization	25-500 eV	Th	438
e + Ni^{11+}	Ionization	25-500 eV	Th	438
e + Ni^{12+}	Ionization	25-500 eV	Th	438
e + Ni^{13+}	Ionization	25-500 eV	Th	438
e + Ni^{14+}	Ionization	25-500 eV	Th	438
e + Cl_2	Attachment	0-9 eV	E/T	439
e + Cl_2	Dissociation	0-9 eV	E/T	439
e + Cl_2	Excitation	0-9 eV	E/T	439
e + U^{91+}	Recombination	63.8-73.2 keV	Th	440
e + H_2	Excitation	10.5-13.5 eV; 340-375 nm	Exp	441
e + Gd^{36+}	Excitation	250-3000 eV	Th	442
e + Ar	Angular Scattering	14-100 eV	E/T	443
e + Ar^{*}	Angular Scattering	14-100 eV	E/T	443

e + Ar	Excitation	14-100 eV	E/T	443
e + Ar*	Excitation	14-100 eV	E/T	443
e + CCl_2F_2	Dissociation	10-70 eV	Exp	444
e + CCl_2F_2	Ionization	10-70 eV	Exp	444
e + H_2O	Excitation	0.1-15 eV	E/T	445
e + CH_4	Excitation	0.1-15 eV	E/T	445
e + CO_2	Excitation	0.1-15 eV	E/T	445
e + C_2H_6	Excitation	0.1-15 eV	E/T	445
e + H_2O	Electron Collisions	0.1-15 eV	E/T	445
e + CH_4	Electron Collisions	0.1-15 eV	E/T	445
e + CO_2	Electron Collisions	0.1-15 eV	E/T	445
e + C_2H_6	Electron Collisions	0.1-15 eV	E/T	445
e + SF_4	Elastic Scattering	0-15 eV	Th	446
e + SF_4	Excitation	0-15 eV	Th	446
e + H_2O	Elastic Scattering	4-50 eV	Exp	447
e + H_2O	Angular Scattering	4-50 eV	Exp	447
e + H	Angular Scattering	30 eV	Th	448
e + H	Excitation	30 eV	Th	448
e + Ar	Angular Scattering	561.4 eV	Th	449
e + Ar	Ionization	561.4 eV	Th	449
e + H_2O	Elastic Scattering	0-7 eV	Th	450
e + H_2O	Angular Scattering	0-7 eV	Th	450
e + H_2O	Excitation	0-7 eV	Th	450
e + H	Ionization	54-25 eV	E/T	451
e + Ar	Excitation	10-200 eV	E/T	452
e + Rb*	De-excitation	20 eV	E/T	453
e + Rb	Elastic Scattering	20 eV	E/T	453
e + Rb*	Elastic Scattering	20 eV	E/T	453
e + H_2	Angular Scattering	15-30 eV	Th	454
e + H_2	Excitation	15-30 eV	Th	454
e + H_2	Angular Scattering	612-5612 eV	Th	455
e + H_2	Ionization	612-5612 eV	Th	455
e + He	Ionization	25-3000 eV	Th	456
e + CO_2	Elastic Scattering	1-8 eV	Th	457
e + CO_2	Angular Scattering	1-8 eV	Th	457
e + C_6H_6	Elastic Scattering	0.04-1000 eV	E/T	458
e + C_6H_6	Excitation	0.04-1000 eV	E/T	458
e + C_6H_6	Elastic Scattering	1 keV	Exp	459
e + C_6H_6	Angular Scattering	1 keV	Exp	459
e + C_6H_6	Excitation	1 keV	Exp	459
e + Mg^+	Ionization	15-1000 eV	E/T	460
e + PH_3	Elastic Scattering	0.5-370 eV	Exp	461
e + PH_3	Excitation	0.5-370 eV	Exp	461
e + PH_3	Ionization	0.5-370 eV	Exp	461
e + C_6H_6	Elastic Scattering	0.4-1000 eV	Exp	462
e + $C_6H_4F_2$	Elastic Scattering	0.4-1000 eV	Exp	462
e + C_6H_5F	Elastic Scattering	0.4-1000 eV	Exp	462
e + C_6H_5Cl	Elastic Scattering	0.4-1000 eV	Exp	462
e + C_6H_6	Excitation	0.4-1000 eV	Exp	462
e + $C_6H_4F_2$	Excitation	0.4-1000 eV	Exp	462
e + C_6H_5F	Excitation	0.4-1000 eV	Exp	462
e + C_6H_5Cl	Excitation	0.4-1000 eV	Exp	462
e + C_6H_6	Ionization	0.4-1000 eV	Exp	462
e + $C_6H_4F_2$	Ionization	0.4-1000 eV	Exp	462
e + C_6H_5F	Ionization	0.4-1000 eV	Exp	462
e + C_6H_5Cl	Ionization	0.4-1000 eV	Exp	462
e + H	Excitation	54.4 eV	Exp	463

e + H*	Excitation	54.4 eV	Exp	463
e + C^{3+}	Ionization	70-15,000 eV	Th	464
e + N^{4+}	Ionization	70-15,000 eV	Th	464
e + O^{4+}	Ionization	70-15,000 eV	Th	464
e + O^{5+}	Ionization	70-15,000 eV	Th	464
e + Ne^{6+}	Ionization	70-15,000 eV	Th	464
e + Ne^{7+}	Ionization	70-15,000 eV	Th	464
e + O$_2$	Fluorescence	10-400 eV	Exp	465
e + O$_2$	Excitation	10-400 eV	Exp	465
e + Ar^{16+}	Recombination	Low energy	E/T	466
e + Ar^{16+}	Fluorescence	Low energy	E/T	466
e + Si^{2+}	Angular Scattering	10.5-13.2 eV	Th	467
e + Si^{2+}	Excitation	10.5-13.2 eV	Th	467
e + Ba	Angular Scattering	5-16 eV	Th	468
e + Ba	Excitation	5-16 eV	Th	468
e + Ne	Angular Scattering	16.6-51 eV	Th	469
e + Ne	Excitation	16.6-51 eV	Th	469
e + C$_2$$^-$	Detachment	0-30 eV	Exp	470
e + C$_2$$^-$	Electron Collisions	0-30 eV	Exp	470
e + Ge^{30+}	Recombination	6500-11,000 eV	E/T	471
e + Ti^{20+}	Recombination	3-5 keV	E/T	472
e + Kr^{8+}	Recombination	0-5 keV	Th	473
e + Kr^{26+}	Recombination	0-5 keV	Th	473
e + Zr^{12+}	Recombination	0-5 keV	Th	473
e + Ru^{16+}	Recombination	0-5 keV	Th	473
e + Cd^{20+}	Recombination	0-5 keV	Th	473
e + Xe^{26+}	Recombination	0-5 keV	Th	473
e + Xe^{44+}	Recombination	0-5 keV	Th	473
e + C$_4$H$_4$N$_2$O$_2$	Ionization	0-1000 eV	E/T	474
e + H$_3$$^+$	Dissociation	5-30 eV	Th	475
e + HeH$^+$	Dissociation	5-30 eV	Th	475
e + H$_3$$^+$	Recombination	5-30 eV	Th	475
e + HeH$^+$	Recombination	5-30 eV	Th	475
e + He	Ionization	100-4000 eV	E/T	476
e + He$^+$	Angular Scattering	2-30 excitation threshold units	Th	477
e + He$^+$	Excitation	2-30 excitation threshold units	Th	477
e + H	Ionization	0-2 Hartrees	E/T	478
e + NO	Attachment	7.6-10 eV	Exp	479
e + NO	Dissociation	7.6-10 eV	Exp	479
e + Ca$^+$	Excitation	1.5-500 threshold	Th	480
e + Ti^{3+}	Ionization	40-1000 eV	Exp	481
e + Ne	Elastic Scattering	10-100 eV	Th	482
e + Ne$^+$	Elastic Scattering	10-100 eV	Th	482
e + Na	Elastic Scattering	10-100 eV	Th	482
e + Na$^+$	Elastic Scattering	10-100 eV	Th	482
e + Ar	Elastic Scattering	10-100 eV	Th	482
e + Ar$^+$	Elastic Scattering	10-100 eV	Th	482
e + CO	Ionization	0-250 eV	Exp	483
e + CO$_2$	Ionization	0-250 eV	Exp	483
e + CS$_2$	Ionization	0-250 eV	Exp	483
e + OCS	Ionization	0-250 eV	Exp	483
e + C$_2$H$_4$	Elastic Scattering	10-500 eV	E/T	484
e + C$_2$H$_4$	Total Scattering	10-500 eV	E/T	484
e + LiH	Elastic Scattering	0-6 eV	Th	485
e + LiH	Excitation	0-6 eV	Th	485
e + He	Ionization	200 eV; 1 MeV	Th	486
e + Ne	Excitation	16-40 eV	Th	487

e + O	Elastic Scattering	0.5-18 eV	Th	488
e + O	Excitation	0.5-18 eV	Th	488
e + $\mathbf{H_3}^+$	Excitation	15-42 eV	Th	489
e + $\mathbf{H_3}^+$	Ionization	15-42 eV	Th	489
e + $\mathbf{CF_3}^+$	Dissociation	100 K	Exp	490
e + $\mathbf{CF_3}^+$	Recombination	100 K	Exp	490
e + $\mathbf{H}_2$	Ionization	10-20 eV	Exp	491
e + $\mathbf{H}_3$	Ionization	10-20 eV	Exp	491
e + $\mathbf{D}_2$	Ionization	10-20 eV	Exp	491
e + $\mathbf{D}_3$	Ionization	10-20 eV	Exp	491
e + Hn	Ionization	10-20 eV	Exp	491
e + Dm	Ionization	10-20 eV	Exp	491
e + $\mathbf{H}_5$	Ionization	10-20 eV	Exp	491
e + $\mathbf{H}_7$	Ionization	10-20 eV	Exp	491
e + $\mathbf{H}_9$	Ionization	10-20 eV	Exp	491
e + $\mathbf{H}_{11}$	Ionization	10-20 eV	Exp	491
e + $\mathbf{D}_5$	Ionization	10-20 eV	Exp	491
e + $\mathbf{D}_7$	Ionization	10-20 eV	Exp	491
e + $\mathbf{D}_9$	Ionization	10-20 eV	Exp	491
e + $\mathbf{D}_{11}$	Ionization	10-20 eV	Exp	491
e + $\mathbf{Sr}^+$	Line Broadening	0-0.6 eV	Th	492
e + Xe	Angular Scattering	40-50 eV	Th	493
e + Xe	Ionization	40-50 eV	Th	493
e + Ag	Ionization	5-25 keV	Exp	494
e + Au	Ionization	5-25 keV	Exp	494
e + Mg	Angular Scattering	1059 eV	Th	495
e + Mg	Ionization	1059 eV	Th	495
e + $\mathbf{Xe}^{26+}$	Excitation	0-85 Ry	Th	496
e + Kr	Elastic Scattering	20-100 eV	E/T	497
e + Kr	Excitation	20-100 eV	E/T	497
e + $\mathbf{O}_2$	Elastic Scattering	7-10 eV	E/T	498
e + Ar	Excitation	11.5-14 eV	E/T	499
e + $\mathbf{Fe}^{24+}$	Line Broadening	0-10 keV	Th	500
e + $\mathbf{Fe}^{25+}$	Line Broadening	0-10 keV	Th	500
e + $\mathbf{Ni}^{26+}$	Line Broadening	0-10 keV	Th	500
e + $\mathbf{Ni}^{27+}$	Line Broadening	0-10 keV	Th	500
e + $\mathbf{Mo}^{40+}$	Line Broadening	0-10 keV	Th	500
e + $\mathbf{Mo}^{41+}$	Line Broadening	0-10 keV	Th	500
e + $\mathbf{Fe}^{24+}$	Recombination	0-10 keV	Th	500
e + $\mathbf{Fe}^{25+}$	Recombination	0-10 keV	Th	500
e + $\mathbf{Ni}^{26+}$	Recombination	0-10 keV	Th	500
e + $\mathbf{Ni}^{27+}$	Recombination	0-10 keV	Th	500
e + $\mathbf{Mo}^{40+}$	Recombination	0-10 keV	Th	500
e + $\mathbf{Mo}^{41+}$	Recombination	0-10 keV	Th	500
e + $\mathbf{Fe}^{24+}$	Excitation	0-10 keV	Th	500
e + $\mathbf{Fe}^{25+}$	Excitation	0-10 keV	Th	500
e + $\mathbf{Ni}^{26+}$	Excitation	0-10 keV	Th	500
e + $\mathbf{Ni}^{27+}$	Excitation	0-10 keV	Th	500
e + $\mathbf{Mo}^{40+}$	Excitation	0-10 keV	Th	500
e + $\mathbf{Mo}^{41+}$	Excitation	0-10 keV	Th	500
e + H	Elastic Scattering	0.01-1.0 a.u.	Th	501
e + H	Total Scattering	0.01-1.0 a.u.	Th	501
e + H	Ionization	0.01-1.0 a.u.	Th	501
e + $\mathbf{Ar}^{16+}$	Recombination	2000-5000 eV	Th	502
e + $\mathbf{Fe}^{24+}$	Recombination	2000-5000 eV	Th	502
e + $\mathbf{Ar}^{16+}$	Excitation	2000-5000 eV	Th	502
e + $\mathbf{Fe}^{24+}$	Excitation	2000-5000 eV	Th	502

e + CH_4	Excitation	10-2000 eV	Th	503
e + CF_4	Excitation	10-2000 eV	Th	503
e + CCl_4	Excitation	10-2000 eV	Th	503
e + SiH_4	Excitation	10-2000 eV	Th	503
e + SF_6	Excitation	10-2000 eV	Th	503
e + GeH−4	Excitation	10-2000 eV	Th	503
e + SiF_4	Excitation	10-2000 eV	Th	503
e + CH_4	Ionization	10-2000 eV	Th	503
e + CF_4	Ionization	10-2000 eV	Th	503
e + CCl_4	Ionization	10-2000 eV	Th	503
e + SiH_4	Ionization	10-2000 eV	Th	503
e + SF_6	Ionization	10-2000 eV	Th	503
e + GeH−4	Ionization	10-2000 eV	Th	503
e + SiF_4	Ionization	10-2000 eV	Th	503
e + H_2	Dissociation	0-10 eV	Th	504
e + H_2	Excitation	0-10 eV	Th	504
e + H	Ionization	14.6-40 eV	Exp	505
e + H	Dissociation	14.6-40 eV	Exp	506
e + H	Elastic Scattering	14.6-40 eV	Exp	506
e + H	Excitation	14.6-40 eV	Exp	506
e + H	Ionization	14.6-40 eV	Exp	506
e + $H_3{}^+$	Attachment	2-20 eV	E/T	507
e + $H_3{}^+$	Dissociation	2-20 eV	E/T	507
e + H_2O	Ionization	250 eV	E/T	508
e + Kr	Angular Scattering	750 eV	Exp	509
e + Kr	Ionization	750 eV	Exp	509
e + Ge	Fluorescence	1.62-40.62 keV	Exp	510
e + Ge	Ionization	1.62-40.62 keV	Exp	510
e + He	Excitation	0.5-5.5 keV	Th	511
e + He	Ionization	0.5-5.5 keV	Th	511
e + H_2	Dissociation	2 keV	E/T	512
e + D_2	Dissociation	2 keV	E/T	512
e + H_2	Ionization	2 keV	E/T	512
e + D_2	Ionization	2 keV	E/T	512
e + C_2F_4	Elastic Scattering	0.5-20 eV	Th	513
e + C_2F_4	Angular Scattering	0.5-20 eV	Th	513
e + C_2F_4	Total Scattering	0.5-20 eV	Th	513
e + Cs	Angular Scattering	5-25 eV	E/T	514
e + Cs	Excitation	5-25 eV	E/T	514
e + NO	Elastic Scattering	2500 eV	Exp	515
e + NO	Angular Scattering	2500 eV	Exp	515
e + He	Angular Scattering	2-5.6 keV	Th	516
e + He	Ionization	2-5.6 keV	Th	516
e + He	Angular Scattering	5.6 keV	Th	517
e + He	Ionization	5.6 keV	Th	517
e + SF_6	Elastic Scattering	0.8-1000 eV	Exp	518
e + SF_6	Excitation	0.8-1000 eV	Exp	518
e + SF_6	Electron Collisions	0.8-1000 eV	Exp	518
e + Xe	Ionization	0-500 eV	Th	519
e + HeH^+	Dissociation	0.001-1 eV	Th	520
e + HeH	Recombination	0.001-1 eV	Th	520
e + Ne	Excitation	910 eV	Exp	521
e + Ne	Ionization	910 eV	Exp	521
e + H	Elastic Scattering	4-30 eV	Th	522
e + H	Total Scattering	4-30 eV	Th	522
e + H	Excitation	4-30 eV	Th	522
e + S^{13+}	De-excitation	0-144 eV	Exp	523

e + S^{14+}	De-excitation	0-144 eV	Exp	523
e + S^{13+}	Excitation	0-144 eV	Exp	523
e + S^{14+}	Excitation	0-144 eV	Exp	523
e + CO	Excitation	1.91 eV	Exp	524
e + Mg	Elastic Scattering	0-1 eV	Th	525
e + Na_{20}	Bremsstrahlung	10-30 eV	Th	526
e + Na_{8}	Bremsstrahlung	10-30 eV	Th	526
e + Na_{92}	Bremsstrahlung	10-30 eV	Th	526
e + Na_{196}	Bremsstrahlung	10-30 eV	Th	526
e + K_{92}	Bremsstrahlung	10-30 eV	Th	526
e + Li_{92}	Bremsstrahlung	10-30 eV	Th	526
e + Ne	Line Broadening	1000-50,000 K	Th	527
e + He^{+}	Angular Scattering	1585-5640 eV	Th	528
e + He^{+*}	Angular Scattering	1585-5640 eV	Th	528
e + He^{+}	Excitation	1585-5640 eV	Th	528
e + He^{+*}	Excitation	1585-5640 eV	Th	528
e + He^{+}	Ionization	1585-5640 eV	Th	528
e + He^{+*}	Ionization	1585-5640 eV	Th	528
e + PH_2	Elastic Scattering	0.5-8 eV	Th	529
e + AsH_3	Elastic Scattering	0.5-8 eV	Th	529
e + SbH_3	Elastic Scattering	0.5-8 eV	Th	529
e + N^{+}	Recombination	$1-10^5$ eV	Th	530
e + O^{2+}	Recombination	$1-10^5$ eV	Th	530
e + F^{3+}	Recombination	$1-10^5$ eV	Th	530
e + Ne^{4+}	Recombination	$1-10^5$ eV	Th	530
e + Na^{5+}	Recombination	$1-10^5$ eV	Th	530
e + Mg^{6+}	Recombination	$1-10^5$ eV	Th	530
e + Al^{7+}	Recombination	$1-10^5$ eV	Th	530
e + Si^{8+}	Recombination	$1-10^5$ eV	Th	530
e + P^{9+}	Recombination	$1-10^5$ eV	Th	530
e + S^{10+}	Recombination	$1-10^5$ eV	Th	530
e + Cl^{11+}	Recombination	$1-10^5$ eV	Th	530
e + Ar^{12+}	Recombination	$1-10^5$ eV	Th	530
e + K^{13+}	Recombination	$1-10^5$ eV	Th	530
e + Ca^{14+}	Recombination	$1-10^5$ eV	Th	530
e + Sc^{15+}	Recombination	$1-10^5$ eV	Th	530
e + Ti^{16+}	Recombination	$1-10^5$ eV	Th	530
e + V^{17+}	Recombination	$1-10^5$ eV	Th	530
e + Cr^{18+}	Recombination	$1-10^5$ eV	Th	530
e + Mn^{19+}	Recombination	$1-10^5$ eV	Th	530
e + Fe^{20+}	Recombination	$1-10^5$ eV	Th	530
e + Co^{21+}	Recombination	$1-10^5$ eV	Th	530
e + Ni^{22+}	Recombination	$1-10^5$ eV	Th	530
e + Cu^{23+}	Recombination	$1-10^5$ eV	Th	530
e + Zn^{24+}	Recombination	$1-10^5$ eV	Th	530
e + Kr^{30+}	Recombination	$1-10^5$ eV	Th	530
e + Mo^{36+}	Recombination	$1-10^5$ eV	Th	530
e + Cd^{42+}	Recombination	$1-10^5$ eV	Th	530
e + Xe^{48+}	Recombination	$1-10^5$ eV	Th	530
e + Be^{+}	Recombination	10^3-10^9 K	Th	531
e + B^{2+}	Recombination	10^3-10^9 K	Th	531
e + C^{3+}	Recombination	10^3-10^9 K	Th	531
e + N^{4+}	Recombination	10^3-10^9 K	Th	531
e + O^{5+}	Recombination	10^3-10^9 K	Th	531
e + F^{6+}	Recombination	10^3-10^9 K	Th	531
e + Ne^{7+}	Recombination	10^3-10^9 K	Th	531
e + Na^{8+}	Recombination	10^3-10^9 K	Th	531

e + Mg^{9+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Al^{10+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Si^{11+}	Recombination	$10^3 - 10^9$ K	Th	531
e + P^{12+}	Recombination	$10^3 - 10^9$ K	Th	531
e + S^{13+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Cl^{14+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Ar^{15+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Ca^{17+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Ti^{19+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Cr^{21+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Fe^{23+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Ni^{25+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Zn^{27+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Kr^{33+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Mo^{39+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Xe^{51+}	Recombination	$10^3 - 10^9$ K	Th	531
e + Cl^{+}	Excitation	0-20 Ry	Th	532
e + Fe^{12+}	Excitation	15-45 Ry	Th	533
e + Fe^{16+}	Excitation	100-2000 Ry	Th	534
e + Fe^{17+}	Excitation	100-2000 Ry	Th	534
e + Fe^{18+}	Excitation	100-2000 Ry	Th	534
e + Fe^{19+}	Excitation	100-2000 Ry	Th	534
e + Fe^{20+}	Excitation	100-2000 Ry	Th	534
e + Fe^{21+}	Excitation	100-2000 Ry	Th	534
e + Fe^{22+}	Excitation	100-2000 Ry	Th	534
e + Ni^{+}	Excitation	0-0.5 Ry	Th	535
e + C^{+}	Recombination	$10^3 - 10^9$ K	Th	536
e + N^{2+}	Recombination	$10^3 - 10^9$ K	Th	536
e + O^{3+}	Recombination	$10^3 - 10^9$ K	Th	536
e + F^{4+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Ne^{5+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Na^{6+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Mg^{7+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Al^{8+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Si^{9+}	Recombination	$10^3 - 10^9$ K	Th	536
e + P^{10+}	Recombination	$10^3 - 10^9$ K	Th	536
e + S^{11+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Cl^{12+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Ar^{13+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Ca^{15+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Ti^{17+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Cr^{19+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Fe^{21+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Ni^{23+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Zn^{25+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Kr^{31+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Mo^{37+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Xe^{49+}	Recombination	$10^3 - 10^9$ K	Th	536
e + Mg^{8+}	Recombination	0-207 eV	Exp	537
e + $SO_2{}^{+}$	Dissociation	0.0001-1.0 eV	Exp	538
e + $SO_2{}^{+}$	Recombination	0.0001-1.0 eV	Exp	538
e + O^{+}	Recombination	$10 - 10^9$ K	Th	539
e + F^{2+}	Recombination	$10 - 10^9$ K	Th	539
e + Ne^{3+}	Recombination	$10 - 10^9$ K	Th	539
e + Na^{4+}	Recombination	$10 - 10^9$ K	Th	539
e + Mg^{5+}	Recombination	$10 - 10^9$ K	Th	539
e + Al^{6+}	Recombination	$10 - 10^9$ K	Th	539

e + Si^{7+}	Recombination	$10 - 10^9$ K	Th	539
e + P^{8+}	Recombination	$10 - 10^9$ K	Th	539
e + S^{9+}	Recombination	$10 - 10^9$ K	Th	539
e + Cl^{10+}	Recombination	$10 - 10^9$ K	Th	539
e + Ar^{11+}	Recombination	$10 - 10^9$ K	Th	539
e + Ca^{13+}	Recombination	$10 - 10^9$ K	Th	539
e + Ti^{15+}	Recombination	$10 - 10^9$ K	Th	539
e + Cr^{17+}	Recombination	$10 - 10^9$ K	Th	539
e + Fe^{19+}	Recombination	$10 - 10^9$ K	Th	539
e + Ni^{21+}	Recombination	$10 - 10^9$ K	Th	539
e + Zn^{23+}	Recombination	$10 - 10^9$ K	Th	539
e + Kr^{29+}	Recombination	$10 - 10^9$ K	Th	539
e + Mo^{35+}	Recombination	$10 - 10^9$ K	Th	539
e + Xe^{47+}	Recombination	$10 - 10^9$ K	Th	539
e + Na^{+}	Recombination	$1 - 10^5$ eV	Th	540
e + Mg^{2+}	Recombination	$1 - 10^5$ eV	Th	540
e + Al^{3+}	Recombination	$1 - 10^5$ eV	Th	540
e + Si^{4+}	Recombination	$1 - 10^5$ eV	Th	540
e + P^{5+}	Recombination	$1 - 10^5$ eV	Th	540
e + S^{6+}	Recombination	$1 - 10^5$ eV	Th	540
e + Cl^{7+}	Recombination	$1 - 10^5$ eV	Th	540
e + Ar^{8+}	Recombination	$1 - 10^5$ eV	Th	540
e + K^{9+}	Recombination	$1 - 10^5$ eV	Th	540
e + Ca^{10+}	Recombination	$1 - 10^5$ eV	Th	540
e + Sc^{11+}	Recombination	$1 - 10^5$ eV	Th	540
e + Ti^{12+}	Recombination	$1 - 10^5$ eV	Th	540
e + V^{13+}	Recombination	$1 - 10^5$ eV	Th	540
e + Cr^{14+}	Recombination	$1 - 10^5$ eV	Th	540
e + Mn^{15+}	Recombination	$1 - 10^5$ eV	Th	540
e + Fe^{16+}	Recombination	$1 - 10^5$ eV	Th	540
e + Co^{17+}	Recombination	$1 - 10^5$ eV	Th	540
e + Ni^{18+}	Recombination	$1 - 10^5$ eV	Th	540
e + Cu^{19+}	Recombination	$1 - 10^5$ eV	Th	540
e + Zn^{20+}	Recombination	$1 - 10^5$ eV	Th	540
e + Ga^{21+}	Recombination	$1 - 10^5$ eV	Th	540
e + Ge^{22+}	Recombination	$1 - 10^5$ eV	Th	540
e + As^{23+}	Recombination	$1 - 10^5$ eV	Th	540
e + Se^{24+}	Recombination	$1 - 10^5$ eV	Th	540
e + Br^{25+}	Recombination	$1 - 10^5$ eV	Th	540
e + Kr^{26+}	Recombination	$1 - 10^5$ eV	Th	540
e + Rb^{27+}	Recombination	$1 - 10^5$ eV	Th	540
e + Sr^{28+}	Recombination	$1 - 10^5$ eV	Th	540
e + Y^{29+}	Recombination	$1 - 10^5$ eV	Th	540
e + Zr^{30+}	Recombination	$1 - 10^5$ eV	Th	540
e + Nb^{31+}	Recombination	$1 - 10^5$ eV	Th	540
e + Mo^{32+}	Recombination	$1 - 10^5$ eV	Th	540
e + Tc^{33+}	Recombination	$1 - 10^5$ eV	Th	540
e + Ru^{34+}	Recombination	$1 - 10^5$ eV	Th	540
e + Rh^{35+}	Recombination	$1 - 10^5$ eV	Th	540
e + Pd^{36+}	Recombination	$1 - 10^5$ eV	Th	540
e + Ag^{37+}	Recombination	$1 - 10^5$ eV	Th	540
e + Cd^{38+}	Recombination	$1 - 10^5$ eV	Th	540
e + In^{39+}	Recombination	$1 - 10^5$ eV	Th	540
e + Sn^{40+}	Recombination	$1 - 10^5$ eV	Th	540
e + Sb^{41+}	Recombination	$1 - 10^5$ eV	Th	540
e + Te^{42+}	Recombination	$1 - 10^5$ eV	Th	540
e + I^{43+}	Recombination	$1 - 10^5$ eV	Th	540

e + Xe^{44+}	Recombination	$1-10^5$ eV	Th	540
e + Fe^{12+}	Excitation	$0-7x10^5$ K	Th	541
e + Ca^{7+}	Excitation	0-10 Ry	Th	542
e + N_2H^+	Recombination	0.001-0.2 eV	Exp	543
e + H_2	Ionization	15-3000 eV	Th	544
e + SF_6	Ionization	0-900 eV	Th	545
e + $NH_4{}^+$	Recombination	0.001-1.0 eV	E/T	546
e + $ND_4{}^+$	Recombination	0.001-1.0 eV	E/T	546
e + C_2F_4	Elastic Scattering	1-100 eV	Exp	547
e + SF_6	Elastic Scattering	0-50 eV	Th	548
e + SF_6	Excitation	0-50 eV	Th	548
e + H_2O	Ionization	1-1000 eV	Th	549
e + CH_4	Ionization	1-1000 eV	Th	549
e + NH_3	Ionization	1-1000 eV	Th	549
e + H	Elastic Scattering	100-10,000 eV	Th	550
e + Al	Elastic Scattering	100-10,000 eV	Th	550
e + Ni	Elastic Scattering	100-10,000 eV	Th	550
e + Ag	Elastic Scattering	100-10,000 eV	Th	550
e + Cm	Elastic Scattering	100-10,000 eV	Th	550
e + H	Angular Scattering	100-10,000 eV	Th	550
e + Al	Angular Scattering	100-10,000 eV	Th	550
e + Ni	Angular Scattering	100-10,000 eV	Th	550
e + Ag	Angular Scattering	100-10,000 eV	Th	550
e + Cm	Angular Scattering	100-10,000 eV	Th	550
e + Al^{2+}	Elastic Scattering	Undef.	Th	551
e + Ar^{7+}	Elastic Scattering	Undef.	Th	551
e + Al^{2+}	Angular Scattering	Undef.	Th	551
e + Ar^{7+}	Angular Scattering	Undef.	Th	551
e + Mg	Angular Scattering	10-20 eV	Th	552
e + Mg	Excitation	10-20 eV	Th	552
e + La	Ionization	52-84 keV	Exp	553
e + Ce	Ionization	52-84 keV	Exp	553
e + Pr	Ionization	52-84 keV	Exp	553
e + Nd	Ionization	52-84 keV	Exp	553
e + Sm	Ionization	52-84 keV	Exp	553
e + Gd	Ionization	52-84 keV	Exp	553
e + Dy	Ionization	52-84 keV	Exp	553
e + Ho	Ionization	52-84 keV	Exp	553
e + Er	Ionization	52-84 keV	Exp	553
e + CH_4	Elastic Scattering	400-4000 eV	Exp	554
e + NH_3	Elastic Scattering	400-4000 eV	Exp	554
e + He	Ionization	100-200 eV	Th	555
e + He	Ionization	25-100,000 eV	Th	556
e + Li^+	Ionization	25-100,000 eV	Th	556
e + B^{3+}	Ionization	25-100,000 eV	Th	556
e + C^{4+}	Ionization	25-100,000 eV	Th	556
e + N^{5+}	Ionization	25-100,000 eV	Th	556
e + O^{6+}	Ionization	25-100,000 eV	Th	556
e + Ne^{8+}	Ionization	25-100,000 eV	Th	556
e + Na^{9+}	Ionization	25-100,000 eV	Th	556
e + Fe^{24+}	Ionization	25-100,000 eV	Th	556
e + Ag^{45+}	Ionization	25-100,000 eV	Th	556
e + U^{90+}	Ionization	25-100,000 eV	Th	556
e + NF_3	Elastic Scattering	0.5-370 eV	E/T	557
e + NF_3	Excitation	0.5-370 eV	E/T	557
e + NF_3	Ionization	0.5-370 eV	E/T	557
e + OH	Elastic Scattering	1-500 eV	Th	558

e + OH	Angular Scattering	1-500 eV	Th	558
e + OH	Excitation	1-500 eV	Th	558
e + OH	Ionization	1-500 eV	Th	558
e + Cs	Elastic Scattering	6-200 eV	Exp	559
e + Cs	Angular Scattering	6-200 eV	Exp	559
e + Cs	Excitation	6-200 eV	Exp	559
e + Cs	Ionization	6-200 eV	Exp	559
$\mathbf{e + H_2{}^+}$	Dissociation	5-3000 eV	Exp	560
$\mathbf{e + D_2{}^+}$	Dissociation	5-3000 eV	Exp	560
e + Ca	Angular Scattering	400 eV	Exp	561
e + Ca	Excitation	400 eV	Exp	561
e + Ca	Ionization	400 eV	Exp	561
$\mathbf{e + O^{5+}}$	Recombination	Undef.	Th	562
$\mathbf{e + H_2{}^+}$	Dissociation	2 keV	Th	563
$\mathbf{e + H_2{}^+}$	Angular Scattering	2 keV	Th	563
$\mathbf{e + H_2{}^+}$	Ionization	2 keV	Th	563
e + Ca	Angular Scattering	10-100 eV	Exp	564
e + Ca	Excitation	10-100 eV	Exp	564
$\mathbf{e + Fe^+}$	Excitation	0.03-0.35 Ry	Th	565
e + He	Excitation	50-500 eV	Th	566
e + He	Ionization	50-500 eV	Th	566
e + Ne	Ionization	5-90 eV	Th	567
$\mathbf{e + Ne^*}$	Ionization	5-90 eV	Th	567
e + He	Angular Scattering	1 GeV	Th	568
e + He	Ionization	1 GeV	Th	568
$\mathbf{e + CH_3OH}$	Attachment	0-16 eV	Exp	569
$\mathbf{e + (C_2H_5)_2NH}$	Attachment	0-16 eV	Exp	569
$\mathbf{e + (CH_3)_2N_2(CH_3)_2}$	Attachment	0-16 eV	Exp	569
$\mathbf{e + CH_3OH}$	Dissociation	0-16 eV	Exp	569
$\mathbf{e + (C_2H_5)_2NH}$	Dissociation	0-16 eV	Exp	569
$\mathbf{e + (CH_3)_2N_2(CH_3)_2}$	Dissociation	0-16 eV	Exp	569
e + Kr	Elastic Scattering	100-260 eV	Exp	570
e + Kr	Angular Scattering	100-260 eV	Exp	570
e + Be	Excitation	3-200 eV	Th	571
$\mathbf{e + Be^+}$	Excitation	3-200 eV	Th	571
$\mathbf{e + Be^{2+}}$	Excitation	3-200 eV	Th	571
$\mathbf{e + Be^{3+}}$	Excitation	3-200 eV	Th	571
$\mathbf{e + C_2H_4}$	Elastic Scattering	0.5-20 eV	Th	572
$\mathbf{e + C_2H_4}$	Angular Scattering	0.5-20 eV	Th	572
$\mathbf{e + O^{3+}}$	Excitation	8-20 eV	Exp	573
$\mathbf{e + N_2}$	Excitation	0-5 eV	Th	574
$\mathbf{e + SF_6}$	Angular Scattering	16 keV	Exp	575
$\mathbf{e + SF_6}$	Ionization	16 keV	Exp	575
e + Xe	Excitation	10-200 eV	Th	576
e + C	Angular Scattering	10-200 eV	Th	577
e + C	Ionization	10-200 eV	Th	577
e + NO	Elastic Scattering	0-2 eV	Th	578
e + NO	Excitation	0-2 eV	Th	578
$\mathbf{e + H_2O}$	Attachment	5-10 eV	Th	579
$\mathbf{e + H_2O}$	Dissociation	5-10 eV	Th	579
e + Ar	Elastic Scattering	5-10 eV	Exp	580
e + Ar	Angular Scattering	5-10 eV	Exp	580
e + H	Angular Scattering	575-1350 eV	Th	581
e + H	Ionization	575-1350 eV	Th	581
$\mathbf{e + H_3{}^+}$	Dissociation	0 eV	Exp	582
$\mathbf{e + H_2D^+}$	Dissociation	0 eV	Exp	582
$\mathbf{e + HD_2{}^+}$	Dissociation	0 eV	Exp	582

e + $H_3{}^+$	Recombination	0 eV	Exp	582
e + H_2D^+	Recombination	0 eV	Exp	582
e + $HD_2{}^+$	Recombination	0 eV	Exp	582
e + Fe^{21+}	Excitation	10-2500 eV	Th	583
e + S^{4+}	Angular Scattering	15-50 eV	Th	584
e + Ar^{6+}	Angular Scattering	15-50 eV	Th	584
e + Ca^{8+}	Angular Scattering	15-50 eV	Th	584
e + S^{4+}	Excitation	15-50 eV	Th	584
e + Ar^{6+}	Excitation	15-50 eV	Th	584
e + Ca^{8+}	Excitation	15-50 eV	Th	584
e + He	Excitation	56-65 eV	Th	585
e + OCS	Elastic Scattering	0.1-10 eV	Th	586
e + OCS	Angular Scattering	0.1-10 eV	Th	586
e + Na^{8+}	Recombination	0-0.5 eV	Exp	587
e + He	Elastic Scattering	300-4500 eV	Exp	588
e + Ne	Elastic Scattering	300-4500 eV	Exp	588
e + Ar	Elastic Scattering	300-4500 eV	Exp	588
e + He	Angular Scattering	300-4500 eV	Exp	588
e + Ne	Angular Scattering	300-4500 eV	Exp	588
e + Ar	Angular Scattering	300-4500 eV	Exp	588
e + He	Excitation	300-4500 eV	Exp	588
e + Ne	Excitation	300-4500 eV	Exp	588
e + Ar	Excitation	300-4500 eV	Exp	588
e + He	Ionization	300-4500 eV	Exp	588
e + Ne	Ionization	300-4500 eV	Exp	588
e + Ar	Ionization	300-4500 eV	Exp	588
e + W	Ionization	50-500 keV	Th	589
e + Au	Ionization	50-500 keV	Th	589
e + Mo^{33+}	Excitation	Undef.	Th	590
e + Li	Ionization	55-113 eV	Th	591
e + Be^{+}	Ionization	55-113 eV	Th	591
e + B^{2+}	Ionization	55-113 eV	Th	591
e + C^{3+}	Ionization	55-113 eV	Th	591
e + C^{3+}	Excitation	10-70 eV	Th	592
e + CO_2	Excitation	0.2-1.2 eV	Th	593
e + H	Ionization	0-0.1 a.u.	Th	594
e + Si	Elastic Scattering	0.2-20 keV	Th	595
e + Cu	Elastic Scattering	0.2-20 keV	Th	595
e + Au	Elastic Scattering	0.2-20 keV	Th	595
e + He	Angular Scattering	37-45 eV	Th	596
e + He^*	Angular Scattering	37-45 eV	Th	596
e + He	Excitation	37-45 eV	Th	596
e + He^*	Excitation	37-45 eV	Th	596
e + He	Ionization	37-45 eV	Th	596
e + He^*	Ionization	37-45 eV	Th	596
e + H_2	Angular Scattering	2.4 keV	E/T	597
e + D_2	Angular Scattering	2.4 keV	E/T	597
e + H_2	Ionization	2.4 keV	E/T	597
e + D_2	Ionization	2.4 keV	E/T	597
e + He	Angular Scattering	1-30 eV	Th	598
e + He^*	Angular Scattering	1-30 eV	Th	598
e + He	Excitation	1-30 eV	Th	598
e + He^*	Excitation	1-30 eV	Th	598
e + He	Ionization	1-30 eV	Th	598
e + He^*	Ionization	1-30 eV	Th	598
e + C_6F_5Cl	Attachment	300-550 K	E/T	599
e + C_6F_5Br	Attachment	300-550 K	E/T	599

e + C_6F_5I	Attachment	300-550 K	E/T	599
e + Ne	Angular Scattering	16-19 eV	E/T	600
e + Ne	Excitation	16-19 eV	E/T	600
e + O_3	Attachment	0-10 eV	Th	601
e + O_3	Dissociation	0-10 eV	Th	601
e + C^{2+}	Ionization	40-400 eV	Th	602
e + C^{2+*}	Ionization	40-400 eV	Th	602
e + C_3H_4	Elastic Scattering	1-10 eV	Th	603
e + C_3H_4	Angular Scattering	1-10 eV	Th	603
e + N_2	Angular Scattering	10-100 eV	Exp	604
e + N_2	Excitation	10-100 eV	Exp	604
e + H	Angular Scattering	250-25,000 eV	Th	605
e + H	Ionization	250-25,000 eV	Th	605
e + Ho	Fluorescence	0.01-6 MeV/u	Exp	606
e + Ho	Ionization	0.01-6 MeV/u	Exp	606
e + Ba	Angular Scattering	0.1-30 a.u.	Th	607
e + Ba	Excitation	0.1-30 a.u.	Th	607
e + Kr	Angular Scattering	2.5 keV	Exp	608
e + Kr	Excitation	2.5 keV	Exp	608
e + $He_2{}^+$	Dissociation	0.001-20 eV	Exp	609
e + $He_2{}^+$	Recombination	0.001-20 eV	Exp	609
e + H_2	Dissociation	4087 eV	Th	610
e + Li_2	Dissociation	4087 eV	Th	610
e + H_2	Angular Scattering	4087 eV	Th	610
e + Li_2	Angular Scattering	4087 eV	Th	610
e + H_2	Ionization	4087 eV	Th	610
e + Li_2	Ionization	4087 eV	Th	610
e + O_3	Attachment	0-5 eV	Th	611
e + O_3	Dissociation	0-5 eV	Th	611
e + H	Angular Scattering	54.4 eV	Th	612
e + H	Excitation	54.4 eV	Th	612
e + NeH^+	Dissociation	0.01-30 eV	E/T	613
e + NeH^+	Recombination	0.01-30 eV	E/T	613
e + SF_4	Elastic Scattering	0.1-370 eV	Exp	614
e + SF_4	Ionization	0.1-370 eV	Exp	614
e + Ar	Angular Scattering	13.5-30 eV	Exp	615
e + Kr	Angular Scattering	13.5-30 eV	Exp	615
e + Ar	Excitation	13.5-30 eV	Exp	615
e + Kr	Excitation	13.5-30 eV	Exp	615
e + Br_2	Ionization	10-300 eV	E/T	616
e + CS_2	Ionization	10-300 eV	E/T	616
e + CCl_4	Ionization	10-300 eV	E/T	616
e + SF_6	Ionization	10-300 eV	E/T	616
e + OCS	Ionization	10-300 eV	E/T	616
e + $CHCl_3$	Ionization	10-300 eV	E/T	616
e + CH_3Cl	Ionization	10-300 eV	E/T	616
e + CF_3Br	Ionization	10-300 eV	E/T	616
e + CF_2Cl_2	Ionization	10-300 eV	E/T	616
e + C_2H_5Cl	Ionization	10-300 eV	E/T	616
e + C_3H_7Cl	Ionization	10-300 eV	E/T	616
e + C_4H_9Cl	Ionization	10-300 eV	E/T	616
e + C_2Cl_4	Ionization	10-300 eV	E/T	616
e + C_2Cl_6	Ionization	10-300 eV	E/T	616
e + CH_3Cl_2	Ionization	10-300 eV	E/T	616
e + CH_2Br_2	Ionization	10-300 eV	E/T	616
e + CF_2Br_2	Ionization	10-300 eV	E/T	616
e + $C_2F_4Br_2$	Ionization	10-300 eV	E/T	616

e + CH_2ClCCl_3	Ionization	10-300 eV	E/T	616
e + CH_2ClCH_2Cl	Ionization	10-300 eV	E/T	616
e + $CH_2ClCNCl_2$	Ionization	10-300 eV	E/T	616
e + CH_3CCl_3	Ionization	10-300 eV	E/T	616
e + $CHCl_2CCl_3$	Ionization	10-300 eV	E/T	616
e + $CHCl_2CH_3$	Ionization	10-300 eV	E/T	616
e + $CHCl_2CHCl_2$	Ionization	10-300 eV	E/T	616
e + CHClCHCl	Ionization	10-300 eV	E/T	616
e + $CHClCCl_2$	Ionization	10-300 eV	E/T	616
e + H	Ionization	2-400 eV	Th	617
e + H^*	Ionization	2-400 eV	Th	617
e + Li^{2+}	Ionization	2-400 eV	Th	617
e + Li^{2+*}	Ionization	2-400 eV	Th	617
e + B^{4+}	Ionization	2-400 eV	Th	617
e + B^{4+*}	Ionization	2-400 eV	Th	617
e + H_2	Angular Scattering	25.3-55.3 eV	E/T	618
e + H_2	Ionization	25.3-55.3 eV	E/T	618
e + Sc^+	Ionization	30 eV	Exp	619
e + Fe^{3+}	Excitation	$2x10^3 - 2x10^6$ K	Th	620
e + Cl^{14+}	Recombination	Undef.	Th	621
e + Ca^{17+}	Recombination	Undef.	Th	621
e + Ni^{25+}	Recombination	Undef.	Th	621
e + Zn^{27+}	Recombination	Undef.	Th	621
e + Fe^{22+}	Excitation	0.0-100.0 Ry	Th	622
e + Al^{12+}	Excitation	170-300 Ry	Th	623
e + C^+	Excitation	3.0-5.5 log T(k)	Th	624
e + Ne^{5+}	Recombination	Undef.	Th	625
e + Na^{6+}	Recombination	Undef.	Th	625
e + Mg^{7+}	Recombination	Undef.	Th	625
e + Fe^{11+}	Excitation	0-10.0 Ry	Th	626
e + Ni^{3+}	Excitation	0.0-2.0 Ry	Th	627
e + Al^{2+}	Excitation	3.6-5.6 $log_{10}T(k)$	Th	628
e + N^{4+}	Recombination	0.0-15.0 eV	E/T	629
e + Ne^{7+}	Recombination	0.0-15.0 eV	E/T	629
e + Fe^{20+}	Excitation	2.1-3.0 keV	E/T	631
e + Fe^{21+}	Excitation	2.1-3.0 keV	E/T	631
e + Fe^{22+}	Excitation	2.1-3.0 keV	E/T	631
e + Fe^{23+}	Excitation	2.1-3.0 keV	E/T	631
e + U^{91+}	Ionization	100-500 keV	Th	632
e + Kr	Ionization	20-450 eV	Exp	633
e + Ba^*	De-excitation	20-40 eV	E/T	634
e + Ba^*	Angular Scattering	20-40 eV	E/T	634
e + Ba^*	Excitation	20-40 eV	E/T	634
e + He	Ionization	64.6 eV	E/T	635
e + C^{2+}	Excitation	0-150 Ry	Th	636
e + Fe^{22+}	Excitation	0-150 Ry	Th	636
e + W^{70+}	Excitation	0-150 Ry	Th	636
e + H^+	Ionization	E ¡ 50 threshold	E/T	637
e + He^+	Ionization	E ¡ 50 threshold	E/T	637
e + Li^+	Ionization	E ¡ 50 threshold	E/T	637
e + Be^+	Ionization	E ¡ 50 threshold	E/T	637
e + B^+	Ionization	E ¡ 50 threshold	E/T	637
e + C^+	Ionization	E ¡ 50 threshold	E/T	637
e + N^+	Ionization	E ¡ 50 threshold	E/T	637
e + O^+	Ionization	E ¡ 50 threshold	E/T	637
e + F^+	Ionization	E ¡ 50 threshold	E/T	637
e + Ne^+	Ionization	E ¡ 50 threshold	E/T	637

e + Na^+	Ionization	E ¡ 50 threshold	E/T	637
e + Mg^+	Ionization	E ¡ 50 threshold	E/T	637
e + Al^+	Ionization	E ¡ 50 threshold	E/T	637
e + Si^+	Ionization	E ¡ 50 threshold	E/T	637
e + P^+	Ionization	E ¡ 50 threshold	E/T	637
e + S^+	Ionization	E ¡ 50 threshold	E/T	637
e + Cl^+	Ionization	E ¡ 50 threshold	E/T	637
e + Ar^+	Ionization	E ¡ 50 threshold	E/T	637
e + K^+	Ionization	E ¡ 50 threshold	E/T	637
e + Ca^+	Ionization	E ¡ 50 threshold	E/T	637
e + Sc^+	Ionization	E ¡ 50 threshold	E/T	637
e + Ti^+	Ionization	E ¡ 50 threshold	E/T	637
e + V^+	Ionization	E ¡ 50 threshold	E/T	637
e + Cr^+	Ionization	E ¡ 50 threshold	E/T	637
e + Mn^+	Ionization	E ¡ 50 threshold	E/T	637
e + Fe^+	Ionization	E ¡ 50 threshold	E/T	637
e + A	Ionization	E ¡ 50 threshold	E/T	637
e + Ne^{8+}	Fluorescence	925-1905 eV	Th	638
e + Ne^{8+}	Excitation	925-1905 eV	Th	638
e + CH_4	Excitation	18-51 eV; 80 eV	Exp	639
e + H_2	Excitation	15-45 eV	E/T	640
e + $H_3{}^+$	Excitation	15-45 eV	E/T	640
e + H_2	Ionization	15-45 eV	E/T	640
e + $H_3{}^+$	Ionization	15-45 eV	E/T	640
e + HCO^+	Dissociation	3-200 eV	E/T	641
e + DCO^+	Dissociation	3-200 eV	E/T	641
e + HCO^+	Excitation	3-200 eV	E/T	641
e + DCO^+	Excitation	3-200 eV	E/T	641
e + Fe^{14+}	Excitation	$0 - 8x10^6$ K	Th	642
e + CH_4	Excitation	0.1-1.5 eV	E/T	643
e + H_2O	Excitation	5-14 eV	Exp	644
e + H_2O	Ionization	5-14 eV	Exp	644
e + H_2O	Elastic Scattering	2-500 eV	Th	645
e + H_2O	Angular Scattering	2-500 eV	Th	645
e + H_2O	Excitation	2-500 eV	Th	645
e + Kr^{4+}	Excitation	0.1-10 ionized energy	Th	646
e + Rb^{5+}	Excitation	0.1-10 ionized energy	Th	646
e + Sr^{6+}	Excitation	0.1-10 ionized energy	Th	646
e + Y^{7+}	Excitation	0.1-10 ionized energy	Th	646
e + Zr^{8+}	Excitation	0.1-10 ionized energy	Th	646
e + Nb^{9+}	Excitation	0.1-10 ionized energy	Th	646
e + Mo^{10+}	Excitation	0.1-10 ionized energy	Th	646
e + Tc^{11+}	Excitation	0.1-10 ionized energy	Th	646
e + Ru^{12+}	Excitation	0.1-10 ionized energy	Th	646
e + Rh^{13+}	Excitation	0.1-10 ionized energy	Th	646
e + Pd^{14+}	Excitation	0.1-10 ionized energy	Th	646
e + Ag^{15+}	Excitation	0.1-10 ionized energy	Th	646
e + Cd^{16+}	Excitation	0.1-10 ionized energy	Th	646
e + In^{17+}	Excitation	0.1-10 ionized energy	Th	646
e + Sn^{18+}	Excitation	0.1-10 ionized energy	Th	646
e + Sb^{19+}	Excitation	0.1-10 ionized energy	Th	646
e + Te^{20+}	Excitation	0.1-10 ionized energy	Th	646
e + I^{21+}	Excitation	0.1-10 ionized energy	Th	646
e + Xe^{22+}	Excitation	0.1-10 ionized energy	Th	646
e + Cs^{23+}	Excitation	0.1-10 ionized energy	Th	646
e + Ba^{24+}	Excitation	0.1-10 ionized energy	Th	646
e + La^{25+}	Excitation	0.1-10 ionized energy	Th	646

e + Ce^{26+}	Excitation	0.1-10 ionized energy	Th	646
e + Pr^{27+}	Excitation	0.1-10 ionized energy	Th	646
e + Nd^{28+}	Excitation	0.1-10 ionized energy	Th	646
e + Pm^{29+}	Excitation	0.1-10 ionized energy	Th	646
e + Sm^{30+}	Excitation	0.1-10 ionized energy	Th	646
e + Eu^{31+}	Excitation	0.1-10 ionized energy	Th	646
e + Gd^{32+}	Excitation	0.1-10 ionized energy	Th	646
e + Tb^{33+}	Excitation	0.1-10 ionized energy	Th	646
e + Dy^{34+}	Excitation	0.1-10 ionized energy	Th	646
e + Ho^{35+}	Excitation	0.1-10 ionized energy	Th	646
e + Er^{36+}	Excitation	0.1-10 ionized energy	Th	646
e + Tm^{37+}	Excitation	0.1-10 ionized energy	Th	646
e + Yb^{38+}	Excitation	0.1-10 ionized energy	Th	646
e + Lu^{39+}	Excitation	0.1-10 ionized energy	Th	646
e + Hf^{40+}	Excitation	0.1-10 ionized energy	Th	646
e + Ta^{41+}	Excitation	0.1-10 ionized energy	Th	646
e + W^{42+}	Excitation	0.1-10 ionized energy	Th	646
e + Re^{43+}	Excitation	0.1-10 ionized energy	Th	646
e + Os^{44+}	Excitation	0.1-10 ionized energy	Th	646
e + Ir^{45+}	Excitation	0.1-10 ionized energy	Th	646
e + Pt^{46+}	Excitation	0.1-10 ionized energy	Th	646
e + Au^{47+}	Excitation	0.1-10 ionized energy	Th	646
e + Hg^{48+}	Excitation	0.1-10 ionized energy	Th	646
e + Tl^{49+}	Excitation	0.1-10 ionized energy	Th	646
e + Pb^{50+}	Excitation	0.1-10 ionized energy	Th	646
e + Bi^{51+}	Excitation	0.1-10 ionized energy	Th	646
e + Po^{52+}	Excitation	0.1-10 ionized energy	Th	646
e + At^{53+}	Excitation	0.1-10 ionized energy	Th	646
e + Rn^{54+}	Excitation	0.1-10 ionized energy	Th	646
e + Fr^{55+}	Excitation	0.1-10 ionized energy	Th	646
e + Ra^{56+}	Excitation	0.1-10 ionized energy	Th	646
e + Ac^{57+}	Excitation	0.1-10 ionized energy	Th	646
e + Th^{58+}	Excitation	0.1-10 ionized energy	Th	646
e + Pa^{59+}	Excitation	0.1-10 ionized energy	Th	646
e + U^{60+}	Excitation	0.1-10 ionized energy	Th	646
e + $O_2{}^+$	Dissociation	0.0-0.4 eV	Exp	647
e + $O_2{}^+$	Recombination	0.0-0.4 eV	Exp	647
e + C	Excitation	0-60 eV	Th	648
e + Xe^{3+}	Ionization	37.5-115 eV	Exp	649
e + Pd^{19+}	Recombination	$0.1 - 10^4$ eV	Th	650
e + A	Elastic Scattering	1.01-5 γ	Th	651
e + A	Angular Scattering	1.01-5 γ	Th	651
e + H	Recombination	1000 eV	Th	652
e + Ar	Angular Scattering	200 eV	E/T	653
e + Ar	Ionization	200 eV	E/T	653
e + Au^{46+}	Recombination	2500 eV	Th	654
e + Au^{46+}	Ionization	2500 eV	Th	654
e + He	Angular Scattering	488 eV	E/T	655
e + He	Ionization	488 eV	E/T	655
e + ArH^+	Dissociation	0-33 eV	Exp	656
e + ArH^+	Recombination	0-33 eV	Exp	656
e + ArH^+	Excitation	0-33 eV	Exp	656
e + He	Angular Scattering	601 eV	E/T	657
e + He	Ionization	601 eV	E/T	657
e + CF^+	Dissociation	0-12.5 eV	Exp	658
e + CF^+	Recombination	0-12.5 eV	Exp	658
e + CF^+	Excitation	0-12.5 eV	Exp	658

e + He	Angular Scattering	2000 eV	Th	659
e + He	Ionization	2000 eV	Th	659
e + $\mathbf{H_2O}$	Electron Collisions	Undef.	E/T	660
e + $\mathbf{N_2}$	Excitation	Undef.	Exp	661
e + Xe	Excitation	Undef.	Th	662
e + $\mathbf{H^-}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T	663
e + H	Ionization	$2x10^{-3} - 10^6$ keV	E/T	663
e + He	Ionization	$2x10^{-3} - 10^6$ keV	E/T	663
e + $\mathbf{He^+}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T	663
e + $\mathbf{Li^+}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T	663
e + $\mathbf{B^{4+}}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T	663
e + H	Electron Collisions	Undef.	Th	664
e + Te	Ionization	6-18 eV	Exp	665
e + $\mathbf{In^+}$	Excitation	7-300 eV	Exp	666
e + Li	Excitation	60-95 MeV/u; 0.1-5.0 keV	Th	667
e + Li	Ionization	60-95 MeV/u; 0.1-5.0 keV	Th	667
e + K	Ionization	18.7-24.4 eV	Exp	668
e + $\mathbf{H_2O}$	Dissociation	7-35 eV	Exp	669
e + CO	Dissociation	7-35 eV	Exp	669
e + $\mathbf{H_2O}$	Ionization	7-35 eV	Exp	669
e + CO	Ionization	7-35 eV	Exp	669
e + Ar	Angular Scattering	2 keV	Th	670
e + Ar	Ionization	2 keV	Th	670
e + $\mathbf{Au^{50+}}$	Excitation	2.9-5.5 keV	Exp	671
e + $\mathbf{S^{14+}}$	Excitation	Undef.	Th	672
e + $\mathbf{Ar^{16+}}$	Excitation	Undef.	Th	672
e + $\mathbf{Ca^{18+}}$	Excitation	Undef.	Th	672
e + $\mathbf{Be^{2+}}$	Excitation	$10^3 - 10^5$ eV	Th	673
e + $\mathbf{C^{4+}}$	Excitation	$10^3 - 10^5$ eV	Th	673
e + $\mathbf{O^{6+}}$	Excitation	$10^3 - 10^5$ eV	Th	673
e + $\mathbf{Cl^{15+}}$	Excitation	$10^3 - 10^5$ eV	Th	673
e + $\mathbf{Fe^{24+}}$	Excitation	$10^3 - 10^5$ eV	Th	673
e + $\mathbf{Kr^{34+}}$	Excitation	$10^3 - 10^5$ eV	Th	673
e + $\mathbf{Xe^{52+}}$	Excitation	$10^3 - 10^5$ eV	Th	673
e + $\mathbf{He^{2+}}$	Recombination	0-400 eV	Th	674
e + $\mathbf{F^{9+}}$	Recombination	0-400 eV	Th	674
e + $\mathbf{Na^+}$	Recombination	0-400 eV	Th	674
e + $\mathbf{Mg^{2+}}$	Recombination	0-400 eV	Th	674
e + $\mathbf{Al^{3+}}$	Recombination	0-400 eV	Th	674
e + $\mathbf{Ar^{8+}}$	Recombination	0-400 eV	Th	674
e + $\mathbf{Ar^{18+}}$	Recombination	0-400 eV	Th	674
e + $\mathbf{Fe^{16+}}$	Recombination	0-400 eV	Th	674
e + $\mathbf{Zn^{20+}}$	Recombination	0-400 eV	Th	674
e + $\mathbf{Xe^{54+}}$	Recombination	0-400 eV	Th	674
e + $\mathbf{He^{2+}}$	Excitation	0-400 eV	Th	674
e + $\mathbf{F^{9+}}$	Excitation	0-400 eV	Th	674
e + $\mathbf{Na^+}$	Excitation	0-400 eV	Th	674
e + $\mathbf{Mg^{2+}}$	Excitation	0-400 eV	Th	674
e + $\mathbf{Al^{3+}}$	Excitation	0-400 eV	Th	674
e + $\mathbf{Ar^{8+}}$	Excitation	0-400 eV	Th	674
e + $\mathbf{Ar^{18+}}$	Excitation	0-400 eV	Th	674
e + $\mathbf{Fe^{16+}}$	Excitation	0-400 eV	Th	674
e + $\mathbf{Zn^{20+}}$	Excitation	0-400 eV	Th	674
e + $\mathbf{Xe^{54+}}$	Excitation	0-400 eV	Th	674
e + $\mathbf{Ti^{21+}}$	Recombination	3-5 keV	Exp	675
e + $\mathbf{Pt^{48+}}$	Recombination	0-69 eV	Exp	676
e + $\mathbf{Pb^{82+}}$	Recombination	1000-3000 keV	Th	677

e + U^{92+}	Recombination	1000-3000 keV	Th	677
e + U^{91+}	Recombination	100-600 MeV/u	Th	678
e + U^{89+}	Recombination	216 MeV/u	Th	679
e + U^{90+}	Recombination	216 MeV/u	Th	679
e + U^{91+}	Recombination	216 MeV/u	Th	679
e + U^{91+}	Recombination	365-1458 MeV/u	Th	680
e + C^{6+}	Recombination	Undef.	Exp	681
e + O^{5+}	Excitation	8-64 Ry	Th	682
e + Ti^{+}	Ionization	50-1000 eV	E/T	683
e + Ti^{2+}	Ionization	50-1000 eV	E/T	683
e + Mo^{33+}	Excitation	Undef.	Th	684
e + N^{+}	Ionization	2-12 eV	Th	685
e + Gd^{36+}	Excitation	Undef.	Th	686
e + Kr	Excitation	0-10 eV	Exp	687
e + Kr^{*}	Excitation	0-10 eV	Exp	687
e + H_2	Angular Scattering	1200 eV	Exp	688
e + H_2	Ionization	1200 eV	Exp	688
e + Fe^{9+}	Excitation	0.0-210.0 Ry	Th	689
e + Ar^{16+}	Excitation	0-580 Ry	Th	690
e + O^{4+}	Excitation	17.6-30.0 eV	Exp	691
e + H_2O	Dissociation	0-30 eV	Th	692
e + H_2O	Elastic Scattering	0-30 eV	Th	692
e + H_2O	Angular Scattering	0-30 eV	Th	692
e + H_2	Ionization	0-30 eV	Th	692
e + He	Excitation	500 eV	Exp	693
e + He	Ionization	500 eV	Exp	693
e + SF_6	Attachment	0.01-0.6 eV	Th	694
e + SF_6	Elastic Scattering	0.01-0.6 eV	Th	694
e + SF_6	Excitation	0.01-0.6 eV	Th	694
e + Zn	Elastic Scattering	3-50 eV	Th	695
e + Zn	Excitation	3-50 eV	Th	695
e + K	Excitation	29-500 eV	Exp	696
e + He	Excitation	20-800 eV	Th	697
e + He	Ionization	20-800 eV	Th	697
e + He	Ionization	70-3000 eV	E/T	698
e + H	Ionization	150-500 eV	Th	699
e + He	Ionization	1000 eV	Th	700
e + Li^{+}	Ionization	1000 eV	Th	700
e + Ar	Ionization	1000 eV	Th	700
e + K^{+}	Ionization	1000 eV	Th	700
e + Li	Excitation	6-20 v (a.u.)	Th	701
e + Li	Ionization	6-20 v (a.u.)	Th	701
e + CF_4	Elastic Scattering	20-5000 eV	Th	702
e + CF_3I	Elastic Scattering	20-5000 eV	Th	702
e + C_2F_6	Elastic Scattering	20-5000 eV	Th	702
e + C_3F_8	Elastic Scattering	20-5000 eV	Th	702
e + CF_3	Elastic Scattering	20-5000 eV	Th	702
e + C_2F_4	Elastic Scattering	20-5000 eV	Th	702
e + CF_2	Elastic Scattering	20-5000 eV	Th	702
e + CF	Elastic Scattering	20-5000 eV	Th	702
e + CF_4	Excitation	20-5000 eV	Th	702
e + CF_3I	Excitation	20-5000 eV	Th	702
e + C_2F_6	Excitation	20-5000 eV	Th	702
e + C_3F_8	Excitation	20-5000 eV	Th	702
e + CF_3	Excitation	20-5000 eV	Th	702
e + C_2F_4	Excitation	20-5000 eV	Th	702
e + CF_2	Excitation	20-5000 eV	Th	702

e + CF	Excitation	20-5000 eV	Th	702
e + CF_4	Ionization	20-5000 eV	Th	702
e + CF_3I	Ionization	20-5000 eV	Th	702
e + C_2F_6	Ionization	20-5000 eV	Th	702
e + C_3F_8	Ionization	20-5000 eV	Th	702
e + CF_3	Ionization	20-5000 eV	Th	702
e + C_2F_4	Ionization	20-5000 eV	Th	702
e + CF_2	Ionization	20-5000 eV	Th	702
e + CF	Ionization	20-5000 eV	Th	702
e + S_2O	Attachment	0-14 eV	Exp	703
e + S_2O_2	Attachment	0-14 eV	Exp	703
e + S_2O	Dissociation	0-14 eV	Exp	703
e + S_2O_2	Dissociation	0-14 eV	Exp	703
e + O_2	Angular Scattering	2500 eV	Exp	704
e + O_2	Excitation	2500 eV	Exp	704
e + Ar	Excitation	0-200 eV	Exp	705
e + Ca	Angular Scattering	10-70 eV	Th	706
e + Ca	Ionization	10-70 eV	Th	706
e + H_2O^+	Dissociation	0 eV	Exp	707
e + $CH_2{}^+$	Dissociation	0 eV	Exp	707
e + $NH_2{}^+$	Dissociation	0 eV	Exp	707
e + H_2O^+	Angular Scattering	0 eV	Exp	707
e + $CH_2{}^+$	Angular Scattering	0 eV	Exp	707
e + $NH_2{}^+$	Angular Scattering	0 eV	Exp	707
e + H_2O^+	Recombination	0 eV	Exp	707
e + $CH_2{}^+$	Recombination	0 eV	Exp	707
e + $NH_2{}^+$	Recombination	0 eV	Exp	707
e + Ne	Excitation	2500 eV	E/T	708
e + Ar	Excitation	2500 eV	E/T	708
e + Kr	Excitation	2500 eV	E/T	708
e + C	Ionization	0.1-10,000 keV	Th	709
e + Ar	Ionization	0.1-10,000 keV	Th	709
e + Ti	Ionization	0.1-10,000 keV	Th	709
e + Cr	Ionization	0.1-10,000 keV	Th	709
e + Ni	Ionization	0.1-10,000 keV	Th	709
e + Ge	Ionization	0.1-10,000 keV	Th	709
e + Ag	Ionization	0.1-10,000 keV	Th	709
e + Sn	Ionization	0.1-10,000 keV	Th	709
e + C_4F_8	Dissociation	0.8-600 eV	Exp	710
e + C_4F_8	Elastic Scattering	0.8-600 eV	Exp	710
e + C_4F_8	Angular Scattering	0.8-600 eV	Exp	710
e + C_4F_8	Excitation	0.8-600 eV	Exp	710
e + C_4F_8	Ionization	0.8-600 eV	Exp	710
e + Ar	Ionization	10-100 eV	Th	711
e + Ar^*	Ionization	10-100 eV	Th	711
e + SF_6	Dissociation	1-10,000 eV	E/T	712
e + SF_5CF_3	Dissociation	1-10,000 eV	E/T	712
e + SF_6	Elastic Scattering	1-10,000 eV	E/T	712
e + SF_5CF_3	Elastic Scattering	1-10,000 eV	E/T	712
e + SF_6	Excitation	1-10,000 eV	E/T	712
e + SF_5CF_3	Excitation	1-10,000 eV	E/T	712
e + SF_6	Ionization	1-10,000 eV	E/T	712
e + SF_5CF_3	Ionization	1-10,000 eV	E/T	712
e + Ba^+	Dissociation	0-31 V/cm	Exp	713
e + Ne	Angular Scattering	750 eV	Exp	714
e + Ne	Ionization	750 eV	Exp	714
e + He Z= ?-?	Ionization	25-100,000 eV	Th	556

e + Li Z= ?-?	Recombination	Undef.	Th	621
e + O Z= ?-?	Recombination	Undef.	Th	630
e + Ge Z= ?-?	Excitation	0.1-10 ionized energy	Th	646
e + $\mathbf{He^+}$ **Z= ?-?**	Angular Scattering	2-30 excitation threshold units	Th	477
e + $\mathbf{He^+}$ **Z= ?-?**	Excitation	2-30 excitation threshold units	Th	477

2.2.3 Heavy Particles Collisions

H + H	Interaction Potentials	Undef.	Th	716
$\mathbf{H^* + H}$	Interaction Potentials	Undef.	Th	716
$\mathbf{H^+ + Ar}$	Charge Transfer	1-200 keV/u	Th	721
$\mathbf{H^+ + O_2}$	Elastic Scattering	0.5-25.0 keV	E/T	739
$\mathbf{H^+ + O_2}$	Charge Transfer	0.5-25.0 keV	E/T	739
$\mathbf{H^+ + O_2}$	Total Scattering	0.5-25.0 keV	E/T	739
$\mathbf{H^+ + H}$	Elastic Scattering	$10^{-4} - 100$ eV	Th	740
$\mathbf{H^+ + H}$	Charge Transfer	$10^{-4} - 100$ eV	Th	740
$\mathbf{H^+ + H}$	Interaction Potentials	$10^{-4} - 100$ eV	Th	740
$\mathbf{H^+ + H}$	Total Scattering	$10^{-4} - 100$ eV	Th	740
$\mathbf{H^+ + Na}$	Charge Transfer	4-25 keV	E/T	742
$\mathbf{H^+ + Na}$	Ionization	4-25 keV	E/T	742
$\mathbf{H^+ + O_2}$	Charge Transfer	1.5 keV	E/T	743
$\mathbf{H^+ + O_2}$	Ionization	1.5 keV	E/T	743
$\mathbf{H^+ + H_2}$	Ionization	5 keV	E/T	744
$\mathbf{H^+ + H_2}$	Charge Transfer	0.18-1.0 keV/u	E/T	746
$\mathbf{H^+ + HD}$	Charge Transfer	0.18-1.0 keV/u	E/T	746
$\mathbf{H^+ + D_2}$	Charge Transfer	0.18-1.0 keV/u	E/T	746
H + H	Interaction Potentials	1-5 $\AA$	Th	748
$\mathbf{H^+ + CH_4}$	Charge Transfer	60-120 keV	Exp	750
$\mathbf{H^+ + C_2H_2}$	Charge Transfer	60-120 keV	Exp	750
$\mathbf{H^+ + C_2H_4}$	Charge Transfer	60-120 keV	Exp	750
$\mathbf{H^+ + C_2H_6}$	Charge Transfer	60-120 keV	Exp	750
$\mathbf{H^+ + C_3H_6}$	Charge Transfer	60-120 keV	Exp	750
$\mathbf{H^+ + C_3H_8}$	Charge Transfer	60-120 keV	Exp	750
$\mathbf{H + CH_4}$	Ionization	60-120 keV	Exp	750
$\mathbf{H + C_2H_2}$	Ionization	60-120 keV	Exp	750
$\mathbf{H + C_2H_4}$	Ionization	60-120 keV	Exp	750
$\mathbf{H + C_2H_6}$	Ionization	60-120 keV	Exp	750
$\mathbf{H + C_3H_6}$	Ionization	60-120 keV	Exp	750
$\mathbf{H + C_3H_8}$	Ionization	60-120 keV	Exp	750
$\mathbf{H^+ + H_2}$	Dissociation	25-100 keV/u	Exp	754
$\mathbf{H^+ + H_2}$	Total Scattering	25-100 keV/u	Exp	754
$\mathbf{H^+ + He}$	Charge Transfer	40-9000 keV	Th	762
$\mathbf{H^+ + Ne}$	Charge Transfer	40-9000 keV	Th	762
$\mathbf{H^+ + Ar}$	Charge Transfer	40-9000 keV	Th	762
$\mathbf{H^+ + He}$	Ionization	6 MeV	Exp	763
$\mathbf{H^+ + He}$	Total Scattering	75 keV	E/T	766
$\mathbf{H^+ + He}$	Ionization	75 keV	E/T	766
$\mathbf{H^+ + He}$	Charge Transfer	400-1200 keV	Th	767
$\mathbf{H^+ + He}$	Total Scattering	400-1200 keV	Th	767
$\mathbf{H^+ + He}$	Ionization	400-1200 keV	Th	767
$\mathbf{H^+ + He}$	Total Scattering	0.1-1.5 MeV/amu	Th	769
$\mathbf{H^+ + He}$	Ionization	0.1-1.5 MeV/amu	Th	769
H + H	Line Broadening	5000-25,000 K	Th	773
$\mathbf{H^+ + He}$	Charge Transfer	0.293-7.42 MeV	Th	776
$\mathbf{H^+ + Ne}$	Charge Transfer	0.293-7.42 MeV	Th	776
$\mathbf{H^+ + Ar}$	Charge Transfer	0.293-7.42 MeV	Th	776

$H^+ + He$	Total Scattering	0.293-7.42 MeV	Th	776
$H^+ + Ne$	Total Scattering	0.293-7.42 MeV	Th	776
$H^+ + Ar$	Total Scattering	0.293-7.42 MeV	Th	776
$H^+ + Ca^+$	Excitation	1.5-500 threshold	Th	782
$H^+ + H$	Ionization	200 eV; 1 MeV	Th	787
$H^+ + H$	Interaction Potentials	10^{-9} a.u.	Th	790
$H^+ + Ne$	Ionization	5-10,000 keV	Th	792
$H^+ + Ar$	Ionization	5-10,000 keV	Th	792
$H + H$	Energy Transfer	$3x10^3 - 7x10^3$ K	Th	795
$H^* + H$	Energy Transfer	$3x10^3 - 7x10^3$ K	Th	795
$H^+ + He^+$	Excitation	0.5-2000 keV	Th	806
$H^+ + He^{+*}$	Excitation	0.5-2000 keV	Th	806
$H^+ + He^+$	Ionization	0.5-2000 keV	Th	806
$H^+ + He^{+*}$	Ionization	0.5-2000 keV	Th	806
$H^+ + Al$	Charge Transfer	0.3-0.6 MeV	Exp	807
$H^+ + Ar$	Ionization	10-5000 keV	Th	811
$H^+ + K$	Charge Transfer	0.3-4 keV	Exp	813
$H^+ + H$	Charge Transfer	2 keV	Th	814
$H^+ + H$	Ionization	2 keV	Th	814
$H^+ + Ne$	Line Broadening	1000-50,000 K	Th	815
$H^+ + He$	Charge Transfer	20-200 keV	Th	819
$H^+ + H$	Charge Transfer	1-200,000 K	Th	820
$H^+ + H$	Line Broadening	20,000-25,000 deg K	Th	823
$H + H_2$	Interchange reaction	1.49-1.85 eV	E/T	826
$H + D_2$	Interchange reaction	1.49-1.85 eV	E/T	826
$H + H_2$	Interchange reaction	1.30-1.89 eV	E/T	827
$H + D_2$	Interchange reaction	1.30-1.89 eV	E/T	827
$H + O_2$	Interchange reaction	300-10,000 K	Th	830
$H^+ + CO$	Excitation	0-140 eV	Th	831
$H + H_2$	Excitation	1.5 eV	Exp	837
$H + D_2$	Excitation	1.5 eV	Exp	837
$H + LiH$	Interchange reaction	0.0-1.0 eV	Th	838
$H + H_2O$	Interchange reaction	1.2-2.5 eV	Exp	839
$H + D_2O$	Interchange reaction	1.2-2.5 eV	Exp	839
$H^+ + H$	Total Scattering	0.1-10 keV/u	E/T	842
$H^+ + H$	Ionization	0.1-10 keV/u	E/T	842
$H^+ + CH_2$	Elastic Scattering	0.5-1.5 keV	Th	846
$H^+ + CH_2$	Charge Transfer	0.5-1.5 keV	Th	846
$H^+ + CH_2$	Interaction Potentials	0.5-1.5 keV	Th	846
$H^+ + CH_2$	Total Scattering	0.5-1.5 keV	Th	846
$H^+ + H$	Ionization	20 keV	Th	851
$H^+ + H_2$	Ionization	0.114-68 MeV/u	Th	852
$H^+ + H$	Interaction Potentials	Undef.	Th	857
$H^+ + H$	Charge Transfer	50 keV	Th	858
$H^+ + H$	Excitation	50 keV	Th	858
$H^+ + He$	Ionization	50-1000 keV/u	Th	860
$H^+ + Li$	Ionization	50-1000 keV/u	Th	860
$H + H^+$	Charge Transfer	1-5000 eV	Th	861
$H + H^+$	Total Scattering	1-5000 eV	Th	861
$H + H$	Interaction Potentials	Undef.	Th	865
$H + Li$	Interaction Potentials	Undef.	Th	866
$H + Na$	Interaction Potentials	Undef.	Th	866
$H + K$	Interaction Potentials	Undef.	Th	866
$H + Rb$	Interaction Potentials	Undef.	Th	866
$H^+ + Ne$	Total Scattering	700-2000 keV	Exp	870
$H^+ + Ne$	Excitation	700-2000 keV	Exp	870
$H^+ + Ne$	Ionization	700-2000 keV	Exp	870

$\mathbf{H^+ + He}$	Total Scattering	50-1500 keV	Th	876
$\mathbf{H^+ + He}$	Ionization	50-1500 keV	Th	876
$\mathbf{H^+ + H_2O}$	Dissociation	20-150 keV	Exp	877
$\mathbf{H^+ + H_2O}$	Ionization	20-150 keV	Exp	877
$\mathbf{H^+ + N_2}$	Ionization	4.3 MeV	Th	881
$\mathbf{H^+ + He}$	Total Scattering	50-150 keV	Th	883
$\mathbf{H^+ + He}$	Ionization	50-150 keV	Th	883
$\mathbf{H^+ + H_2}$	Dissociation	6 MeV	Exp	887
$\mathbf{H^+ + H_2}$	Ionization	6 MeV	Exp	887
$\mathbf{H^+ + H}$	Elastic Scattering	0.01-1 eV	Th	889
$\mathbf{H^+ + C_2H_4}$	Dissociation	2 keV	Th	890
$\mathbf{H^+ + H}$	Charge Transfer	2.8-5 MeV	Th	892
$\mathbf{H^+ + H}$	Total Scattering	2.8-5 MeV	Th	892
$\mathbf{H^+ + He}$	Ionization	10-20 keV	Th	896
$\mathbf{H^+ + N}$	Charge Transfer	$10^{-4} - 10^3$ eV/u	Th	901
$\mathbf{H^+ + He}$	Charge Transfer	20 keV	Th	903
$\mathbf{H^+ + He}$	Ionization	20 keV	Th	903
$\mathbf{H^+ + S}$	Charge Transfer	$10^{-4} - 10^4$ eV/u	Th	904
$\mathbf{H^+ + S}$	Interaction Potentials	$10^{-4} - 10^4$ eV/u	Th	904
$\mathbf{H^+ + He}$	Charge Transfer	200-7400 keV	Th	906
$\mathbf{H^+ + He}$	Total Scattering	200-7400 keV	Th	906
$\mathbf{H + Ne}$	Interaction Potentials	0.01-30 eV	E/T	908
$\mathbf{H^+ + Ne}$	Interaction Potentials	0.01-30 eV	E/T	908
$\mathbf{H^+ + C_{60}}$	Dissociation	2-130 keV	Exp	910
$\mathbf{H^+ + C_{60}}$	Ionization	2-130 keV	Exp	910
$\mathbf{H^+ + C_{60}}$	Dissociation	1-130 keV	Exp	912
$\mathbf{H^+ + C_{60}}$	Ionization	1-130 keV	Exp	912
$\mathbf{H + H + H}$	Interaction Potentials	Undef.	Th	915
$\mathbf{H + H_2}$	Interaction Potentials	Undef.	Th	915
$\mathbf{H + CH_4}$	Charge Transfer	0.5-5 keV	Exp	916
$\mathbf{H^+ + CH_4}$	Charge Transfer	0.5-5 keV	Exp	916
$\mathbf{H + CH_4}$	Total Scattering	0.5-5 keV	Exp	916
$\mathbf{H^+ + CH_4}$	Total Scattering	0.5-5 keV	Exp	916
$\mathbf{H^+ + He}$	Charge Transfer	630 keV	E/T	920
$\mathbf{H^+ + He}$	Ionization	630 keV	E/T	920
$\mathbf{H^+ + H_2}$	Dissociation	6 MeV	E/T	922
$\mathbf{H^+ + H_2}$	Ionization	6 MeV	E/T	922
$\mathbf{H^+ + H}$	Charge Transfer	5-100 keV	E/T	923
$\mathbf{H^+ + H}$	Elastic Scattering	$10^{-4} - 10^2$ eV	Th	927
$\mathbf{H + H}$	Excitation	1-300 K	Th	928
$\mathbf{H^+ + O_2}$	Charge Transfer	10-100 keV	Exp	930
$\mathbf{H^+ + O_2}$	Ionization	10-100 keV	Exp	930
$\mathbf{H + H_2}$	Interchange reaction	300-1500 K	Th	936
$\mathbf{H + NH}$	Interchange reaction	300-3000 K	E/T	937
$\mathbf{H + H_2}$	Interchange reaction	0.0-3.0 eV	Th	942
$\mathbf{H + LiF}$	Interchange reaction	0.0-100.0 K	Th	947
$\mathbf{H + H}$	Interaction Potentials	Undef.	Th	951
$\mathbf{H + Li}$	Interaction Potentials	Undef.	Th	951
$\mathbf{H + Na}$	Interaction Potentials	Undef.	Th	951
$\mathbf{H + K}$	Interaction Potentials	Undef.	Th	951
$\mathbf{H + Rb}$	Interaction Potentials	Undef.	Th	951
$\mathbf{H^+ + C_2H_2}$	Dissociation	0.01-10 keV	Th	955
$\mathbf{H^+ + C_2H_6}$	Dissociation	0.01-10 keV	Th	955
$\mathbf{H^- + N}$	Detachment	3-38 MeV/amu	E/T	958
$\mathbf{H^- + N^{7+}}$	Detachment	3-38 MeV/amu	E/T	958
$\mathbf{H^+ + H}$	Ionization	3-38 MeV/amu	E/T	958
$\mathbf{H^- + He}$	Detachment	4-30 keV	Exp	961

$H^+ + W$	Ionization	1.7-5 MeV	Exp	962
$H^+ + He$	Charge Transfer	630 keV	E/T	964
$H^+ + He$	Ionization	630 keV	E/T	964
$H^+ + He$	Charge Transfer	1.4-5.8 MeV	Exp	967
$H^+ + He$	Ionization	1.4-5.8 MeV	Exp	967
$H^+ + H$	Ionization	$2x10^{-3} - 10^6$ keV	E/T	969
$H^+ + He$	Ionization	$2x10^{-3} - 10^6$ keV	E/T	969
$H^+ + He$	Ionization	0.3-1.5 MeV	Th	972
$H^+ + CH_4$	Dissociation	$20x10^{-6} - 500$ MeV	Exp	973
$H^+ + CH_4$	Ionization	$20x10^{-6} - 500$ MeV	Exp	973
$H^+ + H_2$	Ionization	1-5 MeV	E/T	975
$H^+ + Si$	Ionization	2-50 MeV	Exp	977
$H^+ + He$	Charge Transfer	$1 - 4x10^3$ keV	Th	978
$H^+ + He$	Ionization	$1 - 4x10^3$ keV	Th	978
$H^+ + Ne$	Charge Transfer	$10^2 - 5000$ keV	Th	979
$H^+ + Ar$	Charge Transfer	$10^2 - 5000$ keV	Th	979
$H^+ + He$	Excitation	0.25-5 MeV	Th	980
$H^+ + H_2O$	Dissociation	1 MeV/u	Exp	982
$H^+ + D_2O$	Dissociation	1 MeV/u	Exp	982
$H^+ + H_2O$	Ionization	1 MeV/u	Exp	982
$H^+ + D_2O$	Ionization	1 MeV/u	Exp	982
$H^+ + H_2$	Ionization	1-5 MeV	Th	983
$H^+ + Ta$	Ionization	0.5-3.0 MeV	E/T	984
$H^+ + Au$	Ionization	0.5-3.0 MeV	E/T	984
$H^+ + H_2$	Charge Transfer	15 keV	Exp	985
$H^+ + H_2$	Ionization	15 keV	Exp	985
$H^+ + He$	Total Scattering	3.6 MeV/u	Th	988
$H^+ + He$	Ionization	3.6 MeV/u	Th	988
$H + CO$	Energy Transfer	$10^{-6} - 1500\ cm^{-1}$	Th	1007
$H^+ + He$	Total Scattering	75 keV	Exp	1010
$H^+ + He$	Ionization	75 keV	Exp	1010
$H + H_2$	Interchange reaction	1.43-2.55 eV	E/T	1011
$H + D_2$	Interchange reaction	1.43-2.55 eV	E/T	1011
$H + H_2$	Interchange reaction	0.124-1.024 eV	Th	1012
$H + D_2$	Interchange reaction	0.124-1.024 eV	Th	1012
$H + H$	Interaction Potentials	Undef.	Th	1019
$H^+ + He$	Charge Transfer	630 keV	E/T	1022
$H^+ + He$	Ionization	630 keV	E/T	1022
$H^+ + He$	Ionization	6 MeV	Exp	1026
$H + CO$	Charge Transfer	1-5 keV	Exp	1029
$H + CO_2$	Charge Transfer	1-5 keV	Exp	1029
$H + N_2$	Charge Transfer	1-5 keV	Exp	1029
$H^+ + CO$	Charge Transfer	1-5 keV	Exp	1029
$H^+ + CO_2$	Charge Transfer	1-5 keV	Exp	1029
$H + CO$	Total Scattering	1-5 keV	Exp	1029
$H + CO_2$	Total Scattering	1-5 keV	Exp	1029
$H + N_2$	Total Scattering	1-5 keV	Exp	1029
$H^+ + CO$	Total Scattering	1-5 keV	Exp	1029
$H^+ + CO_2$	Total Scattering	1-5 keV	Exp	1029
$H + CO$	Ionization	1-5 keV	Exp	1029
$H + CO_2$	Ionization	1-5 keV	Exp	1029
$H + N_2$	Ionization	1-5 keV	Exp	1029
$H^+ + CO$	Ionization	1-5 keV	Exp	1029
$H^+ + CO_2$	Ionization	1-5 keV	Exp	1029
$H^+ + H$	Charge Transfer	0.01-25 keV/u	Th	1030
$H^+ + H$	Total Scattering	0.01-25 keV/u	Th	1030
$H + H$	Elastic Scattering	Ultralow	Th	1031

H + H	Interaction Potentials	Ultralow	Th	1031
H^+ + C_2H_4	Elastic Scattering	0.1-10 keV	Th	1032
H^+ + C_2H_4	Charge Transfer	0.1-10 keV	Th	1032
H^+ + C_2H_4	Interaction Potentials	0.1-10 keV	Th	1032
H^+ + LiF	Charge Transfer	100 keV	Th	1035
He + H_2	Interaction Potentials	Undef.	Th	716
He + H_2^*	Interaction Potentials	Undef.	Th	716
He + O_2	De-excitation	$10^{-4} - 10^2$ K	Th	732
He^{2+} + H_2	Dissociation	25-100 keV/u	Exp	754
He^{2+} + H_2	Total Scattering	25-100 keV/u	Exp	754
He^+ + He	Excitation	30-50 keV	Exp	755
He + CH_3OH	Excitation	20-500 cm^{-1}	Th	756
He + He	Elastic Scattering	Very low	Th	758
He^{2+} + He	Charge Transfer	40-9000 keV	Th	762
He^{2+} + Ne	Charge Transfer	40-9000 keV	Th	762
He^+ + Na	Charge Transfer	1 keV	E/T	770
He^+ + Na^*	Charge Transfer	1 keV	E/T	770
He^+ + Na	Total Scattering	1 keV	E/T	770
He^+ + Na^*	Total Scattering	1 keV	E/T	770
He^{2+} + H	Charge Transfer	10-406 eV/u	E/T	771
He^+ + Ne	Ionization	10-1000 keV/amu	E/T	772
He^+ + Ar	Ionization	10-1000 keV/amu	E/T	772
He^+ + H	Total Scattering	0.1-1000 GeV/u	Th	777
He^+ + H	Ionization	0.1-1000 GeV/u	Th	777
He^+ + He	Excitation	30-300 keV	Exp	788
He + He	Association	Undef.	Th	797
He^* + He^*	Association	Undef.	Th	797
He + He	Ionization	Undef.	Th	797
He^* + He^*	Ionization	Undef.	Th	797
He + He	Line Broadening	310 K	Th	799
He + He	Energy Transfer	310 K	Th	799
He + He	Association	2-30 μ K	Th	803
He + He	Interaction Potentials	2-30 μ K	Th	803
He + He	Elastic Scattering	0.001-2 mk	Th	810
He^* + He^*	Elastic Scattering	0.001-2 mk	Th	810
He^{2+} + H_2	Charge Transfer	25 keV/u	Th	817
He^{2+} + H_2	Total Scattering	25 keV/u	Th	817
He^{2+} + H_2	Ionization	25 keV/u	Th	817
He^+ + O	Charge Transfer	0.0001-3.0000 eV	Th	821
He^{2+} + He	Charge Transfer	60-200 keV/amu	Th	824
He^+ + H	Elastic Scattering	9-11.6 MeV	Exp	845
He^+ + D	Elastic Scattering	9-11.6 MeV	Exp	845
He^+ + T	Elastic Scattering	9-11.6 MeV	Exp	845
He^+ + H	Total Scattering	9-11.6 MeV	Exp	845
He^+ + D	Total Scattering	9-11.6 MeV	Exp	845
He^+ + T	Total Scattering	9-11.6 MeV	Exp	845
He + CO	De-excitation	0-30 K	Th	848
He + CO	Excitation	0-30 K	Th	848
He^{2+} + H_2^+	Charge Transfer	0.2-1.5 V a.u.	Th	850
He^{2+} + H_2^+	Total Scattering	0.2-1.5 V a.u.	Th	850
He^+ + H	Charge Transfer	50 keV	Th	858
He^+ + H	Excitation	50 keV	Th	858
He^{2+} + He	Ionization	50-1000 keV/u	Th	860
He^{2+} + Li	Ionization	50-1000 keV/u	Th	860
He + Li	Interaction Potentials	Undef.	Th	866
He + Na	Interaction Potentials	Undef.	Th	866
He + K	Interaction Potentials	Undef.	Th	866

He + Rb	Interaction Potentials	Undef.	Th	866
He^{2+} + H	Charge Transfer	20-1600 eV	Th	869
He^{+} + Ne	Total Scattering	700-2000 keV	Exp	870
He^{+} + Ne	Excitation	700-2000 keV	Exp	870
He^{+} + Ne	Ionization	700-2000 keV	Exp	870
He^{2+} + H	Charge Transfer	0.1-10 keV/u	Th	874
He^{2+} + He	Total Scattering	50-1500 keV	Th	876
He^{2+} + He	Ionization	50-1500 keV	Th	876
He^{2+} + He	Ionization	0.19-2.31 MeV/u	Th	911
He^{+} + C_{60}	Dissociation	1-130 keV	Exp	912
He^{+} + C_{60}	Ionization	1-130 keV	Exp	912
He^{2+} + H	Heavy Particle Collisions	1-15 keV/u	E/T	913
He^{2+} + H	Charge Transfer	1-15 keV/u	E/T	913
He + CHF_2Cl	Dissociation	500 K	Exp	914
He^{*} + CHF_2Cl	Dissociation	500 K	Exp	914
He + CHF_2Cl	Ionization	500 K	Exp	914
He^{*} + CHF_2Cl	Ionization	500 K	Exp	914
He^{2+} + Na	Charge Transfer	2-13 keV/u	E/T	917
He^{2+} + Na	Ionization	2-13 keV/u	E/T	917
He + HF	Excitation	$10^{-6} - 10^{3}$ K	Th	918
He + H_2	Interchange reaction	$10^{-8} - 10^{4}$ cm^{-1}	Th	932
He^{+} + H_2	Association	0.0-100.0 K	E/T	945
He^{+} + H_2	Interchange reaction	0.0-100.0 K	E/T	945
He^{2+} + H	Charge Transfer	10-3000 eV/u	E/T	953
He + Au	Interaction Potentials	Undef.	Th	954
He + SiO_2	Interaction Potentials	Undef.	Th	954
He^{*} + Au	Interaction Potentials	Undef.	Th	954
He^{*} + SiO_2	Interaction Potentials	Undef.	Th	954
He + NH_3	Energy Transfer	5-300 K	Th	957
He + NH_3	Excitation	5-300 K	Th	957
He^{+} + He	Ionization	3-38 MeV/amu	E/T	958
He^{+} + Ar	Ionization	3-38 MeV/amu	E/T	958
He^{+} + Xe	Ionization	3-38 MeV/amu	E/T	958
He^{+} + N_2	Ionization	3-38 MeV/amu	E/T	958
He^{2+} + H	Ionization	3-38 MeV/amu	E/T	958
He^{2+} + W	Ionization	1.7-5 MeV	Exp	962
He^{+} + Ni	Elastic Scattering	2-3 keV	Th	963
He^{+} + Sb	Elastic Scattering	2-3 keV	Th	963
He^{+} + Hf	Elastic Scattering	2-3 keV	Th	963
He^{+} + Ni	Total Scattering	2-3 keV	Th	963
He^{+} + Sb	Total Scattering	2-3 keV	Th	963
He^{+} + Hf	Total Scattering	2-3 keV	Th	963
He^{2+} + H	Ionization	$2x10^{-3} - 10^{6}$ keV	E/T	969
He^{2+} + He	Ionization	$2x10^{-3} - 10^{6}$ keV	E/T	969
He^{+} + CH_4	Dissociation	$20x10^{-6} - 500$ MeV	Exp	973
He^{+} + CH_4	Ionization	$20x10^{-6} - 500$ MeV	Exp	973
He^{2+} + H_2O	Dissociation	1-5 keV	Exp	976
He^{2+} + H_2O	Charge Transfer	1-5 keV	Exp	976
He^{2+} + H_2O	Ionization	1-5 keV	Exp	976
He^{2+} + He	Charge Transfer	$1 - 4x10^{3}$ keV	Th	978
He^{2+} + He	Ionization	$1 - 4x10^{3}$ keV	Th	978
He^{2+} + H_2O	Charge Transfer	6-48 keV	Exp	998
He^{2+} + H_2O	Excitation	6-48 keV	Exp	998
He^{2+} + Au	Charge Transfer	1.5 MeV/amu	Exp	1000
He^{+} + Au	Ionization	1.5 MeV/amu	Exp	1000
He^{+} + H^{+}	Interaction Potentials	Undef.	Th	1013
He^{2+} + H_2O	Dissociation	1.025-12 keV/u	E/T	1014

He^{2+} + H_2O	Charge Transfer	1.025-12 keV/u	E/T	1014
He^{2+} + CH_4	Charge Transfer	200-2000 eV/u	Exp	1016
He^{2+} + C_2H_4	Charge Transfer	200-2000 eV/u	Exp	1016
He^{2+} + C_2H_6	Charge Transfer	200-2000 eV/u	Exp	1016
He + He	Interaction Potentials	Undef.	Th	1019
He^{+} + C_{60}	Dissociation	0.26 v (a.u.)	Exp	1027
He^{+} + He	Charge Transfer	0.01-25 keV/u	Th	1030
He^{+} + He	Total Scattering	0.01-25 keV/u	Th	1030
He + He	Elastic Scattering	Ultralow	Th	1033
He + He^{*}	Elastic Scattering	Ultralow	Th	1033
He + He	Interaction Potentials	Ultralow	Th	1033
He + He^{*}	Interaction Potentials	Ultralow	Th	1033
Li + He	Interaction Potentials	Undef.	Th	715
Li^{-} + He	Detachment	2.25-56.25 keV/u	E/T	718
Li^{-} + Ne	Detachment	2.25-56.25 keV/u	E/T	718
Li^{-} + Ar	Detachment	2.25-56.25 keV/u	E/T	718
Li^{3+} + H	Charge Transfer	0-5 V (a.u.)	E/T	747
Li^{3+} + Ne	Charge Transfer	40-9000 keV	Th	762
Li^{3+} + H	Charge Transfer	1-400 keV/u	Th	781
Li^{3+} + H	Ionization	1-400 keV/u	Th	781
Li + Li	Interaction Potentials	Undef.	Th	784
Li^{3+} + He	Charge Transfer	60-200 keV/amu	Th	824
Li^{+} + Nd	Excitation	1-6 MeV	Exp	843
Li^{+} + Gd	Excitation	1-6 MeV	Exp	843
Li^{+} + Ho	Excitation	1-6 MeV	Exp	843
Li^{+} + Lu	Excitation	1-6 MeV	Exp	843
Li^{+} + Nd	Ionization	1-6 MeV	Exp	843
Li^{+} + Gd	Ionization	1-6 MeV	Exp	843
Li^{+} + Ho	Ionization	1-6 MeV	Exp	843
Li^{+} + Lu	Ionization	1-6 MeV	Exp	843
Li^{+} + Rb	Charge Transfer	7 keV	Exp	847
Li^{+} + Rb	Total Scattering	7 keV	Exp	847
Li + H	Excitation	Undef.	Th	864
Li^{*} + H	Excitation	Undef.	Th	864
Li^{+} + H	Charge Transfer	Undef.	E/T	884
Li^{+} + He	Charge Transfer	Undef.	E/T	884
Li^{+} + Li	Charge Transfer	Undef.	E/T	884
Li^{+} + B	Charge Transfer	Undef.	E/T	884
Li^{+} + N	Charge Transfer	Undef.	E/T	884
Li^{+} + Ne	Charge Transfer	Undef.	E/T	884
Li^{+} + Ar	Charge Transfer	Undef.	E/T	884
Li + Li	Elastic Scattering	10^{-12} K	Th	895
Li^{+} + N_2	Energy Transfer	8-100 eV	Th	899
Li^{+} + N_2	Interaction Potentials	8-100 eV	Th	899
Li^{+} + N_2	Total Scattering	8-100 eV	Th	899
Li + He	Total Scattering	1750-3050 m/s	E/T	907
Li + Ne	Total Scattering	1750-3050 m/s	E/T	907
Li + H_2	Total Scattering	1750-3050 m/s	E/T	907
Li + D_2	Total Scattering	1750-3050 m/s	E/T	907
Li + He	Excitation	1750-3050 m/s	E/T	907
Li + Ne	Excitation	1750-3050 m/s	E/T	907
Li + H_2	Excitation	1750-3050 m/s	E/T	907
Li + D_2	Excitation	1750-3050 m/s	E/T	907
Li^{2+} + He	Ionization	0.19-2.31 MeV/u	Th	911
Li + He	Line Broadening	200-3000 K	E/T	919
Li + HF	Interchange reaction	$10^{-7} - 10^{-1}$ eV	Th	939
Li + HF	Interchange reaction	97-363 MeV	Exp	948

Li + H	Interaction Potentials	Undef.	Th	951
Li + Li	Interaction Potentials	Undef.	Th	951
Li + Na	Interaction Potentials	Undef.	Th	951
Li + K	Interaction Potentials	Undef.	Th	951
Li + Rb	Interaction Potentials	Undef.	Th	951
$\mathbf{Li^{3+} + H}$	Ionization	3-38 MeV/amu	E/T	958
Li + Li	Interaction Potentials	Undef.	Th	1020
Li + He	De-excitation	Undef.	Th	1024
Li + He	Interaction Potentials	Undef.	Th	1024
Li + He	Excitation	Undef.	Th	1024
$\mathbf{Be^{2+} + H}$	Charge Transfer	Undef.	E/T	884
$\mathbf{Be^{2+} + He}$	Charge Transfer	Undef.	E/T	884
$\mathbf{Be^{2+} + Li}$	Charge Transfer	Undef.	E/T	884
$\mathbf{Be^{2+} + B}$	Charge Transfer	Undef.	E/T	884
$\mathbf{Be^{2+} + N}$	Charge Transfer	Undef.	E/T	884
$\mathbf{Be^{2+} + Ne}$	Charge Transfer	Undef.	E/T	884
$\mathbf{Be^{2+} + Ar}$	Charge Transfer	Undef.	E/T	884
$\mathbf{Be^{3+} + H}$	Ionization	1-100 GeV/u	Th	924
$\mathbf{B^{-} + He}$	Detachment	2.25-56.25 keV/u	E/T	718
$\mathbf{B^{-} + Ne}$	Detachment	2.25-56.25 keV/u	E/T	718
$\mathbf{B^{-} + Ar}$	Detachment	2.25-56.25 keV/u	E/T	718
$\mathbf{B^{3+} + H_2}$	Ionization	3.1-7.5 MeV	E/T	735
$\mathbf{B^{4+} + H_2}$	Ionization	3.1-7.5 MeV	E/T	735
$\mathbf{B^{2+} + Ce}$	Excitation	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Nd}$	Excitation	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Sm}$	Excitation	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Eu}$	Excitation	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Gd}$	Excitation	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Dy}$	Excitation	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Ho}$	Excitation	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Yb}$	Excitation	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Ce}$	Ionization	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Nd}$	Ionization	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Sm}$	Ionization	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Eu}$	Ionization	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Gd}$	Ionization	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Dy}$	Ionization	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Ho}$	Ionization	5-7 MeV	Exp	844
$\mathbf{B^{2+} + Yb}$	Ionization	5-7 MeV	Exp	844
$\mathbf{B^{-} + He}$	Ionization	1.1-1.9 V a.u.	Exp	856
$\mathbf{B^{3+} + C}$	Charge Transfer	5-70 MeV	Th	880
$\mathbf{B^{4+} + C}$	Charge Transfer	5-70 MeV	Th	880
$\mathbf{B^{5+} + C}$	Charge Transfer	5-70 MeV	Th	880
$\mathbf{B^{3+} + H}$	Charge Transfer	Undef.	E/T	884
$\mathbf{B^{3+} + He}$	Charge Transfer	Undef.	E/T	884
$\mathbf{B^{3+} + Li}$	Charge Transfer	Undef.	E/T	884
$\mathbf{B^{3+} + B}$	Charge Transfer	Undef.	E/T	884
$\mathbf{B^{3+} + N}$	Charge Transfer	Undef.	E/T	884
$\mathbf{B^{3+} + Ne}$	Charge Transfer	Undef.	E/T	884
$\mathbf{B^{3+} + Ar}$	Charge Transfer	Undef.	E/T	884
$\mathbf{B^{5+} + He}$	Ionization	0.19-2.31 MeV/u	Th	911
$\mathbf{B^{2+} + H_2}$	Ionization	16 MeV	E/T	971
$\mathbf{C^{-} + He}$	Interaction Potentials	2.25-56.25 keV/u	E/T	718
C + He	Interaction Potentials	2.25-56.25 keV/u	E/T	718
$\mathbf{C^{-} + He}$	Detachment	2.25-56.25 keV/u	E/T	718
$\mathbf{C^{-} + Ne}$	Detachment	2.25-56.25 keV/u	E/T	718
$\mathbf{C^{-} + Ar}$	Detachment	2.25-56.25 keV/u	E/T	718

$\mathbf{C^{5+} + H^{+}}$	Charge Transfer	1-24 MeV/amu	Th	728
$\mathbf{C^{5+} + He^{2+}}$	Charge Transfer	1-24 MeV/amu	Th	728
$\mathbf{C^{5+} + Li^{3+}}$	Charge Transfer	1-24 MeV/amu	Th	728
$\mathbf{C^{5+} + Be^{4+}}$	Charge Transfer	1-24 MeV/amu	Th	728
$\mathbf{C^{5+} + H^{+}}$	Excitation	1-24 MeV/amu	Th	728
$\mathbf{C^{5+} + He^{2+}}$	Excitation	1-24 MeV/amu	Th	728
$\mathbf{C^{5+} + Li^{3+}}$	Excitation	1-24 MeV/amu	Th	728
$\mathbf{C^{5+} + Be^{4+}}$	Excitation	1-24 MeV/amu	Th	728
$\mathbf{C^{5+} + H^{+}}$	Ionization	1-24 MeV/amu	Th	728
$\mathbf{C^{5+} + He^{2+}}$	Ionization	1-24 MeV/amu	Th	728
$\mathbf{C^{5+} + Li^{3+}}$	Ionization	1-24 MeV/amu	Th	728
$\mathbf{C^{5+} + Be^{4+}}$	Ionization	1-24 MeV/amu	Th	728
$\mathbf{C^{3+} + CO}$	Charge Transfer	0.5 keV/u	Exp	734
$\mathbf{C^{4+} + CO}$	Charge Transfer	0.5 keV/u	Exp	734
$\mathbf{C^{2+} + He}$	Charge Transfer	2-10,800 eV	Exp	741
$\mathbf{C^{3+} + He}$	Charge Transfer	2-10,800 eV	Exp	741
$\mathbf{C^{4+} + He}$	Charge Transfer	2-10,800 eV	Exp	741
$\mathbf{C^{5+} + He}$	Charge Transfer	2-10,800 eV	Exp	741
$\mathbf{C^{6+} + He}$	Charge Transfer	2-10,800 eV	Exp	741
$\mathbf{C^{6+} + He}$	Total Scattering	1-25 MeV/u	Th	749
$\mathbf{C^{6+} + He}$	Ionization	1-25 MeV/u	Th	749
$\mathbf{C^{4+} + H}$	Charge Transfer	Undef.	Exp	752
$\mathbf{C^{6+} + Cs}$	Charge Transfer	$1 - 10^5$ keV/u	Th	757
$\mathbf{C^{6+} + Cs}$	Excitation	$1 - 10^5$ keV/u	Th	757
$\mathbf{C^{6+} + Cs}$	Ionization	$1 - 10^5$ keV/u	Th	757
$\mathbf{C^{2+} + O}$	Interaction Potentials	Undef.	Th	768
$\mathbf{C + O}$	Interaction Potentials	40-50 eV	E/T	774
$\mathbf{C^{+} + O^{+}}$	Interaction Potentials	40-50 eV	E/T	774
$\mathbf{C^{2+} + O}$	Interaction Potentials	40-50 eV	E/T	774
$\mathbf{C^{6+} + He}$	Ionization	2 MeV/u	Exp	785
$\mathbf{C^{6+} + He}$	Total Scattering	3.6-100 MeV	Exp	791
$\mathbf{C^{6+} + He}$	Ionization	3.6-100 MeV	Exp	791
$\mathbf{C + H_2}$	Interchange reaction	0-0.5 eV	Th	833
$\mathbf{C + HD}$	Interchange reaction	0-0.5 eV	Th	833
$\mathbf{C + D_2}$	Interchange reaction	0-0.5 eV	Th	833
$\mathbf{C^{4+} + H}$	Charge Transfer	$10^{-3} - 10^3$ eV/u	Th	863
$\mathbf{C^{4+} + H}$	Interaction Potentials	$10^{-3} - 10^3$ eV/u	Th	863
$\mathbf{C^{3+} + Re}$	Ionization	4-8 MeV	Exp	878
$\mathbf{C^{3+} + Pt}$	Ionization	4-8 MeV	Exp	878
$\mathbf{C^{3+} + Au}$	Ionization	4-8 MeV	Exp	878
$\mathbf{C^{2+} + Mg}$	Charge Transfer	34-50 MeV	Exp	879
$\mathbf{C^{2+} + Si}$	Charge Transfer	34-50 MeV	Exp	879
$\mathbf{C^{2+} + Mg}$	Ionization	34-50 MeV	Exp	879
$\mathbf{C^{2+} + Si}$	Ionization	34-50 MeV	Exp	879
$\mathbf{C^{4+} + Ne}$	Charge Transfer	25 keV	Exp	882
$\mathbf{C^{5+} + Ne}$	Charge Transfer	25 keV	Exp	882
$\mathbf{C^{6+} + Ne}$	Charge Transfer	25 keV	Exp	882
$\mathbf{C^{4+} + Ne}$	Ionization	25 keV	Exp	882
$\mathbf{C^{5+} + Ne}$	Ionization	25 keV	Exp	882
$\mathbf{C^{6+} + Ne}$	Ionization	25 keV	Exp	882
$\mathbf{C^{6+} + H_2}$	Total Scattering	0-14 a.u.	Th	886
$\mathbf{C^{6+} + H_2}$	Ionization	0-14 a.u.	Th	886
$\mathbf{C^{2+} + Ho}$	Fluorescence	0.01-6 MeV/u	Exp	902
$\mathbf{C^{2+} + Ho}$	Ionization	0.01-6 MeV/u	Exp	902
$\mathbf{C^{6+} + He}$	Ionization	0.19-2.31 MeV/u	Th	911
$\mathbf{C^{+} + H}$	Excitation	15-2000 eV	Th	926
$\mathbf{C + H_2}$	Interchange reaction	15.5 kJ/mole	E/T	946

$C + D_2$	Interchange reaction	15.5 kJ/mole	E/T	946
$C^{6+} + H$	Ionization	3-38 MeV/amu	E/T	958
$C^{-} + He$	Detachment	4-30 keV	Exp	961
$C^{4+} + H_2$	Ionization	16 MeV	E/T	971
$C^{2+} + Si$	Ionization	2-50 MeV	Exp	977
$C^{4+} + H_2$	Dissociation	0.1-4.67 keV/amu	Th	1001
$C^{4+} + H_2$	Charge Transfer	0.1-4.67 keV/amu	Th	1001
$C + O$	Association	Undef.	Th	1005
$C^{3+} + H_2O$	Dissociation	60-350 keV/amu	Exp	1006
$C^{4+} + H_2O$	Dissociation	60-350 keV/amu	Exp	1006
$C^{3+} + H_2O$	Charge Transfer	60-350 keV/amu	Exp	1006
$C^{4+} + H_2O$	Charge Transfer	60-350 keV/amu	Exp	1006
$C^{3+} + H_2O$	Ionization	60-350 keV/amu	Exp	1006
$C^{4+} + H_2O$	Ionization	60-350 keV/amu	Exp	1006
$N^{5+} + H_2$	Charge Transfer	0.2-10 keV/u	Th	719
$N^{5+} + H_2$	Interaction Potentials	0.2-10 keV/u	Th	719
$N^{+} + N$	Charge Transfer	0.1-10 eV	Th	729
$N^{2+} + He$	Charge Transfer	2-10,800 eV	Exp	741
$N^{3+} + He$	Charge Transfer	2-10,800 eV	Exp	741
$N^{4+} + He$	Charge Transfer	2-10,800 eV	Exp	741
$N^{5+} + He$	Charge Transfer	2-10,800 eV	Exp	741
$N^{6+} + He$	Charge Transfer	2-10,800 eV	Exp	741
$N^{2+} + H$	Charge Transfer	$2x10^{-3} - 300$ keV	Th	812
$N + O$	Interaction Potentials	0-2 eV	Th	871
$N^{5+} + C$	Charge Transfer	5-70 MeV	Th	880
$N^{6+} + C$	Charge Transfer	5-70 MeV	Th	880
$N^{7+} + C$	Charge Transfer	5-70 MeV	Th	880
$N^{4+} + Ne$	Charge Transfer	25 keV	Exp	882
$N^{5+} + Ne$	Charge Transfer	25 keV	Exp	882
$N^{6+} + Ne$	Charge Transfer	25 keV	Exp	882
$N^{4+} + Ne$	Ionization	25 keV	Exp	882
$N^{5+} + Ne$	Ionization	25 keV	Exp	882
$N^{6+} + Ne$	Ionization	25 keV	Exp	882
$N^{5+} + H$	Charge Transfer	Undef.	E/T	884
$N^{5+} + He$	Charge Transfer	Undef.	E/T	884
$N^{5+} + Li$	Charge Transfer	Undef.	E/T	884
$N^{5+} + B$	Charge Transfer	Undef.	E/T	884
$N^{5+} + N$	Charge Transfer	Undef.	E/T	884
$N^{5+} + Ne$	Charge Transfer	Undef.	E/T	884
$N^{5+} + Ar$	Charge Transfer	Undef.	E/T	884
$N^{+} + H$	Charge Transfer	$10^{-4} - 10^{3}$ eV/u	Th	901
$N^{7+} + HCl$	Dissociation	98 keV	Exp	952
$N^{7+} + HCl$	Charge Transfer	98 keV	Exp	952
$N^{7+} + HCl$	Total Scattering	98 keV	Exp	952
$N^{7+} + He$	Ionization	$2x10^{-3} - 10^{6}$ keV	E/T	969
$N^{5+} + H_2$	Ionization	16 MeV	E/T	971
$N^{+} + Ar$	Total Scattering	1-50 keV/u	Th	974
$N^{+} + Ar$	Ionization	1-50 keV/u	Th	974
$N^{+} + Ne$	Total Scattering	700-1500 keV	Exp	1004
$N^{+} + Ar$	Total Scattering	700-1500 keV	Exp	1004
$N^{+} + N_2$	Total Scattering	700-1500 keV	Exp	1004
$N^{+} + Ne$	Ionization	700-1500 keV	Exp	1004
$N^{+} + Ar$	Ionization	700-1500 keV	Exp	1004
$N^{+} + N_2$	Ionization	700-1500 keV	Exp	1004
$N + O$	Association	Undef.	Th	1005
$O^{-} + He$	Detachment	2.25-56.25 keV/u	E/T	718
$O^{-} + Ne$	Detachment	2.25-56.25 keV/u	E/T	718

$O^- + Ar$	Detachment	2.25-56.25 keV/u	E/T	718
$O^+ + O$	Charge Transfer	0.1-10 eV	Th	729
$O^{8+} + H$	Charge Transfer	0.3-0.95 a.u.	E/T	733
$O^{8+} + H_2$	Charge Transfer	0.3-0.95 a.u.	E/T	733
$O + He$	Charge Transfer	1-5 keV	Exp	737
$O + H_2$	Charge Transfer	1-5 keV	Exp	737
$O + N_2$	Charge Transfer	1-5 keV	Exp	737
$O + O_2$	Charge Transfer	1-5 keV	Exp	737
$O + He$	Total Scattering	1-5 keV	Exp	737
$O + H_2$	Total Scattering	1-5 keV	Exp	737
$O + N_2$	Total Scattering	1-5 keV	Exp	737
$O + O_2$	Total Scattering	1-5 keV	Exp	737
$O + He$	Ionization	1-5 keV	Exp	737
$O + H_2$	Ionization	1-5 keV	Exp	737
$O + N_2$	Ionization	1-5 keV	Exp	737
$O + O_2$	Ionization	1-5 keV	Exp	737
$O^{2+} + He$	Charge Transfer	2-10,800 eV	Exp	741
$O^{3+} + He$	Charge Transfer	2-10,800 eV	Exp	741
$O^{4+} + He$	Charge Transfer	2-10,800 eV	Exp	741
$O^{5+} + He$	Charge Transfer	2-10,800 eV	Exp	741
$O^{6+} + He$	Charge Transfer	2-10,800 eV	Exp	741
$O^{7+} + He$	Charge Transfer	$1-10^5$ keV/u	Th	757
$O^{7+} + He$	Excitation	$1-10^5$ keV/u	Th	757
$O^{7+} + He$	Ionization	$1-10^5$ keV/u	Th	757
$O^{2+} + C$	Interaction Potentials	Undef.	Th	768
$O^{8+} + He$	Total Scattering	0.1-1.5 MeV/amu	Th	769
$O^{8+} + He$	Ionization	0.1-1.5 MeV/amu	Th	769
$O^{2+} + C$	Interaction Potentials	40-50 eV	E/T	774
$O^+ + H$	Interaction Potentials	Undef.	Th	784
$O^{8+} + H$	Charge Transfer	1-2000 eV/u	Th	809
$O^{8+} + H$	Interaction Potentials	1-2000 eV/u	Th	809
$O + H_2$	Interchange reaction	0-30 kcal/mole	Th	828
$O^+ + H_2$	Interchange reaction	0.3 eV	Th	829
$O + H_2$	Interchange reaction	0.1 eV	Th	834
$O + H_2$	Interchange reaction	0-1.0 eV	Th	836
$O + H_2$	Interchange reaction	0.0-2.0 eV	Th	840
$O + HD$	Interchange reaction	0.0-2.0 eV	Th	840
$O + D_2$	Interchange reaction	0.0-2.0 eV	Th	840
$O^- + He$	Ionization	1.1-1.9 V a.u.	Exp	856
$O^{3+} + H_2$	Charge Transfer	$0.1-10^4$ eV/u	Th	868
$O^{3+} + H_2$	Interaction Potentials	$0.1-10^4$ eV/u	Th	868
$O^+ + H_2$	Charge Transfer	$50-2x10^5$ eV/u	Th	872
$O^{+*} + H_2$	Charge Transfer	$50-2x10^5$ eV/u	Th	872
$O^+ + H_2$	Interaction Potentials	$50-2x10^5$ eV/u	Th	872
$O^{+*} + H_2$	Interaction Potentials	$50-2x10^5$ eV/u	Th	872
$O^+ + H_2$	Excitation	$50-2x10^5$ eV/u	Th	872
$O^{+*} + H_2$	Excitation	$50-2x10^5$ eV/u	Th	872
$O^{6+} + C$	Charge Transfer	5-70 MeV	Th	880
$O^{7+} + C$	Charge Transfer	5-70 MeV	Th	880
$O^{8+} + C$	Charge Transfer	5-70 MeV	Th	880
$O^{4+} + Ne$	Charge Transfer	25 keV	Exp	882
$O^{5+} + Ne$	Charge Transfer	25 keV	Exp	882
$O^{6+} + Ne$	Charge Transfer	25 keV	Exp	882
$O^{4+} + Ne$	Ionization	25 keV	Exp	882
$O^{5+} + Ne$	Ionization	25 keV	Exp	882
$O^{6+} + Ne$	Ionization	25 keV	Exp	882
$O^+ + He$	Charge Transfer	0.5-10 keV	Th	898

$\mathbf{O^{4+} + He}$	Ionization	0.19-2.31 MeV/u	Th	911
$\mathbf{O^{5+} + He}$	Ionization	0.19-2.31 MeV/u	Th	911
$\mathbf{O^{6+} + He}$	Ionization	0.19-2.31 MeV/u	Th	911
$\mathbf{O^{7+} + He}$	Ionization	0.19-2.31 MeV/u	Th	911
$\mathbf{O^{8+} + He}$	Ionization	0.19-2.31 MeV/u	Th	911
$\mathbf{O^{+} + O_2}$	Charge Transfer	10-100 keV	Exp	930
$\mathbf{O^{+} + O_2}$	Ionization	10-100 keV	Exp	930
$\mathbf{O + H_2}$	Interchange reaction	100-4000 K	Th	931
$\mathbf{O + H_2}$	Interchange reaction	0.0-2.0 eV	Th	943
$\mathbf{O^{8+} + He}$	Ionization	$2x10^{-3} - 10^{6}$ keV	E/T	969
$\mathbf{O^{7+} + H}$	Ionization	0.1-1000 GeV/u	Th	970
$\mathbf{O^{6+} + H_2}$	Ionization	16 MeV	E/T	971
$\mathbf{O^{+} + Au}$	Ionization	0.3-5.0 MeV/amu	E/T	987
$\mathbf{O + O}$	Association	Undef.	Th	1005
$\mathbf{F^{-} + He}$	Detachment	2.25-56.25 keV/u	E/T	718
$\mathbf{F^{-} + Ne}$	Detachment	2.25-56.25 keV/u	E/T	718
$\mathbf{F^{-} + Ar}$	Detachment	2.25-56.25 keV/u	E/T	718
$\mathbf{F^{8+} + H_2}$	Total Scattering	19 MeV	E/T	738
$\mathbf{F^{8+} + D_2}$	Total Scattering	19 MeV	E/T	738
$\mathbf{F^{8+} + H_2}$	Ionization	19 MeV	E/T	738
$\mathbf{F^{8+} + D_2}$	Ionization	19 MeV	E/T	738
$\mathbf{F^{9+} + He}$	Total Scattering	1-25 MeV/u	Th	749
$\mathbf{F^{9+} + He}$	Ionization	1-25 MeV/u	Th	749
$\mathbf{F^{9+} + He}$	Total Scattering	0.1-1.5 MeV/amu	Th	769
$\mathbf{F^{9+} + He}$	Ionization	0.1-1.5 MeV/amu	Th	769
$\mathbf{F^{-} + He}$	Ionization	1.1-1.9 V a.u.	Exp	856
$\mathbf{F^{9+} + He}$	Total Scattering	50-1500 keV	Th	876
$\mathbf{F^{9+} + He}$	Ionization	50-1500 keV	Th	876
$\mathbf{F^{7+} + He}$	Charge Transfer	1.1 MeV/u	Exp	885
$\mathbf{F^{7+} + Ne}$	Charge Transfer	1.1 MeV/u	Exp	885
$\mathbf{F^{8+} + He}$	Charge Transfer	1.1 MeV/u	Exp	885
$\mathbf{F^{8+} + Ne}$	Charge Transfer	1.1 MeV/u	Exp	885
$\mathbf{F^{7+} + He}$	Excitation	1.1 MeV/u	Exp	885
$\mathbf{F^{7+} + Ne}$	Excitation	1.1 MeV/u	Exp	885
$\mathbf{F^{8+} + He}$	Excitation	1.1 MeV/u	Exp	885
$\mathbf{F^{8+} + Ne}$	Excitation	1.1 MeV/u	Exp	885
$\mathbf{F^{9+} + H_2}$	Total Scattering	0-14 a.u.	Th	886
$\mathbf{F^{9+} + H_2}$	Ionization	0-14 a.u.	Th	886
$\mathbf{F + H_2}$	Interchange reaction	69-81 MeV	E/T	938
$\mathbf{F + D_2}$	Interchange reaction	69-81 MeV	E/T	938
$\mathbf{F^{9+} + Ar}$	Ionization	16 MeV	E/T	971
$\mathbf{F^{9+} + Kr}$	Ionization	16 MeV	E/T	971
$\mathbf{F^{4+} + H_2O}$	Dissociation	1 MeV/u	Exp	982
$\mathbf{F^{4+} + D_2O}$	Dissociation	1 MeV/u	Exp	982
$\mathbf{F^{7+} + H_2O}$	Dissociation	1 MeV/u	Exp	982
$\mathbf{F^{7+} + D_2O}$	Dissociation	1 MeV/u	Exp	982
$\mathbf{F^{9+} + H_2O}$	Dissociation	1 MeV/u	Exp	982
$\mathbf{F^{9+} + D_2O}$	Dissociation	1 MeV/u	Exp	982
$\mathbf{F^{4+} + H_2O}$	Ionization	1 MeV/u	Exp	982
$\mathbf{F^{4+} + D_2O}$	Ionization	1 MeV/u	Exp	982
$\mathbf{F^{7+} + H_2O}$	Ionization	1 MeV/u	Exp	982
$\mathbf{F^{7+} + D_2O}$	Ionization	1 MeV/u	Exp	982
$\mathbf{F^{9+} + H_2O}$	Ionization	1 MeV/u	Exp	982
$\mathbf{F^{9+} + D_2O}$	Ionization	1 MeV/u	Exp	982
$\mathbf{Ne + Ne}$	Elastic Scattering	Undef.	Th	720
$\mathbf{Ne^{*} + Ne}$	Elastic Scattering	Undef.	Th	720
$\mathbf{Ne^{*} + Ne^{*}}$	Elastic Scattering	Undef.	Th	720

Ne + Ne	Interaction Potentials	Undef.	Th	720
Ne^* + Ne	Interaction Potentials	Undef.	Th	720
Ne^* + Ne^*	Interaction Potentials	Undef.	Th	720
Ne^{3+} + H	Charge Transfer	0.1-2000 eV/u	E/T	731
Ne^{10+} + H	Charge Transfer	0-5 V (a.u.)	E/T	747
Ne^{10+} + He	Total Scattering	1-25 MeV/u	Th	749
Ne^{10+} + He	Ionization	1-25 MeV/u	Th	749
Ne^+ + H_2O	Dissociation	2-9 keV	Exp	765
Ne^{3+} + H_2O	Dissociation	2-9 keV	Exp	765
Ne^{5+} + H_2O	Dissociation	2-9 keV	Exp	765
Ne^{7+} + H_2O	Dissociation	2-9 keV	Exp	765
Ne^{9+} + H_2O	Dissociation	2-9 keV	Exp	765
Ne^+ + H_2O	Charge Transfer	2-9 keV	Exp	765
Ne^{3+} + H_2O	Charge Transfer	2-9 keV	Exp	765
Ne^{5+} + H_2O	Charge Transfer	2-9 keV	Exp	765
Ne^{7+} + H_2O	Charge Transfer	2-9 keV	Exp	765
Ne^{9+} + H_2O	Charge Transfer	2-9 keV	Exp	765
Ne^+ + H_2O	Total Scattering	2-9 keV	Exp	765
Ne^{3+} + H_2O	Total Scattering	2-9 keV	Exp	765
Ne^{5+} + H_2O	Total Scattering	2-9 keV	Exp	765
Ne^{7+} + H_2O	Total Scattering	2-9 keV	Exp	765
Ne^{9+} + H_2O	Total Scattering	2-9 keV	Exp	765
Ne^{10+} + H	Charge Transfer	1-400 keV/u	Th	781
Ne^{10+} + H	Ionization	1-400 keV/u	Th	781
Ne + He	De-excitation	17-300 K	Exp	798
Ne^* + He	De-excitation	17-300 K	Exp	798
Ne + He	Excitation	17-300 K	Exp	798
Ne^* + He	Excitation	17-300 K	Exp	798
Ne^{3+} + Mg	Charge Transfer	34-50 MeV	Exp	879
Ne^{3+} + Si	Charge Transfer	34-50 MeV	Exp	879
Ne^{3+} + Mg	Ionization	34-50 MeV	Exp	879
Ne^{3+} + Si	Ionization	34-50 MeV	Exp	879
Ne^{4+} + Ne	Charge Transfer	25 keV	Exp	882
Ne^{5+} + Ne	Charge Transfer	25 keV	Exp	882
Ne^{6+} + Ne	Charge Transfer	25 keV	Exp	882
Ne^{4+} + Ne	Ionization	25 keV	Exp	882
Ne^{5+} + Ne	Ionization	25 keV	Exp	882
Ne^{6+} + Ne	Ionization	25 keV	Exp	882
Ne^{10+} + Rb	Charge Transfer	10-17 keV	Exp	897
Ne^{10+} + Rb	Fluorescence	10-17 keV	Exp	897
Ne^{3+} + Ho	Fluorescence	0.01-6 MeV/u	Exp	902
Ne^{3+} + Ho	Ionization	0.01-6 MeV/u	Exp	902
Ne + CHF_2Cl	Dissociation	500 K	Exp	914
Ne^* + CHF_2Cl	Dissociation	500 K	Exp	914
Ne + CHF_2Cl	Ionization	500 K	Exp	914
Ne^* + CHF_2Cl	Ionization	500 K	Exp	914
Ne^+ + Ni	Elastic Scattering	2-3 keV	Th	963
Ne^+ + Sb	Elastic Scattering	2-3 keV	Th	963
Ne^+ + Hf	Elastic Scattering	2-3 keV	Th	963
Ne^+ + Ni	Total Scattering	2-3 keV	Th	963
Ne^+ + Sb	Total Scattering	2-3 keV	Th	963
Ne^+ + Hf	Total Scattering	2-3 keV	Th	963
Ne^{10+} + He	Ionization	$2x10^{-3} - 10^6$ keV	E/T	969
Ne^{3+} + Si	Ionization	2-50 MeV	Exp	977
Ne^{10+} + H	Charge Transfer	1-500 eV	Th	990
Ne^{10+} + H	Excitation	1-500 eV	Th	990
Ne^+ + Ar	Charge Transfer	5 keV	Exp	996

Ne^{2+} + Ar	Charge Transfer	5 keV	Exp	996
Ne^{3+} + Ar	Charge Transfer	5 keV	Exp	996
Ne^{+} + Ar	Total Scattering	5 keV	Exp	996
Ne^{2+} + Ar	Total Scattering	5 keV	Exp	996
Ne^{3+} + Ar	Total Scattering	5 keV	Exp	996
Ne^{+} + Ar	Ionization	5 keV	Exp	996
Ne^{2+} + Ar	Ionization	5 keV	Exp	996
Ne^{3+} + Ar	Ionization	5 keV	Exp	996
Ne^{2+} + He	Charge Transfer	600-1000 eV/q	Exp	1009
Ne^{3+} + He	Charge Transfer	600-1000 eV/q	Exp	1009
Ne^{4+} + He	Charge Transfer	600-1000 eV/q	Exp	1009
Ne^{5+} + He	Charge Transfer	600-1000 eV/q	Exp	1009
Ne^{6+} + He	Charge Transfer	600-1000 eV/q	Exp	1009
Ne + H	Interaction Potentials	Undef.	Th	1023
Ne^{4+} + H	Charge Transfer	0.1-1006 eV/u	E/T	1037
Na + He	Interaction Potentials	Undef.	Th	715
Na^{-} + He	Detachment	2.25-56.25 keV/u	E/T	718
Na^{-} + Ne	Detachment	2.25-56.25 keV/u	E/T	718
Na^{-} + Ar	Detachment	2.25-56.25 keV/u	E/T	718
Na + Rb	Interaction Potentials	Undef.	E/T	724
Na + H	Line Broadening	0-20,000 K	Th	760
Na + H	Interaction Potentials	0-20,000 K	Th	760
Na + Na	Interaction Potentials	Undef.	Th	784
Na + He	Interaction Potentials	Low energy	Th	853
Na + Na	Ionization	360-1100 m/sec	E/T	925
Na^{*} + Na	Ionization	360-1100 m/sec	E/T	925
Na + H	Interaction Potentials	Undef.	Th	951
Na + Li	Interaction Potentials	Undef.	Th	951
Na + Na	Interaction Potentials	Undef.	Th	951
Na + K	Interaction Potentials	Undef.	Th	951
Na + Rb	Interaction Potentials	Undef.	Th	951
Na + Au	Interaction Potentials	Undef.	Th	954
Na + SiO_2	Interaction Potentials	Undef.	Th	954
Na + Na	Association	300 K	E/T	1017
Na + Na	Ionization	300 K	E/T	1017
Na + Na	Interaction Potentials	Undef.	Th	1020
Mg + H	Line Broadening	0-20,000 K	Th	760
Mg + H	Interaction Potentials	0-20,000 K	Th	760
Al^{-} + He	Detachment	2.25-56.25 keV/u	E/T	718
Al^{-} + Ne	Detachment	2.25-56.25 keV/u	E/T	718
Al^{-} + Ar	Detachment	2.25-56.25 keV/u	E/T	718
Si^{-} + He	Detachment	2.25-56.25 keV/u	E/T	718
Si^{-} + Ne	Detachment	2.25-56.25 keV/u	E/T	718
Si^{-} + Ar	Detachment	2.25-56.25 keV/u	E/T	718
Si^{2+} + C_{60}	Dissociation	2 MeV	Exp	802
Si^{2+} + C_{60}	Ionization	2 MeV	Exp	802
Si^{13+} + Rb	Charge Transfer	10-17 keV	Exp	897
Si^{14+} + Rb	Charge Transfer	10-17 keV	Exp	897
Si^{13+} + Rb	Fluorescence	10-17 keV	Exp	897
Si^{14+} + Rb	Fluorescence	10-17 keV	Exp	897
Si^{+} + H	Excitation	15-2000 eV	Th	926
Si^{+} + Au	Ionization	0.3-5.0 MeV/amu	E/T	987
S^{-} + He	Detachment	2.25-56.25 keV/u	E/T	718
S^{-} + Ne	Detachment	2.25-56.25 keV/u	E/T	718
S^{-} + Ar	Detachment	2.25-56.25 keV/u	E/T	718
S^{+} + CS	Interaction Potentials	0-10 eV	Th	759
S^{+} + Si	Interaction Potentials	Undef.	Th	778

S + O	Association	300-14,000 T(k)	Th	929
S + S	Association	300-14,000 T(k)	Th	929
$\mathbf{S^{+}}$ **+ O**	Association	300-14,000 T(k)	Th	929
S + $\mathbf{H_2}$	Interchange reaction	0-0.5 eV	Th	935
S + HD	Interchange reaction	0-0.5 eV	Th	935
S + $\mathbf{D_2}$	Interchange reaction	0-0.5 eV	Th	935
$\mathbf{S^{13+}}$ **+ He**	Ionization	$2x10^{-3} - 10^{6}$ keV	E/T	969
$\mathbf{S^{+}}$ **+ Au**	Ionization	0.3-5.0 MeV/amu	E/T	987
$\mathbf{S^{16+}}$ **+ H**	Charge Transfer	0-120 MeV	Exp	994
$\mathbf{S^{16+}}$ **+ H**	Ionization	0-120 MeV	Exp	994
$\mathbf{Cl^{-}}$ **+ He**	Detachment	2.25-56.25 keV/u	E/T	718
$\mathbf{Cl^{-}}$ **+ Ne**	Detachment	2.25-56.25 keV/u	E/T	718
$\mathbf{Cl^{-}}$ **+ Ar**	Detachment	2.25-56.25 keV/u	E/T	718
$\mathbf{Ar^{8+}}$ **+ H**	Charge Transfer	0.3-0.95 a.u.	E/T	733
$\mathbf{Ar^{8+}}$ **+** $\mathbf{H_2}$	Charge Transfer	0.3-0.95 a.u.	E/T	733
$\mathbf{Ar^{3+}}$ **+** $\mathbf{N_2}$	Dissociation	8 keV	Exp	751
$\mathbf{Ar^{8+}}$ **+** $\mathbf{N_2}$	Dissociation	8 keV	Exp	751
$\mathbf{Ar^{9+}}$ **+** $\mathbf{N_2}$	Dissociation	8 keV	Exp	751
$\mathbf{Ar^{11+}}$ **+** $\mathbf{N_2}$	Dissociation	8 keV	Exp	751
$\mathbf{Ar^{12+}}$ **+** $\mathbf{N_2}$	Dissociation	8 keV	Exp	751
$\mathbf{Ar^{3+}}$ **+** $\mathbf{N_2}$	Charge Transfer	8 keV	Exp	751
$\mathbf{Ar^{8+}}$ **+** $\mathbf{N_2}$	Charge Transfer	8 keV	Exp	751
$\mathbf{Ar^{9+}}$ **+** $\mathbf{N_2}$	Charge Transfer	8 keV	Exp	751
$\mathbf{Ar^{11+}}$ **+** $\mathbf{N_2}$	Charge Transfer	8 keV	Exp	751
$\mathbf{Ar^{12+}}$ **+** $\mathbf{N_2}$	Charge Transfer	8 keV	Exp	751
$\mathbf{Ar^{3+}}$ **+** $\mathbf{N_2}$	Ionization	8 keV	Exp	751
$\mathbf{Ar^{8+}}$ **+** $\mathbf{N_2}$	Ionization	8 keV	Exp	751
$\mathbf{Ar^{9+}}$ **+** $\mathbf{N_2}$	Ionization	8 keV	Exp	751
$\mathbf{Ar^{11+}}$ **+ N**	Ionization	8 keV	Exp	751
$\mathbf{Ar^{12+}}$ **+** $\mathbf{N_2}$	Ionization	8 keV	Exp	751
$\mathbf{Ar^{8+}}$ **+** $\mathbf{C_6H_6}$	Dissociation	120 keV	Exp	786
$\mathbf{Ar^{8+}}$ **+** $\mathbf{C_6H_6}$	Ionization	120 keV	Exp	786
$\mathbf{Ar^{8+}}$ **+** $\mathbf{C_2H_4}$	Dissociation	120 keV	Exp	789
$\mathbf{Ar^{8+}}$ **+** $\mathbf{C_6H_6}$	Dissociation	120 keV	Exp	789
Ar + $\mathbf{C_2{}^{-}}$	Dissociation	15 keV	E/T	808
Ar + $\mathbf{C_2{}^{-}}$	Interaction Potentials	15 keV	E/T	808
$\mathbf{Ar^{8+}}$ **+ H**	Charge Transfer	1-2000 eV/u	Th	809
$\mathbf{Ar^{8+}}$ **+ H**	Interaction Potentials	1-2000 eV/u	Th	809
$\mathbf{Ar^{2+}}$ **+** $\mathbf{H_2{}^{+}}$	Charge Transfer	0.2-1.5 V a.u.	Th	850
$\mathbf{Ar^{2+}}$ **+** $\mathbf{H_2{}^{+}}$	Total Scattering	0.2-1.5 V a.u.	Th	850
Ar + Hg	Interaction Potentials	0-250 MeV	E/T	859
$\mathbf{Ar^{*}}$ **+ Hg**	Interaction Potentials	0-250 MeV	E/T	859
Ar + Hg	Ionization	0-250 MeV	E/T	859
$\mathbf{Ar^{*}}$ **+ Hg**	Ionization	0-250 MeV	E/T	859
$\mathbf{Ar^{17+}}$ **+ Rb**	Charge Transfer	10-17 keV	Exp	897
$\mathbf{Ar^{17+}}$ **+ Rb**	Fluorescence	10-17 keV	Exp	897
$\mathbf{Ar^{6+}}$ **+ Ho**	Fluorescence	0.01-6 MeV/u	Exp	902
$\mathbf{Ar^{6+}}$ **+ Ho**	Ionization	0.01-6 MeV/u	Exp	902
$\mathbf{Ar^{6+}}$ **+ He**	Ionization	3-38 MeV/amu	E/T	958
$\mathbf{Ar^{6+}}$ **+ Ar**	Ionization	3-38 MeV/amu	E/T	958
$\mathbf{Ar^{6+}}$ **+ Xe**	Ionization	3-38 MeV/amu	E/T	958
$\mathbf{Ar^{6+}}$ **+** $\mathbf{N_2}$	Ionization	3-38 MeV/amu	E/T	958
$\mathbf{Ar^{8+}}$ **+ He**	Ionization	3-38 MeV/amu	E/T	958
$\mathbf{Ar^{8+}}$ **+ Ar**	Ionization	3-38 MeV/amu	E/T	958
$\mathbf{Ar^{8+}}$ **+ Xe**	Ionization	3-38 MeV/amu	E/T	958
$\mathbf{Ar^{8+}}$ **+** $\mathbf{N_2}$	Ionization	3-38 MeV/amu	E/T	958
$\mathbf{Ar^{13+}}$ **+ Li**	Excitation	60-95 MeV/u; 0.1-5.0 keV	Th	981

Ar^{13+} + Li	Ionization	60-95 MeV/u; 0.1-5.0 keV	Th	981
Ar^{18+} + H	Charge Transfer	1-500 eV	Th	990
Ar^{18+} + H	Excitation	1-500 eV	Th	990
Ar^{18+} + Li	Excitation	6-20 v (a.u.)	Th	1028
Ar^{18+} + Li	Ionization	6-20 v (a.u.)	Th	1028
K + He	Interaction Potentials	Undef.	Th	715
K + Ar	Interaction Potentials	220-720 cm^{-1}	Exp	779
K + Ar	Total Scattering	220-720 cm^{-1}	Exp	779
K + Ar	Excitation	220-720 cm^{-1}	Exp	779
K^+ + Rb	Charge Transfer	7 keV	Exp	847
K^+ + Rb	Total Scattering	7 keV	Exp	847
K + He	Interaction Potentials	Low energy	Th	853
K + Rb	Interaction Potentials	10-30 a.u.	Th	900
K + H	Interaction Potentials	Undef.	Th	951
K + Li	Interaction Potentials	Undef.	Th	951
K + Na	Interaction Potentials	Undef.	Th	951
K + K	Interaction Potentials	Undef.	Th	951
K + Rb	Interaction Potentials	Undef.	Th	951
K + Xe	De-excitation	Undef.	Th	968
K^+ + Mg	Charge Transfer	0.1-3.8 keV	Exp	1008
K + K	Interaction Potentials	Undef.	Th	1020
K + K_2	Elastic Scattering	$10^{-9}-10^{-2}$ K	Th	1034
K + K_2	Interaction Potentials	$10^{-9}-10^{-2}$ K	Th	1034
K + K_2	Total Scattering	$10^{-9}-10^{-2}$ K	Th	1034
Cr + Cr	Elastic Scattering	10^{-12} a.u.	Th	801
Cr + Cr	Interaction Potentials	10^{-12} a.u.	Th	801
Fe^{26+} + He	Total Scattering	3.6 MeV/u	Th	988
Fe^{26+} + He	Ionization	3.6 MeV/u	Th	988
Fe^+ + Co	Ionization	0.2-1.75 MeV/u	Exp	995
Fe^+ + Cu	Ionization	0.2-1.75 MeV/u	Exp	995
Co^+ + Co	Ionization	0.2-1.75 MeV/u	Exp	995
Co^+ + Cu	Ionization	0.2-1.75 MeV/u	Exp	995
Ni^{28+} + SiO_2	Charge Transfer	$1-10^5$ keV/u	Th	757
Ni^{28+} + SiO_2	Excitation	$1-10^5$ keV/u	Th	757
Ni^{28+} + SiO_2	Ionization	$1-10^5$ keV/u	Th	757
Ni^{19+} + C	Ionization	45 MeV/u	Exp	966
Ni^{19+} + Al	Ionization	45 MeV/u	Exp	966
Ni^{19+} + Ni	Ionization	45 MeV/u	Exp	966
Ni^{19+} + Ag	Ionization	45 MeV/u	Exp	966
Ni^{19+} + Au	Ionization	45 MeV/u	Exp	966
Ni^{19+} + Bi	Ionization	45 MeV/u	Exp	966
Ni^{28+} + He	Ionization	$2x10^{-3}-10^6$ keV	E/T	969
Kr^{33+} + H_2	Ionization	68 MeV/u	E/T	717
Kr + Xe	Energy Transfer	120-376 nm	Exp	764
Kr^* + Xe	Energy Transfer	120-376 nm	Exp	764
Kr^{33+} + H_2	Ionization	0.114-68 MeV/u	Th	852
Kr^{34+} + H_2	Ionization	0.114-68 MeV/u	Th	852
Kr + Hg	Interaction Potentials	0-250 MeV	E/T	859
Kr^* + Hg	Interaction Potentials	0-250 MeV	E/T	859
Kr + Hg	Ionization	0-250 MeV	E/T	859
Kr^* + Hg	Ionization	0-250 MeV	E/T	859
Kr^{12+} + Ho	Fluorescence	0.01-6 MeV/u	Exp	902
Kr^{12+} + Ho	Ionization	0.01-6 MeV/u	Exp	902
Kr^{7+} + N_2	Ionization	3-38 MeV/amu	E/T	958
Kr^{34+} + He	Ionization	$2x10^{-3}-10^6$ keV	E/T	969
Kr^{34+} + Li	Excitation	60-95 MeV/u; 0.1-5.0 keV	Th	981
Kr^{34+} + Li	Ionization	60-95 MeV/u; 0.1-5.0 keV	Th	981

Kr^{8+} + N_2	Dissociation	19-200 eV/u	Exp	997
Kr^{8+} + N_2	Charge Transfer	19-200 eV/u	Exp	997
Kr^{8+} + N_2	Ionization	19-200 eV/u	Exp	997
Kr^{8+} + N_2	Dissociation	Undef.	Th	1002
Kr^{8+} + N_2	Charge Transfer	Undef.	Th	1002
Kr^{8+} + N_2	Ionization	Undef.	Th	1002
Kr^{8+} + N_2	Charge Transfer	9.5-171 ev/u	Exp	1025
Rb^{+} + Rb	Interaction Potentials	5-35 a.u.	Th	753
Rb^{+} + Cs	Interaction Potentials	5-35 a.u.	Th	753
Rb + Rb	Association	Undef.	Exp	800
Rb + Rb	Elastic Scattering	300 K	Exp	805
Rb^{+} + Mg	Charge Transfer	0-4000 eV	Exp	835
Rb^{+} + Rb	Charge Transfer	7 keV	Exp	847
Rb^{+} + Rb	Total Scattering	7 keV	Exp	847
Rb + He	Interaction Potentials	Low energy	Th	853
Rb + He	Line Broadening	10 torr	Exp	854
Rb + Ar	Line Broadening	10 torr	Exp	854
Rb + Cs	Interaction Potentials	Undef.	Th	891
Rb^{+} + Rb	Charge Transfer	7 keV	Exp	905
Rb^{+} + Rb	Interaction Potentials	7 keV	Exp	905
Rb + Rb	Interaction Potentials	200 μ k	E/T	921
Rb + H	Interaction Potentials	Undef.	Th	951
Rb + Li	Interaction Potentials	Undef.	Th	951
Rb + Na	Interaction Potentials	Undef.	Th	951
Rb + K	Interaction Potentials	Undef.	Th	951
Rb + Rb	Interaction Potentials	Undef.	Th	951
Rb + Rb	Interaction Potentials	Undef.	Th	1020
Rb + Rb	Interaction Potentials	Undef.	E/T	1021
Sr + H	Line Broadening	0-20,000 K	Th	760
Sr + H	Interaction Potentials	0-20,000 K	Th	760
Mo^{40+} + He	Total Scattering	1-25 MeV/u	Th	749
Mo^{40+} + He	Ionization	1-25 MeV/u	Th	749
Cd + Kr	Interaction Potentials	Undef.	E/T	726
In + In	Line Broadening	950 K	Exp	1018
In + In	Energy Transfer	950 K	Exp	1018
In + In	Fluorescence	950 K	Exp	1018
In + In	Excitation	950 K	Exp	1018
I^{10+} + Ne	Charge Transfer	1.52 keV	Exp	783
I^{10+} + Ar	Charge Transfer	1.52 keV	Exp	783
I^{10+} + Kr	Charge Transfer	1.52 keV	Exp	783
I^{10+} + Xe	Charge Transfer	1.52 keV	Exp	783
I^{15+} + Ne	Charge Transfer	1.52 keV	Exp	783
I^{15+} + Ar	Charge Transfer	1.52 keV	Exp	783
I^{15+} + Kr	Charge Transfer	1.52 keV	Exp	783
I^{15+} + Xe	Charge Transfer	1.52 keV	Exp	783
I^{20+} + Ne	Charge Transfer	1.52 keV	Exp	783
I^{20+} + Ar	Charge Transfer	1.52 keV	Exp	783
I^{20+} + Kr	Charge Transfer	1.52 keV	Exp	783
I^{20+} + Xe	Charge Transfer	1.52 keV	Exp	783
I^{25+} + Ne	Charge Transfer	1.52 keV	Exp	783
I^{25+} + Ar	Charge Transfer	1.52 keV	Exp	783
I^{25+} + Kr	Charge Transfer	1.52 keV	Exp	783
I^{25+} + Xe	Charge Transfer	1.52 keV	Exp	783
I^{-} + N	Detachment	3-38 MeV/amu	E/T	958
I^{-} + N^{7+}	Detachment	3-38 MeV/amu	E/T	958
Xe^{18+} + Ho	Fluorescence	0.01-6 MeV/u	Exp	902
Xe^{18+} + Ho	Ionization	0.01-6 MeV/u	Exp	902

$\mathbf{Xe^{11+} + N_2}$	Ionization	3-38 MeV/amu	E/T	958
$\mathbf{Xe^{44+} + He}$	Ionization	$2x10^{-3} - 10^{6}$ keV	E/T	969
$\mathbf{Xe^{21+} + CH_4}$	Dissociation	$20x10^{-6} - 500$ MeV	Exp	973
$\mathbf{Xe^{21+} + CH_4}$	Ionization	$20x10^{-6} - 500$ MeV	Exp	973
$\mathbf{Xe^{9+} + He}$	Charge Transfer	180-340 keV	Exp	993
$\mathbf{Xe^{10+} + He}$	Charge Transfer	180-340 keV	Exp	993
$\mathbf{Xe^{11+} + He}$	Charge Transfer	180-340 keV	Exp	993
$\mathbf{Xe^{12+} + He}$	Charge Transfer	180-340 keV	Exp	993
$\mathbf{Xe^{13+} + He}$	Charge Transfer	180-340 keV	Exp	993
$\mathbf{Xe^{14+} + He}$	Charge Transfer	180-340 keV	Exp	993
$\mathbf{Xe^{15+} + He}$	Charge Transfer	180-340 keV	Exp	993
$\mathbf{Xe^{16+} + He}$	Charge Transfer	180-340 keV	Exp	993
$\mathbf{Xe^{17+} + He}$	Charge Transfer	180-340 keV	Exp	993
$\mathbf{Xe^{9+} + He}$	Excitation	180-340 keV	Exp	993
$\mathbf{Xe^{10+} + He}$	Excitation	180-340 keV	Exp	993
$\mathbf{Xe^{11+} + He}$	Excitation	180-340 keV	Exp	993
$\mathbf{Xe^{12+} + He}$	Excitation	180-340 keV	Exp	993
$\mathbf{Xe^{13+} + He}$	Excitation	180-340 keV	Exp	993
$\mathbf{Xe^{14+} + He}$	Excitation	180-340 keV	Exp	993
$\mathbf{Xe^{15+} + He}$	Excitation	180-340 keV	Exp	993
$\mathbf{Xe^{16+} + He}$	Excitation	180-340 keV	Exp	993
$\mathbf{Xe^{17+} + He}$	Excitation	180-340 keV	Exp	993
$\mathbf{Xe^{17+} + N_2}$	Dissociation	340-420 keV	Exp	1003
$\mathbf{Xe^{18+} + N_2}$	Dissociation	340-420 keV	Exp	1003
$\mathbf{Xe^{20+} + N_2}$	Dissociation	340-420 keV	Exp	1003
$\mathbf{Xe^{21+} + N_2}$	Dissociation	340-420 keV	Exp	1003
$\mathbf{Xe^{17+} + N_2}$	Charge Transfer	340-420 keV	Exp	1003
$\mathbf{Xe^{18+} + N_2}$	Charge Transfer	340-420 keV	Exp	1003
$\mathbf{Xe^{20+} + N_2}$	Charge Transfer	340-420 keV	Exp	1003
$\mathbf{Xe^{21+} + N_2}$	Charge Transfer	340-420 keV	Exp	1003
$\mathbf{Xe^{17+} + N_2}$	Ionization	340-420 keV	Exp	1003
$\mathbf{Xe^{18+} + N_2}$	Ionization	340-420 keV	Exp	1003
$\mathbf{Xe^{20+} + N_2}$	Ionization	340-420 keV	Exp	1003
$\mathbf{Xe^{21+} + N_2}$	Ionization	340-420 keV	Exp	1003
Cs + Cs	Association	100 μ k	Th	723
Cs + Cs	Line Broadening	220-370 deg C	Exp	745
$\mathbf{Cs^{+} + Rb}$	Interaction Potentials	5-35 a.u.	Th	753
$\mathbf{Cs^{+} + Cs}$	Interaction Potentials	5-35 a.u.	Th	753
Cs + Cs	Interaction Potentials	Undef.	Th	784
$\mathbf{Cs^{+} + Cs}$	Interaction Potentials	Undef.	Th	794
Cs + Cs	Association	54 μ k	Th	855
Cs + Cs	Energy Transfer	Undef.	E/T	894
$\mathbf{Cs^{*} + Cs}$	Energy Transfer	Undef.	E/T	894
$\mathbf{Cs^{+} + N}$	Ionization	3-38 MeV/amu	E/T	958
$\mathbf{Cs^{+} + N^{7+}}$	Ionization	3-38 MeV/amu	E/T	958
Cs + Cs	Interaction Potentials	Undef.	Th	1020
$\mathbf{Ba^{+} + He}$	Interaction Potentials	3-30 K	Exp	725
$\mathbf{Ba^{+*} + He}$	Interaction Potentials	3-30 K	Exp	725
$\mathbf{Ta^{41+} + He}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{41+} + Xe}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{42+} + He}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{42+} + Xe}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{43+} + He}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{43+} + Xe}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{44+} + He}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{44+} + Xe}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{45+} + He}$	Charge Transfer	0.3 a.u.	Exp	775

$\mathbf{Ta^{45+} + Xe}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{46+} + He}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{46+} + Xe}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{47+} + He}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{47+} + Xe}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{48+} + He}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{48+} + Xe}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{49+} + He}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Ta^{49+} + Xe}$	Charge Transfer	0.3 a.u.	Exp	775
$\mathbf{Re^{+} + H_2}$	Interchange reaction	0-8 eV	E/T	832
$\mathbf{Re^{+} + HD}$	Interchange reaction	0-8 eV	E/T	832
$\mathbf{Re^{+} + D_2}$	Interchange reaction	0-8 eV	E/T	832
$\mathbf{Au^{24+} + He}$	Total Scattering	3.6-100 MeV	Exp	791
$\mathbf{Au^{53+} + He}$	Total Scattering	3.6-100 MeV	Exp	791
$\mathbf{Au^{24+} + He}$	Ionization	3.6-100 MeV	Exp	791
$\mathbf{Au^{53+} + He}$	Ionization	3.6-100 MeV	Exp	791
$\mathbf{Au^{24+} + He}$	Total Scattering	3.6 MeV/u	E/T	816
$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/u	E/T	816
$\mathbf{Au^{24+} + He}$	Ionization	3.6 MeV/u	E/T	816
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/u	E/T	816
$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/u	Th	818
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/u	Th	818
$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/u	Th	956
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/u	Th	956
$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/amu	Th	965
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/amu	Th	965
$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/u	Th	988
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/u	Th	988
$\mathbf{Bi^{82+} + Au}$	Charge Transfer	70 MeV/u	Exp	989
$\mathbf{Bi^{82+} + Au}$	Excitation	70 MeV/u	Exp	989
$\mathbf{U^{92+} + He}$	Total Scattering	1 GeV/amu	Exp	793
$\mathbf{U^{92+} + He}$	Ionization	1 GeV/amu	Exp	793
$\mathbf{U^{28+} + Ar}$	Charge Transfer	150 MeV/amu	E/T	796
$\mathbf{U^{28+} + H_2}$	Charge Transfer	150 MeV/amu	E/T	796
$\mathbf{U^{28+} + N_2}$	Charge Transfer	150 MeV/amu	E/T	796
$\mathbf{U^{28+} + Ar}$	Ionization	150 MeV/amu	E/T	796
$\mathbf{U^{28+} + H_2}$	Ionization	150 MeV/amu	E/T	796
$\mathbf{U^{28+} + N_2}$	Ionization	150 MeV/amu	E/T	796
$\mathbf{U^{4+} + Ne}$	Ionization	1.4 MeV/u	Exp	849
$\mathbf{U^{4+} + Ar}$	Ionization	1.4 MeV/u	Exp	849
$\mathbf{U^{4+} + N_2}$	Ionization	1.4 MeV/u	Exp	849
$\mathbf{U^{6+} + Ne}$	Ionization	1.4 MeV/u	Exp	849
$\mathbf{U^{6+} + Ar}$	Ionization	1.4 MeV/u	Exp	849
$\mathbf{U^{6+} + N_2}$	Ionization	1.4 MeV/u	Exp	849
$\mathbf{U^{10+} + Ne}$	Ionization	1.4 MeV/u	Exp	849
$\mathbf{U^{10+} + Ar}$	Ionization	1.4 MeV/u	Exp	849
$\mathbf{U^{10+} + N_2}$	Ionization	1.4 MeV/u	Exp	849
$\mathbf{U^{92+} + He}$	Ionization	1 GeV	Th	862
$\mathbf{U^{91+} + U^{79+}}$	Charge Transfer	466-930 MeV/u	Th	875
$\mathbf{U^{92+} + U^{79+}}$	Charge Transfer	466-930 MeV/u	Th	875
$\mathbf{U^{92+} + U^{91+}}$	Charge Transfer	466-930 MeV/u	Th	875
$\mathbf{U^{92+} + U^{92+}}$	Charge Transfer	466-930 MeV/u	Th	875
$\mathbf{U^{91+} + U^{79+}}$	Excitation	466-930 MeV/u	Th	875
$\mathbf{U^{92+} + U^{79+}}$	Excitation	466-930 MeV/u	Th	875
$\mathbf{U^{92+} + U^{91+}}$	Excitation	466-930 MeV/u	Th	875
$\mathbf{U^{92+} + U^{92+}}$	Excitation	466-930 MeV/u	Th	875
$\mathbf{U^{91+} + U^{79+}}$	Ionization	466-930 MeV/u	Th	875

$\mathbf{U^{92+} + U^{79+}}$	Ionization	466-930 MeV/u	Th	875
$\mathbf{U^{92+} + U^{91+}}$	Ionization	466-930 MeV/u	Th	875
$\mathbf{U^{92+} + U^{92+}}$	Ionization	466-930 MeV/u	Th	875
$\mathbf{U^{92+} + He}$	Total Scattering	1 GeV/u	Th	909
$\mathbf{U^{92+} + He}$	Ionization	1 GeV/u	Th	909
$\mathbf{U^{10+} + Ar}$	Ionization	1-200 MeV/amu	Th	959
$\mathbf{U^{10+} + H_2}$	Ionization	1-200 MeV/amu	Th	959
$\mathbf{U^{10+} + N_2}$	Ionization	1-200 MeV/amu	Th	959
$\mathbf{U^{28+} + Ar}$	Ionization	1-200 MeV/amu	Th	959
$\mathbf{U^{28+} + H_2}$	Ionization	1-200 MeV/amu	Th	959
$\mathbf{U^{28+} + N_2}$	Ionization	1-200 MeV/amu	Th	959
$\mathbf{U^{28+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp	960
$\mathbf{U^{31+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp	960
$\mathbf{U^{33+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp	960
$\mathbf{U^{39+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp	960
$\mathbf{U^{42+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp	960
$\mathbf{U^{52+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp	960
$\mathbf{U^{28+} + Ar}$	Ionization	3.5 MeV/amu	Exp	960
$\mathbf{U^{31+} + Ar}$	Ionization	3.5 MeV/amu	Exp	960
$\mathbf{U^{33+} + Ar}$	Ionization	3.5 MeV/amu	Exp	960
$\mathbf{U^{39+} + Ar}$	Ionization	3.5 MeV/amu	Exp	960
$\mathbf{U^{42+} + Ar}$	Ionization	3.5 MeV/amu	Exp	960
$\mathbf{U^{52+} + Ar}$	Ionization	3.5 MeV/amu	Exp	960
$\mathbf{U^{92+} + He}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T	969
$\mathbf{U^{92+} + He}$	Ionization	1 GeV/amu	Exp	986
$\mathbf{U^{92+} + He}$	Ionization	Undef.	Exp	991
$\mathbf{U^{89+} + N_2}$	Charge Transfer	397 MeV/u	Exp	992
$\mathbf{U^{89+} + N_2}$	Excitation	397 MeV/u	Exp	992
$\mathbf{h\nu + In}$	De-excitation	950 K	Exp	1018
$\mathbf{h\nu + In}$	Energy Transfer	950 K	Exp	1018
$\mathbf{h\nu + In}$	Excitation	950 K	Exp	1018
$\mathbf{H_2{}^+ + H_2{}^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{H_2{}^+ + HD^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{H_2{}^+ + HT^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{H_2{}^+ + D_2{}^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{H_2{}^+ + DT^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{H_2{}^+ + T_2{}^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{H_2{}^+ + H_2{}^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{H_2{}^+ + HD^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{H_2{}^+ + HT^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{H_2{}^+ + D_2{}^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{H_2{}^+ + DT^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{H_2{}^+ + T_2{}^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{H_2{}^+ + O^-}$	Interchange reaction	10 MeV	Exp	825
$\mathbf{H_2{}^+ + Ar}$	Dissociation	1-5 keV	Exp	867
$\mathbf{H_2{}^+ + Kr}$	Dissociation	1-5 keV	Exp	867
$\mathbf{H_2{}^+ + Ar}$	Charge Transfer	1-5 keV	Exp	867
$\mathbf{H_2{}^+ + Kr}$	Charge Transfer	1-5 keV	Exp	867
$\mathbf{H_2{}^+ + He}$	Ionization	1.0 MeV/u	Exp	873
$\mathbf{H_2{}^+ + Ne}$	Ionization	1.0 MeV/u	Exp	873
$\mathbf{H_2{}^+ + Ar}$	Ionization	1.0 MeV/u	Exp	873
$\mathbf{H_2{}^+ + Kr}$	Ionization	1.0 MeV/u	Exp	873
$\mathbf{H_2{}^+ + Xe}$	Ionization	1.0 MeV/u	Exp	873
$\mathbf{H_2{}^+ + H}$	Dissociation	2.5-1000 keV	Th	893
$\mathbf{H_2{}^+ + H}$	Charge Transfer	2.5-1000 keV	Th	893
$\mathbf{H_2{}^+ + H}$	Excitation	2.5-1000 keV	Th	893
$\mathbf{H_2{}^+ + H}$	Ionization	2.5-1000 keV	Th	893

$\mathbf{H_2^+ + C_{60}}$	Dissociation	2-130 keV	Exp	910
$\mathbf{H_2^+ + C_{60}}$	Ionization	2-130 keV	Exp	910
$\mathbf{H_2^+ + C_{60}}$	Dissociation	1-130 keV	Exp	912
$\mathbf{H_2^+ + C_{60}}$	Ionization	1-130 keV	Exp	912
$\mathbf{H_2^+ + He}$	Interchange reaction	1.0 eV	Th	933
$\mathbf{H_2 + H_2}$	Interchange reaction	5.0 eV	Th	934
$\mathbf{H_2^+ + He}$	Interchange reaction	0.6-3.1 eV	E/T	940
$\mathbf{H_2 + H_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2 + H_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2 + HD^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2 + H_2D^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2 + HD_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2 + D_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2 + D_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2 + CH_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2 + C_2H_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2^+ + He}$	Interchange reaction	0.0-2.4 eV	Th	949
$\mathbf{H_2^+ + H}$	Charge Transfer	0.4-50 keV	Th	999
$\mathbf{H_2^+ + H}$	Excitation	0.4-50 keV	Th	999
$\mathbf{H_3^+ + H}$	Interchange reaction	1.0-20.0 kJ/mol	Th	841
$\mathbf{H_3^+ + D}$	Interchange reaction	1.0-20.0 kJ/mol	Th	841
$\mathbf{H_3^+ + Cs}$	Dissociation	12 keV	Exp	888
$\mathbf{H_3^+ + Cs}$	Charge Transfer	12 keV	Exp	888
$\mathbf{H_3^+ + C_{60}}$	Dissociation	2-130 keV	Exp	910
$\mathbf{H_3^+ + C_{60}}$	Ionization	2-130 keV	Exp	910
$\mathbf{H_3^+ + C_{60}}$	Dissociation	1-130 keV	Exp	912
$\mathbf{H_3^+ + C_{60}}$	Ionization	1-130 keV	Exp	912
$\mathbf{H_3^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_3^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_3^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD^+ + HD^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{HD^+ + HT^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{HD^+ + DT^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{HD^+ + HD^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{HD^+ + HT^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{HD^+ + DT^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{HD + H_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD + H_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD + HD^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD + H_2D^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD + HD_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD + D_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD + D_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD + CH_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD + C_2H_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2D^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2D^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{H_2D^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD_2^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD_2^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{HD_2^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941

$\mathbf{HT^+ + HT^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{HT^+ + DT^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{HT^+ + HT^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{HT^+ + DT^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{D^+ + H_2}$	Charge Transfer	0.18-1.0 keV/u	E/T	746
$\mathbf{D^+ + HD}$	Charge Transfer	0.18-1.0 keV/u	E/T	746
$\mathbf{D^+ + D_2}$	Charge Transfer	0.18-1.0 keV/u	E/T	746
$\mathbf{D + H^+}$	Charge Transfer	1-200,000 K	Th	820
$\mathbf{D^+ + H}$	Charge Transfer	1-200,000 K	Th	820
$\mathbf{D_2{}^+ + HD^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{D_2{}^+ + HT^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{D_2{}^+ + D_2{}^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{D_2{}^+ + DT^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{D_2{}^+ + T_2{}^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{D_2{}^+ + HD^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{D_2{}^+ + HT^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{D_2{}^+ + D_2{}^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{D_2{}^+ + DT^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{D_2{}^+ + T_2{}^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{D_2{}^+ + O^-}$	Interchange reaction	10 MeV	Exp	825
$\mathbf{D_2 + H_2{}^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_2 + H_3{}^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_2 + HD^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_2 + H_2D^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_2 + HD_2{}^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_2 + D_2{}^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_2 + D_3{}^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_2 + CH_3{}^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_2 + C_2H_2{}^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_2{}^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_2{}^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_2{}^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_3{}^+ + Cs}$	Dissociation	12 keV	Exp	888
$\mathbf{D_3{}^+ + Cs}$	Charge Transfer	12 keV	Exp	888
$\mathbf{D_3{}^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_3{}^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{D_3{}^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{DT^+ + DT^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{DT^+ + DT^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{T_2{}^+ + HD^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{T_2{}^+ + HT^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{T_2{}^+ + DT^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{T_2{}^+ + T_2{}^+}$	Elastic Scattering	Very low	Th	761
$\mathbf{T_2{}^+ + HD^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{T_2{}^+ + HT^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{T_2{}^+ + DT^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{T_2{}^+ + T_2{}^+}$	Interaction Potentials	Very low	Th	761
$\mathbf{CH + O}$	Interaction Potentials	Undef.	Th	1015
$\mathbf{CH_3{}^+ + H_2}$	Interchange reaction	15 K	Exp	822
$\mathbf{CH_3{}^+ + HD}$	Interchange reaction	15 K	Exp	822
$\mathbf{CH_3{}^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{CH_3{}^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{CH_3{}^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{CH_3 + H}$	Interchange reaction	Undef.	Exp	950
$\mathbf{CH_4{}^+ + H_2}$	Interchange reaction	15 K	Exp	822
$\mathbf{CH_4{}^+ + HD}$	Interchange reaction	15 K	Exp	822
$\mathbf{N_2{}^+ + Ar}$	Dissociation	0.9 MeV	Exp	730

$\mathbf{N_2^+ + Ar}$	Charge Transfer	0.9 MeV	Exp	730
$\mathbf{N_2 + CO}$	De-excitation	100-500 K	Th	780
$\mathbf{N_2 + CO^*}$	De-excitation	100-500 K	Th	780
$\mathbf{N_2 + CO}$	Energy Transfer	100-500 K	Th	780
$\mathbf{N_2 + CO^*}$	Energy Transfer	100-500 K	Th	780
$\mathbf{N_2 + CO}$	Excitation	100-500 K	Th	780
$\mathbf{N_2 + CO^*}$	Excitation	100-500 K	Th	780
$\mathbf{C_2H_2^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{C_2H_2^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
$\mathbf{C_2H_2^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th	941
A + Ar	Ionization	0.001-100 MeV/amu	Exp	727
OCS + OCS	Elastic Scattering	$10^{-8} - 10^{-6}$ K	Th	722
OCS + OCS	Excitation	$10^{-8} - 10^{-6}$ K	Th	722
OH + CO	Association	0.1-0.8 eV	Th	736
OH + CO	Interchange reaction	0.1-0.8 eV	Th	736
$\mathbf{CS^+ + S}$	Interaction Potentials	0-10 eV	Th	759
$\mathbf{CH_3Cl + CH_3Cl}$	Elastic Scattering	$10^{-8} - 10^{-6}$ K	Th	722
$\mathbf{CH_3Cl + CH_3Cl}$	Excitation	$10^{-8} - 10^{-6}$ K	Th	722
$\mathbf{CH_5^+ + H_2}$	Interchange reaction	15 K	Exp	822
$\mathbf{CH_5^+ + HD}$	Interchange reaction	15 K	Exp	822
$\mathbf{CH_3F + CH_3F}$	Energy Transfer	0-17,000 V/cm	E/T	804
$\mathbf{C_5^+ + He}$	Dissociation	9-60 eV	Exp	1036
$\mathbf{C_5^+ + He}$	Charge Transfer	9-60 eV	Exp	1036
LiH + H	Interchange reaction	0.0-3.0 eV	Th	944
$\mathbf{C_7^+ + He}$	Dissociation	9-60 eV	Exp	1036
$\mathbf{C_7^+ + He}$	Charge Transfer	9-60 eV	Exp	1036
$\mathbf{C_9^+ + He}$	Dissociation	9-60 eV	Exp	1036
$\mathbf{C_9^+ + He}$	Charge Transfer	9-60 eV	Exp	1036
$\mathbf{H + He^+}$ **Z= ?-?**	Total Scattering	0.1-1000 GeV/u	Th	777
$\mathbf{H + He^+}$ **Z= ?-?**	Ionization	0.1-1000 GeV/u	Th	777
$\mathbf{He + He^+}$ **Z= ?-?**	Total Scattering	0.1-1000 GeV/u	Th	777
$\mathbf{He + He^+}$ **Z= ?-?**	Ionization	0.1-1000 GeV/u	Th	777

2.3 Surface Interactions

$\mathbf{H^+ + Al}$	Secondary Electron Emission	100 keV	Th	1038
$\mathbf{H^+ + Al}$	Secondary Electron Emission	100 keV	E/T	1039
$\mathbf{H^- + Cu}$	Neutraliz., Ioniz., Dissoc.	50 eV	Th	1043
$\mathbf{H^+ + Ti}$	Trapping, Detrapping	1.7 keV	Exp	1050
$\mathbf{H^+ + V}$	Trapping, Detrapping	1.7 keV	Exp	1050
$\mathbf{H^+ + Cr}$	Trapping, Detrapping	1.7 keV	Exp	1050
$\mathbf{H^+ + C}$	Sputtering	0.045-3.0 keV	Exp	1052
$\mathbf{H^+ + Al}$	Reflection	1-100 keV	Th	1058
$\mathbf{H^+ + Fe}$	Reflection	1-100 keV	Th	1058
$\mathbf{H^+ + Cu}$	Reflection	1-100 keV	Th	1058
$\mathbf{H^+ + Ag}$	Reflection	1-100 keV	Th	1058
$\mathbf{H^+ + Au}$	Reflection	1-100 keV	Th	1058
$\mathbf{H^+ + Pb}$	Reflection	1-100 keV	Th	1058
$\mathbf{H^+ + C}$	Secondary Electron Emission	1-10 MeV	Exp	1064
$\mathbf{H^+ + Y_2O_3}$	Surface Interactions	3-50 MeV	Exp	1067
$\mathbf{H^+ + Y_2SiO_5}$	Surface Interactions	3-50 MeV	Exp	1067
$\mathbf{H^+ + Cu}$	Secondary Electron Emission	25 keV	Exp	1072
$\mathbf{H^+ + Au}$	Surface Interactions	0.8-45 MeV/u	E/T	1076
$\mathbf{H^+ + Au}$	Secondary Electron Emission	0.8-45 MeV/u	E/T	1076
H + Ag	Adsorption, Desorption	Undef.	E/T	1100

H + Pt	Adsorption, Desorption	Undef.	E/T	1100
H + Au	Adsorption, Desorption	Undef.	E/T	1100
H + Ag	Neutraliz., Ioniz., Dissoc.	Undef.	E/T	1100
H + Pt	Neutraliz., Ioniz., Dissoc.	Undef.	E/T	1100
H + Au	Neutraliz., Ioniz., Dissoc.	Undef.	E/T	1100
H + Cu	Adsorption, Desorption	Undef.	Th	1101
H + C	Adsorption, Desorption	2000 deg K	Exp	1106
$\mathbf{H^+ + KCl}$	Reflection	0.5 MeV/u	Exp	1115
$\mathbf{H^+ + KCl}$	Secondary Electron Emission	0.5 MeV/u	Exp	1115
$\mathbf{H^+ + Li}$	Sputtering	$10 - 10^3$ eV	Th	1121
H + W	Reflection	3 keV	Th	1122
H + C	Trapping, Detrapping	Undef.	Th	1123
$\mathbf{H^+ + W}$	Trapping, Detrapping	200 eV	Exp	1126
$\mathbf{H^+ + W}$	Trapping, Detrapping	500 eV	Exp	1127
$\mathbf{H^+ + C}$	Chemical Reactions	150-1500 eV	Exp	1129
$\mathbf{H^+ + C}$	Sputtering	150-1500 eV	Exp	1129
$\mathbf{H^+ + Li}$	Surface Interactions	Undef.	Exp	1130
$\mathbf{H^+ + Be}$	Surface Interactions	Undef.	Exp	1130
$\mathbf{H^+ + Li}$	Sputtering	Undef.	Exp	1130
$\mathbf{H^+ + Be}$	Sputtering	Undef.	Exp	1130
H + Mo	Reflection	1-3 keV	Exp	1135
$\mathbf{H^+ + Mo}$	Reflection	1-3 keV	Exp	1135
H + C	Sputtering	30 keV	Exp	1137
$\mathbf{H^+ + C}$	Sputtering	30 keV	Exp	1137
$\mathbf{H^+ + Fe}$	Sputtering	0.05-1.0 keV	Exp	1138
$\mathbf{H^+ + C}$	Sputtering	15-30 eV	Exp	1140
$\mathbf{H^+ + C}$	Reflection	10-10,000 eV	Th	1145
$\mathbf{H^+ + C}$	Sputtering	10-10,000 eV	Th	1145
$\mathbf{H^+ + Au}$	Secondary Electron Emission	1-200 MeV/amu	Th	1147
$\mathbf{H^+ + C}$	Sputtering	5-10 eV	Th	1152
$\mathbf{H^+ + C}$	Trapping, Detrapping	5-10 eV	Th	1152
$\mathbf{H^+ + Mo}$	Sputtering	2 keV	Th	1155
$\mathbf{H^+ + W}$	Surface Interactions	1.7-5 MeV	Exp	1159
$\mathbf{H^+ + Al}$	Reflection	710 keV	Th	1160
H + Cu	Neutraliz., Ioniz., Dissoc.	2.5 eV	Th	1167
H + Cs	Neutraliz., Ioniz., Dissoc.	2.5 eV	Th	1167
H + C	Secondary Electron Emission	25-5000 keV	Th	1180
$\mathbf{H^+ + C}$	Secondary Electron Emission	25-5000 keV	Th	1180
$\mathbf{H^+ + C}$	Secondary Electron Emission	2-7 MeV	Exp	1181
$\mathbf{H^- + Al}$	Reflection	Undef.	Th	1190
$\mathbf{H^- + Al}$	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1190
$\mathbf{H^+ + Al}$	Secondary Electron Emission	75-100 keV	Exp	1192
$\mathbf{H^+ + Si}$	Secondary Electron Emission	75-100 keV	Exp	1192
$\mathbf{H^+ + LiF}$	Secondary Electron Emission	75-100 keV	Exp	1192
$\mathbf{H^+ + LiF}$	Secondary Electron Emission	Undef.	Th	1194
$\mathbf{H^+ + H_2O}$	Sputtering	1.5 keV	Exp	1197
H + Fe	Reflection	12,000 deg K	Exp	1200
H + SS	Reflection	12,000 deg K	Exp	1200
$\mathbf{H^+ + V}$	Trapping, Detrapping	300 deg K	Exp	1205
H + Al	Secondary Electron Emission	2-4000 keV	Th	1207
H + LiF	Secondary Electron Emission	2-4000 keV	Th	1207
H + Al	Sputtering	2-4000 keV	Th	1207
H + LiF	Sputtering	2-4000 keV	Th	1207
$\mathbf{H^+ + Co}$	Reflection	25 keV	Exp	1220
$\mathbf{H^+ + Cu}$	Reflection	25 keV	Exp	1220
$\mathbf{H^+ + Co}$	Secondary Electron Emission	25 keV	Exp	1220
$\mathbf{H^+ + Cu}$	Secondary Electron Emission	25 keV	Exp	1220

H^+ + Al	Reflection	3-30 keV	Exp	1225
H^+ + AlF_3	Reflection	3-30 keV	Exp	1225
H^+ + Al	Reflection	3-30 keV	Th	1226
H^+ + AlF_3	Reflection	3-30 keV	Th	1226
H^+ + H_2O	Sputtering	100 keV	Exp	1230
H^+ + LiF	Reflection	100 keV	Th	1232
H^+ + LiF	Neutraliz., Ioniz., Dissoc.	100 keV	Th	1232
He^+ + Ir	Sputtering	2 keV	E/T	1042
He^+ + Fe	Trapping, Detrapping	2 keV	Exp	1051
He^+ + SS	Trapping, Detrapping	2 keV	Exp	1051
He^+ + C	Sputtering	0.045-3.0 keV	Exp	1052
He^+ + Al	Reflection	1-100 keV	Th	1058
He^+ + Fe	Reflection	1-100 keV	Th	1058
He^+ + Cu	Reflection	1-100 keV	Th	1058
He^+ + Ag	Reflection	1-100 keV	Th	1058
He^+ + Au	Reflection	1-100 keV	Th	1058
He^+ + Pb	Reflection	1-100 keV	Th	1058
He^+ + Si	Reflection	400 keV	Exp	1068
He^+ + Ag	Reflection	400 keV	Exp	1068
He^+ + SiO_2	Reflection	400 keV	Exp	1068
He^+ + Cu	Secondary Electron Emission	25 keV	Exp	1072
He^+ + KBr	Sputtering	5 keV	Exp	1085
He^+ + RbI	Sputtering	5 keV	Exp	1085
He^+ + Al	Reflection	60 eV	Exp	1092
He^+ + Al	Neutraliz., Ioniz., Dissoc.	60 eV	Exp	1092
He + Al	Sputtering	2.3 keV	Th	1105
He^+ + Al	Sputtering	2.3 keV	Th	1105
He^+ + MgO	Secondary Electron Emission	0.1-4.0 keV	Exp	1108
He^{2+} + KCl	Reflection	0.5 MeV/u	Exp	1115
He^{2+} + KCl	Secondary Electron Emission	0.5 MeV/u	Exp	1115
He^+ + Fe	Trapping, Detrapping	200-1400 eV	Exp	1134
He^+ + SS	Trapping, Detrapping	200-1400 eV	Exp	1134
He + Mo	Reflection	1-3 keV	Exp	1135
He^+ + Mo	Reflection	1-3 keV	Exp	1135
He^+ + Fe	Sputtering	0.05-1.0 keV	Exp	1138
He + Au	Surface Interactions	Undef.	Th	1143
He + SiO_2	Surface Interactions	Undef.	Th	1143
He^* + Au	Surface Interactions	Undef.	Th	1143
He^* + SiO_2	Surface Interactions	Undef.	Th	1143
He^{2+} + H_2O	Reflection	6 MeV/u	Exp	1149
He^+ + C	Sputtering	5-10 eV	Th	1152
He^{2+} + W	Surface Interactions	1.7-5 MeV	Exp	1159
He^+ + Si	Reflection	4 keV	E/T	1162
He^+ + TiO_2	Reflection	1-4 keV	Exp	1165
He^+ + TiO_2	Neutraliz., Ioniz., Dissoc.	1-4 keV	Exp	1165
He + Si	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp	1169
He + Er	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp	1169
He + Yb	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp	1169
He + GaAs	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp	1169
He + CaF_2	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp	1169
He^+ + Fe	Reflection	6-20 keV	Exp	1170
He^+ + Ni	Reflection	6-20 keV	Exp	1170
He^{2+} + Fe	Reflection	6-20 keV	Exp	1170
He^{2+} + Ni	Reflection	6-20 keV	Exp	1170
He^+ + Fe	Neutraliz., Ioniz., Dissoc.	6-20 keV	Exp	1170
He^+ + Ni	Neutraliz., Ioniz., Dissoc.	6-20 keV	Exp	1170
He^{2+} + Fe	Neutraliz., Ioniz., Dissoc.	6-20 keV	Exp	1170

He^{2+} + Ni	Neutraliz., Ioniz., Dissoc.	6-20 keV	Exp	1170
He^{+} + LiF	Reflection	0.5-1.0 keV	Exp	1171
He^{+} + LiF	Neutraliz., Ioniz., Dissoc.	0.5-1.0 keV	Exp	1171
He^{+} + LiF	Reflection	3 keV	Exp	1173
He^{+} + LiF	Sputtering	3 keV	Exp	1173
He^{+} + Cu	Reflection	3 keV	Exp	1175
He^{+} + MgO	Secondary Electron Emission	0-3000 eV	Exp	1179
He^{+} + Ni	Reflection	0.1-20 keV	Exp	1188
He^{2+} + Ni	Reflection	0.1-20 keV	Exp	1188
He^{+} + Ni	Neutraliz., Ioniz., Dissoc.	0.1-20 keV	Exp	1188
He^{2+} + Ni	Neutraliz., Ioniz., Dissoc.	0.1-20 keV	Exp	1188
He^{+} + Co	Reflection	25 keV	Exp	1189
He^{+} + Co	Neutraliz., Ioniz., Dissoc.	25 keV	Exp	1189
He + Al	Reflection	0.5-4.0 keV	Exp	1191
He + Ag	Reflection	0.5-4.0 keV	Exp	1191
He^{+} + Al	Reflection	0.5-4.0 keV	Exp	1191
He^{+} + Ag	Reflection	0.5-4.0 keV	Exp	1191
He + Al	Neutraliz., Ioniz., Dissoc.	0.5-4.0 keV	Exp	1191
He + Ag	Neutraliz., Ioniz., Dissoc.	0.5-4.0 keV	Exp	1191
He^{+} + Al	Neutraliz., Ioniz., Dissoc.	0.5-4.0 keV	Exp	1191
He^{+} + Ag	Neutraliz., Ioniz., Dissoc.	0.5-4.0 keV	Exp	1191
He + Al	Secondary Electron Emission	12 keV	Exp	1193
He + Si	Secondary Electron Emission	0-100 eV	Exp	1195
He + Cs	Secondary Electron Emission	0-100 eV	Exp	1195
He + Si	Neutraliz., Ioniz., Dissoc.	0-100 eV	Exp	1195
He + Cs	Neutraliz., Ioniz., Dissoc.	0-100 eV	Exp	1195
He^{+} + H_2O	Sputtering	1.5 keV	Exp	1197
He^{+} + Au	Reflection	1 keV	Exp	1204
He^{+} + Co	Reflection	25 keV	Exp	1220
He^{+} + Cu	Reflection	25 keV	Exp	1220
He^{+} + Co	Secondary Electron Emission	25 keV	Exp	1220
He^{+} + Cu	Secondary Electron Emission	25 keV	Exp	1220
He^{+} + Al	Reflection	100-1000 eV	Th	1222
He^{+} + Al	Neutraliz., Ioniz., Dissoc.	100-1000 eV	Th	1222
He + Cu	Neutraliz., Ioniz., Dissoc.	Undef.	Exp	1231
He + H_2O	Neutraliz., Ioniz., Dissoc.	Undef.	Exp	1231
He + C_6H_6	Neutraliz., Ioniz., Dissoc.	Undef.	Exp	1231
Li^{+} + Li	Sputtering	5-35 eV	Th	1049
Li^{+} + Fe	Reflection	200-3500 eV	Exp	1113
Li^{+} + Cs	Reflection	200-3500 eV	Exp	1113
Li^{+} + I	Reflection	200-3500 eV	Exp	1113
Li^{+} + Fe	Neutraliz., Ioniz., Dissoc.	200-3500 eV	Exp	1113
Li^{+} + Cs	Neutraliz., Ioniz., Dissoc.	200-3500 eV	Exp	1113
Li^{+} + I	Neutraliz., Ioniz., Dissoc.	200-3500 eV	Exp	1113
Li^{2+} + KCl	Reflection	0.5 MeV/u	Exp	1115
Li^{2+} + KCl	Secondary Electron Emission	0.5 MeV/u	Exp	1115
Li^{+} + Li	Reflection	$10 - 10^3$ eV	Th	1121
Li^{+} + Cu	Reflection	4 keV	Exp	1166
Li^{+} + Ag	Reflection	100-2000 eV	E/T	1217
Li^{+} + Al	Secondary Electron Emission	1-5 keV	E/T	1227
B^{3+} + KCl	Reflection	0.5 MeV/u	Exp	1115
B^{3+} + KCl	Secondary Electron Emission	0.5 MeV/u	Exp	1115
C^{+} + C	Sputtering	5-35 eV	Th	1049
C + C	Adsorption, Desorption	0.045-3.0 keV	Exp	1052
C^{+} + C	Secondary Electron Emission	1-10 MeV	Exp	1064
C^{+} + Y_2O_3	Surface Interactions	3-50 MeV	Exp	1067
C^{+} + Y_2SiO_5	Surface Interactions	3-50 MeV	Exp	1067

$\mathbf{C^+ + Au}$	Secondary Electron Emission	14-95 MeV/amu	Exp	1176
$\mathbf{N^+ + H_2O}$	Desorption	0.13-0.85 MeV	Exp	1104
$\mathbf{N^+ + H_2O}$	Sputtering	0.13-0.85 MeV	Exp	1104
$\mathbf{N^+ + Ag}$	Reflection	2 keV	Exp	1185
$\mathbf{N^+ + Ag}$	Sputtering	2 keV	Exp	1185
$\mathbf{N^{6+} + Fe}$	Secondary Electron Emission	0-500 eV	Th	1209
$\mathbf{N^+ + Cu}$	Reflection	300 keV	E/T	1211
$\mathbf{N^+ + Co}$	Reflection	25 keV	Exp	1220
$\mathbf{N^+ + Cu}$	Reflection	25 keV	Exp	1220
$\mathbf{N^+ + Co}$	Secondary Electron Emission	25 keV	Exp	1220
$\mathbf{N^+ + Cu}$	Secondary Electron Emission	25 keV	Exp	1220
$\mathbf{O^+ + C}$	Surface Interactions	1.5-4.0 MeV	E/T	1046
$\mathbf{O + Mo}$	Reflection	1-3 keV	Exp	1135
$\mathbf{O^+ + Mo}$	Reflection	1-3 keV	Exp	1135
$\mathbf{O^+ + Si}$	Sputtering	5-15 keV	Th	1156
$\mathbf{O^+ + TiO_2}$	Surface Interactions	10 keV	Exp	1196
$\mathbf{F^+ + LiF}$	Reflection	0.5-1.0 keV	Exp	1171
$\mathbf{F^+ + LiF}$	Neutraliz., Ioniz., Dissoc.	0.5-1.0 keV	Exp	1171
$\mathbf{F^{2+} + RbI}$	Reflection	4.2 keV	Exp	1174
$\mathbf{F^{7+} + RbI}$	Reflection	4.2 keV	Exp	1174
$\mathbf{Ne^+ + C}$	Surface Interactions	1.5-4.0 MeV	E/T	1046
$\mathbf{Ne^+ + Ga}$	Reflection	0.6-1.6 keV	Exp	1060
$\mathbf{Ne^+ + In}$	Reflection	0.6-1.6 keV	Exp	1060
$\mathbf{Ne^+ + GaAs}$	Reflection	0.6-1.6 keV	Exp	1060
$\mathbf{Ne^+ + InP}$	Reflection	0.6-1.6 keV	Exp	1060
$\mathbf{Ne^+ + GaP}$	Reflection	0.6-1.6 keV	Exp	1060
$\mathbf{Ne^+ + InAs}$	Reflection	0.6-1.6 keV	Exp	1060
$\mathbf{Ne^+ + MgO}$	Secondary Electron Emission	0.1-4.0 keV	Exp	1108
$\mathbf{Ne^{10+} + LiF}$	Reflection	Undef.	Th	1112
$\mathbf{Ne^{10+} + LiF}$	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1112
$\mathbf{Ne^+ + Fe_2O_3}$	Sputtering	4-8 keV	Exp	1118
$\mathbf{Ne^+ + Sn}$	Sputtering	0.5-1.0 keV	Exp	1141
$\mathbf{Ne^+ + Ni}$	Sputtering	5 keV	Exp	1142
$\mathbf{Ne^+ + C}$	Sputtering	5-10 eV	Th	1152
$\mathbf{Ne^+ + PERT}$	Sputtering	$250 - 10^4$ eV	Th	1158
$\mathbf{Ne + Al}$	Reflection	1.5-7.5 keV	Exp	1164
$\mathbf{Ne^+ + Al}$	Reflection	1.5-7.5 keV	Exp	1164
$\mathbf{Ne^+ + LiF}$	Reflection	0.5-1.0 keV	Exp	1171
$\mathbf{Ne^+ + LiF}$	Neutraliz., Ioniz., Dissoc.	0.5-1.0 keV	Exp	1171
$\mathbf{Ne^+ + MgO}$	Secondary Electron Emission	0-3000 eV	Exp	1179
$\mathbf{Ne^+ + Ag}$	Reflection	2 keV	Exp	1185
$\mathbf{Ne^+ + Ag}$	Sputtering	2 keV	Exp	1185
$\mathbf{Ne^+ + Au}$	Secondary Electron Emission	2-4000 keV	Th	1207
$\mathbf{Ne^{2+} + Au}$	Secondary Electron Emission	2-4000 keV	Th	1207
$\mathbf{Ne^{3+} + Au}$	Secondary Electron Emission	2-4000 keV	Th	1207
$\mathbf{Ne^{4+} + Au}$	Secondary Electron Emission	2-4000 keV	Th	1207
$\mathbf{Ne^{5+} + Au}$	Secondary Electron Emission	2-4000 keV	Th	1207
$\mathbf{Ne^{6+} + Au}$	Secondary Electron Emission	2-4000 keV	Th	1207
$\mathbf{Ne^{7+} + Au}$	Secondary Electron Emission	2-4000 keV	Th	1207
$\mathbf{Ne^{8+} + Au}$	Secondary Electron Emission	2-4000 keV	Th	1207
$\mathbf{Ne^{9+} + Au}$	Secondary Electron Emission	2-4000 keV	Th	1207
$\mathbf{Ne^+ + Au}$	Sputtering	2-4000 keV	Th	1207
$\mathbf{Ne^{2+} + Au}$	Sputtering	2-4000 keV	Th	1207
$\mathbf{Ne^{3+} + Au}$	Sputtering	2-4000 keV	Th	1207
$\mathbf{Ne^{4+} + Au}$	Sputtering	2-4000 keV	Th	1207
$\mathbf{Ne^{5+} + Au}$	Sputtering	2-4000 keV	Th	1207
$\mathbf{Ne^{6+} + Au}$	Sputtering	2-4000 keV	Th	1207

$\mathbf{Ne^{7+} + Au}$	Sputtering	2-4000 keV	Th	1207
$\mathbf{Ne^{8+} + Au}$	Sputtering	2-4000 keV	Th	1207
$\mathbf{Ne^{9+} + Au}$	Sputtering	2-4000 keV	Th	1207
$\mathbf{Ne^{+} + Al}$	Reflection	2-30 keV	Exp	1214
$\mathbf{Ne^{+} + Al}$	Secondary Electron Emission	2-30 keV	Exp	1214
$\mathbf{Na^{+} + MgO}$	Secondary Electron Emission	0.1-4.0 keV	Exp	1108
$\mathbf{Na^{+} + Au}$	Reflection	200-3500 eV	Exp	1113
$\mathbf{Na^{+} + Au}$	Neutraliz., Ioniz., Dissoc.	200-3500 eV	Exp	1113
Na + Au	Surface Interactions	Undef.	Th	1143
$\mathbf{Na + SiO_2}$	Surface Interactions	Undef.	Th	1143
$\mathbf{Na^{+} + Cu}$	Reflection	4 keV	Exp	1166
$\mathbf{Na^{+} + Al}$	Secondary Electron Emission	800 eV	Exp	1177
$\mathbf{Na^{+} + MgO}$	Secondary Electron Emission	0-3000 eV	Exp	1179
$\mathbf{Al^{+} + Al}$	Reflection	200-3500 eV	Exp	1113
$\mathbf{Al^{+} + Al}$	Neutraliz., Ioniz., Dissoc.	200-3500 eV	Exp	1113
$\mathbf{Al^{+} + (OH)_3/Al}$	Chemical Reactions	0-3.5 eV	Th	1144
$\mathbf{Al^{+} + (OH)_3/Al}$	Desorption	0-3.5 eV	Th	1144
Si + InP	Sputtering	0.5-5.0 MeV	Exp	1040
Si + InSb	Sputtering	0.5-5.0 MeV	Exp	1040
Si + InAs	Sputtering	0.5-5.0 MeV	Exp	1040
$\mathbf{Si^{+} + Si}$	Sputtering	5-35 eV	Th	1049
$\mathbf{Si^{+} + C}$	Secondary Electron Emission	1-10 MeV	Exp	1064
$\mathbf{Si^{+} + Al}$	Sputtering	0.5-5.0 MeV	Exp	1117
$\mathbf{Si^{+} + Si}$	Sputtering	0.5-5.0 MeV	Exp	1117
$\mathbf{Si^{+} + Al_2O_3}$	Sputtering	0.5-5.0 MeV	Exp	1117
$\mathbf{Si^{+} + SiO_2}$	Sputtering	0.5-5.0 MeV	Exp	1117
$\mathbf{Si^{+} + GaAs}$	Sputtering	0.5-5.0 MeV	Exp	1117
$\mathbf{Si^{+} + InSb}$	Sputtering	0.5-5.0 MeV	Exp	1117
$\mathbf{Si^{+} + GaP}$	Sputtering	0.5-5.0 MeV	Exp	1117
$\mathbf{Si^{+} + GaSb}$	Sputtering	0.5-5.0 MeV	Exp	1117
$\mathbf{Si^{+} + Cu}$	Sputtering	0.5-5.0 MeV	Exp	1182
$\mathbf{Si^{+} + SiO_2}$	Sputtering	0.5-5.0 MeV	Exp	1182
$\mathbf{Si^{+} + InSb}$	Sputtering	3 MeV	Exp	1183
$\mathbf{S^{13+} + C}$	Neutraliz., Ioniz., Dissoc.	65-122 MeV	Exp	1073
$\mathbf{S^{14+} + C}$	Neutraliz., Ioniz., Dissoc.	65-122 MeV	Exp	1073
$\mathbf{Cl^{+} + UF_4}$	Chemical Reactions	195 MeV	Exp	1084
$\mathbf{Ar^{6+} + Ni}$	Reflection	0.88-2 keV/u	E/T	1044
$\mathbf{Ar^{7+} + Ni}$	Reflection	0.88-2 keV/u	E/T	1044
$\mathbf{Ar^{8+} + Ni}$	Reflection	0.88-2 keV/u	E/T	1044
$\mathbf{Ar^{9+} + Ni}$	Reflection	0.88-2 keV/u	E/T	1044
$\mathbf{Ar^{10+} + Ni}$	Reflection	0.88-2 keV/u	E/T	1044
$\mathbf{Ar^{+} + KCl}$	Secondary Electron Emission	5-15 keV	Exp	1045
$\mathbf{Ar^{+} + KCl}$	Neutraliz., Ioniz., Dissoc.	5-15 keV	Exp	1045
$\mathbf{Ar^{+} + W}$	Chemical Reactions	0.15-10 keV	Exp	1048
$\mathbf{Ar^{+} + W}$	Sputtering	0.15-10 keV	Exp	1048
Ar + Al	Adsorption, Desorption	300 deg K	E/T	1054
Ar + Co	Adsorption, Desorption	300 deg K	E/T	1054
Ar + Ni	Adsorption, Desorption	300 deg K	E/T	1054
$\mathbf{Ar^{+} + Si}$	Sputtering	1-5 keV	Exp	1056
$\mathbf{Ar^{+} + Cu}$	Sputtering	1-100 eV	Th	1057
$\mathbf{Ar^{+} + Si}$	Sputtering	400 eV	Th	1059
$\mathbf{Ar^{+} + Cu}$	Sputtering	400 eV	Th	1059
$\mathbf{Ar^{+} + W}$	Sputtering	400 eV	Th	1059
$\mathbf{Ar^{+} + H_2O}$	Sputtering	15 keV	Exp	1066
$\mathbf{Ar^{+} + CO_2}$	Sputtering	15 keV	Exp	1066
$\mathbf{Ar^{+} + Si}$	Sputtering	0.5 keV	Exp	1069
Ar + Al	Sputtering	25 KeV/u	Exp	1078

Ar + Au	Sputtering	25 KeV/u	Exp	1078
Ar + Al_2O_3	Sputtering	25 KeV/u	Exp	1078
Ar + LiF	Sputtering	25 KeV/u	Exp	1078
Ar^+ + Si	Sputtering	500-700 eV	Th	1080
Ar^+ + In	Sputtering	10 keV	Exp	1082
Ar^+ + TiO_2	Chemical Reactions	2 keV	Exp	1093
Ar^+ + Al_2O_3	Sputtering	1 MeV	Exp	1095
Ar^+ + LiF	Sputtering	1 MeV	Exp	1095
Ar^+ + MgO	Secondary Electron Emission	0.1-4.0 keV	Exp	1108
Ar^+ + Si	Sputtering	4.4-17 keV	Exp	1110
Ar^+ + Fe	Sputtering	10 keV	Exp	1114
Ar^+ + Ni	Sputtering	10 keV	Exp	1114
Ar^+ + C	Secondary Electron Emission	30 keV	Exp	1116
Ar^+ + MgO	Secondary Electron Emission	1 keV	Exp	1119
Ar^+ + Al	Secondary Electron Emission	130-430 eV	E/T	1120
Ar^+ + Sn	Sputtering	0.5-1.0 keV	Exp	1141
Ar^+ + C	Reflection	200 eV	Th	1148
Ar^+ + Cu	Reflection	200 eV	Th	1148
Ar^+ + C	Sputtering	200 eV	Th	1148
Ar^+ + Cu	Sputtering	200 eV	Th	1148
Ar^+ + C	Sputtering	5-10 eV	Th	1152
Ar^+ + NaCl	Sputtering	1 keV	Th	1153
Ar^+ + PERT	Sputtering	$250 - 10^4$ eV	Th	1158
Ar^+ + Al	Secondary Electron Emission	130-430 eV	Exp	1163
Ar^+ + Al	Neutraliz., Ioniz., Dissoc.	130-430 eV	Exp	1163
Ar^+ + Al	Reflection	1.5-7.5 keV	Exp	1164
Ar^+ + NaCl	Reflection	0.5-1.0 keV	Exp	1171
Ar^+ + NaCl	Neutraliz., Ioniz., Dissoc.	0.5-1.0 keV	Exp	1171
Ar + KCl	Reflection	5 keV	Exp	1172
Ar^+ + KCl	Reflection	5 keV	Exp	1172
Ar^{2+} + KCl	Reflection	5 keV	Exp	1172
Ar + KCl	Neutraliz., Ioniz., Dissoc.	5 keV	Exp	1172
Ar^+ + KCl	Neutraliz., Ioniz., Dissoc.	5 keV	Exp	1172
Ar^{2+} + KCl	Neutraliz., Ioniz., Dissoc.	5 keV	Exp	1172
Ar^+ + Au	Secondary Electron Emission	14-95 MeV/amu	Exp	1176
Ar^+ + C	Secondary Electron Emission	30 keV	Exp	1178
Ar^+ + MgO	Secondary Electron Emission	0-3000 eV	Exp	1179
Ar^+ + SiO_2	Sputtering	60-200 MeV	E/T	1184
Ar^+ + $MgAl_2O_4$	Sputtering	60-200 MeV	E/T	1184
Ar^+ + Cu	Sputtering	30 keV	Exp	1187
Ar^+ + H_2O	Sputtering	1.5 keV	Exp	1197
Ar^+ + GaAs	Neutraliz., Ioniz., Dissoc.	10-70 keV	Exp	1199
Ar^+ + GaAs	Sputtering	10-70 keV	Exp	1199
Ar^{4+} + Si	Sputtering	1.2-3.2 keV	Exp	1201
Ar^{4+} + H_2O	Sputtering	1.2-3.2 keV	Exp	1201
Ar^{5+} + Si	Sputtering	1.2-3.2 keV	Exp	1201
Ar^{5+} + H_2O	Sputtering	1.2-3.2 keV	Exp	1201
Ar^{6+} + Si	Sputtering	1.2-3.2 keV	Exp	1201
Ar^{6+} + H_2O	Sputtering	1.2-3.2 keV	Exp	1201
Ar^{7+} + Si	Sputtering	1.2-3.2 keV	Exp	1201
Ar^{7+} + H_2O	Sputtering	1.2-3.2 keV	Exp	1201
Ar^{8+} + Si	Sputtering	1.2-3.2 keV	Exp	1201
Ar^{8+} + H_2O	Sputtering	1.2-3.2 keV	Exp	1201
Ar^{3+} + SiC	Sputtering	7.5-35 keV	Exp	1203
Ar^{3+} + GaN	Sputtering	7.5-35 keV	Exp	1203
Ar^{8+} + SiC	Sputtering	7.5-35 keV	Exp	1203
Ar^{8+} + GaN	Sputtering	7.5-35 keV	Exp	1203

Ar^{11+} + SiC	Sputtering	7.5-35 keV	Exp	1203
Ar^{11+} + GaN	Sputtering	7.5-35 keV	Exp	1203
Ar^{14+} + SiC	Sputtering	7.5-35 keV	Exp	1203
Ar^{14+} + GaN	Sputtering	7.5-35 keV	Exp	1203
Ar^{+} + LiF	Secondary Electron Emission	2-4000 keV	Th	1207
Ar^{4+} + LiF	Secondary Electron Emission	2-4000 keV	Th	1207
Ar^{8+} + LiF	Secondary Electron Emission	2-4000 keV	Th	1207
Ar^{11+} + LiF	Secondary Electron Emission	2-4000 keV	Th	1207
Ar^{14+} + LiF	Secondary Electron Emission	2-4000 keV	Th	1207
Ar^{+} + LiF	Sputtering	2-4000 keV	Th	1207
Ar^{4+} + LiF	Sputtering	2-4000 keV	Th	1207
Ar^{8+} + LiF	Sputtering	2-4000 keV	Th	1207
Ar^{11+} + LiF	Sputtering	2-4000 keV	Th	1207
Ar^{14+} + LiF	Sputtering	2-4000 keV	Th	1207
Ar^{5+} + F	Sputtering	3.9 keV	Exp	1210
Ar^{5+} + Si	Sputtering	3.9 keV	Exp	1210
Ar^{+} + Si	Sputtering	1-5 keV	Exp	1213
Ar^{+} + GeH_2	Sputtering	1-5 keV	Exp	1213
Ar^{+} + Al	Secondary Electron Emission	1-5 keV	E/T	1227
Ar^{+} + C	Chemical Reactions	0.3-5.0 keV	Exp	1228
K^{+} + Cu	Reflection	50-154 eV	Th	1087
K^{+} + Fe	Desorption	1 MeV	Exp	1146
K^{+} + SS	Desorption	1 MeV	Exp	1146
K^{+} + Fe	Secondary Electron Emission	1 MeV	Exp	1146
K^{+} + SS	Secondary Electron Emission	1 MeV	Exp	1146
Ni^{28+} + C	Surface Interactions	0.8-45 MeV/u	E/T	1076
Ni^{28+} + Au	Surface Interactions	0.8-45 MeV/u	E/T	1076
Ni^{28+} + C	Secondary Electron Emission	0.8-45 MeV/u	E/T	1076
Ni^{28+} + Au	Secondary Electron Emission	0.8-45 MeV/u	E/T	1076
Ni^{+} + C	Secondary Electron Emission	14-95 MeV/amu	Exp	1176
Ni^{+} + Al	Secondary Electron Emission	14-95 MeV/amu	Exp	1176
Ni^{+} + Ni	Secondary Electron Emission	14-95 MeV/amu	Exp	1176
Ni^{+} + Ag	Secondary Electron Emission	14-95 MeV/amu	Exp	1176
Ni^{+} + Au	Secondary Electron Emission	14-95 MeV/amu	Exp	1176
Ni^{+} + SiO_2	Sputtering	60-200 MeV	E/T	1184
Ni^{+} + $MgAl_2O_4$	Sputtering	60-200 MeV	E/T	1184
Ni^{19+} + C	Secondary Electron Emission	45 MeV/u	Exp	1206
Ni^{19+} + Al	Secondary Electron Emission	45 MeV/u	Exp	1206
Ni^{19+} + Ni	Secondary Electron Emission	45 MeV/u	Exp	1206
Ni^{19+} + Ag	Secondary Electron Emission	45 MeV/u	Exp	1206
Ni^{19+} + Au	Secondary Electron Emission	45 MeV/u	Exp	1206
Ni^{19+} + Bi	Secondary Electron Emission	45 MeV/u	Exp	1206
Cu^{+} + Cu	Sputtering	5-35 eV	Th	1049
Cu^{-} + Al	Sputtering	9-18 keV	Exp	1063
Cu^{-} + Si	Sputtering	9-18 keV	Exp	1063
Cu^{+} + SiO_2	Desorption	50 MeV	Exp	1065
Cu^{+} + Y_2O_3	Surface Interactions	3-50 MeV	Exp	1067
Cu^{+} + Y_2SiO_5	Surface Interactions	3-50 MeV	Exp	1067
Cu^{+} + Cu	Sputtering	2 keV	Th	1079
Kr^{+} + NaCl	Reflection	0.5-1.0 keV	Exp	1171
Kr^{+} + NaCl	Neutraliz., Ioniz., Dissoc.	0.5-1.0 keV	Exp	1171
Kr^{+} + Be	Sputtering	5 keV	Exp	1186
Ag + Ag	Surface Interactions	5 keV	Th	1081
Ag^{+} + Ag	Sputtering	2 keV	Th	1151
Xe + Al	Adsorption, Desorption	300 deg K	E/T	1054
Xe + Co	Adsorption, Desorption	300 deg K	E/T	1054
Xe + Ni	Adsorption, Desorption	300 deg K	E/T	1054

Xe^{+} + MgO	Secondary Electron Emission	47 eV	Exp	1086
Xe^{+} + PERT	Sputtering	$250 - 10^4$ eV	Th	1158
Xe^{+} + SiO_2	Sputtering	60-200 MeV	E/T	1184
Xe^{+} + $MgAl_2O_4$	Sputtering	60-200 MeV	E/T	1184
Xe^{29+} + C	Sputtering	10^5 eV	Exp	1202
Xe^{44+} + C	Sputtering	10^5 eV	Exp	1202
Xe^{9+} + Al_2O_3	Secondary Electron Emission	2-4000 keV	Th	1207
Xe^{14+} + Al_2O_3	Secondary Electron Emission	2-4000 keV	Th	1207
Xe^{19+} + Al_2O_3	Secondary Electron Emission	2-4000 keV	Th	1207
Xe^{25+} + Al_2O_3	Secondary Electron Emission	2-4000 keV	Th	1207
Xe^{28+} + Al_2O_3	Secondary Electron Emission	2-4000 keV	Th	1207
Xe^{9+} + Al_2O_3	Sputtering	2-4000 keV	Th	1207
Xe^{14+} + Al_2O_3	Sputtering	2-4000 keV	Th	1207
Xe^{19+} + Al_2O_3	Sputtering	2-4000 keV	Th	1207
Xe^{25+} + Al_2O_3	Sputtering	2-4000 keV	Th	1207
Xe^{28+} + Al_2O_3	Sputtering	2-4000 keV	Th	1207
Xe^{+} + Ni	Sputtering	50-1000 eV	E/T	1208
Xe^{29+} + Si	Sputtering	150 keV	Exp	1212
Xe^{44+} + Si	Sputtering	150 keV	Exp	1212
Xe^{50+} + Si	Sputtering	150 keV	Exp	1212
Xe^{+} + Al	Sputtering	2-5 keV	E/T	1221
Cs^{+} + Al	Sputtering	1-5 keV	Exp	1088
Cs^{+} + Cu	Sputtering	1-5 keV	Exp	1088
Cs^{+} + Ag	Sputtering	1-5 keV	Exp	1088
Cs^{+} + Si	Sputtering	1 keV	Exp	1091
Cs^{+} + SiO_2	Sputtering	1 keV	Exp	1091
Cs^{+} + Si	Sputtering	5-15 keV	Th	1156
Cs^{+} + Ti	Sputtering	1 keV	Exp	1157
Cs^{+} + V	Sputtering	1 keV	Exp	1157
Cs^{+} + Cu	Sputtering	1 keV	Exp	1157
Cs^{+} + Ag	Sputtering	1 keV	Exp	1157
Cs^{+} + Au	Sputtering	1 keV	Exp	1157
Cs^{+} + Al	Sputtering	1-5 keV	Exp	1198
Au^{+} + Au	Sputtering	5-35 eV	Th	1049
Au^{+} + Ta	Sputtering	6-18 keV	Exp	1062
Au^{-} + Al	Sputtering	9-18 keV	Exp	1063
Au^{-} + Si	Sputtering	9-18 keV	Exp	1063
Au^{15+} + C	Sputtering	200 MeV	Exp	1070
Au^{+} + Ag	Sputtering	300-1400 keV	Th	1075
Au^{+} + Au	Sputtering	300-1400 keV	Th	1075
Au^{26+} + BeO	Sputtering	1.8 MeV/u	Exp	1077
Au^{41+} + BeO	Sputtering	1.8 MeV/u	Exp	1077
Au^{+} + Au	Sputtering	64 keV	Th	1150
Au^{+} + Au	Secondary Electron Emission	14-95 MeV/amu	Exp	1176
Au^{+} + Au	Sputtering	200 keV	Exp	1218
Pb^{56+} + Si	Secondary Electron Emission	29 MeV/u	Exp	1071
Pb^{+} + Au	Secondary Electron Emission	14-95 MeV/amu	Exp	1176
hν + Fe_2O_3	Secondary Electron Emission	1.5 keV	Exp	1109
hν + FeO	Secondary Electron Emission	1.5 keV	Exp	1109
e + W	Reflection	8 keV	E/T	1041
e + Al	Secondary Electron Emission	1-10 keV	Th	1053
e + Cu	Secondary Electron Emission	1-10 keV	Th	1053
e + Ag	Secondary Electron Emission	1-10 keV	Th	1053
e + Au	Secondary Electron Emission	1-10 keV	Th	1053
e + W	Reflection	50-500 keV	Th	1083
e + Al	Reflection	0.2-20 keV	Th	1103
e + Si	Reflection	0.2-20 keV	Th	1103

e + Cu	Reflection	0.2-20 keV	Th	1103
e + Au	Reflection	0.2-20 keV	Th	1103
e + $\mathbf{SiO_2}$	Reflection	0.2-20 keV	Th	1103
e + C	Reflection	$10-10^4$ eV	Th	1154
e + Ne	Secondary Electron Emission	0.05-3.0 keV	Exp	1215
e + Ar	Secondary Electron Emission	0.05-3.0 keV	Exp	1215
e + Kr	Secondary Electron Emission	0.05-3.0 keV	Exp	1215
e + Xe	Secondary Electron Emission	0.05-3.0 keV	Exp	1215
e + Be	Reflection	$50-10^4$ eV	Th	1216
e + Al	Reflection	$50-10^4$ eV	Th	1216
e + Cu	Reflection	$50-10^4$ eV	Th	1216
e + Au	Reflection	$50-10^4$ eV	Th	1216
e + PERT	Reflection	$50-10^4$ eV	Th	1216
e + $\mathbf{H_2O}$	Sputtering	5-250 eV	E/T	1224
e + H	Reflection	3-17 eV	Exp	1229
e + C	Reflection	3-17 eV	Exp	1229
e + D	Reflection	3-17 eV	Exp	1229
$\mathbf{H_2^+}$ **+ Au**	Surface Interactions	0.8-45 MeV/u	E/T	1076
$\mathbf{H_2^+}$ **+ Au**	Secondary Electron Emission	0.8-45 MeV/u	E/T	1076
$\mathbf{H_2}$ **+ Ni**	Adsorption, Desorption	0-1.0 eV	Th	1097
$\mathbf{H_2}$ **+ Ni**	Neutraliz., Ioniz., Dissoc.	0-1.0 eV	Th	1097
$\mathbf{H_2}$ **+ Mg**	Adsorption, Desorption	Undef.	Th	1099
$\mathbf{H_2}$ **+ Ti**	Adsorption, Desorption	Undef.	Th	1099
$\mathbf{H_2}$ **+ Ni**	Adsorption, Desorption	Undef.	Th	1099
$\mathbf{H_2}$ **+ Pd**	Adsorption, Desorption	Undef.	Th	1099
$\mathbf{H_2}$ **+ La**	Adsorption, Desorption	Undef.	Th	1099
$\mathbf{H_2}$ **+ Mg**	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1099
$\mathbf{H_2}$ **+ Ti**	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1099
$\mathbf{H_2}$ **+ Ni**	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1099
$\mathbf{H_2}$ **+ Pd**	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1099
$\mathbf{H_2}$ **+ La**	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1099
$\mathbf{H_2}$ **+ Ag**	Adsorption, Desorption	Undef.	E/T	1100
$\mathbf{H_2}$ **+ Pt**	Adsorption, Desorption	Undef.	E/T	1100
$\mathbf{H_2}$ **+ Au**	Adsorption, Desorption	Undef.	E/T	1100
$\mathbf{H_2}$ **+ Ag**	Neutraliz., Ioniz., Dissoc.	Undef.	E/T	1100
$\mathbf{H_2}$ **+ Pt**	Neutraliz., Ioniz., Dissoc.	Undef.	E/T	1100
$\mathbf{H_2}$ **+ Au**	Neutraliz., Ioniz., Dissoc.	Undef.	E/T	1100
$\mathbf{H_2}$ **+ Ti**	Adsorption, Desorption	Undef.	Exp	1102
$\mathbf{H_2}$ **+ Pd**	Adsorption, Desorption	Undef.	Exp	1102
$\mathbf{H_2}$ **+ Ti**	Neutraliz., Ioniz., Dissoc.	Undef.	Exp	1102
$\mathbf{H_2}$ **+ Pd**	Neutraliz., Ioniz., Dissoc.	Undef.	Exp	1102
$\mathbf{H_2}$ **+ Pd**	Adsorption, Desorption	Undef.	Th	1107
$\mathbf{H_2}$ **+ Pt**	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1111
$\mathbf{H_2^+}$ **+ SiC**	Trapping, Detrapping	1 keV	Exp	1124
$\mathbf{H_2^+}$ **+ Mo**	Trapping, Detrapping	1.2 keV	Exp	1125
$\mathbf{H_2^+}$ **+ B**	Trapping, Detrapping	1 keV	Exp	1128
$\mathbf{H_2^+}$ **+ C**	Sputtering	30-125 eV/amu	Exp	1132
$\mathbf{H_2^+}$ **+ W**	Trapping, Detrapping	80 eV	Exp	1133
$\mathbf{H_2}$ **+ Mo**	Reflection	1-3 keV	Exp	1135
$\mathbf{H_2^+}$ **+ Mo**	Reflection	1-3 keV	Exp	1135
$\mathbf{H_2^+}$ **+ C**	Sputtering	15-30 eV	Exp	1140
$\mathbf{H_2^+}$ **+ C**	Reflection	0.19-2.4 keV	Exp	1168
$\mathbf{H_2^+}$ **+ C**	Secondary Electron Emission	2-4000 keV	Th	1207
$\mathbf{H_2^+}$ **+ C**	Sputtering	2-4000 keV	Th	1207
$\mathbf{H_2}$ **+ Pd**	Reflection	140-230 MeV	Th	1223
$\mathbf{H_2}$ **+ Pd**	Neutraliz., Ioniz., Dissoc.	140-230 MeV	Th	1223
$\mathbf{H_2^+}$ **+ C**	Chemical Reactions	0.3-5.0 keV	Exp	1228

H_3^+ + W	Chemical Reactions	0.15-10 keV	Exp	1048
H_3^+ + W	Sputtering	0.15-10 keV	Exp	1048
H_3 + Mo	Reflection	1-3 keV	Exp	1135
H_3^+ + Mo	Reflection	1-3 keV	Exp	1135
H_3^+ + W	Sputtering	9 keV	Exp	1136
H_3^+ + W	Trapping, Detrapping	9 keV	Exp	1136
H_3^+ + C	Sputtering	90 eV	Exp	1139
H_3^+ + C	Sputtering	15-30 eV	Exp	1140
D^+ + Ti	Trapping, Detrapping	1.7 keV	Exp	1050
D^+ + V	Trapping, Detrapping	1.7 keV	Exp	1050
D^+ + Cr	Trapping, Detrapping	1.7 keV	Exp	1050
D^+ + C	Sputtering	0.045-3.0 keV	Exp	1052
D^+ + Al	Reflection	1-100 keV	Th	1058
D^+ + Fe	Reflection	1-100 keV	Th	1058
D^+ + Cu	Reflection	1-100 keV	Th	1058
D^+ + Ag	Reflection	1-100 keV	Th	1058
D^+ + Au	Reflection	1-100 keV	Th	1058
D^+ + Pb	Reflection	1-100 keV	Th	1058
D + C	Adsorption, Desorption	2000 deg K	Exp	1106
D^+ + Li	Sputtering	$10-10^3$ eV	Th	1121
D + W	Reflection	3 keV	Th	1122
D + C	Trapping, Detrapping	Undef.	Th	1123
D^+ + W	Trapping, Detrapping	200 eV	Exp	1126
D^+ + W	Trapping, Detrapping	500 eV	Exp	1127
D^+ + Li	Surface Interactions	Undef.	Exp	1130
D^+ + Be	Surface Interactions	Undef.	Exp	1130
D^+ + Li	Sputtering	Undef.	Exp	1130
D^+ + Be	Sputtering	Undef.	Exp	1130
D + C	Sputtering	30 keV	Exp	1137
D^+ + C	Sputtering	30 keV	Exp	1137
D^+ + Fe	Sputtering	0.05-1.0 keV	Exp	1138
D^+ + C	Reflection	10-10,000 eV	Th	1145
D^+ + C	Sputtering	10-10,000 eV	Th	1145
D^+ + Mo	Sputtering	2 keV	Th	1155
D^+ + V	Trapping, Detrapping	300 deg K	Exp	1205
D_2 + Ni	Adsorption, Desorption	0-1.0 eV	Th	1097
D_2 + Ni	Neutraliz., Ioniz., Dissoc.	0-1.0 eV	Th	1097
D_2 + Pt	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1111
D_2^+ + SiC	Trapping, Detrapping	1 keV	Exp	1124
D_2^+ + Mo	Trapping, Detrapping	1.2 keV	Exp	1125
D_2^+ + B	Trapping, Detrapping	1 keV	Exp	1128
D_2^+ + C	Sputtering	30-125 eV/amu	Exp	1132
D_2^+ + W	Trapping, Detrapping	80 eV	Exp	1133
D_2^+ + C	Chemical Reactions	0.3-5.0 keV	Exp	1228
D_3^+ + W	Chemical Reactions	0.15-10 keV	Exp	1048
D_3^+ + W	Sputtering	0.15-10 keV	Exp	1048
D_3^+ + W	Sputtering	9 keV	Exp	1136
D_3^+ + W	Trapping, Detrapping	9 keV	Exp	1136
D_3^+ + C	Sputtering	90 eV	Exp	1139
T^+ + Al	Reflection	1-100 keV	Th	1058
T^+ + Fe	Reflection	1-100 keV	Th	1058
T^+ + Cu	Reflection	1-100 keV	Th	1058
T^+ + Ag	Reflection	1-100 keV	Th	1058
T^+ + Au	Reflection	1-100 keV	Th	1058
T^+ + Pb	Reflection	1-100 keV	Th	1058
T^+ + C	Chemical Reactions	150-1500 eV	Exp	1129
T^+ + C	Sputtering	150-1500 eV	Exp	1129

T^+ + Fe	Sputtering	0.05-1.0 keV	Exp	1138
T^+ + C	Reflection	10-10,000 eV	Th	1145
T^+ + C	Sputtering	10-10,000 eV	Th	1145
CH + C	Adsorption, Desorption	0.045-3.0 keV	Exp	1052
$CH_2{}^+$ + C	Neutraliz., Ioniz., Dissoc.	6.7 MeV	Exp	1074
CH_3 + Fe	Adsorption, Desorption	Undef.	Exp	1131
CH_3 + SS	Adsorption, Desorption	Undef.	Exp	1131
CH_4 + LiF	Reflection	90-500 MeV	Th	1055
CO + Co	Adsorption, Desorption	Undef.	Th	1098
CO + Co	Desorption	Undef.	Th	1098
CO + Co	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1098
CO + Pd	Adsorption, Desorption	Undef.	Th	1107
CO + Al	Adsorption, Desorption	0-1.2 eV	Exp	1219
N_2 + W	Adsorption, Desorption	Undef.	Th	1094
N_2 + W	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1094
N_2 + W	Adsorption, Desorption	Undef.	Th	1096
N_2 + W	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1096
$N_2{}^+$ + C	Secondary Electron Emission	30 keV	Exp	1116
$N_2{}^+$ + C	Reflection	Undef.	Th	1161
$N_2{}^+$ + C	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1161
N_2 + Al	Adsorption, Desorption	0-1.2 eV	Exp	1219
NO + Al	Adsorption, Desorption	0-1.2 eV	Exp	1219
$O_2{}^+$ + W	Chemical Reactions	0.15-10 keV	Exp	1048
$O_2{}^+$ + W	Sputtering	0.15-10 keV	Exp	1048
O_2 + Al	Reflection	90-500 MeV	Th	1055
$O_2{}^+$ + Si	Sputtering	0.5 keV	Exp	1069
O_2 + Pd	Neutraliz., Ioniz., Dissoc.	Undef.	Th	1089
O_2 + Cu	Adsorption, Desorption	300 deg K	Exp	1090
O_2 + Cu	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp	1090
$O_2{}^+$ + Si	Sputtering	4.4-17 keV	Exp	1110
$O_2{}^+$ + C	Reflection	0.19-2.4 keV	Exp	1168
O_2 + Al	Adsorption, Desorption	0-1.2 eV	Exp	1219
$Cu_2{}^-$ + Al	Sputtering	9-18 keV	Exp	1063
$Cu_2{}^-$ + Si	Sputtering	9-18 keV	Exp	1063
F_2 + Al	Adsorption, Desorption	0-1.2 eV	Exp	1219
HF^+ + C	Surface Interactions	1.5-4.0 MeV	E/T	1046
$Au_2{}^+$ + Au	Sputtering	200 keV	Th	1061
$Au_2{}^+$ + Ta	Sputtering	6-18 keV	Exp	1062
$Au_2{}^-$ + Al	Sputtering	9-18 keV	Exp	1063
$Au_2{}^-$ + Si	Sputtering	9-18 keV	Exp	1063
$Au_3{}^+$ + Ta	Sputtering	6-18 keV	Exp	1062
$Mo_2{}^+$ + Ar	Neutraliz., Ioniz., Dissoc.	8 keV	Exp	1047

2.4 Plasma Theory, Models

H^+ + A + LiF	Plasma Theory, Models	$10^{-6} - 10^3$ MeV/u	E/T	1233
He^{2+} + A + LiF	Plasma Theory, Models	$10^{-6} - 10^3$ MeV/u	E/T	1233

2.5 Data Collection, Bibliographic and Progress Report

H^+ + A + LiF	Data Collection, Bibliography	$10^{-6} - 10^3$ MeV/u	E/T	1237
He^{2+} + A + LiF	Data Collection, Bibliography	$10^{-6} - 10^3$ MeV/u	E/T	1237
e + H_2O + LiF	Data Collection, Bibliography	0.1-15 eV	E/T	1234
e + CH_4 + LiF	Data Collection, Bibliography	0.1-15 eV	E/T	1234

e + CO_2 + LiF	Data Collection, Bibliography	0.1-15 eV	E/T	1234
e + C_2H_6 + LiF	Data Collection, Bibliography	0.1-15 eV	E/T	1234
e + He^+ + LiF	Data Collection, Bibliography	Undef.	Th	1236
CO + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T	1235
SO_2 + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T	1235
CS + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T	1235
HCO^+ + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T	1235
HCN + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T	1235
HNC + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T	1235
SiO + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T	1235
N_2H^+ + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T	1235
SiS + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T	1235
HCS^+ + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T	1235

2.6 Particle Beam-Matter Interactions

H^+ + Al + LiF	Part. Beam-Matter Interaction	225 keV/u	Th	1239
H^+ + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th	1240
H^+ + Al + LiF	Part. Beam-Matter Interaction	0.3-0.6 MeV	Exp	1242
H^+ + Ti + LiF	Part. Beam-Matter Interaction	1-3 MeV	Exp	1250
H^+ + C + LiF	Part. Beam-Matter Interaction	5.5 MeV	Exp	1251
H^+ + Au + LiF	Part. Beam-Matter Interaction	1-7.5 keV/u	Exp	1261
H^+ + N_2 + LiF	Part. Beam-Matter Interaction	4.3 MeV	Th	1266
H^+ + C + LiF	Part. Beam-Matter Interaction	352-3000 keV	Exp	1270
H^+ + O + LiF	Part. Beam-Matter Interaction	352-3000 keV	Exp	1270
H^+ + H + LiF	Part. Beam-Matter Interaction	1-1000 keV	Th	1275
H^+ + W + LiF	Part. Beam-Matter Interaction	200 eV	Exp	1277
H^+ + C + LiF	Part. Beam-Matter Interaction	10-10,000 eV	Th	1278
H^+ + Al + LiF	Part. Beam-Matter Interaction	1-1000 keV	Th	1283
H^+ + A + LiF	Part. Beam-Matter Interaction	$10^{-6} - 10^{3}$ MeV/u	E/T	1284
H^+ + A + LiF	Part. Beam-Matter Interaction	0.5-1.0 MeV	Th	1292
H^+ + C + LiF	Part. Beam-Matter Interaction	Undef.	Th	1295
H^+ + Al + LiF	Part. Beam-Matter Interaction	10 keV	Exp	1296
H^+ + C + LiF	Part. Beam-Matter Interaction	5.5 MeV	Exp	1297
H^+ + H_2O + LiF	Part. Beam-Matter Interaction	Undef.	Th	1299
H^+ + SiC + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th	1301
H^+ + ZnSe + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th	1301
H^+ + GaAs + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th	1301
H^+ + InP + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th	1301
H^+ + Al + LiF	Part. Beam-Matter Interaction	710 keV	Th	1302
H^+ + Ni + LiF	Part. Beam-Matter Interaction	1.8-14 MeV	Exp	1307
H^+ + Ni + LiF	Part. Beam-Matter Interaction	2 MeV/amu	E/T	1308
He^{2+} + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th	1240
He + He + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
He + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
He + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
He + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
He + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
He^+ + Si + LiF	Part. Beam-Matter Interaction	0.5-2.0 MeV	Th	1248
He^+ + SiO_2 + LiF	Part. Beam-Matter Interaction	0.5-2.0 MeV	Th	1248
He^+ + Au + LiF	Part. Beam-Matter Interaction	1-6 MeV	Exp	1253
He^+ + C + LiF	Part. Beam-Matter Interaction	2-10 MeV	Exp	1254
He^+ + Si + LiF	Part. Beam-Matter Interaction	2-10 MeV	Exp	1254
He^+ + Al_2O_3 + LiF	Part. Beam-Matter Interaction	0.2-2.5 MeV	Exp	1256
He^+ + Zn + LiF	Part. Beam-Matter Interaction	37.5-1750 keV/u	Exp	1262

$\mathbf{He^+ + H_2O + LiF}$	Part. Beam-Matter Interaction	10-400 keV	Th	1265
$\mathbf{He^+ + CH_4 + LiF}$	Part. Beam-Matter Interaction	10-400 keV	Th	1265
$\mathbf{He^+ + Al_2O_3 + LiF}$	Part. Beam-Matter Interaction	$50 - 10^4$ keV	E/T	1268
$\mathbf{He^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
$\mathbf{He^+ + Ar + LiF}$	Part. Beam-Matter Interaction	1-200 MeV/amu	Th	1280
$\mathbf{He^{2+} + A + LiF}$	Part. Beam-Matter Interaction	$10^{-6} - 10^3$ MeV/u	E/T	1284
$\mathbf{He^+ + Au + LiF}$	Part. Beam-Matter Interaction	0-600 keV/u	Exp	1286
$\mathbf{He^+ + A + LiF}$	Part. Beam-Matter Interaction	0.5-1.0 MeV	Th	1292
$\mathbf{He^+ + SiC + LiF}$	Part. Beam-Matter Interaction	10-3000 keV/u	Th	1301
$\mathbf{He^+ + ZnSe + LiF}$	Part. Beam-Matter Interaction	10-3000 keV/u	Th	1301
$\mathbf{He^+ + GaAs + LiF}$	Part. Beam-Matter Interaction	10-3000 keV/u	Th	1301
$\mathbf{He^+ + InP + LiF}$	Part. Beam-Matter Interaction	10-3000 keV/u	Th	1301
$\mathbf{Li^{3+} + C + LiF}$	Part. Beam-Matter Interaction	1-10 MeV/u	Th	1240
$\mathbf{Li^+ + C + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{Li^+ + Al + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{Li^+ + Si + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{Li^+ + Ni + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{Li^+ + Ag + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{Li^+ + Ta + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{Li^+ + Au + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{Li^+ + Au + LiF}$	Part. Beam-Matter Interaction	1-6 MeV	Exp	1253
$\mathbf{Li^+ + H_2O + LiF}$	Part. Beam-Matter Interaction	10-400 keV	Th	1265
$\mathbf{Li^+ + CH_4 + LiF}$	Part. Beam-Matter Interaction	10-400 keV	Th	1265
$\mathbf{Li^+ + Ni + LiF}$	Part. Beam-Matter Interaction	1.8-14 MeV	Exp	1307
$\mathbf{Li^+ + Ni + LiF}$	Part. Beam-Matter Interaction	2 MeV/amu	E/T	1308
$\mathbf{Be + C + LiF}$	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{Be + O + LiF}$	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{Be^+ + Si + LiF}$	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
$\mathbf{Be^+ + Si + LiF}$	Part. Beam-Matter Interaction	500-7000 keV	Exp	1252
$\mathbf{Be + Si + LiF}$	Part. Beam-Matter Interaction	0.100-1 MeV/u	Exp	1259
$\mathbf{Be^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
$\mathbf{Be^+ + Au + LiF}$	Part. Beam-Matter Interaction	0-600 keV/u	Exp	1286
$\mathbf{B^+ + C + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{B^+ + Al + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{B^+ + Si + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{B^+ + Ni + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{B^+ + Ag + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{B^+ + Ta + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{B^+ + Au + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{B^+ + Si + LiF}$	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
$\mathbf{B^+ + Au + LiF}$	Part. Beam-Matter Interaction	1-6 MeV	Exp	1253
$\mathbf{B + Si + LiF}$	Part. Beam-Matter Interaction	0.100-1 MeV/u	Exp	1259
$\mathbf{B^+ + C + LiF}$	Part. Beam-Matter Interaction	5-70 MeV	Th	1263
$\mathbf{B^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
$\mathbf{C^{6+} + Cs + LiF}$	Part. Beam-Matter Interaction	$1 - 10^5$ keV/u	Th	1241
$\mathbf{C^+ + C + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{C^+ + Al + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{C^+ + Si + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{C^+ + Ni + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{C^+ + Ag + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{C^+ + Ta + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{C^+ + Au + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{C + He + LiF}$	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{C + Li + LiF}$	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{C + Be + LiF}$	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{C + B + LiF}$	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{C + C + LiF}$	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245

C + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Ne + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Na + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + K + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Ca + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Sc + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Cr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Mn + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Fe + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Cu + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Ge + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Br + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
C + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{C^{+} + Si + LiF}$	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
$\mathbf{C^{+} + Au + LiF}$	Part. Beam-Matter Interaction	6-10 MeV	Exp	1255
$\mathbf{C^{2+} + C + LiF}$	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp	1269
$\mathbf{C^{+} + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
$\mathbf{C^{4+} + C + LiF}$	Part. Beam-Matter Interaction	Undef.	Th	1295
$\mathbf{C^{+} + C + LiF}$	Part. Beam-Matter Interaction	1 MeV	Exp	1303
$\mathbf{N^{+} + C + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{N^{+} + Al + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{N^{+} + Si + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{N^{+} + Ni + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{N^{+} + Ag + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{N^{+} + Ta + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{N^{+} + Au + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{N^{+} + Si + LiF}$	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
$\mathbf{N^{+} + Au + LiF}$	Part. Beam-Matter Interaction	6-10 MeV	Exp	1255
$\mathbf{N^{+} + C + LiF}$	Part. Beam-Matter Interaction	5-70 MeV	Th	1263
$\mathbf{N^{+} + Be + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + C + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Al + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Si + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Ti + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Fe + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Ni + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Cu + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Ge + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Mo + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Ag + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Sn + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Gd + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + W + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Au + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + Pb + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
$\mathbf{N^{+} + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
$\mathbf{O^{7+} + He + LiF}$	Part. Beam-Matter Interaction	$1 - 10^5$ keV/u	Th	1241
$\mathbf{O^{+} + C + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
$\mathbf{O^{+} + Al + LiF}$	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244

O^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
O^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
O^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
O^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
O^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
O^+ + Si + LiF	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
O^+ + C + LiF	Part. Beam-Matter Interaction	2-10 MeV	Exp	1254
O^+ + Si + LiF	Part. Beam-Matter Interaction	2-10 MeV	Exp	1254
O^+ + C + LiF	Part. Beam-Matter Interaction	5-70 MeV	Th	1263
O^+ + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
F^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
F^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
F^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
F^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
F^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
F^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
F^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
F^+ + Si + LiF	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
F^+ + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
F^+ + Au + LiF	Part. Beam-Matter Interaction	0-600 keV/u	Exp	1286
Ne + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ne^+ + H_2 + LiF	Part. Beam-Matter Interaction	200-1150 keV/u	E/T	1249
Ne^{4+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp	1269
Na^+ + H_2 + LiF	Part. Beam-Matter Interaction	200-1150 keV/u	E/T	1249
Mg^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Mg^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Mg^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Mg^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Mg^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Mg^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Mg^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Mg^+ + Si + LiF	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
Mg^+ + H_2 + LiF	Part. Beam-Matter Interaction	200-1150 keV/u	E/T	1249
Mg^{5+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp	1269
Mg^+ + Au + LiF	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp	1273
Mg^+ + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
Al^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Al^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Al^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Al^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Al^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Al^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Al^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Al + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + Ne + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + Na + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + Cu + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245

Al + Ge + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + Br + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Al^{+} + Si + LiF	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
Al^{+} + C + LiF	Part. Beam-Matter Interaction	2-10 MeV	Exp	1254
Al^{+} + Si + LiF	Part. Beam-Matter Interaction	2-10 MeV	Exp	1254
Al^{+} + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
Si + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + Be + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + Na + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + P + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + Mn + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si + Fe + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Si^{+} + Si + LiF	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
Si^{+} + GaAs + LiF	Part. Beam-Matter Interaction	3 MeV	Exp	1257
Si^{5+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp	1269
Si^{+} + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
P^{+} + GaAs + LiF	Part. Beam-Matter Interaction	3 MeV	Exp	1257
S^{6+} + C + LiF	Part. Beam-Matter Interaction	2 MeV/u	Exp	1298
S^{10+} + C + LiF	Part. Beam-Matter Interaction	2 MeV/u	Exp	1298
S^{11+} + C + LiF	Part. Beam-Matter Interaction	2 MeV/u	Exp	1298
S^{13+} + C + LiF	Part. Beam-Matter Interaction	2 MeV/u	Exp	1298
S^{+} + C + LiF	Part. Beam-Matter Interaction	9.6-32 MeV	Exp	1305
S^{+} + Al + LiF	Part. Beam-Matter Interaction	9.6-32 MeV	Exp	1305
S^{+} + Ti + LiF	Part. Beam-Matter Interaction	9.6-32 MeV	Exp	1305
S^{+} + Fe + LiF	Part. Beam-Matter Interaction	9.6-32 MeV	Exp	1305
Cl^{17+} + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th	1240
Cl^{+} + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Cl^{+} + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Cl^{+} + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Cl^{+} + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Cl^{+} + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Cl^{+} + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Cl^{+} + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T	1244
Ar^{+} + He + LiF	Part. Beam-Matter Interaction	100-150 MeV/amu	Exp	1243
Ar + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ar + Be + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ar + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ar + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ar + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ar + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ar^{8+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp	1269
Ar^{+} + C + LiF	Part. Beam-Matter Interaction	200 eV	Th	1282
Ar^{+} + Cu + LiF	Part. Beam-Matter Interaction	200 eV	Th	1282
Ar^{17+} + Si + LiF	Part. Beam-Matter Interaction	400 MeV/u	Exp	1300
K^{+} + Fe + LiF	Part. Beam-Matter Interaction	1-200 MeV/amu	Th	1280
K^{+} + SS + LiF	Part. Beam-Matter Interaction	1-200 MeV/amu	Th	1280
Ca^{+} + He + LiF	Part. Beam-Matter Interaction	100-150 MeV/amu	Exp	1243

$\mathbf{Ca^{6+} + C + LiF}$	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp	1269
$\mathbf{Ca^{+} + C + LiF}$	Part. Beam-Matter Interaction	242-264 MeV	Exp	1285
Ti + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ti + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ti + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ti + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ti + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ti + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ti + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ti + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ti + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ti + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ti + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ti + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{Cr^{+} + Si + LiF}$	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
$\mathbf{Cr^{+} + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
$\mathbf{Mn^{+} + Si + LiF}$	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
$\mathbf{Mn^{+} + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
Fe + He + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Fe + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Fe + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Fe + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Fe + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Fe + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Fe + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{Fe^{+} + Si + LiF}$	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
$\mathbf{Fe^{9+} + C + LiF}$	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp	1269
$\mathbf{Fe^{+} + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
$\mathbf{Fe^{24+} + Si + LiF}$	Part. Beam-Matter Interaction	400 MeV/u	Exp	1300
$\mathbf{Co^{+} + Si + LiF}$	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
$\mathbf{Co^{+} + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
$\mathbf{Ni^{28+} + SiO_2 + LiF}$	Part. Beam-Matter Interaction	$1-10^5$ keV/u	Th	1241
Ni + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ni + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ni + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ni + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ni + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ni + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ni + Ne + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ni + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ni + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ni + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{Ni^{+} + Si + LiF}$	Part. Beam-Matter Interaction	1-2 MeV	E/T	1271
$\mathbf{Ni^{+} + LiB_3O_5 + LiF}$	Part. Beam-Matter Interaction	1-2 MeV	E/T	1271
$\mathbf{Ni^{+} + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
Cu + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245

Cu + Fe + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + Ni + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + Cu + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Cu + Br + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{Cu^{+} + Si + LiF}$	Part. Beam-Matter Interaction	100-700 keV/u	Exp	1246
$\mathbf{Cu^{10+} + C + LiF}$	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp	1269
$\mathbf{Cu^{+} + Si + LiF}$	Part. Beam-Matter Interaction	1-2 MeV	E/T	1271
$\mathbf{Cu^{+} + LiB_3O_5 + LiF}$	Part. Beam-Matter Interaction	1-2 MeV	E/T	1271
$\mathbf{Cu^{+} + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
$\mathbf{Cu^{+} + Ni + LiF}$	Part. Beam-Matter Interaction	72 keV	E/T	1288
$\mathbf{Cu^{+} + Cu + LiF}$	Part. Beam-Matter Interaction	1 keV	Th	1289
$\mathbf{Cu^{+} + Zr + LiF}$	Part. Beam-Matter Interaction	1 keV	Th	1289
$\mathbf{Ge^{+} + He + LiF}$	Part. Beam-Matter Interaction	100-150 MeV/amu	Exp	1243
Ge + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ge + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ge + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ge + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ge + P + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ge + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{Br^{35+} + C + LiF}$	Part. Beam-Matter Interaction	1-10 MeV/u	Th	1240
$\mathbf{Kr^{+} + He + LiF}$	Part. Beam-Matter Interaction	100-150 MeV/amu	Exp	1243
Kr + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Kr + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{Kr^{13+} + C + LiF}$	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp	1269
$\mathbf{Kr^{35+} + C + LiF}$	Part. Beam-Matter Interaction	Undef.	Th	1293
$\mathbf{Kr^{35+} + Si + LiF}$	Part. Beam-Matter Interaction	400 MeV/u	Exp	1300
Rb + Si + LiF	Part. Beam-Matter Interaction	Undef.	Exp	1276
Zr + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Zr + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
$\mathbf{Zr^{+} + Cu + LiF}$	Part. Beam-Matter Interaction	1 keV	Th	1289
$\mathbf{Zr^{+} + Zr + LiF}$	Part. Beam-Matter Interaction	1 keV	Th	1289
$\mathbf{Nb^{5+} + H^{+} + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{5+} + e + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{10+} + H^{+} + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{10+} + e + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{15+} + H^{+} + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{15+} + e + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{20+} + H^{+} + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{20+} + e + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{25+} + H^{+} + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{25+} + e + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{30+} + H^{+} + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{30+} + e + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{35+} + H^{+} + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{35+} + e + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{40+} + H^{+} + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
$\mathbf{Nb^{40+} + e + LiF}$	Part. Beam-Matter Interaction	10-50 keV/amu	E/T	1279
Mo + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Mo + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Pd + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Ne + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245

Ag + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Ni + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Cu + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Ge + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Br + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ag + U + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Sn + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Sn + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Sn + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Sn + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
I^{53+} + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th	1240
I^{+} + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
Xe^{+} + He + LiF	Part. Beam-Matter Interaction	100-150 MeV/amu	Exp	1243
Xe + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Xe + Xe + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Gd + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Gd + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Gd + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Gd + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Lu + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ta + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ta + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ta + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Ta + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
W + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
W + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Pt + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Pt + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + Na + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + Cu + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + Br + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
Au^{+} + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T	1274
Au^{+} + C + LiF	Part. Beam-Matter Interaction	100 eV	Th	1287
Au^{+} + Ar + LiF	Part. Beam-Matter Interaction	100 eV	Th	1287
Au^{+} + Au + LiF	Part. Beam-Matter Interaction	100 eV	Th	1287
Pb + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245

Pb^{+} + A + LiF	Part. Beam-Matter Interaction	0.5-1.0 MeV	Th	1292
Bi^{82+} + Au + LiF	Part. Beam-Matter Interaction	70 MeV/u	Exp	1304
U^{92+} + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th	1240
U + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
U^{28+} + C + LiF	Part. Beam-Matter Interaction	3.5 MeV/amu	Exp	1281
U^{28+} + Ar + LiF	Part. Beam-Matter Interaction	3.5 MeV/amu	Exp	1281
e + Al + LiF	Part. Beam-Matter Interaction	1-4000 keV	Th	1247
e + Si + LiF	Part. Beam-Matter Interaction	1-4000 keV	Th	1247
e + H_2O + LiF	Part. Beam-Matter Interaction	0.01-100 eV	Th	1260
e + D_2O + LiF	Part. Beam-Matter Interaction	0.01-100 eV	Th	1260
e + H_2O + LiF	Part. Beam-Matter Interaction	0-10 keV	Exp	1264
e + C + LiF	Part. Beam-Matter Interaction	10 MeV	Th	1267
e + Al + LiF	Part. Beam-Matter Interaction	10 MeV	Th	1267
e + W + LiF	Part. Beam-Matter Interaction	50-500 keV	Th	1272
e + C + LiF	Part. Beam-Matter Interaction	$10 - 10^4$ eV	Th	1290
e + H_2O + LiF	Part. Beam-Matter Interaction	0.1-1.0 keV	Th	1291
H_2 + He + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
H_2 + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
H_2 + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
H_2^+ + C + LiF	Part. Beam-Matter Interaction	0.025-19.193 MeV	Th	1258
H_2^+ + Au + LiF	Part. Beam-Matter Interaction	1-7.5 keV/u	Exp	1261
H_2^+ + Au + LiF	Part. Beam-Matter Interaction	12.5 keV	Exp	1294
H_2^+ + C + LiF	Part. Beam-Matter Interaction	Undef.	Th	1295
HD^+ + C + LiF	Part. Beam-Matter Interaction	Undef.	Th	1295
D^+ + W + LiF	Part. Beam-Matter Interaction	200 eV	Exp	1277
D^+ + C + LiF	Part. Beam-Matter Interaction	10-10,000 eV	Th	1278
T^+ + C + LiF	Part. Beam-Matter Interaction	10-10,000 eV	Th	1278
CH_2^+ + C + LiF	Part. Beam-Matter Interaction	Undef.	Th	1295
N_2 + He + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
N_2 + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
N_2 + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
N_2 + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
A + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th	1240
A^+ + A + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th	1245
A^+ + Al + LiF	Part. Beam-Matter Interaction	710 keV	Th	1302
A + C + LiF	Part. Beam-Matter Interaction	Undef.	Th	1306
A + Al + LiF	Part. Beam-Matter Interaction	Undef.	Th	1306
A + Au + LiF	Part. Beam-Matter Interaction	Undef.	Th	1306

2.7 Interactions of Atomic Particles with Fields

H + LiF	Atom Field Interaction	Undef.	Th	1311
H^* + LiF	Atom Field Interaction	Undef.	Th	1311
H + LiF	Atom Field Interaction	Undef.	Th	1320
H^* + LiF	Atom Field Interaction	Undef.	Th	1320
H + LiF	Atom Field Interaction	Undef.	Th	1321
H^* + LiF	Atom Field Interaction	Undef.	Th	1321
H^- + LiF	Atom Field Interaction	Undef.	Th	1322
H^- + LiF	Atom Field Interaction	Undef.	Th	1323
H + LiF	Atom Field Interaction	16-54 V/cm	Th	1325
H + LiF	Atom Field Interaction	Undef.	Th	1334
H + LiF	Atom Field Interaction	Undef.	Th	1340
H^+ + H + LiF	Atom Field Interaction	2 keV	Th	1345
H + LiF	Atom Field Interaction	Undef.	Th	1346
H + LiF	Atom Field Interaction	Half cycle pulse	E/T	1358

H^* + LiF	Atom Field Interaction	Half cycle pulse	E/T	1358
H + LiF	Atom Field Interaction	10^8 V/m	Th	1359
H + LiF	Atom Field Interaction	0.05 a.u.	Th	1365
H + LiF	Atom Field Interaction	Undef.	Th	1375
H + LiF	Atom Field Interaction	Undef.	Th	1386
H^* + LiF	Atom Field Interaction	Undef.	Th	1386
H + LiF	Atom Field Interaction	10^{16} W/cm^2	Th	1390
H + LiF	Atom Field Interaction	33,000 K	Exp	1398
He + H + LiF	Atom Field Interaction	10^5 cm/s	Th	1318
He + H^* + LiF	Atom Field Interaction	10^5 cm/s	Th	1318
He + LiF	Atom Field Interaction	Undef.	Th	1323
He + LiF	Atom Field Interaction	16-54 V/cm	Th	1325
He^+ + He + LiF	Atom Field Interaction	30-50 keV	Exp	1326
He + LiF	Atom Field Interaction	780 nm	Th	1333
He + He + LiF	Atom Field Interaction	Undef.	Th	1339
He^* + He^* + LiF	Atom Field Interaction	Undef.	Th	1339
He^{2+} + H + LiF	Atom Field Interaction	0.1-10 keV/u	Th	1364
He + LiF	Atom Field Interaction	Undef.	Th	1392
He + LiF	Atom Field Interaction	33,000 K	Exp	1398
Li + LiF	Atom Field Interaction	0-370 MHz	Exp	1342
Li^* + LiF	Atom Field Interaction	0-370 MHz	Exp	1342
Li + LiF	Atom Field Interaction	0-10 γ a.u.	Th	1360
Li + He + LiF	Atom Field Interaction	1750-3050 m/s	E/T	1371
Li + Ne + LiF	Atom Field Interaction	1750-3050 m/s	E/T	1371
Li + H_2 + LiF	Atom Field Interaction	1750-3050 m/s	E/T	1371
Li + D_2 + LiF	Atom Field Interaction	1750-3050 m/s	E/T	1371
Li + LiF	Atom Field Interaction	Undef.	Th	1392
Be + LiF	Atom Field Interaction	Undef.	Th	1347
Be + LiF	Atom Field Interaction	Undef.	Th	1392
C^{4+} + H + LiF	Atom Field Interaction	Undef.	Exp	1324
C + LiF	Atom Field Interaction	Undef.	Th	1392
N^+ + LiF	Atom Field Interaction	1453-5681 $\AA$	E/T	1372
N + LiF	Atom Field Interaction	Undef.	Th	1392
O^- + LiF	Atom Field Interaction	11,700-16,700 cm^{-1}	E/T	1341
O^{2+} + LiF	Atom Field Interaction	1453-5681 $\AA$	E/T	1372
O^+ + LiF	Atom Field Interaction	5000-80,000 K	Th	1376
O + LiF	Atom Field Interaction	Undef.	Th	1392
F^+ + LiF	Atom Field Interaction	30,400-33,600 K	Exp	1353
F^{2+} + LiF	Atom Field Interaction	30,400-33,600 K	Exp	1353
F^{3+} + LiF	Atom Field Interaction	1453-5681 $\AA$	E/T	1372
F^- + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th	1374
F + LiF	Atom Field Interaction	Undef.	Th	1392
Ne + LiF	Atom Field Interaction	1.5 eV	Th	1313
Ne + LiF	Atom Field Interaction	1.55 eV	Th	1319
Ne + LiF	Atom Field Interaction	320-1200 eV	E/T	1338
Ne^{10+} + LiF	Atom Field Interaction	10-17 keV	Exp	1369
Ne^{4+} + LiF	Atom Field Interaction	1453-5681 $\AA$	E/T	1372
Ne + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th	1374
Ne + LiF	Atom Field Interaction	790 nm	Exp	1387
Ne + LiF	Atom Field Interaction	Undef.	Th	1392
Ne + LiF	Atom Field Interaction	33,000 K	Exp	1398
Na + LiF	Atom Field Interaction	Half cycle pulse	E/T	1358
Na^* + LiF	Atom Field Interaction	Half cycle pulse	E/T	1358
Na + LiF	Atom Field Interaction	Undef.	Th	1392
Mg + LiF	Atom Field Interaction	520-285 nm	Exp	1355
Mg + LiF	Atom Field Interaction	Undef.	Th	1392
Al + LiF	Atom Field Interaction	1 MHz	Exp	1329

Al^* + LiF	Atom Field Interaction	1 MHz	Exp	1329
Al + LiF	Atom Field Interaction	Undef.	Th	1392
Si^+ + LiF	Atom Field Interaction	11,000 K	Exp	1352
Si^{4+} + LiF	Atom Field Interaction	50,000-500,000 K	Th	1354
Si^{13+} + LiF	Atom Field Interaction	10-17 keV	Exp	1369
Si^{14+} + LiF	Atom Field Interaction	10-17 keV	Exp	1369
Si + LiF	Atom Field Interaction	Undef.	Th	1392
P + LiF	Atom Field Interaction	Undef.	Th	1392
S^- + LiF	Atom Field Interaction	11,700-16,700 cm^{-1}	E/T	1341
S + LiF	Atom Field Interaction	Undef.	Th	1392
Cl^- + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th	1374
Ar + LiF	Atom Field Interaction	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T	1316
Ar + LiF	Atom Field Interaction	33,466-33,677 cm^{-1}	E/T	1327
Ar^* + LiF	Atom Field Interaction	33,466-33,677 cm^{-1}	E/T	1327
Ar + LiF	Atom Field Interaction	320-1200 eV	E/T	1338
Ar^{7+} + LiF	Atom Field Interaction	52.5-54 eV	Th	1349
Ar + LiF	Atom Field Interaction	Undef.	E/T	1367
Ar^{17+} + LiF	Atom Field Interaction	10-17 keV	Exp	1369
Ar + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th	1374
Ar + LiF	Atom Field Interaction	400 v/cm	E/T	1379
Ar + LiF	Atom Field Interaction	775 nm	Exp	1388
Ar + LiF	Atom Field Interaction	Undef.	Th	1392
K + Ar + LiF	Atom Field Interaction	220-720 cm^{-1}	Exp	1337
K + LiF	Atom Field Interaction	Few eV	Th	1368
K + LiF	Atom Field Interaction	Undef.	Th	1392
Ca + LiF	Atom Field Interaction	393 nm	Exp	1366
Ca^* + LiF	Atom Field Interaction	393 nm	Exp	1366
Ca + LiF	Atom Field Interaction	Undef.	Th	1392
Cr + LiF	Atom Field Interaction	2500-50,000 K	Th	1378
Mn + LiF	Atom Field Interaction	120 eV	Exp	1394
Fe^+ + LiF	Atom Field Interaction	900 $\AA$	Th	1377
Ga + LiF	Atom Field Interaction	250,000-2,000 $\AA$	Th	1356
Ge + LiF	Atom Field Interaction	Undef.	Th	1392
Br^- + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th	1374
Kr + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th	1374
Kr + LiF	Atom Field Interaction	270 nm	Exp	1380
Kr + LiF	Atom Field Interaction	Undef.	Th	1392
Rb + K + LiF	Atom Field Interaction	$10^{-9} - 10^{-5}$ K	Th	1312
Rb + Rb + LiF	Atom Field Interaction	$10^{-9} - 10^{-5}$ K	Th	1312
Rb + LiF	Atom Field Interaction	Undef.	Th	1315
Rb^* + LiF	Atom Field Interaction	Undef.	Th	1315
Rb + Rb + LiF	Atom Field Interaction	300 K	Exp	1344
Tc + LiF	Atom Field Interaction	Undef.	Th	1392
Cd^{2+} + LiF	Atom Field Interaction	5000-60,000 K	Th	1351
Cd + LiF	Atom Field Interaction	Undef.	Th	1389
In + In + LiF	Atom Field Interaction	950 K	Exp	1395
I^- + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th	1374
Xe + LiF	Atom Field Interaction	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T	1316
Xe + LiF	Atom Field Interaction	Undef.	E/T	1367
Xe + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th	1374
Xe + LiF	Atom Field Interaction	$10^{16} - 10^{18}$ W/cm^2	Exp	1385
Xe + LiF	Atom Field Interaction	790 nm	Exp	1387
Xe^+ + LiF	Atom Field Interaction	790 nm	Exp	1387
Cs + Cs + LiF	Atom Field Interaction	100 μ k	Th	1310
Cs + Cs + LiF	Atom Field Interaction	0-20 mT	E/T	1357
Cs^- + LiF	Atom Field Interaction	0-0.04 eV	Th	1362
Cs + LiF	Atom Field Interaction	Undef.	Exp	1370

Ba + LiF	Atom Field Interaction	Undef.	Exp	1396
hν + H$^-$ + LiF	Atom Field Interaction	Undef.	Th	1322
hν + H + LiF	Atom Field Interaction	20 keV	Th	1348
e + H + LiF	Atom Field Interaction	4-16 K	Th	1309
e + CO$_2$ + LiF	Atom Field Interaction	1-8 eV	Th	1328
e + He$^+$ + LiF	Atom Field Interaction	2-30 excitation threshold units	Th	1336
e + H + LiF	Atom Field Interaction	575-1350 eV	Th	1363
e + A + LiF	Atom Field Interaction	1.01-5 γ	Th	1381
e + H + LiF	Atom Field Interaction	1000 eV	Th	1382
e + H + LiF	Atom Field Interaction	150-500 eV	Th	1399
e + Ba$^+$ + LiF	Atom Field Interaction	0-31 V/cm	Exp	1400
H$_2$$^+$ + LiF	Atom Field Interaction	$10^9 - 10^{13}$ G	E/T	1317
H$_2$$^+$ + LiF	Atom Field Interaction	$10^4 - 10^6$ T	Th	1331
H$_2$$^+$ + LiF	Atom Field Interaction	$10^{10} - 10^{14}$ gauss	Th	1335
H$_2$$^+$ + LiF	Atom Field Interaction	800-1200 nm	Th	1350
H$_2$ + LiF	Atom Field Interaction	Undef.	Th	1397
H$_2$O + LiF	Atom Field Interaction	1-15 keV/u	E/T	1373
N$_2$ + LiF	Atom Field Interaction	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T	1316
N$_2$ + LiF	Atom Field Interaction	Undef.	Th	1332
N$_2$ + LiF	Atom Field Interaction	$10^{14} - 10^{16}$ W/cm^2	Exp	1391
NO + LiF	Atom Field Interaction	530-536 eV	Th	1383
O$_2$ + LiF	Atom Field Interaction	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T	1316
O$_2$ + LiF	Atom Field Interaction	Undef.	E/T	1367
O$_2$ + LiF	Atom Field Interaction	1-5.6 10^{14} W/cm^2	Th	1384
F$_2$ + LiF	Atom Field Interaction	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T	1316
OH + OH + LiF	Atom Field Interaction	1 mK	Th	1393
C$_3$H$_8$ + LiF	Atom Field Interaction	800 nm	Exp	1361
CH$_3$F + CH$_3$F + LiF	Atom Field Interaction	0-17,000 V/cm	E/T	1343
CH$_3$OH + LiF	Atom Field Interaction	10.4-11.2 μ m	Exp	1330
LiCl + LiF	Atom Field Interaction	Undef.	Th	1314
CH$_3$OD + LiF	Atom Field Interaction	10.4-11.2 μ m	Exp	1330
e + He$^+$ Z= ?-? + LiF	Atom Field Interaction	2-30 excitation threshold units	Th	1336

Chapter 3

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$\mathbf{O}^{2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{F}^{3+}$	Energy Levels, Wavelengths	E/T
$\mathbf{S}^{9+}$	Energy Levels, Wavelengths	E/T

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Excitation Energies and Transition Rates in the $3d^2$ States of Ca-like Ions
Phys. Rev. A 63, 032518 (2001)

Ca Z= 22-47	Energy Levels, Wavelengths	E/T

10. R. Doron, E. Behar, M. Fraenkel, P. Mandelbaum, J. L. Schwob, A. Zigler, A. Ya. Faenov, T. A. Pikuz
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Phys. Rev. A 62, 052508 (2000)

$\mathbf{Ce}^{28+--31+}$	Energy Levels, Wavelengths	E/T

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Phys. Rev. A 64, 012507 (2001)

Ne Z= 42-90	Energy Levels, Wavelengths	E/T

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Quantum Electrodynamic Corrections in High-Z Li-Like and Be-Like Ions
Phys. Rev. A 62, 054501 (2000)

$\mathbf{Bi}^{80+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Th}^{86+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Th}^{87+}$	Energy Levels, Wavelengths	E/T
$\mathbf{U}^{88+}$	Energy Levels, Wavelengths	E/T
$\mathbf{U}^{89+}$	Energy Levels, Wavelengths	E/T

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Absolute Optical Frequency Measurement of the Cesium D_2 Line
Phys. Rev. A 62, 031801 (2000)

Cs	Energy Levels, Wavelengths	E/T

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Laser Optogalvanic Spectroscopy of $5p^5nf$ J = 1-5 Even-Parity Rydberg Levels of Xenon
J. Phys. B 33, 4647-4655 (2000)

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

15. M. Roberts, P. Taylor, G. P. Barwood, W. R. C. Rowley, P. Gill
Observation of the $^2S_{1/2}$-$^2F_{7/2}$ Electric Octupole Transition in a Single $^{171}Yb^{+}$ Ion
Phys. Rev. A 62, 020501 (2000)

Yb^{+}	Energy Levels, Wavelengths	E/T

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Energy Levels and Transition Probabilities for Fe XXV Ions
J. Phys. B 33, 1967-1788 (2000)

Fe^{24+}	Energy Levels, Wavelengths	E/T

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The Sixth Spectrum of Iridium (Ir VI): Determination of the $5d^4$,$5d^36s$ and $5d^36p$ Configurations
Phys. Scr. 64, 295-313 (2001)

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

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Phys. Scr. 65, 227-232 (2002)

La^{9+}	Energy Levels, Wavelengths	E/T

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Phys. Scr. 65, 252-256 (2002)

Ne^{0+-7+}	Energy Levels, Wavelengths	E/T
Ar^{8+}	Energy Levels, Wavelengths	E/T
Ar^{9+}	Energy Levels, Wavelengths	E/T
Ar^{13+}	Energy Levels, Wavelengths	E/T
Ar^{14+}	Energy Levels, Wavelengths	E/T

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Revised and Extended Analysis of the Ag II Spectrum and Term System
Phys. Scr. 65, 46-55 (2002)

Ag^{+}	Energy Levels, Wavelengths	E/T

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Revised and Extended Analysis of Six Times Ionized Xenon: Xe VII
Phys. Scr. 65, 35-39 (2002)

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

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Analysis of the $4p^6 4d^8 4f$ and $4p^5 4d^{10}$ Configurations of Xe X and Some Highly Excited Levels of Xe VIII and Xe IX Ions
Phys. Scr. 65, 40-45 (2002)

$\mathbf{Xe}^{7+-9+}$	Energy Levels, Wavelengths	E/T

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Optical Spectra from Highly Charged Ions
Phys. Scr. T92, 284-286 (2001)

$\mathbf{Kr}^{22+}$	Energy Levels, Wavelengths	E/T

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Measurements of Atomic Parameters of Highly Charged Ions for Interpreting Astrophysical Spectra
Phys. Scr. T92, 130-134 (2001)

$\mathbf{Fe}^{6+}$	Energy Levels, Wavelengths	E/T

25. P. Beiersdorfer, J. A. Britten, G. V. Brown, H. Chen, E. J. Clothiaux, J. Cottam, E. Foerster, M.-F. Gu, C. L. Harris, S. M. Kahn, J. K. Lepson, P. A. Neill, D. W. Savin, H. Schulte-Schrepping, L. Schweikhard, A. J. Smith, E. Traebert, J. Tschischgale, S. B. Utter, K. L. Wong
Current Research with Highly Charged Ions in EBIT-II and SuperEBIT
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$\mathbf{Fe}^{16+-18+}$	Energy Levels, Wavelengths	E/T

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Collision Spectroscopy of Normal and Displaced Terms for Boronlike O^{3+}, F^{4+} and Ne^{5+} Ions
Phys. Scr. T92, 290-293 (2001)

$\mathbf{O}^{3+}$	Energy Levels, Wavelengths	E/T
$\mathbf{F}^{4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ne}^{5+}$	Energy Levels, Wavelengths	E/T

27. C. Z. Dong, S. Fritzsche, G. Gaigalas, T. Jacob, J. E. Sienkiewicz
Theoretical Level Structure and Decay Dynamics of Nickel-like Ions: Search for Laser Lines in the Soft X-ray Domain
Phys. Scr. T92, 314-316 (2001)

Ni Z= 74-84	Energy Levels, Wavelengths	E/T

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Phys. Scr. T92, 294-296 (2001)

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

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Additions to the Spectrum and Term System of Be II
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$\mathbf{Be}^{+}$	Energy Levels, Wavelengths	E/T

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Extended Analysis of the Spectrum and Term System of Be III
Phys. Scr. 64, 566-572 (2001)

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

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Accurate Wavelengths, Oscillator Strengths and Hyperfine Structure in Selected Praseodymium Lines of Astrophysical Interest
Phys. Scr. 64, 455-461 (2001)

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

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Visible and Near UV M1 Transitions within N-shell Ground Configurations of Heavy Ions Predicted to be Bright in Low-Density Plasmas
Phys. Scr. 64, 319-325 (2001)

$\mathbf{W}^{30+--36+}$	Energy Levels, Wavelengths	E/T
$\mathbf{W}^{42+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Pb}^{38+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Pb}^{41+--44+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Pb}^{50+}$	Energy Levels, Wavelengths	E/T
$\mathbf{U}^{49+}$	Energy Levels, Wavelengths	E/T
$\mathbf{U}^{51+--54+}$	Energy Levels, Wavelengths	E/T
$\mathbf{U}^{60+}$	Energy Levels, Wavelengths	E/T

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Nine-times Ionized Cerium Spectrum: Ce X
Phys. Scr. 64, 326-328 (2001)

$\mathbf{Ce}^{9+}$	Energy Levels, Wavelengths	E/T

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The $2s^22p^33s$, 3p and 3d Configurations in Nine Times Ionized Chlorine, Cl X
Phys. Scr. 64, 329-332 (2001)

$\mathbf{Cl}^{9+}$	Energy Levels, Wavelengths	E/T

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$\mathbf{Xe}^{18+--26+}$	Energy Levels, Wavelengths	E/T

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The Presence of Nd and Pr in HgMn Stars
Astron. Astrophys. 385, 111-130 (2002)

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

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Investigation of the Hyperfine Structure of Ta I lines (VI)
Eur. Phys. J. D 18, 267-276 (2002)

Ta	Energy Levels, Wavelengths	E/T

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Hyperfine-Structure Measurements and New Levels Evaluation in Singly Ionized Praseodymium
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$\mathbf{Pr}^{+}$	Energy Levels, Wavelengths	E/T

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Extended Analysis of the Six-times Ionized Xenon, Xe VII
Eur. Phys. J. D 15, 307-314 (2001)

$\mathbf{Xe}^{6+}$	Energy Levels, Wavelengths	E/T

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Hyperfine Structure of Hydrogenlike Thallium Isotopes
Phys. Rev. A 64, 032506 (2001)

$\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	E/T

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Measurement of the 1s2s $^1S_0$-1s2p $^3P_1$ Intercombination Interval in Helium-like Silicon
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$\mathbf{Si}^{12+}$	Energy Levels, Wavelengths	E/T

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High-Resolution Vacuum-Ultraviolet and Ultraviolet Photoionization Spectroscopy of Krypton
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Kr	Energy Levels, Wavelengths	E/T

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Magnetic-Dipole Transitions between the Lowest 3d^4 J = 2-3 Transitions in Highly Charged Titanium-like Ions
J. Phys. B 34, L767-L772 (2001)

$\mathbf{Xe}^{32+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ba}^{34+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Nd}^{38+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Gd}^{42+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Yb}^{48+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Au}^{57+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Bi}^{61+}$	Energy Levels, Wavelengths	E/T

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Fine-Structure Energy Levels and Lifetimes in Al-like Iron and Nickel
J. Phys. B 34, 4217-4230 (2001)

$\mathbf{Fe}^{13+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ni}^{15+}$	Energy Levels, Wavelengths	E/T

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Wavelength Measurements of the Satellite Transitions to the n = 2 Resonance Lines of Helium-like Argon
J. Phys. B 34, 3979-3991 (2001)

$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	E/T

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Vacuum-Ultraviolet Absorption Spectrum of the $\mathbf{Rb}^{+}$ Ion in a Laser-Generated Plasma
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$\mathbf{Rb}^{+}$	Energy Levels, Wavelengths	E/T

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The $\mathbf{2p^4 3s}$, 3p and 3d configurations in K XI
J. Phys. B 34, 3053-3061 (2001)

$\mathbf{K}^{10+}$	Energy Levels, Wavelengths	E/T

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Experimental and Theoretical Energy Levels, Transition Probabilities and Radiative Lifetimes in Yb III
J. Phys. B 34, 1869-1876 (2001)

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

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Ionization Potentials of Beryllium-like Ions from the Relativistic Coupled-Cluster-Based Linear Response Theory
J. Phys. B 33, 5129-5138 (2000)

$\mathbf{P}^{11+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ca}^{16+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ni}^{24+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Zn}^{26+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Cs}^{51+}$	Energy Levels, Wavelengths	E/T

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Even-Parity Auto-Ionizing States of Iridium I Observed by Resonance Laser Ionization Spectroscopy
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Ir	Energy Levels, Wavelengths	E/T

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Multiparameter Data Acquisition System for Spectroscopy
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Au^{44+}–$^{51+}$ Energy Levels, Wavelengths E/T

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High $2s^2np$ Rydberg Series and Ionization Energy of B I
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B Energy Levels, Wavelengths E/T

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Spectral Analysis of the $4d^95d$ and $4d^95f$ Configurations in Octuple Ionization of Xenon, Xe IX
J. Quant. Spectrosc. Radiat. Transfer 73, 13-22 (2002)

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

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$3d^2$ Configuration in Six-times-Ionized Argon, Ar VII
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Ar^{6+} Energy Levels, Wavelengths E/T

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Breit-Pauli Energy Levels and Transitions Rates for Nitrogen-like and Oxygen-like Sequences
Astron. Astrophys. 385, 716-723 (2002)

N Z= 7-17 Energy Levels, Wavelengths E/T
O Z= 8-20 Energy Levels, Wavelengths E/T

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Ba Energy Levels, Wavelengths E/T

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Ti^{11+} Energy Levels, Wavelengths E/T

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Fine-Structure in $3d^4$ States of Highly Charged Ti-like Ions
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Ti Z= 51-83 Energy Levels, Wavelengths E/T

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$\mathbf{Au}^{42+-50+}$	Energy Levels, Wavelengths	E/T

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Investigation of Even Parity Autoionizing States of Ytterbium Atoms by Two-Photon Ionization Spectroscopy
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Yb	Energy Levels, Wavelengths	E/T

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$\mathbf{O}^{+}$	Trans. prob., Oscill. Strengths	E/T

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J. Phys. B 39, 2159-2167 (2006)

C	Trans. prob., Oscill. Strengths	E/T

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The oscillator strengths of Fe II $\lambda\lambda$2507, 2509
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$\mathbf{Fe}^{+}$	Trans. prob., Oscill. Strengths	E/T

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Astrophys. J. 621, 1159-1162 (2005)

$\mathbf{Cl}^{+}$	Trans. prob., Oscill. Strengths	E/T
$\mathbf{Cl}^{2+}$	Trans. prob., Oscill. Strengths	E/T

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Electron impact excitation of Ar XVII
Astron. Astrophys. 441, 831-837 (2005)

$\mathbf{Ar}^{16+}$	Trans. prob., Oscill. Strengths	E/T

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$\mathbf{Fe}^{3+}$	Trans. prob., Oscill. Strengths	E/T

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Energy levels and radiative rates for transitions in Ar XIII, Ar XIV and Ar XV
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$\mathbf{Ar^{12+}}$	Trans. prob., Oscill. Strengths	E/T
$\mathbf{Ar^{13+}}$	Trans. prob., Oscill. Strengths	E/T

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Atomic data from the Iron Project. LVII. Radiative transition rates and collision strengths within the 3d^7 configuration of Ni IV
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$\mathbf{Ni^{3+}}$	Trans. prob., Oscill. Strengths	E/T

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Radiative transition probabilities in the O-like sequence
Astron. Astrophys. 434, 365-376 (2005)

O Z= 11-30	Trans. prob., Oscill. Strengths	E/T

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$\mathbf{Fe^{19+}}$	Trans. prob., Oscill. Strengths	E/T

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$\mathbf{Fe^{11+}}$	Trans. prob., Oscill. Strengths	E/T

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Electron impact excitation of Al XIII: A relativistic approach
Astron. Astrophys. 432, 1151-1155 (2005)

$\mathbf{Al^{12+}}$	Trans. prob., Oscill. Strengths	E/T

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$\mathbf{Fe^{2+}}$	Trans. prob., Oscill. Strengths	E/T

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Transition probabilities and lifetimes in singly ionized rhenium
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$\mathbf{Re^{+}}$	Trans. prob., Oscill. Strengths	E/T

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Electron impact excitation of Ca-like iron Fe^{6+}
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$\mathbf{Fe^{6+}}$	Trans. prob., Oscill. Strengths	E/T

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Core polarization corrections to dipole transitions for one valence electron systems in the quantum-defect approximation
Phys. Lett. A 339, 343-351 (2005)

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Kr^{7+}	Trans. prob., Oscill. Strengths	E/T
Mo^{13+}	Trans. prob., Oscill. Strengths	E/T

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Nucl. Instrum. Methods Phys. Res. B 235, 192-196 (2005)

Ni^{25+}	Trans. prob., Oscill. Strengths	E/T

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Nucl. Instrum. Methods Phys. Res. B 235, 174-179 (2005)

Ar^{9+}	Trans. prob., Oscill. Strengths	E/T

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Phys. Scr. T119, 61-66 (2005)

Fe^{+}	Trans. prob., Oscill. Strengths	E/T

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J-file sum rule tests for the 3s-3p transition array in singly ionized nitrogen-comparison of measured and calculated data
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N^{+}	Trans. prob., Oscill. Strengths	E/T

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Ge Z= 37-42	Trans. prob., Oscill. Strengths	E/T
As Z= 37-42	Trans. prob., Oscill. Strengths	E/T
Br^{2+}	Trans. prob., Oscill. Strengths	E/T

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New study on the Xe VIII spectrum
J. Quant. Spectrosc. Radiat. Transfer 95, 365-372 (2005)

Xe^{7+}	Trans. prob., Oscill. Strengths	E/T

85. Y. G. Mulye, L. Natarajan
Relativistic transition rates for dipole lines of multiply ionized argon
J. Quant. Spectrosc. Radiat. Transfer 94, 477-489 (2005)

Ar$^{10+-17+}$	Trans. prob., Oscill. Strengths	E/T

86. J. L. Zeng, J. Y. Zhong, G. Zhao, J. M. 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, 259-317 (2005)

Ni Z= 62-64	Trans. prob., Oscill. Strengths	E/T
Ni Z= 73-74	Trans. prob., Oscill. Strengths	E/T
$\mathbf{Nd}^{32+}$	Trans. prob., Oscill. Strengths	E/T

87. 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, 1-74 (2005)

$\mathbf{O}^{3+}$	Trans. prob., Oscill. Strengths	E/T

88. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ne III
At. Data Nucl. Data Tables 89, 195-265 (2005)

$\mathbf{Ne}^{2+}$	Trans. prob., Oscill. Strengths	E/T

89. W. Eissner, E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ar XII
At. Data Nucl. Data Tables 89, 139-194 (2005)

$\mathbf{Ar}^{11+}$	Trans. prob., Oscill. Strengths	E/T

90. 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)

$\mathbf{Ta}^{45+}$	Trans. prob., Oscill. Strengths	E/T

91. 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, 1-44 (2005)

$\mathbf{Fe}^{13+}$	Trans. prob., Oscill. Strengths	E/T
$\mathbf{Ni}^{15+}$	Trans. prob., Oscill. Strengths	E/T

92. U. I. Safronova, T. E. Cowan, W. R. Johnson
Relativistic many-body calculations of excitation energies, line strengths, transition rates, and oscillator strengths in Pd-like ions
Can. J. Phys. 83, 813-828 (2005)

Pd Z= 49-100	Trans. prob., Oscill. Strengths	E/T

93. C. Z. Dong, S. Fritzsche
Relativistic, relaxation, and correlation effects in spectra of Cu II
Phys. Rev. A 72, 012507 (2005)

$\mathbf{Cu}^{+}$	Trans. prob., Oscill. Strengths	E/T

94. M. J. Vilkas, Y. Ishikawa, E. Traebert
Relativistic many-body perturbation calculations of boron-like silicon, Si X
Phys. Scr. 72, 181-199 (2005)

Si^{9+} Trans. prob., Oscill. Strengths E/T

95. N. Ben Nessib, H. Elabidi, M. Cornille, J. Dubau
Radiative and collisional atomic data for neon-like silicon
Phys. Scr. 72, 23-30 (2005)

Si^{4+} Trans. prob., Oscill. Strengths E/T

96. O. Zatsarinny, K. Bartschat, L. Bandurina, V. Gedeon
Electron-impact excitation of carbon
Phys. Rev. A 71, 042702 (2005)

C Trans. prob., Oscill. Strengths E/T

97. C. Froese Fischer
Breit-Pauli lifetimes and transition probabilities for Si I
Phys. Rev. A 71, 042506 (2005)

Si Trans. prob., Oscill. Strengths E/T

98. D. R. Beck
Ab initio electric dipole f values for Fe II ($3d^6 4s + 3d^7$) J=9/2 → $3d^6 4p$ J=9/2 transitions
Phys. Scr. 71, 447-452 (2005)

Fe^{+} Trans. prob., Oscill. Strengths E/T

99. M. B. Das, S. Karmakar
Radiative lifetimes of some excited states of neutral argon
Phys. Scr. 71, 266-267 (2005)

Ar Trans. prob., Oscill. Strengths E/T

100. 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+} Trans. prob., Oscill. Strengths E/T

101. M. B. Das, S. Karmakar
Lifetime measurements of some levels belonging to the $5p^5nd$ (n=6,7,8,9) configuration of Xe I
Phys. Scr. 71, 170-171 (2005)

Xe Trans. prob., Oscill. Strengths E/T

102. E. Biemont, P. Quinet, C. J. Zeippen
Transition probabilities in Xe V
Phys. Scr. 71, 163-169 (2005)

Xe^{4+} Trans. prob., Oscill. Strengths E/T

103. M. Mohan, A. K. Singh, A. K. S. Jha, N. Singh
Fine-structure energy levels, oscillator strengths and lifetimes of chlorine-like chromium
Pramana 65, 75-84 (2005)

$\mathbf{Cr^{7+}}$	Trans. prob., Oscill. Strengths	E/T

104. J. Y. Zhong, J. L. Zeng, G. Zhao, M. A. Bari, J. Zhang
Electron impact excitation of Ti XVIII
Publ. Astron. Soc. Jpn. 57, 835-840 (2005)

$\mathbf{Ti^{17+}}$	Trans. prob., Oscill. Strengths	E/T

105. C. Chen, Z.-W. Wang
Oscillator strengths for 2s ^{2}S - 2p ^{2}P transitions of the lithium isoelectronic sequence from Na IX to Ca XVIII
Commun. Theor. Phys. 43, 305-308 (2005)

Li Z= 11-20	Trans. prob., Oscill. Strengths	E/T

106. P. Bogdanovich, R. Karpuskiene
The theoretical study of the overlapping configurations 2s2p^{5}3ℓ and 2s^{2}2p^{4}4ℓ in Ar X
J. Phys. B 38, 1557-1568 (2005)

$\mathbf{Ar^{9+}}$	Trans. prob., Oscill. Strengths	E/T

107. B. Saha, S. Fritzsche
M1 and E2 transitions in Ar II
J. Phys. B 38, 1161-1171 (2005)

$\mathbf{Ar^{+}}$	Trans. prob., Oscill. Strengths	E/T

108. M. Huang, M. Andersson, T. Brage, R. Hutton, P. Joensson, C. Chongyang, Y. Zou
Multiconfiguration Dirac-Hartree-Fock calculations for intercombination lines in silicon-like ions
J. Phys. B 38, 503-508 (2005)

Si Z= 40-42	Trans. prob., Oscill. Strengths	E/T
$\mathbf{Zn^{16+}}$	Trans. prob., Oscill. Strengths	E/T
$\mathbf{Kr^{22+}}$	Trans. prob., Oscill. Strengths	E/T
$\mathbf{Rh^{31+}}$	Trans. prob., Oscill. Strengths	E/T
$\mathbf{Xe^{40+}}$	Trans. prob., Oscill. Strengths	E/T
$\mathbf{Au^{65+}}$	Trans. prob., Oscill. Strengths	E/T

109. E. Biemont, V. Buchard, H.-P. Garnir, P.-H. Lefebvre, P. Quinet
Radiative lifetime and oscillator strength determinations in Xe VI
Eur. Phys. J. D 33, 181-191 (2005)

$\mathbf{Xe^{5+}}$	Trans. prob., Oscill. Strengths	E/T

110. M. B. Das, S. Karmakar
Radiative lifetimes of some excited states of neutral xenon
Eur. Phys. J. D 32, 285-288 (2005)

Xe	Trans. prob., Oscill. Strengths	E/T

111. M. Zhang, B.-C. Gou
Relativistic energy, oscillator strengths and transition rates of the 1s^{2}2ℓnℓ ^{1}S(m) (n=2-6, m1-5) states for Be-like system
Int. J. Mod. Phys. C 16, 951-968 (2005)

Be Z= 4-10	Trans. prob., Oscill. Strengths	E/T

112. M. Zhang, B.-C. Gou
Relativistic energy, fine structure and hyperfine structure of the low-lying excited states for Be-like system
Chin. Phys. 14, 1554-1558 (2005)

Be Z= 4-10	Trans. prob., Oscill. Strengths	E/T

113. A. Mihailescu, V. Stancalie
Complex atoms modeling for plasma diagnostics
J. Optoelectron. Adv. Mater. 7, 2413-2420 (2005)

W^{18+}	Trans. prob., Oscill. Strengths	E/T

114. J. R. Fuhr, W. L. Wiese
NIST Atomic Transition Probabilities
CRC Handbook of Chemistry and Physics, CRC Press , (2005)

H	Trans. prob., Oscill. Strengths	E/T
He	Trans. prob., Oscill. Strengths	E/T
Be	Trans. prob., Oscill. Strengths	E/T
Be^{+}	Trans. prob., Oscill. Strengths	E/T
B	Trans. prob., Oscill. Strengths	E/T
C^{0+-4+}	Trans. prob., Oscill. Strengths	E/T
N^{0+-5+}	Trans. prob., Oscill. Strengths	E/T
O^{0+-6+}	Trans. prob., Oscill. Strengths	E/T
F	Trans. prob., Oscill. Strengths	E/T
Ne	Trans. prob., Oscill. Strengths	E/T
Ne^{+}	Trans. prob., Oscill. Strengths	E/T
Ne^{4+}	Trans. prob., Oscill. Strengths	E/T
Ne^{6+}	Trans. prob., Oscill. Strengths	E/T
Ne^{7+}	Trans. prob., Oscill. Strengths	E/T
Na^{0+-2+}	Trans. prob., Oscill. Strengths	E/T
Na^{4+}	Trans. prob., Oscill. Strengths	E/T
Na^{5+-8+}	Trans. prob., Oscill. Strengths	E/T
Mg	Trans. prob., Oscill. Strengths	E/T
Mg^{+}	Trans. prob., Oscill. Strengths	E/T
Mg^{3+}	Trans. prob., Oscill. Strengths	E/T
Mg^{5+}	Trans. prob., Oscill. Strengths	E/T
Mg^{6+-10+}	Trans. prob., Oscill. Strengths	E/T
Al^{0+-2+}	Trans. prob., Oscill. Strengths	E/T
Al^{9+}	Trans. prob., Oscill. Strengths	E/T
Al^{10+}	Trans. prob., Oscill. Strengths	E/T
Si^{0+-11+}	Trans. prob., Oscill. Strengths	E/T
P^{0+-2+}	Trans. prob., Oscill. Strengths	E/T
S^{0+-7+}	Trans. prob., Oscill. Strengths	E/T
S^{10+}	Trans. prob., Oscill. Strengths	E/T
$S^{11+-13+}$	Trans. prob., Oscill. Strengths	E/T
Cl^{0+-2+}	Trans. prob., Oscill. Strengths	E/T
Ar^{0+-3+}	Trans. prob., Oscill. Strengths	E/T
Ar^{5+}	Trans. prob., Oscill. Strengths	E/T
Ar^{6+-8+}	Trans. prob., Oscill. Strengths	E/T
Ar^{12+}	Trans. prob., Oscill. Strengths	E/T
$Ar^{13+-15+}$	Trans. prob., Oscill. Strengths	E/T
K^{0+-2+}	Trans. prob., Oscill. Strengths	E/T
K^{15+}	Trans. prob., Oscill. Strengths	E/T
K^{16+}	Trans. prob., Oscill. Strengths	E/T
Ca^{0+-2+}	Trans. prob., Oscill. Strengths	E/T

Ca^{4+}	Trans. prob., Oscill. Strengths	E/T
Ca^{6+}	Trans. prob., Oscill. Strengths	E/T
Ca$^{7+–11+}$	Trans. prob., Oscill. Strengths	E/T
Ca^{14+}	Trans. prob., Oscill. Strengths	E/T
Ca^{16+}	Trans. prob., Oscill. Strengths	E/T
Ca^{17+}	Trans. prob., Oscill. Strengths	E/T
Sc	Trans. prob., Oscill. Strengths	E/T
Sc^{+}	Trans. prob., Oscill. Strengths	E/T
Ti$^{0+–3+}$	Trans. prob., Oscill. Strengths	E/T
Ti^{7+}	Trans. prob., Oscill. Strengths	E/T
Ti$^{8+–20+}$	Trans. prob., Oscill. Strengths	E/T
V$^{0+–3+}$	Trans. prob., Oscill. Strengths	E/T
Cr	Trans. prob., Oscill. Strengths	E/T
Cr^{+}	Trans. prob., Oscill. Strengths	E/T
Cr^{4+}	Trans. prob., Oscill. Strengths	E/T
Cr^{5+}	Trans. prob., Oscill. Strengths	E/T
Cr^{9+}	Trans. prob., Oscill. Strengths	E/T
Cr$^{10+–22+}$	Trans. prob., Oscill. Strengths	E/T
Mn	Trans. prob., Oscill. Strengths	E/T
Mn^{+}	Trans. prob., Oscill. Strengths	E/T
Mn^{5+}	Trans. prob., Oscill. Strengths	E/T
Fe$^{0+–2+}$	Trans. prob., Oscill. Strengths	E/T
Fe^{6+}	Trans. prob., Oscill. Strengths	E/T
Fe^{7+}	Trans. prob., Oscill. Strengths	E/T
Fe^{9+}	Trans. prob., Oscill. Strengths	E/T
Fe$^{10+–16+}$	Trans. prob., Oscill. Strengths	E/T
Fe^{18+}	Trans. prob., Oscill. Strengths	E/T
Fe$^{19+–24+}$	Trans. prob., Oscill. Strengths	E/T
Co	Trans. prob., Oscill. Strengths	E/T
Co^{+}	Trans. prob., Oscill. Strengths	E/T
Ni$^{0+–2+}$	Trans. prob., Oscill. Strengths	E/T
Ni^{13+}	Trans. prob., Oscill. Strengths	E/T
Ni$^{14+–18+}$	Trans. prob., Oscill. Strengths	E/T
Ni^{20+}	Trans. prob., Oscill. Strengths	E/T
Ni$^{21+–26+}$	Trans. prob., Oscill. Strengths	E/T
Cu	Trans. prob., Oscill. Strengths	E/T
Cu^{+}	Trans. prob., Oscill. Strengths	E/T
Zn	Trans. prob., Oscill. Strengths	E/T
Zn^{+}	Trans. prob., Oscill. Strengths	E/T
Ga	Trans. prob., Oscill. Strengths	E/T
Ga^{+}	Trans. prob., Oscill. Strengths	E/T
Ge	Trans. prob., Oscill. Strengths	E/T
Ge^{+}	Trans. prob., Oscill. Strengths	E/T
As	Trans. prob., Oscill. Strengths	E/T
Br	Trans. prob., Oscill. Strengths	E/T
Kr	Trans. prob., Oscill. Strengths	E/T
Kr^{+}	Trans. prob., Oscill. Strengths	E/T
Rb	Trans. prob., Oscill. Strengths	E/T
Sr	Trans. prob., Oscill. Strengths	E/T
Sr^{+}	Trans. prob., Oscill. Strengths	E/T
Y	Trans. prob., Oscill. Strengths	E/T
Y^{+}	Trans. prob., Oscill. Strengths	E/T
Mo	Trans. prob., Oscill. Strengths	E/T
Rh	Trans. prob., Oscill. Strengths	E/T
Ag	Trans. prob., Oscill. Strengths	E/T
Cd	Trans. prob., Oscill. Strengths	E/T
Cd^{+}	Trans. prob., Oscill. Strengths	E/T

In	Trans. prob., Oscill. Strengths	E/T
In^{+}	Trans. prob., Oscill. Strengths	E/T
Sn	Trans. prob., Oscill. Strengths	E/T
Sn^{+}	Trans. prob., Oscill. Strengths	E/T
I	Trans. prob., Oscill. Strengths	E/T
Xe	Trans. prob., Oscill. Strengths	E/T
Xe^{+}	Trans. prob., Oscill. Strengths	E/T
Cs	Trans. prob., Oscill. Strengths	E/T
Ba	Trans. prob., Oscill. Strengths	E/T
Ba^{+}	Trans. prob., Oscill. Strengths	E/T
Pr^{+}	Trans. prob., Oscill. Strengths	E/T
Nd^{+}	Trans. prob., Oscill. Strengths	E/T
Eu	Trans. prob., Oscill. Strengths	E/T
Dy	Trans. prob., Oscill. Strengths	E/T
Er	Trans. prob., Oscill. Strengths	E/T
Tm	Trans. prob., Oscill. Strengths	E/T
Yb	Trans. prob., Oscill. Strengths	E/T
Yb^{+}	Trans. prob., Oscill. Strengths	E/T
Lu	Trans. prob., Oscill. Strengths	E/T
Ta	Trans. prob., Oscill. Strengths	E/T
W	Trans. prob., Oscill. Strengths	E/T
Ir	Trans. prob., Oscill. Strengths	E/T
Au	Trans. prob., Oscill. Strengths	E/T
Hg	Trans. prob., Oscill. Strengths	E/T
Tl	Trans. prob., Oscill. Strengths	E/T
Pb	Trans. prob., Oscill. Strengths	E/T
Pb^{50+}	Trans. prob., Oscill. Strengths	E/T
Bi	Trans. prob., Oscill. Strengths	E/T
U	Trans. prob., Oscill. Strengths	E/T

115. J. Fan, N. W. Zheng
Oscillator strengths and transition probabilities for Mg-like ions
Chem. Phys. Lett. 400, 273-278 (2004)

Mg Z= 15-18	Trans. prob., Oscill. Strengths	E/T

116. J. Mitroy, M. W. J. Bromley
Properties of the triplet metastable states of the alkaline-earth-metal atoms
Phys. Rev. A 70, 052503 (2004)

He	Trans. prob., Oscill. Strengths	E/T
Be	Trans. prob., Oscill. Strengths	E/T
Mg	Trans. prob., Oscill. Strengths	E/T
Ca	Trans. prob., Oscill. Strengths	E/T
Sr	Trans. prob., Oscill. Strengths	E/T

117. I. M. Savukov
Relativistic configuration-interaction perturbation-theory method with application to intercombination and allowed transitions of light Be-like ions
Phys. Rev. A 70, 042502 (2004)

Be Z= 5-10	Trans. prob., Oscill. Strengths	E/T
Fe^{22+}	Trans. prob., Oscill. Strengths	E/T

118. K. McKeown, K. M. Aggarwal, F. P. Keenan, S. J. Rose
Energy levels and radiative rates for Li-like Ar XVI and Fe XXIV
Phys. Scr. 70, 295-303 (2004)

Ar^{15+}	Trans. prob., Oscill. Strengths	E/T
Fe^{23+}	Trans. prob., Oscill. Strengths	E/T

119. K. M. Aggarwal, F. P. Keenan
Electron impact excitation of Mo XXXIV
Phys. Scr. 69, 176-188 (2004)

Mo^{33+}	Trans. prob., Oscill. Strengths	E/T

120. M. J. Vilkas, Y. Ishikawa
Relativistic multireference many-body perturbation theory calculations on ions of the phosphorus isoelectronic sequence
J. Phys. B 37, 4673-4778 (2004)

P Z= 26-32	Trans. prob., Oscill. Strengths	E/T

121. F. O. Borges, G. H. Cavalcanti, A. G. Trigueiros
Determination of plasma temperature by a semi-empirical method
Braz. J. Phys. 34, 1673-1676 (2004)

Cu	Trans. prob., Oscill. Strengths	E/T

3.2 Atomic and Molecular Collisions

3.2.1 Photon Collisions

122. M. Huttula, E. Kukk, S. Heinasmaki, M. Jurvansuu, S. Fritzsche, H. Aksela, S. Aksela
Effects of the open-shell electronic structure in 4d photoionization and Auger decay of atomic Sn.
Phys. Rev. A 69, 012702 (2004)

hν + Sn	Photoionization	60.6 eV	E/T

123. R. Sankari, S. Ricz, A. Kover, M. Jurvansuu, D. Varga, J. Nikkinen, T. Ricsoka, H. Aksela, S. Aksela
Angular distribution of Xe ^{5}p spin-orbit components at 100-200-eV photon energies.
Phys. Rev. A 69, 012707 (2004)

hν + Xe	Photoionization	100-200 eV	Exp

124. D. M. Lucas, A. Ramos, J. P. Home, M. J. McDonnell, S. Nakayama, J.-P. Stacey, S. C. Webster, D. N. Stacey, A. M. Steane
Isotope-selective photoionization for calcium ion trapping.
Phys. Rev. A 69, 012711 (2004)

hν + Ca	Photoionization	389 nm	Exp

125. V. I. Usachenko, V. A. Pazdzersky, J. K. McIver
Reexamination of high-energy above-threshold ionization (ATI): An alternative strong-field ATI model.
Phys. Rev. A 69, 013406 (2004)

hν + H^-	Photoionization	0.117-2 eV	Th
hν + H	Photoionization	0.117-2 eV	Th
hν + He	Photoionization	0.117-2 eV	Th

126. Y. Fukuyama, Y. Moriwaki, Y. Matsuo
Laser-induced fluorescence spectra of Ba^{+}*-He exciplexes produced in cold He gas.
Phys. Rev. A 69, 042505 (2004)

Ba^{+} + He	Fluorescence	3-30 K	Exp
Ba^{+*} + He	Fluorescence	3-30 K	Exp

127. J. Koperski, M. Czajkowski
Electronic structure of the CdKr lowest Rydberg state determined from laser-excitation spectra using supersonic beam and double optical resonance methods.
Phys. Rev. A 69, 042509 (2004)

Cd + Kr	Fluorescence	Undef.	E/T
Cd + Kr	Photoexcitation	Undef.	E/T

128. Y. H. Jiang, R. Puettner, R. Hentges, J. Viefhaus, M. Poiguine, U. Becker, J. M. Rost, G. Kaindl
Partial cross sections of doubly excited helium below the ionization threshold I_7.
Phys. Rev. A 69, 042706 (2004)

hν + He	Photoexcitation	76.2-77.4 eV	Exp
hν + He	Photoionization	76.2-77.4 eV	Exp

129. S. N. Nahar
Photoionization cross sections of O II, O III, O IV, and O V: Benchmarking R-matrix theory and experiments.
Phys. Rev. A 69, 042714 (2004)

hν + O^{+}	Photoionization	30-130 eV	Th
hν + O^{2+}	Photoionization	30-130 eV	Th
hν + O^{3+}	Photoionization	30-130 eV	Th
hν + O^{4+}	Photoionization	30-130 eV	Th

130. J. B. Bluett, D. Lukic, R. Wehlitz
Triple photoionization of Ne and Ar near threshold.
Phys. Rev. A 69, 042717 (2004)

hν + Ne	Photoionization	84-146 eV	Exp
hν + Ar	Photoionization	84-146 eV	Exp

131. S. Barmaki, H. Bachau, M. Ghalim
Dissociation and ionization dynamics of $H_2{}^{+}$ with short laser pulses: The L^2 approach.
Phys. Rev. A 69, 043403 (2004)

hν + $H_2{}^{+}$	Photodissociation	228-400 nm	Th
nhν + $H_2{}^{+}$	Photodissociation	228-400 nm	Th
hν + $H_2{}^{+}$	Photoionization	228-400 nm	Th
nhν + $H_2{}^{+}$	Photoionization	228-400 nm	Th

132. C. Figueira de Morisson Faria, H. Schomerus, X. Liu, W. Becker
Electron-electron dynamics in laser-induced nonsequential double ionization.
Phys. Rev. A 69, 043405 (2004)

hν + Ne	Photoionization	1.5 eV	Th
nhν + Ne	Photoionization	1.5 eV	Th

133. I. Bersons, R. Veilande
Analytical investigation of one-dimensional Rydberg atoms interacting with half-cycle pulses.
Phys. Rev. A 69, 043408 (2004)

hν + **Rb**	Photoexcitation	Undef.	Th
hν + **Rb***	Photoexcitation	Undef.	Th

134. J.Z.H. Zhang, X. Feng, Z. Xu, D.-S. Guo
Phase-dependent angular distributions of photoelectrons in an infinite sequence of linearly polarized few-cycle pulses.
Phys. Rev. A 69, 043409 (2004)

hν + **Xe**	Photoionization	800 nm	Exp

135. J. N. Das, K. Chakrabarti, S. Paul
Converged cross-section results for double photoionization of helium atoms in hyperspherical partial wave theory at 6 eV above threshold.
Phys. Rev. A 69, 044702 (2004)

hν + **He**	Photoionization	84 eV	Th

136. H. Kjeldsen, F. Folkmann, T. S. Jacobsen, J. B. West
Feshbach resonances in inner-shell photodetachment: The case of Te^-.
Phys. Rev. A 69, 050501 (2004)

hν + **Te**$^-$	Photodetachment	34-130 eV	Exp

137. N. Shigeoka, H. Oohashi, T. Tochio, Y. Ito, T. Mukoyama, A. M. Vlaicu, S. Fukushima
Experimental investigation of the origin of the Ti K α'' satellites.
Phys. Rev. A 69, 052505 (2004)

hν + **Ti**	Fluorescence	4996-7000 eV	E/T
hν + **Ti**	Photoionization	4996-7000 eV	E/T

138. Y. H. Jiang, R. Puettner, M. Martins, R. Follath, J. M. Rost, G. Kaindl
Isotope shifts of double-excitation resonances in helium.
Phys. Rev. A 69, 052703 (2004)

hν + **He**	Photoexcitation	64.11-65.12 eV	E/T

139. P. Selles, L. Malegat, A. Huetz, A. K. Kazansky, S. A. Collins, D. P. Seccombe, T. J. Reddish
Convergence of the method of the hyperspherical R matrix with semiclassical outgoing waves.
Phys. Rev. A 69, 052707 (2004)

hν + **He**	Photoionization	20-25 eV above threshold	E/T

140. T. Otobe, K. Yabana, J.-I. Iwata
First-principles calculations for the tunnel ionization rate of atoms and molecules.
Phys. Rev. A 69, 053404 (2004)

hν + **Ar**	Photoionization	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T
hν + **Xe**	Photoionization	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T
hν + **N**$_2$	Photoionization	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T
hν + **O**$_2$	Photoionization	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T
hν + **F**$_2$	Photoionization	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T

141. T. Takekoshi, G. M. Brooke, B. M. Patterson, R. J. Knize
Absolute Rb one-color two-photon ionization cross-section measurement near a quantum interference.
Phys. Rev. A 69, 053411 (2004)

hν + Rb	Photoionization	420-600 nm	Exp

142. A. De Fanis, G. Pruemper, U. Hergenhahn, M. Oura, M. Kitajima, T. Tanaka, H. Tanaka, S. Fritzsche, N. M. Kabachnik, K. Ueda
Photoelectron recapture as a tool for the spectroscopy of ionic Rydberg states.
Phys. Rev. A 70, 040702 (2004)

hν + N	Photoionization	8707.27 eV	Exp

143. D. H. Jaecks, O. Yenen, K. W. McLaughlin, Canton,S., J. D. Bozek, M. Downsbrough
Giant spin-orbit interactions in argon photoionization.
Phys. Rev. A 70, 040703 (2004)

hν + Ar	Photoionization	36.1-36.55 eV	Exp

144. R. Shakeshaft
Integral representation of the Coulomb Green function derived from the Sturmian expansion.
Phys. Rev. A 70, 042704 (2004)

hν + H$^-$	Photodetachment	15-50 eV	Th
hν + H$^-$	Photoionization	15-50 eV	Th

145. R. Colle, D. Embriaco, M. Massini, S. Simonucci, S. Taioli
Auger-electron angular distributions calculated without the two-step approximation: Calculation of angle-resolved resonant Auger spectra of C_2H_2.
Phys. Rev. A 70, 042708 (2004)

hν + C_2H_2	Photoionization	285.8 eV	Th

146. C. Figueira de Morisson Faria, X. Liu, A. Sanpera, M. Lewenstein
Classical and quantum-mechanical treatments of nonsequential double ionization with few-cycle laser pulses.
Phys. Rev. A 70, 043406 (2004)

hν + Ne	Photoionization	1.55 eV	Th
nhν + Ne	Photoionization	1.55 eV	Th

147. T. Nakajima, S. Watanabe
Two-photon above-threshold-ionization cross sections of rare-gas atoms by XUV photons.
Phys. Rev. A 70, 043412 (2004)

hν + Ar	Photoionization	25 eV	Th
hν + Xe	Photoionization	25 eV	Th
2hν + Ar	Photoionization	25 eV	Th
2hν + Xe	Photoionization	25 eV	Th

148. W. Vanroose, F. Martin, T. N. Rescigno, C. W. McCurdy
Nonperturbative theory of double photoionization of the hydrogen molecule.
Phys. Rev. A 70, 050703 (2004)

hν + H_2	Photoionization	53.9-75.7 eV	E/T

149. S. K. Semenov, N. A. Cherepkov, A. De Fanis, Y. Tamenori, M. Kitajima, H. Tanaka, K. Ueda
Interplay of different partial waves on vibrationally resolved photoionization of the O K shell of the CO molecule.
Phys. Rev. A 70, 052504 (2004)

hν + CO	Photoionization	550 eV	E/T

150. J. Sandstroem, G. Haeffler, I. Kiyan, U. Berzinsh, D. Hanstorp, D. J. Pegg, J. C. Hunnell, S. J. Ward
Effect of polarization on photodetachment thresholds.
Phys. Rev. A 70, 052707 (2004)

hν + Li^-	Photodetachment	2.1-5 eV	E/T
hν + K^-	Photodetachment	2.1-5 eV	E/T

151. R. Santra, C. H. Greene
Multiphoton ionization of xenon in the vuv regime.
Phys. Rev. A 70, 053401 (2004)

hν + Xe	Photoionization	12.7 eV	E/T

152. M. L. Du
Closed-orbit theory for photodetachment of H^- in a sef.
Phys. Rev. A 70, 055402 (2004)

hν + H^-	Photodetachment	Undef.	Th
hν + H^- + stat el fld	Photodetachment	Undef.	Th

153. L.-Y. Peng, D. Dundas, J. F. McCann, K. T. Taylor, I. D. Williams
Dynamic tunnelling ionization of $H_2{}^+$ in intense fields.
J. Phys. B 36, L295 (2003)

hν + $H_2{}^+$	Photoionization	790-1064 nm	Th

154. H. S. Moon, S. K. Kim, K. Kim, C. H. Lee, J. B. Kim
Atomic coherence changes caused by optical pumping applied to electromagnetically induced absorption.
J. Phys. B 36, 3721 (2003)

hν + Rb	Total Absorption, Scattering	794.7 nm	Exp

155. S. F. Dyubko, V. A. Efremov, V. G. Gerasimov, K. B. MacAdam
Microwave spectroscopy of Al I Rydberg states: F terms.
J. Phys. B 36, 3797 (2003)

hν + Al	Photoexcitation	105 GHz	Exp

156. H. L. Xu, S. Svanberg, P. Quinet, H. P. Garnir, E. Biemont
Time-resolved laser-induced fluorescence lifetime measurements and relativistic Hartree-Fock calculations of transition probabilities in Sm II.
J. Phys. B 36, 4773 (2003)

hν + Sm^+	Photoexcitation	Undef.	E/T

157. I. M. Savukov
Accurate calculations of energies and oscillator strengths for light neon-like ions.
J. Phys. B 36, 4789 (2003)

hν + Na$^+$	Photoexcitation	265-1106 10^3 cm^{-1}	Th
hν + Mg^{2+}	Photoexcitation	265-1106 10^3 cm^{-1}	Th
hν + Al^{3+}	Photoexcitation	265-1106 10^3 cm^{-1}	Th
hν + Si^{4+}	Photoexcitation	265-1106 10^3 cm^{-1}	Th
hν + P^{5+}	Photoexcitation	265-1106 10^3 cm^{-1}	Th
hν + S^{6+}	Photoexcitation	265-1106 10^3 cm^{-1}	Th

158. S. F. Dyubko, V. A. Efremov, V. G. Gerasimov, K. B. MacAdam
Microwave spectroscopy of Al I atoms in Rydberg states: D and G terms.
J. Phys. B 36, 4827 (2003)

hν + Al	Photoexcitation	4-423 GHz	Exp

159. Y. Tamenori, K. Okada, S. Tanimoto, T. Ibuki, S. Nagaoka, A. Fujii, Y. Haga, I. H. Suzuki
Branching ratios of multiply charged ions formed through photoionization of Kr 3d, 3p and 3s sub-shells using a coincidence technique.
J. Phys. B 37, 117 (2004)

hν + Kr	Photoionization	210-410 eV	Exp

160. J. R. Harries, P. Hammond, R. Chandler, A. J. Murray
Laser probing of the electron-impact excited c(2p)$^3\Pi_u$ manifold of states in H_2.
J. Phys. B 37, 179 (2004)

hν + H$_2$	Photoexcitation	10.5-13.5 eV; 340-375 nm	Exp
hν + H$_2$*	Photoexcitation	10.5-13.5 eV; 340-375 nm	Exp

161. Y. Hikosaka, P. Lablanquie, M. Ahmad, F. Penent, J.H.D. Eland, R. I. Hall
The formation of fluorescent and metastable fragments by photoexcitation of some diatomic molecules in the vacuum ultraviolet region.
J. Phys. B 37, 283 (2004)

hν + CO	Photodissociation	14.8-26 eV	Exp
hν + N$_2$	Photodissociation	14.8-26 eV	Exp
hν + NO	Photodissociation	14.8-26 eV	Exp
hν + O$_2$	Photodissociation	14.8-26 eV	Exp
hν + CO	Fluorescence	14.8-26 eV	Exp
hν + N$_2$	Fluorescence	14.8-26 eV	Exp
hν + NO	Fluorescence	14.8-26 eV	Exp
hν + O$_2$	Fluorescence	14.8-26 eV	Exp
hν + CO	Photoionization	14.8-26 eV	Exp
hν + N$_2$	Photoionization	14.8-26 eV	Exp
hν + NO	Photoionization	14.8-26 eV	Exp
hν + O$_2$	Photoionization	14.8-26 eV	Exp

162. K. Hosaka, J. Adachi, M. Takahashi, A. Yagishita, P. Lin, R. R. Lucchese
Multiplet-specific N 1s photoelectron angular distributions from the fixed-in-space NO molecules.
J. Phys. B 37, L49 (2004)

hν + NO	Photoionization	410-425 eV	Exp

163. K. Miyazaki, T. Shimizu, D. Normand
Femtosecond-laser-induced alignment in Coulomb explosion of N_2.
J. Phys. B 37, 753 (2004)

hν + N$_2$	Photodissociation	800 nm	Exp
nhν + N$_2$	Photodissociation	800 nm	Exp
hν + N$_2$	Photoionization	800 nm	Exp
nhν + N$_2$	Photoionization	800 nm	Exp

164. J. Zanghellini, M. Kitzler, T. Brabec, A. Scrinzi
Testing the multi-configuration time-dependent Hartree-Fock method.
J. Phys. B 37, 763 (2004)

hν + He	Photoionization	248 nm	Th
nhν + He	Photoionization	248 nm	Th

165. M. L. Keeler, H. Flores-Rueda, J. D. Wright, T. J. Morgan
Scaled-energy spectroscopy of argon atoms in an electric field.
J. Phys. B 37, 809 (2004)

hν + Ar	Photoexcitation	33,466-33,677 cm^{-1}	E/T
hν + Ar*	Photoexcitation	33,466-33,677 cm^{-1}	E/T

166. A. M. Frolov
Photodetachment of the hydrogen and positronium negative ions.
J. Phys. B 37, 853 (2004)

hν + H$^-$	Photodetachment	0-10 eV	Th
hν + D$^-$	Photodetachment	0-10 eV	Th
hν + T$^-$	Photodetachment	0-10 eV	Th

167. C. W. McCurdy, F. Martin
Implementation of exterior complex scaling in B-splines to solve atomic and molecular collision problems.
J. Phys. B 37, 917 (2004)

hν + He	Photoionization	25-120 eV	Th

168. M. Ya. Amusia, A. S. Baltenkov, L. V. Chernysheva, Z. Felfli, S. T. Manson, A. Z. Msezane
Effects of spin-orbit activated interchannel coupling on dipole photoelectron angular distribution asymmetry parameters.
J. Phys. B 37, 937 (2004)

hν + Xe	Photoionization	675-840 eV	Th
hν + Cs	Photoionization	675-840 eV	Th
hν + Ba	Photoionization	675-840 eV	Th

169. N. M. Carlin, C. A. Ramsbottom, K. L. Bell, A. Hibbert
Corrigendum: K-shell photodetachment of the negative ion of beryllium [J. Phys. B 36, 3637-3651 (2003)].
J. Phys. B 37, 953 (2004)

hν + Be$^-$	Photodetachment	111-121 eV	Th

170. T. Suric, R. H. Pratt
O(1/ ω) corrections to the shake-off (shake-up) correlation effects in double (single) ionization of He by absorption of a photon.
J. Phys. B 37, L93 (2004)

hν + He	Photoionization	0-1 keV	E/T

171. N. M. Carlin, C. A. Ramsbottom, K. L. Bell, A. Hibbert
Inner-shell photodetachment of excited ^4S deg and ^6S deg metastable bound states of Be^-.
J. Phys. B 37, 1083 (2004)

hν + Be$^-$	Photodetachment	0-4 a.u.	Th

172. J. Colgan, M. S. Pindzola
Double photoionization of helium at high photon energies.
J. Phys. B 37, 1153 (2004)

hν + He	Photoionization	124-474 eV	Th

173. F. Burmeister, L. M. Andersson, G. Oehrwall, T. Richter, P. Zimmermann, K. Godehusen, M. Martins, H. O. Karlsson, S. L. Sorensen, O. Bjoerneholm, R. Feifel, K. Wiesner, O. Goscinski, L. Karlsson, S. Svensson, A. J. Yencha
A study of the inner-valence ionization region in HCl and DCl.
J. Phys. B 37, 1173 (2004)

hν + HCl	Photoionization	40-60 eV	Exp
hν + DCl	Photoionization	40-60 eV	Exp

174. F. Marchal, P. Berejny, N. Sewraj, Y. Salamero, P. Millet
Energy transfers in Kr-Xe mixtures following selective multiphotonic excitation of $Kr(^3P_1)$. Temporal analysis in Kr-Xe mixtures.
J. Phys. B 37, 1279 (2004)

hν + Kr	Photoexcitation	120-376 nm	Exp
hν + Xe	Photoexcitation	120-376 nm	Exp

175. H. Kjeldsen, F. Folkmann, B. Kristensen, J. B. West, J. E. Hansen
Absolute cross section for photoionization of Mn^+ in the 3p region.
J. Phys. B 37, 1321 (2004)

hν + Mn^+	Photoionization	45-70 eV	Exp

176. S. K. Semenov, N. A. Cherepkov, T. Jahnke, R. Doerner
Theoretical study of vibrationally resolved photoionization for the C K-shell of the CO molecule.
J. Phys. B 37, 1331 (2004)

hν + CO	Photoionization	290-340 eV	Th

177. O. Kugeler, E. E. Rennie, A. Ruedel, M. Meyer, A. Marquette, U. Hergehahn
N_2 valence photoionization below and above the $1s^{-1}$ core ionization threshold.
J. Phys. B 37, 1353 (2004)

hν + N_2	Photoionization	350-445 eV	Exp

178. I. A. Solov'yov, A. V. Solov'yov, W. Greiner
Optical response of small magnesium clusters.
J. Phys. B 37, L137 (2004)

hν + ${Na_3}^+$	Total Absorption, Scattering	1-7 eV	Th
hν + Na_4	Total Absorption, Scattering	1-7 eV	Th
hν + ${Na_4}^+$	Total Absorption, Scattering	1-7 eV	Th
hν + Na_5	Total Absorption, Scattering	1-7 eV	Th
hν + ${Na_5}^+$	Total Absorption, Scattering	1-7 eV	Th
hν + Na_6	Total Absorption, Scattering	1-7 eV	Th
hν + Na_7	Total Absorption, Scattering	1-7 eV	Th
hν + Na_8	Total Absorption, Scattering	1-7 eV	Th
hν + Mg_2	Total Absorption, Scattering	1-7 eV	Th
hν + Mg_3	Total Absorption, Scattering	1-7 eV	Th
hν + Mg_4	Total Absorption, Scattering	1-7 eV	Th
hν + Mg_5	Total Absorption, Scattering	1-7 eV	Th

hν + **Mg**$_6$	Total Absorption, Scattering	1-7 eV	Th
hν + **Mg**$_7$	Total Absorption, Scattering	1-7 eV	Th
hν + **Mg**$_8$	Total Absorption, Scattering	1-7 eV	Th
hν + **Mg**$_9$	Total Absorption, Scattering	1-7 eV	Th
hν + **Mg**$_{10}$	Total Absorption, Scattering	1-7 eV	Th
hν + **Mg**$_{11}$	Total Absorption, Scattering	1-7 eV	Th

179. I. H. Suzuki, A. Fujii, S. Nagaoka, M. Kosugi, K. Okada, T. Ibuki, S. Samori, Y. Tamenori, H. Ohashi
Asymmetric peaks of photoelectrons and Auger electrons formed through post-collision interaction following Kr $2p_{3/2}$ hole creation.
J. Phys. B 37, 1433 (2004)

hν + **Kr**	Photoionization	1686 eV	Exp

180. D. A. Telnov, S.-I. Chu
High-order above-threshold multiphoton detachment of H^-: Time-dependent non-Hermitian Floquet approach.
J. Phys. B 37, 1489 (2004)

hν + **H**$^-$	Photodetachment	10.6 μ m	Th
nhν + **H**$^-$	Photodetachment	10.6 μ m	Th

181. V. T. Davis, J. S. Thompson
An experimental investigation of the atomic europium anion.
J. Phys. B 37, 1961 (2004)

hν + **Eu**$^-$	Photodetachment	1064 nm	Exp

182. S. Schippers, A. Mueller, R. A. Phaneuf, T. van Zoest, I. Alvarez, C. Cisneros, E. D. Emmons, M. F. Gharaibeh, G. Hinojosa, A. S. Schlachter, S. W. Scully
Threshold truncation of a 'giant' dipole resonance in photoionization of Ti^{3+}.
J. Phys. B 37, L209 (2004)

hν + **Ti**$^{3+}$	Photoionization	42.6-49.4 eV	Exp

183. A. Heinrich, M. Lewenstein, A. Sanpera
Nonsequential double ionization of helium in low-frequency laser fields.
J. Phys. B 37, 2087 (2004)

hν + **He**	Photoionization	780 nm	Th
nhν + **He**	Photoionization	780 nm	Th

184. P. Bolognesi, M. Zitnik, L. Malegat, P. Selles, G. Turri, M. Coreno, R. Camilloni, L. Avaldi
Photo-double ionization of argon at 20 and 40 eV excess energy.
J. Phys. B 37, 2285 (2004)

hν + **He**	Photoionization	20-40 excess eV	E/T
hν + **Ar**	Photoionization	20-40 excess eV	E/T

185. N. Shigeoka, H. Oohashi, Y. Ito, T. Mukoyama, A. M. Vlaicu, S. Fukushima
Threshold excitation in Fe $K\alpha_{3,4}$ satellites.
J. Phys. B 37, 2303 (2004)

hν + **Fe**	Photoexcitation	6370-10,000 eV	Exp
hν + **Fe**	Photoionization	6370-10,000 eV	Exp

186. A. G. Kochur, A. I. Dudenko, I. D. Petrov
Calculation of Xe^{i+} photoion yields in coincidence with energy-selected $M_{45}NN$ Auger electrons.
J. Phys. B 37, 2401 (2004)

hν + Xe	Photoionization	30 above threshold (eV)	E/T

187. O. A. Fojon, J. Fernandez, A. Palacios, R. D. Rivarola, F. Martin
Interference effects in H_2 photoionization at high energies.
J. Phys. B 37, 3035 (2004)

hν + H_2	Photoionization	0-20 a.u.	Th

188. D. Bauer
Small rare gas clusters in laser fields: Ionization and absorption at long and short laser wavelengths.
J. Phys. B 37, 3085 (2004)

hν + Xe_{54}	Photodissociation	800-100 nm	Th
hν + Xe_{54}	Photoexcitation	800-100 nm	Th
hν + Xe_{54}	Photoionization	800-100 nm	Th

189. M. Kato, T. Odagiri, K. Kodama, M. Murata, K. Kameta, N. Kouchi
Doubly excited states of water in the inner valence range.
J. Phys. B 37, 3127 (2004)

hν + H_2O	Photodissociation	17-41 eV	Exp
hν + D_2O	Photodissociation	17-41 eV	Exp
hν + H_2O	Fluorescence	17-41 eV	Exp
hν + D_2O	Fluorescence	17-41 eV	Exp
hν + H_2O	Photoexcitation	17-41 eV	Exp
hν + D_2O	Photoexcitation	17-41 eV	Exp

190. J.H.D. Eland, M. Hochlaf, G. C. King, P. S. Kreynin, R. J. LeRoy, I. R. McNab, J.-M. Robbe
Photo double ionization spectra of CO: Comparison of theory with experiment.
J. Phys. B 37, 3197 (2004)

hν + CO	Photoionization	40-50 eV	E/T

191. A. N. Hopersky, I. D. Petrov, A. M. Nadolinsky, V. A. Yavna, R. V. Koneev
Anomalous elastic scattering of x-ray photon by an atom with an open shell.
J. Phys. B 37, 3313 (2004)

hν + Cu	Elastic Scattering	8970-9006 eV	Th

192. S. B. Whitfield, B. D. Krosschell, R. Wehlitz
Photoelectron spectrometry of atomic chromium in the region of the 3p -¿ 3d giant resonance.
J. Phys. B 37, 3435 (2004)

hν + Cr	Total Absorption, Scattering	38-47 eV	E/T
hν + Cr	Photoexcitation	38-47 eV	E/T
hν + Cr	Photoionization	38-47 eV	E/T

193. S. Benec'h, H. Bachau
One-, two- and three-photon ionization of calcium.
J. Phys. B 37, 3521 (2004)

hν + Ca	Photoionization	0.12-0.28 a.u.	E/T

194. S. Voss, A. S. Alnaser, X.-M. Tong, C. Maharjan, P. Ranitovic, B. Ulrich, B. Shan, Z. Chang, C. D. Lin, C. L. Cocke
High resolution kinetic energy release spectra and angular distributions from double ionization of nitrogen and oxygen by short laser pulses.
J. Phys. B 37, 4239 (2004)

hν + N$_2$	Photoionization	$10^{14} - 12x10^{14}$ W/cm^2	Exp
hν + O$_2$	Photoionization	$10^{14} - 12x10^{14}$ W/cm^2	Exp

195. P. Koval, S. Fritzsche, A. Surzhykov
Electron angular distributions in the two-photon ionization of hydrogen-like ions: A relativistic description.
J. Phys. B 37, 375 (2004)

hν + H	Photoionization	Undef.	Th
hν + Xe^{53+}	Photoionization	Undef.	Th
hν + U^{91+}	Photoionization	Undef.	Th
2hν + H	Photoionization	Undef.	Th
2hν + Xe^{53+}	Photoionization	Undef.	Th
2hν + U^{91+}	Photoionization	Undef.	Th

196. A. Ehresmann, H. Liebel, H. Schmoranzer, O. Wilhelmi, B. Zimmermann, K.-H. Schartner
VUV-fluorescence spectroscopy of O_2 photodissociation into neutral excited fragments between 17 and 19 eV.
J. Phys. B 37, 389 (2004)

hν + O$_2$	Photodissociation	17-19 eV	Exp

197. C. McKenna, H. W. van der Hart
Multiphoton ionization cross sections of neon and argon.
J. Phys. B 37, 457 (2004)

hν + Ar	Photoionization	5.4-7.8; 8-14.65 eV	Th
2hν + Ar	Photoionization	5.4-7.8; 8-14.65 eV	Th
3hν + Ar	Photoionization	5.4-7.8; 8-14.65 eV	Th

198. B. Zimmermann, K.-H. Schartner, O. Wilhelmi, S. Kammer, H. Liebel, A. Ehresmann, H. Schmoranzer
Experimental high resolution study of the photoproduction of Ne^+ 3p satellites in the threshold energy range.
J. Phys. B 37, 511 (2004)

hν + Ne	Fluorescence	52-55.5 eV	Exp
hν + Ne	Photoexcitation	52-55.5 eV	Exp
hν + Ne	Photoionization	52-55.5 eV	Exp

199. V.L.B. de Jesus, B. Feuerstein, K. Zrost, D. Fischer, A. Rudenko, F. Afaneh, C. D. Schroeter, R. Moshammer
Atomic structure dependence of nonsequential double ionization of He, Ne and Ar in strong laser pulses.
J. Phys. B 37, L161 (2004)

hν + He	Photoionization	795 nm	Exp
hν + Ne	Photoionization	795 nm	Exp
hν + Ar	Photoionization	795 nm	Exp

200. J. R. Harries, J. P. Sullivan, Y. Azuma
Experimental determination of the lifetimes of the $_2(-1,0)_n{}^0$ '2pnd'($^1P^0$) doubly excited states of helium by detection of VUV fluorescence.
J. Phys. B 37, L169 (2004)

hν + He	Fluorescence	Undef.	Exp
hν + He	Photoexcitation	Undef.	Exp

201. T. P. Grozdanov, F. Bouakline, L. Andric, R. McCarroll
Calculations of photodissociation cross sections using the Lanczos algorithm.
J. Phys. B 37, 1737 (2004)

hν + CO	Photodissociation	Undef.	Th

202. M. Vafaee, H. Sabzyan
A detailed and precise study of the ionization rates of $H_2{}^+$ in intense laser fields.
J. Phys. B 37, 4143 (2004)

hν + $H_2{}^+$	Photoionization	790 nm	Th

203. T. Birkeland, M. Forre, J. P. Hansen, S. Selsto
Dynamics of H(2p) ionization in ultrashort strong laser pulses.
J. Phys. B 37, 4205 (2004)

hν + H	Photoionization	0.1-1 a.u.	Th

204. B. Paripas, G. Vitez, Gy. Vikor, K. Tokesi, A. Calo, R. Sandari, M. Huttula, S. Aksela, H. Aksela
Angular dependence of the PCI line shape for photoionized Ne K-LL and Ar L-MM Auger transitions.
J. Phys. B 37, 4507 (2004)

hν + Ne	Photoionization	320-1200 eV	E/T
hν + Ar	Photoionization	320-1200 eV	E/T

205. J. Colgan, M. S. Pindzola, F. Robicheaux
Time-dependent close-coupling calculations for the double photoionization of He and H_2.
J. Phys. B 37, L377 (2004)

hν + He	Photoionization	40-120 eV	E/T
hν + H_2	Photoionization	40-120 eV	E/T

206. P. Bolognesi, G. Alberti, D. B. Thompson, L. Avaldi, G. C. King
A study of the partial photoionization cross sections of the N_2 valence-shell states.
J. Phys. B 37, 4575 (2004)

hν + N_2	Photoionization	20-35 eV	E/T

207. P. Yeates, E. T. Kennedy, J.-P. Mosnier, P. van Kampen, M.W.D. Mansfield, J. Pedregosa-Gutierrez, J. B. Greenwood, Ph. V. Demekhin, I. D. Petrov, B. M. Lagutin, V. L. Sukhorukov, L. A. Demekhina, J. T. Costello
Theoretical and experimental study of the extreme ultraviolet photoabsorption spectrum of triply ionized yttrium.
J. Phys. B 37, 4663 (2004)

hν + Y^{3+}	Total Absorption, Scattering	66-82 eV	E/T
hν + Y^{3+}	Photoexcitation	66-82 eV	E/T

208. D.-S. Kim, S. T. Manson
Photoionization of the ground state of the Be-like C^{2+} ion leading to C^{3+} 2ℓ and 3ℓ states.
J. Phys. B 37, 4707 (2004)

hν + C^{2+}	Photoionization	40-90 eV	E/T

209. A. Aguilar, J. S. Thompson, D. Calabrese, A. M. Covington, C. Cisneros, V. T. Davis, M. S. Gulley, M. Halka, D. Hanstorp, J. Sandstroem, B. M. McLaughlin, D. J. Pegg
Double photodetachment from the Cl^- ion.
Phys. Rev. A 69, 022711 (2004)

hν + Cl^-	Photodetachment	20-45 eV	Exp

210. A. Jaron-Becker, A. Becker, F.H.M. Faisal
Ionization of N_2, O_2, and linear carbon clusters in a strong laser pulse.
Phys. Rev. A 69, 023410 (2004)

hν + N_2	Photoionization	800 nm	Th
hν + O_2	Photoionization	800 nm	Th
hν + C_2	Photoionization	800 nm	Th

211. A. K. Langworthy, D. M. Pendergrast, J. N. Yukich
Zeeman transition strengths in photodetachment from O^- and S^-.
Phys. Rev. A 69, 025401 (2004)

hν + O^-	Photodetachment	11,700-16,700 cm^{-1}	E/T
hν + S^-	Photodetachment	11,700-16,700 cm^{-1}	E/T

212. M. Sharma, P. Singh, S. Puri, D. Mehta, N. Singh
$L_1 - L_3$ Coster-Kronig yield for elements with 70¡Z¡81.
Phys. Rev. A 59, 032501 (2004)

hν + Yb	Photoexcitation	59.4 keV	Exp
hν + Lu	Photoexcitation	59.4 keV	Exp
hν + W	Photoexcitation	59.4 keV	Exp
hν + Re	Photoexcitation	59.4 keV	Exp
hν + Au	Photoexcitation	59.4 keV	Exp
hν + Hg	Photoexcitation	59.4 keV	Exp
hν + Tl	Photoexcitation	59.4 keV	Exp

213. A. I. Mikhailov, I. A. Mikhailov, A. N. Moskalev, A. V. Nefiodov, G. Plunien, G. Soff
Nonrelativistic double photoeffect on K-shell electrons.
Phys. Rev. A 69, 032703 (2004)

hν + He	Photoionization	0.1-200 eV/z^2	Th
hν + Li^+	Photoionization	0.1-200 eV/z^2	Th
hν + O^{6+}	Photoionization	0.1-200 eV/z^2	Th
hν + Ne	Photoionization	0.1-200 eV/z^2	Th
hν + Ti	Photoionization	0.1-200 eV/z^2	Th
hν + Cr	Photoionization	0.1-200 eV/z^2	Th
hν + Fe	Photoionization	0.1-200 eV/z^2	Th
hν + Ni	Photoionization	0.1-200 eV/z^2	Th
hν + Cu	Photoionization	0.1-200 eV/z^2	Th
hν + Mo	Photoionization	0.1-200 eV/z^2	Th
hν + Mo^{40+}	Photoionization	0.1-200 eV/z^2	Th

214. C. W. McCurdy, D. A. Horner, T. N. Rescigno, F. Martin
Theoretical treatment of double photoionization of helium using a B-spline implementation of exterior complex scaling.
Phys. Rev. A 69, 032707 (2004)

hν + He	Photoionization	153-173 eV	Th

215. V. Kokoouline, C. H. Greene
Photofragmentation of the H_3 molecule, including Jahn-Teller coupling effects.
Phys. Rev. A 69, 032711 (2004)

hν + $\mathbf{H_3}$	Photodissociation	4500-0 cm^{-1}	Th

216. A. Y. Istomin, N. L. Manakov, A. F. Starace
Perturbative analysis of the triply differential cross section and circular dichroism in photo-double-ionization of He.
Phys. Rev. A 69, 032713 (2004)

hν + He	Photoionization	63-529 eV	Th

217. R. Radhakrishnan, R. B. Thayyullathil
Nonresonant multiphoton ionization in atomic hydrogen.
Phys. Rev. A 69, 033407 (2004)

hν + H	Photoionization	2700-20 $\AA$	Th

218. S. Laulan, H. Bachau
One- and two-photon double ionization of beryllium and ultrashort ultraviolet laser fields.
Phys. Rev. A 69, 033408 (2004)

hν + Be	Photoionization	13.7-210 eV	Th

219. A. Y. Istomin, N. L. Manakov, A. V. Meremianin, A. F. Starace
Circular dichroism at equal energy sharing in photo-double-ionization of He.
Phys. Rev. A 70, 010702 (2004)

hν + He	Photoionization	159-318 eV	Th

220. S. Beiser, M. Klaiber, I. Yu. Kiyan
Photodetachment in a strong circularly polarized laser field.
Phys. Rev. A 70, 011402 (2004)

hν + $\mathbf{F^-}$	Photodetachment	1400 nm	Th

221. P. O'Keeffe, S. Aloise, S. Fritzsche, B. Lohmann, U. Kleiman, M. Meyer, A. N. Grum-Grzhimailo
Resonant Auger decay of Xe* $4d_{5/2}{}^{-1}6p$: A contribution to the complete experiment from fluorescence polarization studies.
Phys. Rev. A 70, 012705 (2004)

hν + Xe	Fluorescence	65 eV	E/T
hν + $\mathbf{Xe^*}$	Fluorescence	65 eV	E/T
hν + Xe	Photoionization	65 eV	E/T
hν + $\mathbf{Xe^*}$	Photoionization	65 eV	E/T

222. S. Jones, J. H. Macek, D. H. Madison
Test of the Pluvinage wave function for the helium ground state.
Phys. Rev. A 70, 012712 (2004)

hν + He	Photoionization	5.6 keV	Th

223. P. Bolognesi, A. De Fanis, M. Coreno, L. Avaldi
Complete characterization of the Ar $2p_{3/2}$ photoionization via Auger-electron-photoelectron coincidence experiments.
Phys. Rev. A 70, 022701 (2004)

hν + Ar	Photoionization	Undef.	Exp

224. H. L. Zhou, S. T. Manson, A. Hibbert, L. Vo Ky, N. Feautrier, J.-C. Chang
Photodetachment of the outer shell of C^- in the ground state.
Phys. Rev. A 70, 022713 (2004)

hν + C^-	Photodetachment	0-13 eV	Th

225. A. Pohl, P.-G. Reinhard, E. Suraud
Angular distribution of electrons emitted from Na clusters.
Phys. Rev. A 70, 023202 (2004)

hν + $Na_9{}^+$	Photoionization	0.1-1.9 Ry	Th
hν + $Na_{41}{}^+$	Photoionization	0.1-1.9 Ry	Th

226. X. M. Tong, C. D. Lin
Time-resolved sequential double ionization of D_2 molecules in an intense few-cycle laser pulse.
Phys. Rev. A 70, 023406 (2004)

hν + H_2	Photoionization	800 nm	Th
hν + D_2	Photoionization	800 nm	Th
2hν + H_2	Photoionization	800 nm	Th
2hν + D_2	Photoionization	800 nm	Th

227. A. S. Alnaser, X. M. Tong, T. Osipov, S. Voss, C. M. Maharjan, B. Shan, Z. Chang, C. L. Cocke
Laser-peak-intensity calibration using recoil-ion momentum imaging.
Phys. Rev. A 70, 023413 (2004)

hν + H_2	Photodissociation	Undef.	Exp
hν + He	Photoionization	Undef.	Exp
hν + H_2	Photoionization	Undef.	Exp

228. A. Ehresmann, S. Klumpp, L. Werner, H. Schmoranzer, S. Kammer, S. Mickat, K. H. Schartner, I. D. Petrov, Ph. V. Demekhin, V. L. Sukhorukov
Observation and identification of doubly excited KrI $4s^2 4p^4 5sn\ \ell$ Rydberg series.
J. Phys. B 37, L251 (2004)

hν + Kr	Fluorescence	28.4-28.7 eV	Exp
hν + Kr	Photoionization	28.4-28.7 eV	Exp

229. C. Beylerian, C. Cornaggia
Coulomb explosion imaging of fragmentation channels following laser-induced double ionization of N_2.
J. Phys. B 37, L259 (2004)

hν + N_2	Photodissociation	Undef.	Exp
hν + N_2	Photoionization	Undef.	Exp

230. R. Hentges, N. Mueller, J. Viefhaus, U. Heinzmann, U. Becker
Photoelectron recapture observed via second-step Auger decay.
J. Phys. B 37, L267 (2004)

hν + Ne	Photoionization	865-873 eV	Exp

231. A. B. Voitkiv, N. Gruen, J. Ullrich
Compton scattering by a bound electron in the presence of a low-frequency electromagnetic field.
J. Phys. B 37, 2641 (2004)

hν + H	Photoionization	20 keV	Th

232. M. Glass-Maujean, S. Klumpp, L. Werner, A. Ehresmann, H. Schmoranzer
Photodissociation of doubly excited states of H_2 into H(2s) and H(2p) fragments.
J. Phys. B 37, 2677 (2004)

hν + H_2	Photodissociation	28-45 eV	Exp
hν + H_2^*	Photodissociation	28-45 eV	Exp

233. E. Kukk, M. Huttula, J. Rius i Riu, H. Aksela, S. Aksela
Photoionization, photoexcitation and photofragmentation of caesium halide dimers.
J. Phys. B 37, 2739 (2004)

hν + CsCl	Photodissociation	7-20 eV	E/T
hν + CsBr	Photodissociation	7-20 eV	E/T
hν + Cs_2Cl_2	Photodissociation	7-20 eV	E/T
hν + Cs_2Br_2	Photodissociation	7-20 eV	E/T
hν + CsCl	Photoexcitation	7-20 eV	E/T
hν + CsBr	Photoexcitation	7-20 eV	E/T
hν + Cs_2Cl_2	Photoexcitation	7-20 eV	E/T
hν + Cs_2Br_2	Photoexcitation	7-20 eV	E/T
hν + CsCl	Photoionization	7-20 eV	E/T
hν + CsBr	Photoionization	7-20 eV	E/T
hν + Cs_2Cl_2	Photoionization	7-20 eV	E/T
hν + Cs_2Br_2	Photoionization	7-20 eV	E/T

234. E. Costa i Bricha, C.L.S. Lewis, H. W. van der Hart
Multiphoton ionization of Ar^{7+} in two-colour laser fields using R-matrix Floquet theory.
J. Phys. B 37, 2755 (2004)

hν + Ar^{7+}	Photoionization	52.5-54 eV	Th
nhν + Ar^{7+}	Photoionization	52.5-54 eV	Th

235. Y. Hikosaka, T. Aoto, E. Shigemasa, K. Ito
Autoionization selectivity of Ne^+ Rydberg states converging to Ne^{2+} ($^1S^e$).
J. Phys. B 37, 2823 (2004)

hν + Ne	Photoionization	65.5-68.3 eV	Exp
nhν + Ne	Photoionization	65.5-68.3 eV	Exp

236. T. Odagiri, M. Murata, M. Kato, N. Kouchi
(γ, 2γ) studies on doubly excited states of molecular hydrogen.
J. Phys. B 37, 3909 (2004)

hν + H_2	Photodissociation	25-45 eV	E/T
hν + H_2	Fluorescence	25-45 eV	E/T

237. I. Maruyama, T. Sako, K. Yamanouchi
Time-dependent nuclear wavepacket dynamics of $H_2{}^+$ by quasi-stationary Floquet approach.
J. Phys. B 37, 3919 (2004)

hν + $H_2{}^+$	Photodissociation	800-1200 nm	Th

238. S. A. Trushin, W. Fuss, W. E. Schmid
Dissociative ionization at high laser intensities: Importance of resonances and relaxation for fragmentation.
J. Phys. B 37, 3987 (2004)

hν + NiC_4O_4	Photodissociation	800-1350 cm	Exp
hν + FeC_5O_5	Photodissociation	800-1350 cm	Exp
hν + CrC_6O_6	Photodissociation	800-1350 cm	Exp
hν + NiC_4O_4	Photoionization	800-1350 cm	Exp
hν + FeC_5O_5	Photoionization	800-1350 cm	Exp
hν + CrC_6O_6	Photoionization	800-1350 cm	Exp

239. D.-S. Kim, S. T. Manson
Photoionization of the ground-state Be-like B^+ ion leading to the n = 2 and n = 3 states of B^{2+}.
J. Phys. B 37, 4013 (2004)

hν + B^+	Photoionization	25-50 eV	Th

240. R. Das, N. C. Deb, K. Roy, A. Z. Msezane
Dipole allowed and intercombination transitions in K^{7+} and Ti^{10+} ions.
Astron. Astrophys. 416, 375 (2004)

hν + K^{7+}	Photoexcitation	300,000 cm^{-1}	Th
hν + Ti^{10+}	Photoexcitation	300,000 cm^{-1}	Th

241. V. Jonauskas, F. P. Keenan, M. E. Foord, R. F. Heeter, S. J. Rose, P.A.M. van Hoof, G. J. Ferland, K. M. Aggarwal, R. Kisielius, P. H. Norrington
Relativistic allowed and forbidden transition probabilities for fluorine-like Fe XVIII.
Astron. Astrophys. 416, 383 (2004)

hν + Fe^{17+}	Photoexcitation	100,000-800,000 cm^{-1}	Th

242. P. R. Young
Radiative data for Fe XIII.
Astron. Astrophys. 417, 785 (2004)

hν + Fe^{12+}	Photoexcitation	600-150 $\AA$	Th

243. M. A. Bautista, C. Mendoza, T. R. Kallman, P. Palmeri
K-shell photoionization and electron impact excitation of Fe XVII-Fe XXIII.
Astron. Astrophys. 418, 1171 (2004)

hν + Fe^{16+}	Photoionization	100-2000 Ry	Th
hν + Fe^{17+}	Photoionization	100-2000 Ry	Th
hν + Fe^{18+}	Photoionization	100-2000 Ry	Th
hν + Fe^{19+}	Photoionization	100-2000 Ry	Th
hν + Fe^{20+}	Photoionization	100-2000 Ry	Th
hν + Fe^{21+}	Photoionization	100-2000 Ry	Th
hν + Fe^{22+}	Photoionization	100-2000 Ry	Th

244. K. M. Aggarwal, F. P. Keenan, R. Kisielius
Radiative rates for transitions in Fe XVII.
Astron. Astrophys. 420, 783 (2004)

hν + **Fe**$^{16+}$	Photoexcitation	53-91 Ry	Th

245. L. Andric, F. Bouakline, T. P. Grozdanov, R. McCarroll
Effect of non-adiabatic coupling on the isotopic dependence of the photodissociation cross section of CO.
Astron. Astrophys. 421, 381 (2004)

hν + **CO**	Photodissociation	90,000-106,000 cm^{-1}	Th

246. C. Colon, A. Alonso-Medina
Lifetimes and oscillator strengths for the 5s5p6s, 5s5p5d and $5p^3$ levels in single-ionized tin.
Astron. Astrophys. 422, 1109 (2004)

hν + **Sn**$^{+}$	Photoexcitation	10^5 cm^{-1}	Th

247. M. Eidelsberg, J. L. Lemaire, J. H. Fillion, F. Rostas, S. R. Federman, Y. Sheffer
Oscillator strengths for transitions to Rydberg levels in $^{12}C^{16}O$, $^{13}C^{16}O$ and $^{13}C^{18}O$ between 967 and 972 $\AA$.
Astron. Astrophys. 424, 355 (2004)

hν + **CO**	Photoexcitation	972-967 $\AA$	Exp

248. V. Jonauskas, F. P. Keenan, M. E. Foord, R. F. Heeter, S. J. Rose, G. J. Ferland, R. Kisielius, P.A.M. van Hoof, P. H. Norrington
Dirac-Fock energy levels and transition probabilities for oxygen-like Fe XIX.
Astron. Astrophys. 424, 363 (2004)

hν + **Fe**$^{18+}$	Photoexcitation	1600-10 $\AA$	Th

249. S. Ivarsson, G. M. Wahlgren, Z. Dai, H. Lundberg, D. S. Leckrone
Constraining the very heavy elemental abundance peak in the chemically peculiar star χ Lupi, with new atomic data for Os II and Ir II.
Astron. Astrophys. 425, 353 (2004)

hν + **Os**$^{+}$	Photoexcitation	3800-1900 $\AA$	Exp
hν + **Ir**$^{+}$	Photoexcitation	3800-1900 $\AA$	Exp

250. S. S. Tayal
Accurate calculation of oscillator strengths for Cl II lines using non-orthogonal wavefunctions.
Astron. Astrophys. 426, 717 (2004)

hν + **Cl**$^{+}$	Photoexcitation	Undef.	Th

251. K. M. Aggarwal, F. P. Keenan
Radiative rates for E1, E2, M1 and M2 transitions in Fe X.
Astron. Astrophys. 427, 763 (2004)

hν + **Fe**$^{9+}$	Photoexcitation	0.0-9.0 Ry	Th

252. S. J. Smith, I. Cadez, A. Chutjian, M. Niimura
Measurement of the metastable lifetime for the $2s^22p^2$ $^1S_0$ level in O^{2+}.
Astrophys. J., Part 1 602, 1075 (2004)

hν + O^{2+}	Photoexcitation	232.17 nm	Exp

253. J. E. Lawler, C. Sneden, J. J. Cowan
Improved atomic data for Ho II and new holmium abundances for the Sun and three metal-poor stars.
Astrophys. J., Part 1 604, 850 (2004)

hν + Ho^{+}	Photoexcitation	24,000-31,000 cm^{-1}	Exp

254. S. Otranto, C. R. Garibotti
Angular distributions for photo-double-ionization of the He isoelectronic sequence.
Eur. Phys. J. D 27, 215 (2003)

hν + He Z= ?-?	Photoionization	Undef.	Th

255. O. Icelli, S. Erzenoglu
A new method for the determination of molecular scattering differential cross sections in some lanthanide compounds with energy dispersive X-ray fluorescence system.
Nucl. Instrum. Methods Phys. Res. B 215, 9 (2004)

hν + La_2O_3	Elastic Scattering	59.5 keV	E/T
hν + CeO_2	Elastic Scattering	59.5 keV	E/T
hν + Nd_2O_3	Elastic Scattering	59.5 keV	E/T

256. R. Feifel, V. Kimberg, A. Baev, F. Gel'mukhanov, H. Agren, C. Miron, G. Oehrwall, M. N. Piancastelli, S. L. Sorensen, L. Karlsson, S. Svensson
Profile of resonant photoelectron spectra versus the spectral function width and photon frequency detuning.
Phys. Rev. A 70, 032708 (2004)

hν + N_2	Photoionization	401 eV	Exp

257. Z. Chen, A. Z. Msezane
Generalized oscillator strengths for inner-shell electron transitions.
Phys. Rev. A 70, 032714 (2004)

hν + Na	Photoexcitation	0-12 q^2 a.u.	Th

258. I. Liontos, A. Bolovinos, S. Cohen, A. Lyras
Single and double ionization of magnesium via four-photon excitation of the $3p^2$ $^1S_0$ autoionizing state: Experimental and theoretical analysis.
Phys. Rev. A 70, 033403 (2004)

hν + Mg	Photoionization	594-584 nm	E/T

259. F. Lepine, Ch. Bordas, C. Nicole, M.J.J. Vrakking
Atomic photoionization process under magnification.
Phys. Rev. A 70, 033417 (2004)

hν + Xe	Photoionization	Threshold	Exp
hν + Xe^*	Photoionization	Threshold	Exp

260. A. De Fanis, M. Oura, N. Saito, M. Machida, M. Nagoshi, A. Knapp, J. Nickles, A. Czasch, R. Doerner, Y. Tamenori, H. Chiba, M. Takahashi, J.H.D. Eland, K. Ueda
Photoelectron-photoion-photoion coincidence in Ar dimers.
J. Phys. B 37, L235 (2004)

hν + Ar_2	Photodissociation	252-294.9 eV	Exp
hν + Ar_2	Photoionization	252-294.9 eV	Exp

261. U. Hergenhahn
Vibrational structure in inner shell photoionization of molecules.
J. Phys. B 37, R89 (2004)

hν + CH_4	Photodissociation	295-580 eV	E/T
hν + CO	Photodissociation	295-580 eV	E/T
hν + CO_2	Photodissociation	295-580 eV	E/T
hν + N_2	Photodissociation	295-580 eV	E/T
hν + O_2	Photodissociation	295-580 eV	E/T
hν + C_2H_6	Photodissociation	295-580 eV	E/T
hν + C_6H_6	Photodissociation	295-580 eV	E/T
hν + C_4H_4O	Photodissociation	295-580 eV	E/T
hν + CH_4	Photoexcitation	295-580 eV	E/T
hν + CO	Photoexcitation	295-580 eV	E/T
hν + CO_2	Photoexcitation	295-580 eV	E/T
hν + N_2	Photoexcitation	295-580 eV	E/T
hν + O_2	Photoexcitation	295-580 eV	E/T
hν + C_2H_6	Photoexcitation	295-580 eV	E/T
hν + C_6H_6	Photoexcitation	295-580 eV	E/T
hν + C_4H_4O	Photoexcitation	295-580 eV	E/T

262. A. N. Hopersky, V. A. Yavna, A. M. Nadolinsky, D. V. Dzuba
Elastic scattering of photon by the Ne atom and the Ne^{6+} ion.
J. Phys. B 37, 2511 (2004)

hν + Ne	Elastic Scattering	865-1102 eV	Th
hν + Ne^{6+}	Elastic Scattering	865-1102 eV	Th

263. J. Zeng, G. Dong, G. Zhao, J. Yuan
The photoionization of Fe^{7+} and Fe^{8+} in the 2p-3d resonance energy region.
J. Phys. B 37, 2529 (2004)

hν + Fe^{7+}	Photoionization	725-755 eV	Th
hν + Fe^{8+}	Photoionization	725-755 eV	Th

264. F. Delahaye, S. N. Nahar, A. K. Pradhan, H. L. Zhang
Resolution and accuracy of resonances in R-matrix cross sections.
J. Phys. B 37, 2585 (2004)

hν + O^+	Photoionization	Undef.	Th
hν + O^{+*}	Photoionization	Undef.	Th

265. S.-W. Yu, W. C. Stolte, R. Guillemin, G. Oehrwall, I. C. Tran, M. N. Piancastelli, R. Feng, D. W. Lindle
Photofragmentation study of core-excited NO.
J. Phys. B 37, 3583 (2004)

hν + NO	Photodissociation	400-430 eV	Exp
hν + NO	Photoexcitation	400-430 eV	Exp
hν + NO	Photoionization	400-430 eV	Exp

266. S. S. Tayal
Photoionization of atomic phosphorus from ground and excited states.
J. Phys. B 37, 3593 (2004)

hν + P	Photoionization	10.5-25.5 eV	Th

267. T. Matsui, H. Yoshii, K. Tsukamoto, S. Kawakita, E. Murakami, J. Adachi, A. Yagishita, Y. Morioka, T. Hayaishi
Multiple photoionization following $3d_{5/2} - shell$ threshold ionization of Xe.
J. Phys. B 37, 3745 (2004)

hν + Xe	Photoionization	672-682 eV	Exp

268. A. Rudenko, K. Zrost, C. D. Schroeter, V.L.B. de Jesus, B. Feuerstein, R. Moshammer, J. Ullrich
Resonant structures in the low-energy electron continuum for single ionization of atoms in the tunnelling regime.
J. Phys. B 37, L407 (2004)

hν + He	Photoionization	795 nm	Exp
hν + Ne	Photoionization	795 nm	Exp
hν + Ar	Photoionization	795 nm	Exp

269. A. Natarajan, L. Natarajan
$K\beta$ **x-ray satellites of highly ionized iron.**
J. Phys. B 37, 4789 (2004)

hν + Fe^{22+}	Photoexcitation	Undef.	E/T
hν + Fe^{24+}	Photoexcitation	Undef.	E/T

270. N. A. Cherepkov, S. K. Semenov, A. V. Golovin, J. Adachi, A. Yagishita
O K-shell photoemission of the CO molecule: Comparison between theory and experiment.
J. Phys. B 37, 4803 (2004)

hν + CO	Total Absorption, Scattering	540-590 eV	Th
hν + CO	Photodissociation	540-590 eV	Th
hν + CO	Photoionization	540-590 eV	Th

271. A. Reber, F. Martin, H. Bachau, R. S. Berry
Three-photon above-threshold ionization of magnesium.
Phys. Rev. A 68, 063401 (2003)

hν + Mg	Photoionization	0.145-0.215 a.u.	E/T

272. R. Reichle, H. Helm, I. Yu. Kiyan
Detailed comparison of theory and experiment of strong-field photodetachment of the negative hydrogen ion.
Phys. Rev. A 68, 063404 (2003)

hν + H^-	Photodetachment	2.15 μ m	E/T

273. A. A. Khusivadze, I. I. Fabrikant, U. Thumm
Static electric-field effects in the photodetachment of Cs^- at the ^3P resonance region.
Phys. Rev. A 68, 063405 (2003)

hν + Cs^-	Photodetachment	0-0.04 eV	Th

274. J. Colgan, M. S. Pindzola, F. Robicheaux
Time-dependent studies of single and multiple photoionization of ${H_2}^+$.
Phys. Rev. A 68, 063413 (2003)

hν + H_2^+	Photoionization	40-200 eV	Th

275. R. Wehlitz, M. M. Martinez, J. B. Bluett, D. Lukic, S. B. Whitfield
Double-to-single photoionization ratio of lithium at medium energies.
Phys. Rev. A 69, 062709 (2004)

hν + Li	Photoionization	120-910 eV	Exp

276. G. B. Armen, E. P. Kanter, B. Kraessig, J. C. Levin, S. H. Southworth, L. Young
Spectator-electron behavior during cascade decay in krypton.
Phys. Rev. A 69, 062710 (2004)

hν + Kr	Photoionization	14.326 keV	Exp

277. D. Toffoli, M. J. Simpson, R. R. Lucchese
Cross-section and asymmetry-parameter calculations for the outer- and inner-valence photoionization of ethane.
Phys. Rev. A 69, 062712 (2004)

hν + C_2H_6	Photoionization	10-50 eV	Th

278. A. S. Kornev, E. B. Tulenko, B. A. Zon
Ne^+ and Ne^{2+} ion formation in circularly polarized laser fields: Comparison between theory and experiment.
Phys. Rev. A 69, 065401 (2004)

hν + Ne	Photoionization	614 nm	Th

279. K. I. Dimitriou, D. G. Arbo, S. Yoshida, E. Persson, J. Burgdorfer
Origin of the double-peak structure in the momentum distribution of ionization of hydrogen atoms driven by strong laser fields.
Phys. Rev. A 70, 061401 (2004)

hν + H	Photoionization	0.05 a.u.	Th

280. M. Ya. Amusia, N. A. Cherepkov, L. V. Chernysheva, Z. Felfli, A. Z. Msezane
Spin polarization of photoelectrons from 3d electrons of Xe, Cs, and Ba.
Phys. Rev. A 70, 062709 (2004)

hν + Xe	Photoionization	670-810 eV	Th
hν + Cs	Photoionization	670-810 eV	Th
hν + Ba	Photoionization	670-810 eV	Th

281. P. Bolognesi, R. Flammini, A. Kheifets, I. Bray, L. Avaldi
Experimental observation of initial-state effects in photo-double-ionization of Ne 2s.
Phys. Rev. A 70, 062715 (2004)

hν + He	Photoionization	60-142 eV	Exp
hν + Ne	Photoionization	60-142 eV	Exp

282. N. Saito, D. Toffoli, R. R. Lucchese, M. Nagoshi, A. De Fanis, Y. Tamenori, M. Oura, H. Yamaoka, M. Kitajima, H. Tanaka, U. Hergenhahn, K. Ueda
Symmetry- and multiplet-resolved N 1s photoionization cross sections of the NO_2 molecule.
Phys. Rev. A 70, 062724 (2004)

hν + NO_2	Photoionization	410-420 eV	E/T

283. D. A. Horner, J. Colgan, F. Martin, C. W. McCurdy, M. S. Pindzola, T. N. Rescigno
Symmetrized complex amplitudes for He double photoionization from the time-dependent close-coupling and exterior complex scaling methods.
Phys. Rev. A 70, 064701 (2004)

hν + He	Photoionization	100-120 eV	Th

284. P. Singh, D. Mehta, S. Kumar, M. Sharma, S. Puri, J. S. Shahi, N. Singh
Large angle elastic and inelastic scattering of 14.93 keV photons.
Nucl. Instrum. Methods Phys. Res. B 222, 1 (2004)

hν + H	Elastic Scattering	14.9 keV	Exp
hν + C	Elastic Scattering	14.9 keV	Exp
hν + F	Elastic Scattering	14.9 keV	Exp
hν + Al	Elastic Scattering	14.9 keV	Exp
hν + Si	Elastic Scattering	14.9 keV	Exp
hν + Ti	Elastic Scattering	14.9 keV	Exp
hν + V	Elastic Scattering	14.9 keV	Exp
hν + Fe	Elastic Scattering	14.9 keV	Exp
hν + Co	Elastic Scattering	14.9 keV	Exp
hν + Ni	Elastic Scattering	14.9 keV	Exp
hν + Cu	Elastic Scattering	14.9 keV	Exp
hν + Zn	Elastic Scattering	14.9 keV	Exp
hν + Ge	Elastic Scattering	14.9 keV	Exp
hν + Zr	Elastic Scattering	14.9 keV	Exp
hν + Nb	Elastic Scattering	14.9 keV	Exp
hν + Mo	Elastic Scattering	14.9 keV	Exp
hν + Rh	Elastic Scattering	14.9 keV	Exp
hν + Pd	Elastic Scattering	14.9 keV	Exp
hν + Ag	Elastic Scattering	14.9 keV	Exp
hν + Cd	Elastic Scattering	14.9 keV	Exp
hν + In	Elastic Scattering	14.9 keV	Exp
hν + Sn	Elastic Scattering	14.9 keV	Exp
hν + Gd	Elastic Scattering	14.9 keV	Exp
hν + Dy	Elastic Scattering	14.9 keV	Exp
hν + Ho	Elastic Scattering	14.9 keV	Exp
hν + Tm	Elastic Scattering	14.9 keV	Exp
hν + Yb	Elastic Scattering	14.9 keV	Exp
hν + W	Elastic Scattering	14.9 keV	Exp
hν + Re	Elastic Scattering	14.9 keV	Exp
hν + Ir	Elastic Scattering	14.9 keV	Exp
hν + Pt	Elastic Scattering	14.9 keV	Exp
hν + Au	Elastic Scattering	14.9 keV	Exp
hν + Hg	Elastic Scattering	14.9 keV	Exp
hν + U	Elastic Scattering	14.9 keV	Exp
hν + H	Photoionization	14.9 keV	Exp
hν + C	Photoionization	14.9 keV	Exp
hν + F	Photoionization	14.9 keV	Exp
hν + Al	Photoionization	14.9 keV	Exp
hν + Si	Photoionization	14.9 keV	Exp
hν + Ti	Photoionization	14.9 keV	Exp
hν + V	Photoionization	14.9 keV	Exp
hν + Fe	Photoionization	14.9 keV	Exp
hν + Co	Photoionization	14.9 keV	Exp
hν + Ni	Photoionization	14.9 keV	Exp
hν + Cu	Photoionization	14.9 keV	Exp
hν + Zn	Photoionization	14.9 keV	Exp

hν + Ge	Photoionization	14.9 keV	Exp
hν + Zr	Photoionization	14.9 keV	Exp
hν + Nb	Photoionization	14.9 keV	Exp
hν + Mo	Photoionization	14.9 keV	Exp
hν + Rh	Photoionization	14.9 keV	Exp
hν + Pd	Photoionization	14.9 keV	Exp
hν + Ag	Photoionization	14.9 keV	Exp
hν + Cd	Photoionization	14.9 keV	Exp
hν + In	Photoionization	14.9 keV	Exp
hν + Sn	Photoionization	14.9 keV	Exp
hν + Gd	Photoionization	14.9 keV	Exp
hν + Dy	Photoionization	14.9 keV	Exp
hν + Ho	Photoionization	14.9 keV	Exp
hν + Tm	Photoionization	14.9 keV	Exp
hν + Yb	Photoionization	14.9 keV	Exp
hν + W	Photoionization	14.9 keV	Exp
hν + Re	Photoionization	14.9 keV	Exp
hν + Ir	Photoionization	14.9 keV	Exp
hν + Pt	Photoionization	14.9 keV	Exp
hν + Au	Photoionization	14.9 keV	Exp
hν + Hg	Photoionization	14.9 keV	Exp
hν + U	Photoionization	14.9 keV	Exp

285. S. Otranto, C. R. Garibotti
A new C3-like model for the photodouble ionization of He.
Nucl. Instrum. Methods Phys. Res. B 222, 19 (2004)

hν + He	Photoionization	75-300 eV	Th

286. P. Singh, D. Mehta, N. Singh, S. Puri, J. S. Shahi
Measurements of Rayleigh, Compton and resonant Raman scattering cross-sections for 59.536 keV $\gamma - rays$.
Nucl. Instrum. Methods Phys. Res. B 225, 198 (2004)

hν + Yb	Elastic Scattering	60 keV	Exp
hν + Lu	Elastic Scattering	60 keV	Exp
hν + Hf	Elastic Scattering	60 keV	Exp

287. M. Faye, S. T. Wane, S. Ndiaye
Non resonant two photon ionization of atomic hydrogen: Exact expressions of angular distribution.
Phys. Scr. 68, 352 (2003)

hν + H	Photoionization	1-4 eV	Th

288. G. G. Paulus, F. Grasbon, H. Walther
Interference effects in above-threshold ionization.
Phys. Scr. 68, C118 (2003)

hν + Ar	Photoionization	Undef.	E/T
hν + Xe	Photoionization	Undef.	E/T
hν + O$_2$	Photoionization	Undef.	E/T

289. Th. Weber, A. Czasch, O. Jagutzki, A. Mueller, V. Mergel, A. Kheifets, J. Feagin, E. Rotenberg, G. Meigs, M. H. Prior, S. Daveau, A. L. Landers, C. L. Cocke, T. Osipov, H. Schmidt-Boecking, R. Doerner
Fully differential cross sections for photo-double-ionization of D_2.
Phys. Rev. Lett. 92, 163001 (2004)

hν + H_2	Photoionization	75.5-103 eV	Exp
hν + D_2	Photoionization	75.5-103 eV	Exp

290. M. N. Piancastelli, R. Sankari, S. Sorensen, A. De Fanis, H. Yoshida, M. Kitajima, H. Tanaka, K. Ueda
Resonant Auger decay of above-threshold core-excited H_2O.
Phys. Rev. A 71, 010703 (2005)

hν + H_2O	Photodissociation	531-552 eV	Exp
hν + H_2O	Photoionization	531-552 eV	Exp

291. Z. Zhou, S.-I. Chu
Exploration of Coulomb explosion dynamics through excited vibrational states of molecules.
Phys. Rev. A 71, 011402 (2005)

hν + H_2^+	Photodissociation	532 nm	Th
hν + H_2^{+*}	Photodissociation	532 nm	Th

292. M. Alagia, R. Richter, S. Stranges, M. Agaker, M. Stroem, J. Soederstroem, C. Sathe, R. Feifel, S. Sorensen, A. De Fanis, K. Ueda, R. Fink, J.-E. Rubensson
Core level ionization dynamics in small molecules studied by x-ray-emission threshold-electron coincidence spectroscopy.
Phys. Rev. A 71, 012506 (2005)

hν + N_2	Fluorescence	408-546 eV	Exp
hν + N_2O	Fluorescence	408-546 eV	Exp
hν + O_2	Fluorescence	408-546 eV	Exp
hν + N_2	Photoionization	408-546 eV	Exp
hν + N_2O	Photoionization	408-546 eV	Exp
hν + O_2	Photoionization	408-546 eV	Exp

293. R. Wehlitz, D. Lukic, J. B. Bluett
Single and double photoionization of beryllium below 40 eV.
Phys. Rev. A 71, 012707 (2005)

hν + Be	Photoionization	28-40 eV	Exp

294. E. Z. Liverts, M. Ya. Amusia, E. G. Drukarev, R. Krivec, V. B. Mandelzweig
Shape variation of the two-electron photoionization spectrum with photon energy growth.
Phys. Rev. A 71, 012715 (2005)

hν + H^-	Photodetachment	0.5-24 keV	Th
hν + H^-	Photoionization	0.5-24 keV	Th
hν + He	Photoionization	0.5-24 keV	Th

295. S. Korica, D. Rolles, A. Reinkoester, B. Langer, J. Viefhaus, S. Cvejanovic, U. Becker
Partial cross sections and angular distributions of resonant and nonresonant valence photoemission of C_{60}.
Phys. Rev. A 71, 013203 (2005)

hν + C_{60}	Photoionization	20-300 eV	Exp

296. D. A. Telnov, S.-I. Chu
Ab initio study of high-order harmonic generation of H_2^+ in intense laser fields: Time-dependent non-Hermitian Floquet approach.
Phys. Rev. A 71, 013408 (2005)

hν + H_2^+	Photoionization	532 nm	Th
nhν + H_2^+	Photoionization	532 nm	Th

297. V. Roudnev, B. D. Esry
HD^+ photodissociation in the scaled coordinate approach.
Phys. Rev. A 71, 013411 (2005)

hν + H_2^+	Photodissociation	785 nm	Th
hν + HD^+	Photodissociation	785 nm	Th
nhν + HD^+	Photodissociation	785 nm	Th

298. K. Zhao, W. T., III Hill
Ejection anistropy in three-atom Coulomb explosions.
Phys. Rev. A 71, 013412 (2005)

hν + CO_2	Photodissociation	800 nm	Exp
hν + NO_2	Photodissociation	800 nm	Exp
nhν + CO_2	Photodissociation	800 nm	Exp
nhν + NO_2	Photodissociation	800 nm	Exp

299. T. Nakajima, G. Buica
Modification of the photoelectron angular distribution through laser-induced continuum structure.
Phys. Rev. A 71, 013413 (2005)

hν + K	Photoionization	Few eV	Th

300. T. K. Kjeldsen, C. Z. Bisgaard, L. B. Madsen, H. Stapelfeldt
Influence of molecular symmetry on strong-field ionization: Studies on ethylene, benzene, fluorobenzene, and chlorofluorobenzene.
Phys. Rev. A 71, 013418 (2005)

hν + C_2H_4	Photoionization	800 nm	Th
hν + C_6H_6	Photoionization	800 nm	Th
hν + C_6H_5F	Photoionization	800 nm	Th
hν + C_6H_4ClF	Photoionization	800 nm	Th

301. D. Dundas, J. M. Rost
Molecular effects in the ionization of N_2, O_2, and F_2 by intense laser fields.
Phys. Rev. A 71, 013421 (2005)

hν + N_2	Photoionization	390 nm	Th
hν + O_2	Photoionization	390 nm	Th
hν + F_2	Photoionization	390 nm	Th

302. S. X. Hu, L. A. Collins
Time-dependent study of photon-induced autoionization decay.
Phys. Rev. A 71, 062707 (2005)

hν + He	Photoexcitation	30-45 eV	Th
hν + He	Photoionization	30-45 eV	Th

303. H. Sabzyan, M. Vafee
Intensity dependence of the H_2^+ ionization rates in Ti:sapphire laser fields above the Coulomb-explosion threshold.
Phys. Rev. A 71, 063404 (2005)

hν + H_2^+	Photodissociation	790-800 nm	Th
hν + H_2^+	Photoionization	790-800 nm	Th

304. A. Palacios, S. Barmaki, H. Bachau, F. Martin
Two-photon ionization of $H_2{}^+$ by short laser pulses.
Phys. Rev. A 71, 063405 (2005)

hν + H_2^+	Photodissociation	0.6-0.84 a.u.	Th
hν + H_2^+	Photoionization	0.6-0.84 a.u.	Th

305. V. I. Usachenko, S.-I. Chu
Strong-field ionization of laser-irradiated light homonuclear diatomic molecules: A generalized strong-field approximation-linear combination of atomic orbitals model.
Phys. Rev. A 71, 063410 (2005)

hν + H_2	Photoionization	1.6 eV	Th
hν + N_2	Photoionization	1.6 eV	Th
hν + O_2	Photoionization	1.6 eV	Th

306. M. Kutzner, G. P. Wright, G. B. Cross
Polarization effects in the photoionization of barium 4d electrons.
Phys. Rev. A 71, 064702 (2005)

hν + Ba	Photoionization	100-150 eV	Th

307. 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 (2005)

hν + Mn^{2+}	Total Absorption, Scattering	45-75 eV	Exp

308. P. Lablanquie, S. Sheinerman, F. Penent, T. Aoto, Y. Hikosaka, K. Ito
Dynamics of double photoionization near the Ar 2p threshold investigated by threshold electron-Auger electron coincidence spectroscopy.
J. Phys. B 38, L9 (2005)

hν + Ar	Photoionization	246-253 eV	E/T

309. S. X. Hu, J. Colgan, L. A. Collins
Triple-differential cross-sections for two-photon double ionization of He near threshold.
J. Phys. B 38, L35 (2005)

hν + He	Photoionization	39-47 eV	Th
nhν + He	Photoionization	39-47 eV	Th

310. G. Pruemper, Y. Tamenori, A. De Fanis, U. Hergenhahn, M. Kitajima, M. Hoshino, H. Tanaka, K. Ueda
Ultrafast dissociation of F 1s excited SF_6 probed by electron-ion momentum coincidence spectroscopy.
J. Phys. B 38, 1 (2005)

hν + SF_6	Photodissociation	686-690 eV	Exp
hν + SF_6	Photoionization	686-690 eV	Exp

311. J. Berakdar, N. M. Kabachnik
Two-electron photoemission from polarized atoms.
J. Phys. B 38, 23 (2005)

hν + He	Photoionization	72 eV	Th
hν + He*	Photoionization	72 eV	Th

312. D. Kilbane, E. T. Kennedy, J.-P. Mosnier, J. T. Costello, P. van Kampen
EUV photoabsorption spectra of Cd II and Cd III.
J. Phys. B 38, 83 (2005)

hν + Cd^+	Total Absorption, Scattering	24-110 eV	Exp
hν + Cd^{2+}	Total Absorption, Scattering	24-110 eV	Exp

313. E. Mejia-Ospino, G. Garcia, A. Guerrero, I. Alvarez, C. Cisneros
Resonance multiphoton ionization and dissociation of dimethyl ether via the C', C and B states.
J. Phys. B 38, 109 (2005)

hν + CH_3OCH_3	Photodissociation	450-550 nm	Exp
hν + CH_3OCH_3	Photoionization	450-550 nm	Exp

314. E. Gubbini, U. Eichmann, M. Kalashnikov, W. Sandner
Strong laser field ionization of Kr: First-order relativistic effects defeat rescattering.
J. Phys. B 38, L87 (2005)

hν + Kr	Photoionization	Undef.	Exp

315. A. Palacios, H. Bachau, F. Martin
Resonant effects in the Coulomb explosion of $H_2{}^+$ by ultrashort laser pulses.
J. Phys. B 38, L99 (2005)

hν + $H_2{}^+$	Photodissociation	0.76-0.88 a.u.	Th
hν + $H_2{}^+$	Photoionization	0.76-0.88 a.u.	Th

316. A. Knapp, A. Kheifets, I. Bray, Th. Weber, A. L. Landers, S. Schoessler, T. Jahnke, J. Nickles, S. Kammer, O. Jagutzki, L.Ph.H. Schmidt, M. Schoeffler, T. Osipov, M. H. Prior, H. Schmidt-Boecking, C. L. Cocke, R. Doerner
Photo double ionization of helium 100 eV and 450 eV above threshold: I. Linearly polarized light.
J. Phys. B 38, 615 (2005)

hν + He	Photoionization	179-529 eV	E/T

317. A. Knapp, A. Kheifets, I. Bray, Th. Weber, A. L. Landers, S. Schoessler, T. Jahnke, J. Nickles, S. Kammer, O. Jagutzki, L.Ph.H. Schmidt, M. Schoeffler, T. Osipov, M. H. Prior, H. Schmidt-Boecking, C. L. Cocke, R. Doerner
Photo double ionization of helium 100 eV and 450 eV above threshold: II. Circularly polarized light.
J. Phys. B 38, 635 (2005)

hν + He	Photoionization	179-529 eV	E/T

318. A. Knapp, B. Kraessig, A. Kheifets, I. Bray, Th. Weber, A. L. Landers, S. Schoessler, T. Jahnke, J. Nickles, S. Kammer, O. Jagutzki, L.Ph.H. Schmidt, M. Schoeffler, T. Osipov, M. H. Prior, H. Schmidt-Boecking, C. L. Cocke, R. Doerner
Photo double ionization of helium 100 eV and 450 eV above threshold: III. Gerade and ungerade amplitudes and their relative phases.
J. Phys. B 38, 645 (2005)

hν + He	Photoionization	179-529 eV	E/T

319. G. Vall-llosera, J. Alvarez Ruiz, P. Erman, E. Melero Garcia, E. Rachlew, S. Menmuir, M. Stankiewicz
The $np\sigma, \pi$ to EF emission systems in D_2 studied by selective excitation.
J. Phys. B 38, 659 (2005)

hν + H_2	Fluorescence	13.97-15.84 eV	Exp
hν + D_2	Fluorescence	13.97-15.84 eV	Exp
hν + H_2	Photoexcitation	13.97-15.84 eV	Exp
hν + D_2	Photoexcitation	13.97-15.84 eV	Exp

320. R. A. Barrea, C. A. Perez, T. S. Plivelic, E. V. Bonzi, H. J. Sanchez
Anisotropic angular distribution of Er L x-rays following photoionization by linearly polarized radiation.
J. Phys. B 38, 839 (2005)

hν + Er	Fluorescence	9.2 keV	E/T
hν + Er	Photoionization	9.2 keV	E/T

321. L. Partanen, R. Sankari, S. Osmekhin, Z. F. Hu, E. Kukk, H. Aksela
Multiple ionization of Xe – comparison of de-excitation pathways following $3d_{5/2}$ ionization and $3d_{5/2}$ -¿ 6p resonance excitation.
J. Phys. B 38, 1881 (2005)

hν + Xe	Photoexcitation	664-694 eV	Exp
hν + Xe	Photoionization	664-694 eV	Exp

322. M. Madine, H. W. van der Hart
Single- and two-photon ionization of Sr.
J. Phys. B 38, 1895 (2005)

hν + Sr	Photoionization	0.21-0.158 a.u.	Th

323. D. Comtois, D. Zeidler, H. Pepin, J. C. Kieffer, D. M. Villeneuve, P. B. Corkum
Observation of Coulomb focusing in tunnelling ionization of noble gases.
J. Phys. B 38, 1923 (2005)

hν + He	Photoionization	800-1800 nm	Exp
hν + Ne	Photoionization	800-1800 nm	Exp
hν + Ar	Photoionization	800-1800 nm	Exp

324. J. J. Camacho, A. Pardo, J.M.L. Poyato
A study of the $B^1\Pi_u$ -¿ $X^1{\Sigma_g}^+$ system of Na_2.
J. Phys. B 38, 1935 (2005)

hν + Na_2	Fluorescence	4545-5145 $\AA$	Exp

325. M. Pernpointner
The effect of the Gaunt interaction on the molecular ionization spectra of CO, H_2S and TlH.
J. Phys. B 38, 1955 (2005)

hν + CO	Photodissociation	7.78-22.94 eV	Th
hν + H_2S	Photodissociation	7.78-22.94 eV	Th
hν + TlH	Photodissociation	7.78-22.94 eV	Th
hν + CO	Photoionization	7.78-22.94 eV	Th
hν + H_2S	Photoionization	7.78-22.94 eV	Th
hν + TlH	Photoionization	7.78-22.94 eV	Th

326. S.W.J. Scully, A. Aguilar, E. D. Emmons, R. A. Phaneuf, M. Halka, D. Leitner, J. C. Levin, M. S. Lubell, R. Puettner, A. S. Schlachter, A. M. Covington, S. Schippers, A. Mueller, B. M. McLaughlin
K-shell photoionization of Be-like carbon ions: Experiment and theory for C^{2+}.
J. Phys. B 38, 1967 (2005)

hν + $\mathbf{C}^{2+}$	Photoionization	292-325 eV	E/T

327. D.M.P. Holland, D. A. Shaw, I. C. Walker, I. J. McEwen, E. Apra, M. F. Guest
A study of the valence shell photoelectron and photoabsorption spectra of CF_3SF_5.
J. Phys. B 38, 2047 (2005)

hν + $\mathbf{CF_3SF_5}$	Total Absorption, Scattering	8-60 eV	E/T
hν + $\mathbf{CF_3SF_5}$	Photoionization	8-60 eV	E/T

328. G. Del Zanna, M. C. Chidichimo, H. E. Mason
Benchmarking atomic data for astrophysics: Fe XXIII.
Astron. Astrophys. 432, 1137 (2005)

hν + $\mathbf{Fe}^{22+}$	Photoexcitation	10 $\AA$	Th

329. V. Jonauskas, P. Bogdanovich, F. P. Keenan, M. E. Foord, R. F. Heeter, S. J. Rose, G. J. Ferland, R. Kisielius, P.A.M. van Hoof, P. H. Norrington
Energy levels and transition probabilities for nitrogen-like Fe XX.
Astron. Astrophys. 433, 745 (2005)

hν + $\mathbf{Fe}^{19+}$	Photoexcitation	Undef.	Th

330. E. Landi
Radiative transition probabilities in the O-like sequence.
Astron. Astrophys. 434, 365 (2005)

hν + $\mathbf{Na}^{3+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Mg}^{4+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Al}^{5+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Si}^{6+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{P}^{7+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{S}^{8+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Cl}^{9+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Ar}^{10+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{K}^{11+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Ca}^{12+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Sc}^{13+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Ti}^{14+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{V}^{15+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Cr}^{16+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Mn}^{17+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Fe}^{18+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Co}^{19+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Ni}^{20+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Cu}^{21+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Zn}^{22+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Ga}^{23+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Ge}^{24+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{As}^{25+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Se}^{26+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Br}^{27+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Kr}^{28+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Rb}^{29+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th
hν + $\mathbf{Sr}^{30+}$	Photoexcitation	$0.0 - 3x10^6\ cm^{-1}$	Th

331. M. Melendez, M. A. Bautista
Atomic data from the Iron project. LVII. Radiative transition rates and collision strengths within the $3d^7$ configuration of Ni IV.
Astron. Astrophys. 436, 1123 (2005)

hν + $\mathbf{Ni^{3+}}$	Photoexcitation	0.0-2.0 Ry	Th

332. K. M. Aggarwal, F. P. Keenan, S. Nakazaki
Energy levels and radiative rates for transitions in Ar XIII, Ar XIV and Ar XV.
Astron. Astrophys. 436, 1141 (2005)

hν + $\mathbf{Ar^{12+}}$	Photoexcitation	0.0-35.0 Ry	Th
hν + $\mathbf{Ar^{13+}}$	Photoexcitation	0.0-35.0 Ry	Th
hν + $\mathbf{Ar^{14+}}$	Photoexcitation	0.0-35.0 Ry	Th

333. S. N. Nahar, A. K. Pradhan
Atomic data from the Iron Project. LIX. New radiative transition probabilities for Fe IV including fine structure.
Astron. Astrophys. 437, 345 (2005)

hν + $\mathbf{Fe^{3+}}$	Photoexcitation	0.0-100,000 $\AA$	Th

334. 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, 387 (2005)

hν + $\mathbf{N^{2+}}$	Photoionization	0.0-150.0 eV	Exp
hν + $\mathbf{N^{3+}}$	Photoionization	0.0-150.0 eV	Exp
hν + $\mathbf{O^{3+}}$	Photoionization	0.0-150.0 eV	Exp
hν + $\mathbf{O^{4+}}$	Photoionization	0.0-150.0 eV	Exp
hν + $\mathbf{F^{3+}}$	Photoionization	0.0-150.0 eV	Exp
hν + $\mathbf{F^{4+}}$	Photoionization	0.0-150.0 eV	Exp
hν + $\mathbf{Ne^{4+}}$	Photoionization	0.0-150.0 eV	Exp

335. E. A. Den Hartog, M. T. Herd, J. E. Lawler, C. Sneden, J. J. Cowan, T. C. Beers
Improved laboratory transition probabilities for Pt I and application to the platinum abundances of BD $+17\deg$ 2348 and the sun.
Astrophys. J., Part 1 619, 639 (2005)

hν + **Pt**	Photoexcitation	5230-2068 $\AA$	Exp

336. H. J. Woerner, M. Gruetter, E. Vliegen, F. Merkt
Role of nuclear spin in photoionization: Hyperfine-resolved photoionization of Xe and multichannel quantum defect theory analysis.
Phys. Rev. A 71, 052504 (2005)

hν + **Xe**	Photoionization	108,347 cm^{-1}	E/T

337. A. Y. Istomin, N. L. Manakov, A. V. Meremianin, A. F. Starace
Nondipole effects in the triply differential cross section for double photoionization of He.
Phys. Rev. A 71, 052702 (2005)

hν + **He**	Photoionization	20-450 excess eV	E/T

338. A. Reber, T. Baynard, F. Martin, H. Bachau, R. S. Berry
Above-threshold ionization near the 3p4d $^1F^0$ autoionizing state in magnesium.
Phys. Rev. A 71, 053402 (2005)

hν + Mg	Photoionization	3.3-3.6 eV	E/T

339. H. Yoshida, J. Sasaki, Y. Kawabe, Y. Senba, A. De Fanis, M. Oura, S. Fritzsche, I. P. Sazhina, N. M. Kabachnik, K. Ueda
Study of second-step Auger transitions in Auger cascades following 1s -¿ 3p photoexcitation in Ne.
J. Phys. B 38, 465 (2005)

hν + Ne	Photoexcitation	10-33 eV	E/T

340. A. Rudenko, B. Feuerstein, K. Zrost, V.L.B. de Jesus, T. Ergler, C. Dimopoulou, C. D. Schroeter, R. Moshammer, J. Ullrich
Fragmentation dynamic of molecular hydrogen in strong ultrashort laser pulses.
J. Phys. B 38, 487 (2005)

hν + H_2	Photodissociation	795 nm	Exp
hν + H_2	Photoionization	795 nm	Exp

341. E. A. Chowdhury, I. Ghebregziabiher, B. C. Walker
Larmor radiation from the ultra-intense field ionization of atoms.
J. Phys. B 38, 517 (2005)

hν + Na^{10+}	Fluorescence	3.6 eV	Th
hν + Na^{10+}	Photoionization	3.6 eV	Th

342. H. Fukuzawa, T. Odagiri, T. Nakazato, M. Murata, H. Miyagi, N. Kouchi
Doubly excited states of methane produced by photon and electron interactions.
J. Phys. B 38, 565 (2005)

hν + CH_4	Photoexcitation	18-51 eV; 80 eV	Exp

343. A. Rudenko, K. Zrost, Th. Ergler, A. B. Voitkiv, B. Najjari, V.L.B. de Jesus, B. Feuerstein, C. D. Schroeter, R. Moshammer, J. Ullrich
Coulomb singularity in the transverse momentum distribution for strong-field single ionization.
J. Phys. B 38, L191 (2005)

hν + He	Photoionization	795 nm	E/T
hν + Ne	Photoionization	795 nm	E/T
hν + Ar	Photoionization	795 nm	E/T

344. J-i. Adachi, N. Kosugi, A. Yagishita
Symmetry-resolved soft x-ray absorption spectroscopy: Its application to simple molecules.
J. Phys. B 38, R127 (2005)

hν + B	Total Absorption, Scattering	390-550 eV	E/T
hν + C	Total Absorption, Scattering	390-550 eV	E/T
hν + CO	Total Absorption, Scattering	390-550 eV	E/T
hν + CO_2	Total Absorption, Scattering	390-550 eV	E/T
hν + N_2	Total Absorption, Scattering	390-550 eV	E/T
hν + N_2O	Total Absorption, Scattering	390-550 eV	E/T
hν + O_2	Total Absorption, Scattering	390-550 eV	E/T
hν + C_2H_2	Total Absorption, Scattering	390-550 eV	E/T

hν + CS_2	Total Absorption, Scattering	390-550 eV	E/T
hν + OCS	Total Absorption, Scattering	390-550 eV	E/T
hν + B	Photoexcitation	390-550 eV	E/T
hν + C	Photoexcitation	390-550 eV	E/T
hν + CO	Photoexcitation	390-550 eV	E/T
hν + CO_2	Photoexcitation	390-550 eV	E/T
hν + N_2	Photoexcitation	390-550 eV	E/T
hν + N_2O	Photoexcitation	390-550 eV	E/T
hν + O_2	Photoexcitation	390-550 eV	E/T
hν + C_2H_2	Photoexcitation	390-550 eV	E/T
hν + CS_2	Photoexcitation	390-550 eV	E/T
hν + OCS	Photoexcitation	390-550 eV	E/T
hν + B	Photoionization	390-550 eV	E/T
hν + C	Photoionization	390-550 eV	E/T
hν + CO	Photoionization	390-550 eV	E/T
hν + CO_2	Photoionization	390-550 eV	E/T
hν + N_2	Photoionization	390-550 eV	E/T
hν + N_2O	Photoionization	390-550 eV	E/T
hν + O_2	Photoionization	390-550 eV	E/T
hν + C_2H_2	Photoionization	390-550 eV	E/T
hν + CS_2	Photoionization	390-550 eV	E/T
hν + OCS	Photoionization	390-550 eV	E/T

345. M. Zubek, D. B. Thompson, P. Bolognesi, D. Cooper, G. C. King
Measurements of angular distribution for photoionization of mercury into the $5d^9\ ^2D_{5/2}$ ionic state over the energy range from 15 eV to 17 eV.
J. Phys. B 38, 1657 (2005)

hν + Hg	Photoionization	15-17 eV	E/T

346. L.-Y. Peng, I. D. Williams, J. F. McCann
Dissociation of $H_2{}^+$ from a short, intense, infrared laser pulse: Proton emission spectra and pulse calibration.
J. Phys. B 38, 1727 (2005)

hν + $H_2{}^+$	Photodissociation	790 nm	E/T

347. R. M. Schectman, S. R. Federman, M. Brown, S. Cheng, M. C. Fritts, R. E. Irving, N. D. Gibson
Oscillator strengths for ultraviolet transitions in Cl II and Cl III.
Astrophys. J., Part 1 621, 1159 (2005)

hν + Cl^+	Photoexcitation	1000 $\AA$	Exp
hν + Cl^{2+}	Photoexcitation	1000 $\AA$	Exp

348. X. Liu, D. E. Shemansky, M. Ciocca, I. Kanik, J. M. Ajello
Analysis of the physical properties of the N_2 c' $^1\Sigma_u{}^+(0) - X\ ^1\Sigma_g{}^+(0)$ transition.
Astrophys. J., Part 1 623, 579 (2005)

hν + N_2	Photoexcitation	950 $\AA$	Exp

349. J. K. Lepson, P. Beiersdorfer, E. Behar, S. M. Kahn
Emission-line spectra of S VII-S XIV in the 20-75 $\AA$ wavelength region.
Astrophys. J., Part 1 625, 1045 (2005)

hν + S^{6+}	Photoexcitation	75-20 $\AA$	E/T
hν + S^{7+}	Photoexcitation	75-20 $\AA$	E/T

hν + S^{8+}	Photoexcitation	75-20 $\AA$	E/T
hν + S^{9+}	Photoexcitation	75-20 $\AA$	E/T
hν + S^{10+}	Photoexcitation	75-20 $\AA$	E/T
hν + S^{11+}	Photoexcitation	75-20 $\AA$	E/T
hν + S^{12+}	Photoexcitation	75-20 $\AA$	E/T
hν + S^{13+}	Photoexcitation	75-20 $\AA$	E/T

350. M. F. Gu, M. Schmidt, P. Beiersdorfer, H. Chen, D. B. Thorn, E. Traebert, E. Behar, S. M. Kahn
Laboratory measurement and theoretical modeling of K-shell X-ray lines from inner-shell excited and ionized ions of oxygen.
Astrophys. J., Part 1 627, 1066 (2005)

hν + O	Photoexcitation	22 $\AA$	E/T

351. F. Bouakline, T. P. Grozdanov, L. Andric, R. McCarroll
Calculations of near-threshold cross sections for photodissociation of CH^+ using the Lanczos algorithm.
J. Chem. Phys. 122, 044108 (2005)

hν + CH$^+$	Photodissociation	31,600-33,000 cm^{-1}	Th

352. K. Takeshita, Y. Sadamatu, K. Tanaka
A theoretical study on the inner-valence photoelectron spectra lying between 21 and 26 eV of the O_2 molecule.
J. Chem. Phys. 122, 044302 (2005)

hν + O$_2$	Photoionization	21-26 eV	Th

353. E. D. Emmons, A. Aguilar, M. F. Gharaibeh, S.W.J. Scully, R. A. Phaneuf, A.L.D. Kilcoyne, A. S. Schlachter, I. Alvarez, C. Cisneros, G. Hinojosa
Photoionization and electron-impact ionization of Xe^{3+}.
Phys. Rev. A 71, 042704 (2005)

hν + Xe^{3+}	Photoionization	37.5-115 eV	Exp

354. D. Calabrese, A. M. Covington, W. W. Williams, D. L. Carpenter, J. S. Thompson, T. J. Kvale
Photoelectron angular distribution measurements of s and d electrons from the photodetachment of V^- at visible wavelengths.
Phys. Rev. A 71, 042708 (2005)

hν + V$^-$	Photodetachment	457.9-647.1 nm	Exp

355. S. Gilb, V. Nestorov, S. R. Leone, J. C. Keske, L. Nugent-Glandorf, E. R. Grant
Kr (n=5-10,s,d,g) electronic wave packets: Electron time-of-flight resolution and the ac-Stark shift during wave-packet preparation.
Phys. Rev. A 71, 042709 (2005)

hν + Kr	Photoexcitation	270 nm	Exp

356. J. E. Daily, R. Gommers, E. A. Cummings, D. S. Durfee, S. D. Bergeson
Two-photon photoionization of the Ca 4s3d $^1D_2$ level in an optical dipole trap.
Phys. Rev. A 71, 043406 (2005)

hν + Ca	Photoionization	488 nm	Exp

357. F. F. Guimaraes, V. Kimberg, V. C. Felicissimo, F. Gel'mukhanov, A. Cesar, H. Agren
Phase-sensitive x-ray absorption driven by strong infrared fields.
Phys. Rev. A 71, 043407 (2005)

hν + NO	Total Absorption, Scattering	530-536 eV	Th
hν + NO	Photoexcitation	530-536 eV	Th

358. X. M. Tong, Z. X. Zhao, A. S. Alnaser, S. Voss, C. L. Cocke, C. D. Lin
Post ionization alignment of the fragmentation of molecules in an ultrashort intense laser field.
J. Phys. B 38, 333 (2005)

hν + O_2	Photodissociation	1-5.6 10^{14} W/cm^2	Th

359. 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. Alvarez, 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 (2005)

hν + F^{2+}	Photoionization	56.3-75.6 eV	E/T
hν + Ne^{3+}	Photoionization	56.3-75.6 eV	E/T

360. J. Alvarez Ruiz, E. Melero-Garcia, A. Kivimaki, M. Coreno, P. Erman, E. Rachlew, R. Richter
Synchrotron radiation induced fluorescence spectroscopy of SF_6.
J. Phys. B 38, 387 (2005)

hν + SF_6	Fluorescence	25-80 eV	Exp

361. T. Mercouris, C. Haritos, C. A. Nicolaides
Interference generalized cross-section for the multiphoton detachment of H^- in dichromatic fields.
J. Phys. B 38, 399 (2005)

hν + H^-	Photodetachment	0.011-0.028 a.u.	Th

362. 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 $^1G_4$ x nl states of Kr across the L_3 threshold.
J. Phys. B 38, 421 (2005)

hν + Kr	Photoexcitation	1670-1685 eV	Exp
hν + Kr	Photoionization	1670-1685 eV	Exp

363. J. R. Harries, J. P. Sullivan, S. Obara, Y. Azuma, J. G. Lambourne, F. Penent, R. I. Hall, P. Lablanquie, K. Bucar, M. Zitnik, P. Hammond
Partial photoionization of helium into the $2s^2S$ and $2p^2P$ ion states in the 3lnl' doubly-excited states region.
J. Phys. B 38, L153 (2005)

hν + He	Fluorescence	69-73 eV	Exp
hν + He	Photoexcitation	69-73 eV	Exp

364. A. DiChiara, S. Palaniyappan, A. F. Falkowski, E. L. Huskins, B. C. Walker
Cross-shell multielectron ionization of xenon by an ultrastrong field.
J. Phys. B 38, L183 (2005)

hν + Xe	Photoionization	$10^{16} - 10^{18}$ W/cm^2	Exp
nhν + Xe	Photoionization	$10^{16} - 10^{18}$ W/cm^2	Exp

365. A. N. Hopersky, A. M. Nadolinsky, D. V. Dzuba, V. A. Yavna
Anomalous elastic scattering of x-ray photons by a neon-like ion.
J. Phys. B 38, 1507 (2005)

hν + Ne	Elastic Scattering	863-3900 eV	Th
hν + Si^{4+}	Elastic Scattering	863-3900 eV	Th
hν + Ar^{8+}	Elastic Scattering	863-3900 eV	Th

366. E. Sokell, A. A. Wills, M. Wiedenhoeft, X. Feng, D. Rolles, N. Berrah
An investigation of dissociative resonant photoionization in HCl and DCl using two-dimensional photoelectron spectroscopy.
J. Phys. B 38, 1535 (2005)

hν + HCl	Photodissociation	198-204 eV	Exp
hν + DCl	Photodissociation	198-204 eV	Exp
hν + HCl	Photoionization	198-204 eV	Exp
hν + DCl	Photoionization	198-204 eV	Exp

367. C. Kunz, S. Thiess, B. Cowie, T.-L. Lee, J. Zegenhagen
Outer sub-shell photoabsorption cross-sections determined by X-ray photoelectron spectroscopy up to 14.5 keV.
Nucl. Instrum. Methods Phys. Res. A 547, 73 (2005)

hν + Au	Total Absorption, Scattering	5-14.5 keV	Exp
hν + Au	Photoionization	5-14.5 keV	Exp

368. A. Karabulut, A. Guerol, G. Budak, M. Ertugrul
K shell and L subshell and L shell photoeffect cross-sections in the atomic region 40 ¡ Z ¡ 52 and 58 ¡ Z ¡ 68 at 59.537 keV.
Nucl. Instrum. Methods Phys. Res. B 227, 485 (2005)

hν + Zr	Photoionization	59.5 keV	Exp
hν + Nb	Photoionization	59.5 keV	Exp
hν + Mo	Photoionization	59.5 keV	Exp
hν + Tc	Photoionization	59.5 keV	Exp
hν + Ru	Photoionization	59.5 keV	Exp
hν + Rh	Photoionization	59.5 keV	Exp
hν + Pd	Photoionization	59.5 keV	Exp
hν + Ag	Photoionization	59.5 keV	Exp
hν + Cd	Photoionization	59.5 keV	Exp
hν + In	Photoionization	59.5 keV	Exp
hν + Sn	Photoionization	59.5 keV	Exp
hν + Sb	Photoionization	59.5 keV	Exp
hν + Te	Photoionization	59.5 keV	Exp
hν + Ce	Photoionization	59.5 keV	Exp
hν + Pr	Photoionization	59.5 keV	Exp
hν + Nd	Photoionization	59.5 keV	Exp
hν + Pm	Photoionization	59.5 keV	Exp
hν + Sm	Photoionization	59.5 keV	Exp
hν + Eu	Photoionization	59.5 keV	Exp
hν + Gd	Photoionization	59.5 keV	Exp
hν + Tb	Photoionization	59.5 keV	Exp
hν + Dy	Photoionization	59.5 keV	Exp
hν + Ho	Photoionization	59.5 keV	Exp
hν + Er	Photoionization	59.5 keV	Exp

369. S. Krishnaveni, R. Gowda
Incoherent scattering functions of iron, copper, zirconium, tin, tantalum, tungsten, gold and lead, in the momentum range 2 $\AA^{-1}$ ¡ q ¡ 46 $\AA^{-1}$ at 661.6 keV photon energy.
Nucl. Instrum. Methods Phys. Res. B 229, 333 (2005)

hν + Fe	Elastic Scattering	662 keV	Exp
hν + Cu	Elastic Scattering	662 keV	Exp
hν + Zr	Elastic Scattering	662 keV	Exp
hν + Sn	Elastic Scattering	662 keV	Exp
hν + Ta	Elastic Scattering	662 keV	Exp
hν + W	Elastic Scattering	662 keV	Exp

370. I. Ben-Itzhak, P. Wang, J. Xia, A. M. Sayler, M. A. Smith, J. W. Maseberg, K. D. Carnes, B. D. Esry
Dissociation and ionization of molecular ions by ultra-short intense laser pulses probed by coincidence 3D momentum imaging.
Nucl. Instrum. Methods Phys. Res. B 233, 56 (2005)

hν + H_2	Photodissociation	790 nm	Exp
hν + H_2	Photoionization	790 nm	Exp

371. H. Kjeldsen, F. Folkmann, J. van Elp, H. Knudsen, J. B. West, T. Andersen
Absolute measurements of photoionization cross-sections for ions.
Nucl. Instrum. Methods Phys. Res. B 234, 349 (2005)

hν + He^+	Photoionization	15-200 eV	Exp
hν + Cs^+	Photoionization	15-200 eV	Exp

372. M. Suresh, J. McKenna, B. Srigengan, I. D. Williams, E.M.L. English, S. L. Stebbings, W. A. Bryan, W. R. Newell, E. J. Divall, C. J. Hooker, A. J. Langley
Multiple ionization of ions and atoms by intense ultrafast laser pulses.
Nucl. Instrum. Methods Phys. Res. B 235, 216 (2005)

hν + Ne	Photoionization	790 nm	Exp
hν + Xe	Photoionization	790 nm	Exp
hν + Xe^+	Photoionization	790 nm	Exp

373. H. Shimada, Y. Nakai, H. Oyama, K. Ando, T. Kambara, A. Hatakeyama, Y. Yamazaki
Recoil-ion momentum spectroscopy of multiply charged argon ions produced by intense (10^{16} W cm^{-2}) laser light.
Nucl. Instrum. Methods Phys. Res. B 235, 221 (2005)

hν + Ar	Photoionization	775 nm	Exp

374. N.A.B. Faye, A. S. Ndao, A. Konte, M. Biaye, A. Wague
Photoionization energies and oscillator strengths of helium and helium-like ions with Z = 6-8.
Phys. Scr. 71, 602 (2005)

hν + C^{4+}	Photoexcitation	Undef.	Th
hν + N^{5+}	Photoexcitation	Undef.	Th
hν + O^{6+}	Photoexcitation	Undef.	Th
hν + C^{4+}	Photoionization	Undef.	Th
hν + N^{5+}	Photoionization	Undef.	Th
hν + O^{6+}	Photoionization	Undef.	Th

375. V. Tayal, G. P. Gupta, A. Z. Msezane
Excitation energies, oscillator strengths and lifetimes in Ca IX.
Phys. Scr. 71, 627 (2005)

hν + **Ca**$^{8+}$	Photoexcitation	Undef.	Th

376. N. Ben Nessib, H. Elabidi, M. Cornille, J. Dubau
Radiative and collisional atomic data for neon-like silicon.
Phys. Scr. 72, 23 (2005)

hν + **Si**$^{4+}$	Photoexcitation	Undef.	Th

377. M. W. Horbatsch, E. A. Hessels, M. Horbatsch
Classical calculation of the lifetimes and branching ratios for radiative decays of hydrogenic atoms.
Phys. Rev. A 71, 020501 (2005)

hν + **H**	Fluorescence	0-16 THz	Th

378. B. Lohmann, B. Langer, G. Snell, U. Kleiman, S. Canton, M. Martins, U. Becker, N. Berrah
Configuration-interaction-induced dynamic spin polarization of the Ar*$(2p^{-1}_{1/2,3/2}4s_{1/2})_{J=1}$ **resonant Auger decay.**
Phys. Rev. A 71, 020701 (2005)

hν + **Ar**	Fluorescence	210 eV	E/T
hν + **Ar**	Photoexcitation	210 eV	E/T

379. C. C. Chirila, R. M. Potvliege
Low-order above-threshold ionization in intense few-cycle laser pulses.
Phys. Rev. A 71, 021402 (2005)

hν + **H Z= ?-?**	Photoionization	10^{16} W/cm^2	Th
hν + **H**	Photoionization	10^{16} W/cm^2	Th
nhν + **H Z= ?-?**	Photoionization	10^{16} W/cm^2	Th

380. E. Baldit, S. Saugout, C. Cornaggia
Coulomb explosion of N_2 **using intense 10- and 40-fs laser pulses.**
Phys. Rev. A 71, 021403 (2005)

hν + $\mathbf{N_2}$	Photoionization	$10^{14} - 10^{16}$ W/cm^2	Exp
nhν + $\mathbf{N_2}$	Photoionization	$10^{14} - 10^{16}$ W/cm^2	Exp

381. C. Guo, K. Wright
Channel competition between metastable and dissociated states of doubly ionized NO in strong laser fields.
Phys. Rev. A 71, 021404 (2005)

hν + **NO**	Photodissociation	10^{14} W/cm^2	Exp
hν + **NO**$^{2+}$	Photodissociation	10^{14} W/cm^2	Exp
hν + **NO**	Photoionization	10^{14} W/cm^2	Exp
hν + **NO**$^{2+}$	Photoionization	10^{14} W/cm^2	Exp

382. C. Guo
Observation of selective charge separation following strong-field single ionization.
Phys. Rev. A 71, 021405 (2005)

hν + **NO**$^{+}$	Photodissociation	$5x10^{14}$ W/cm^2	Exp

383. A. Surzhykov, P. Koval, S. Fritzsche
Angular correlations in the two-photon decay of hydrogenlike ions: Relativistic Green's-function approach.
Phys. Rev. A 71, 022509 (2005)

hν + H Z= ?-?	Fluorescence	Undef.	Th
hν + H	Fluorescence	Undef.	Th
2hν + H Z= ?-?	Fluorescence	Undef.	Th

384. M. P. Hertlein, H. Adaniya, K. Cole, B. Feinberg, J. Maddi, M. H. Prior, R. Shriel, A. Belkacem
Electron correlation during photoionization and relaxation of potassium and argon after K-shell photoexcitation.
Phys. Rev. A 71, 022702 (2005)

hν + Ar	Fluorescence	3500 eV	Exp
hν + K	Fluorescence	3500 eV	Exp
hν + Ar	Photoexcitation	3500 eV	Exp
hν + K	Photoexcitation	3500 eV	Exp
hν + Ar	Photoionization	3500 eV	Exp
hν + K	Photoionization	3500 eV	Exp

385. A. S. Kheifets
Single-center model for double photoionization of the H_2 molecule.
Phys. Rev. A 71, 022704 (2005)

hν + H_2	Photoionization	50-140 eV	Th

386. A. Penttila, S. Heinasmaki, M. Harkoma, S. Fritzsche, R. Sankari, S. Aksela, H. Aksela
Effects of electron correlation on the decay process following 3p photoionization in atomic manganese.
Phys. Rev. A 71, 022715 (2005)

hν + Mn	Fluorescence	120 eV	Exp
hν + Mn	Photoionization	120 eV	Exp

387. B. H. Hosseini, H. R. Sadeghpour, N. Balakrishnan
Control of polarized iodine atom branching ratio in NaI photodissociation.
Phys. Rev. A 71, 023402 (2005)

hν + NaI	Photodissociation	320 nm	Th

388. T. T. Nguyen-Dang, C. Lefebvre, H. Abou-Rachid, O. Atabek
Floquet representation of absolute phase and pulse-shape effects on laser-driven molecular photodissociation.
Phys. Rev. A 71, 023403 (2005)

hν + H_2^+	Photodissociation	400 nm	Th

389. H. Hasegawa, E. J. Takahashi, Y. Nabekawa, K. L. Ishikawa, K. Midorikawa
Multiphoton ionization of He by using intense high-order harmonics in the soft x-ray region.
Phys. Rev. A 71, 023407 (2005)

hν + He	Photoionization	418 nm	Exp

390. S. Kawai, C. Jaffe, T. Uzer
Ionization transition states of the hydrogen molecular ion in external electric fields.
J. Phys. B 38, S261 (2005)

hν + $\mathbf{H_2}$	Photoionization	Undef.	Th

391. M. Glass-Maujean, H. Schmoranzer
Dissociation dynamics of doubly excited states of molecular hydrogen.
J. Phys. B 38, 1093 (2005)

hν + $\mathbf{H_2}$	Photodissociation	20-45 eV	E/T
hν + $\mathbf{H_2}$	Photoexcitation	20-45 eV	E/T
hν + $\mathbf{H_2}$	Photoionization	20-45 eV	E/T

392. M. Ya. Amusia, N. A. Cherepkov, L. V. Chernysheva, Z. Felfli, A. Z. Msezane
Non-dipole effects in spin polarization of photoelectrons from 3d electrons of Xe, Cs and Ba.
J. Phys. B 38, 1133 (2005)

hν + **Xe**	Photoionization	54 Ry	Th
hν + **Cs**	Photoionization	54 Ry	Th
hν + **Ba**	Photoionization	54 Ry	Th

393. S.-M. Li, J. Berakdar, S.-T. Zhang, J. Chen
Laser-assisted (e,2e) reaction in one-electron atoms and ions.
J. Phys. B 38, 1291 (2005)

hν + **H**	Photoionization	150-500 eV	Th

394. A. V. Golovin, J. Adachi, S. Motoki, M. Takahashi, A. Yagishita
Inner-shell photoelectron angular distributions from fixed-in-space OCS molecules.
J. Phys. B 38, L63 (2005)

hν + **OCS**	Photoionization	174.3-570.7 eV	Exp

395. A. Becker, F.H.M. Faisal
Intense-field many-body S-matrix theory.
J. Phys. B 38, R1 (2005)

hν + $\mathbf{F^-}$	Photodetachment	$10^{13} - 10^{16}$ W/cm^2	E/T
hν + **He**	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T
hν + **Ne**	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T
hν + **Ar**	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T
hν + **Xe**	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T
hν + $\mathbf{N_2}$	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T
hν + $\mathbf{O_2}$	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T
hν + $\mathbf{C_2H_2}$	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T
hν + $\mathbf{F_2}$	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T
hν + $\mathbf{C_6H_6}$	Photoionization	$10^{13} - 10^{16}$ W/cm^2	E/T

396. R. A. Mackie, D.M.P. Holland, D. A. Shaw
A dissociative photoionization study of the $O_2{}^+ B\ {}^2\Sigma_g{}^-\ \nu^+ = 2$ state.
J. Phys. B 38, 161 (2005)

hν + $\mathbf{O_2{}^+}$	Photodissociation	22-35 eV	Exp
hν + $\mathbf{O_2{}^+}$	Photoionization	22-35 eV	Exp

397. D. A. Shaw, D.M.P. Holland, E. E. Rennie, L. G. Shpinkova
A fluorescence polarization study of the $O_2{}^+$ A $^2\Pi_u$ -¿ X $^2\Pi_g$ and the b $^4\Sigma_g{}^-$ -¿ a $^4\Pi_u$ transitions in the excitation range 17-25 eV.
J. Phys. B 38, 173 (2005)

hν + $O_2{}^+$	Fluorescence	17-25 eV	Exp
hν + $O_2{}^+$	Photoexcitation	17-25 eV	Exp

398. H. W. van der Hart, P. Bingham
Two- and three-photon ionization of He between 10^{13} and 10^{14} W cm^{-2}.
J. Phys. B 38, 207 (2005)

hν + He	Photoionization	0.3-0.9 a.u.	Th

399. K. J. Meharg, J. S. Parker, K. T. Taylor
Beyond the dipole approximation for helium and hydrogen in intense laser fields.
J. Phys. B 38, 237 (2005)

hν + H	Photoionization	$0 - 4x10^{17}$ W/cm^2	Th
hν + H*	Photoionization	$0 - 4x10^{17}$ W/cm^2	Th

400. M. Meyer, M. Gisselbrecht, A. Marquette, C. Delisle, M. Marzilliere, I. D. Petrov, N. V. Demekhina, V. L. Sukhorukov
Two-colour studies of the even-parity autoionization series $5p_{1/2}{}^5 n\ell'(\ell$ - p,f) in atomic xenon.
J. Phys. B 38, 285 (2005)

hν + Xe	Photoexcitation	10-12 eV	Exp
hν + Xe	Photoionization	10-12 eV	Exp

401. D.-S. Kim, S. T. Manson
Theoretical study of the photoionization of the excited $1s^2 2s2p\ ^{1,3}P^0$ states of the Be-like B^+ ion.
Phys. Rev. A 71, 032701 (2005)

hν + B$^+$	Photoionization	10-45 eV	Th
hν + B^{+*}	Photoionization	10-45 eV	Th

402. M. D. de Jonge, C. Q. Tran, C. T. Chantler, Z. Barnea, B. B. Dhal, D. J. Cookson, W.-K. Lee, A. Mashayekhi
Measurement of the x-ray mass attenuation coefficient and determination of the imaginary component of the atomic form of molybdenum over the 13.5-41.5-keV energy range.
Phys. Rev. A 71, 032702 (2005)

hν + Mo	Total Absorption, Scattering	13.5-41.5 keV	Exp
hν + Mo	Free-Free Transition	13.5-41.5 keV	Exp

403. B. Kunwar, A. Bhadra, S.K.S. Gupta, J.P.J. Carney, R. H. Pratt
Delbrueck contribution in the elastic scattering of 1.115-MeV photons.
Phys. Rev. A 71, 032724 (2005)

hν + W	Elastic Scattering	1.115 MeV	E/T
hν + Pb	Elastic Scattering	1.115 MeV	E/T

404. L.A.A. Nikolopoulos
Mg in electromagnetic fields: Theoretical partial multiphoton cross sections.
Phys. Rev. A 71, 033409 (2005)

hν + Mg	Photoionization	1.9-6 eV	Th

405. V. E. Chernov, I. Yu. Kiyan, H. Helm, B. A. Zon
Induced dipole effect in strong-field photodetachment of atomic negative ions.
Phys. Rev. A 71, 033410 (2005)

hν + Cs^-	Photodetachment	0.5-1 10^{12} W/cm^2	Th

406. L. P. Yatsenko, V. I. Romanenko, B. W. Shore, T. Halfmann, K. Bergmann
Two-photon excitation of the metastable 2s state of hydrogen assisted by laser-induced chirped Stark shifts and continuum structure.
Phys. Rev. A 71, 033418 (2005)

hν + H	Photoexcitation	0.6-9.1 GW/cm^2	Th

407. R. Feifel, J.H.D. Eland
Vibrationally selected $O^+ - O^+$ fragmentation of O_2 below the adiabatic double-ionization potential studied via electron-electron coincidence spectroscopy.
Phys. Rev. A 71, 034501 (2005)

hν + O_2	Photodissociation	34-41 eV	Exp
hν + O_2	Photoionization	34-41 eV	Exp

408. S. Otranto, C. R. Garibotti
Charge and energy-dependence of the Gaussian description of the triply differential cross sections for equal-energy sharing photo-double-ionization of two-electrons ions.
Phys. Rev. A 71, 034703 (2005)

hν + He	Photoionization	70-150 eV	Th
hν + Be^{2+}	Photoionization	70-150 eV	Th
hν + C^{4+}	Photoionization	70-150 eV	Th
hν + O^{6+}	Photoionization	70-150 eV	Th
hν + Ne^{8+}	Photoionization	70-150 eV	Th

409. A. Becker, R. Doerner, R. Moshammer
Multiple fragmentation of atoms in femtosecond laser pulses.
J. Phys. B 38, S753 (2005)

hν + He	Photon Collisions	$10^{13} - 10^{17}$ W/cm^2	E/T
hν + Ne	Photon Collisions	$10^{13} - 10^{17}$ W/cm^2	E/T
hν + Ar	Photon Collisions	$10^{13} - 10^{17}$ W/cm^2	E/T
hν + Xe	Photon Collisions	$10^{13} - 10^{17}$ W/cm^2	E/T
hν + He	Photoionization	$10^{13} - 10^{17}$ W/cm^2	E/T
hν + Ne	Photoionization	$10^{13} - 10^{17}$ W/cm^2	E/T
hν + Ar	Photoionization	$10^{13} - 10^{17}$ W/cm^2	E/T
hν + Xe	Photoionization	$10^{13} - 10^{17}$ W/cm^2	E/T

410. S. Svensson
Soft x-ray photoionization of atoms and molecules.
J. Phys. B 38, S821 (2005)

hν + C	Photon Collisions	10-300 eV	Exp
hν + Ar	Photon Collisions	10-300 eV	Exp
hν + Kr	Photon Collisions	10-300 eV	Exp
hν + N_2	Photon Collisions	10-300 eV	Exp
hν + H_2S	Photon Collisions	10-300 eV	Exp

hν + HCl	Photon Collisions	10-300 eV	Exp
hν + C	Photoionization	10-300 eV	Exp
hν + Ar	Photoionization	10-300 eV	Exp
hν + Kr	Photoionization	10-300 eV	Exp
hν + N_2	Photoionization	10-300 eV	Exp
hν + H_2S	Photoionization	10-300 eV	Exp
hν + HCl	Photoionization	10-300 eV	Exp

411. K. Ueda, J.H.D. Eland
Molecular photodissociation studied by VUV and soft x-ray radiation.
J. Phys. B 38, S839 (2005)

hν + ${CO_2}^{3+}$	Photon Collisions	650-700 eV	Exp
hν + CF_4	Photon Collisions	650-700 eV	Exp
hν + ${BF_3}^{4+}$	Photon Collisions	650-700 eV	Exp
hν + $HCCH^{3+}$	Photon Collisions	650-700 eV	Exp
hν + ${CO_2}^{3+}$	Photodissociation	650-700 eV	Exp
hν + CF_4	Photodissociation	650-700 eV	Exp
hν + ${BF_3}^{4+}$	Photodissociation	650-700 eV	Exp
hν + $HCCH^{3+}$	Photodissociation	650-700 eV	Exp
hν + ${CO_2}^{3+}$	Photoionization	650-700 eV	Exp
hν + CF_4	Photoionization	650-700 eV	Exp
hν + ${BF_3}^{4+}$	Photoionization	650-700 eV	Exp
hν + $HCCH^{3+}$	Photoionization	650-700 eV	Exp

412. L. Avaldi, A. Huetz
Photodouble ionization and the dynamics of electron pairs in the continuum.
J. Phys. B 38, S861 (2005)

hν + He	Photon Collisions	0.1-450 eV	Exp
hν + H_2	Photon Collisions	0.1-450 eV	Exp
hν + HD	Photon Collisions	0.1-450 eV	Exp
hν + D_2	Photon Collisions	0.1-450 eV	Exp
hν + He	Photoionization	0.1-450 eV	Exp
hν + H_2	Photoionization	0.1-450 eV	Exp
hν + HD	Photoionization	0.1-450 eV	Exp
hν + D_2	Photoionization	0.1-450 eV	Exp

413. N. J. Mason, A. Dawes, R. Mukerji, E. A. Drage, E. Vasekova, S. M. Webb, P. Limao-Vieira
Atmospheric chemistry with synchrotron radiation.
J. Phys. B 38, S893 (2005)

hν + O_3	Photon Collisions	Undef.	Exp
hν + $ClONO_2$	Photon Collisions	Undef.	Exp
hν + $HClO_4$	Photon Collisions	Undef.	Exp
hν + $(CH_3)_2S$	Photon Collisions	Undef.	Exp
NH_3	Photon Collisions	Undef.	Exp
OH	Photon Collisions	Undef.	Exp
$(H_2O)(CO)$	Photon Collisions	Undef.	Exp
hν + O_3	Total Absorption, Scattering	Undef.	Exp
hν + $ClONO_2$	Total Absorption, Scattering	Undef.	Exp
hν + $HClO_4$	Total Absorption, Scattering	Undef.	Exp
hν + $(CH_3)_2S$	Total Absorption, Scattering	Undef.	Exp
$(H_2O)(CO)$	Photodissociation	Undef.	Exp
NH_3	Photoionization	Undef.	Exp
OH	Photoionization	Undef.	Exp

3.2.2 Electron Collisions

414. F. Robicheaux, J. D. Hanson
Three-body recombination for protons moving in a strong magnetic field.
Phys. Rev. A 69, 010701 (2004)

e + H	Recombination	4-16 K	Th

415. A. R. Lopes, M.A.P. Lima, L. G. Ferreira, M.H.F. Bettega
Low-energy electron collisions with C_4H_6 isomers.
Phys. Rev. A 69, 014702 (2004)

e + C_4H_6	Elastic Scattering	10-60 eV	Th
e + C_4H_6	Angular Scattering	10-60 eV	Th

416. P. L. Bartlett, A. T. Stelbovics
Differential ionization cross-section calculations for hydrogenic targets with Z ¡ 4 using a propagating exterior complex scaling method.
Phys. Rev. A 69, 040701 (2004)

e + H	Angular Scattering	13.6-7830 eV	Th
e + He^+	Angular Scattering	13.6-7830 eV	Th
e + Li^{2+}	Angular Scattering	13.6-7830 eV	Th
e + Be^{3+}	Angular Scattering	13.6-7830 eV	Th
e + H	Ionization	13.6-7830 eV	Th
e + He^+	Ionization	13.6-7830 eV	Th
e + Li^{2+}	Ionization	13.6-7830 eV	Th
e + Be^{3+}	Ionization	13.6-7830 eV	Th

417. K. Fritioff, J. Sandstroem, P. Andersson, D. Hanstorp, F. Hellberg, R. Thomas, W. Geppert, M. Larsson, F. Osterdahl, G. F. Collins, D. J. Pegg, H. Danared, A. Kaellberg, N. D. Gibson
Single and double detachment from H^-.
Phys. Rev. A 69, 042707 (2004)

e + H^-	Detachment	0-170 eV	Exp
e + H^-	Ionization	0-170 eV	Exp

418. J. G. Childers, B. A. deHarak, N.L.S. Martin
Ejected electron spectrum of Xe between the $^2P_{3/2}$ and $^2P_{1/2}$ ionic limits.
Phys. Rev. A 69, 042713 (2004)

e + Xe	Angular Scattering	16-150 eV	Exp
e + Xe	Fluorescence	16-150 eV	Exp
e + Xe	Excitation	16-150 eV	Exp
e + Xe	Ionization	16-150 eV	Exp

419. M. A. Haynes, B. Lohmann, I. Bray, K. Bartschat
Ionization of rubidium by 50-eV electrons.
Phys. Rev. A 69, 044704 (2004)

e + Rb	Angular Scattering	50 eV	E/T
e + Rb	Ionization	50 eV	E/T

420. A. S. Kheifets, I. Bray
Convergent calculations of double ionization of helium: From (γ, 2e) to (e,3e) processes.
Phys. Rev. A 69, 050701 (2004)

e + He	Ionization	5.6 keV	E/T

421. C. J. Sweeney, A. Grafe, T. W. Shyn
Supplementary absolute differential cross sections for the excitation of atomic hydrogen's n=3 and 4 levels by electron impact.
Phys. Rev. A 69, 052709 (2004)

e + H	Excitation	40-60 eV	E/T

422. J.-C. Chang, H.-L. Sun, W.-Y. Cheng, K.-N. Huang
Electron-impact ionization of Be-like ions.
Phys. Rev. A 69, 052713 (2004)

e + B^{+}	Ionization	1-10 ionizing energy	E/T
e + C^{2+}	Ionization	1-10 ionizing energy	E/T
e + N^{3+}	Ionization	1-10 ionizing energy	E/T
e + O^{4+}	Ionization	1-10 ionizing energy	E/T
e + F^{5+}	Ionization	1-10 ionizing energy	E/T
e + Ne^{6+}	Ionization	1-10 ionizing energy	E/T
e + Al^{7+}	Ionization	1-10 ionizing energy	E/T
e + Ar^{14+}	Ionization	1-10 ionizing energy	E/T
e + Fe^{22+}	Ionization	1-10 ionizing energy	E/T
e + Ag^{43+}	Ionization	1-10 ionizing energy	E/T
e + Hg^{76+}	Ionization	1-10 ionizing energy	E/T

423. E. P. Benis, T.J.M. Zouros, T. W. Gorczyca, A. D. Gonzalez, P. Richard
Elastic resonant and nonresonant differential scattering of quasifree electrons from $B^{4+}(1s)$ and $B^{3+}(1s^2)$ ions.
Phys. Rev. A 69, 052718 (2004)

e + H_2	Elastic Scattering	3.1-7.5 MeV	E/T
e + H_2	Angular Scattering	3.1-7.5 MeV	E/T

424. J. Shertzer, A. Temkin
Direct calculation of the scattering amplitude without partial-wave analysis. II. Inclusion of exchange.
Phys. Rev. A 70, 042710 (2004)

e + H	Elastic Scattering	0.4-5.0 k	Th

425. S. Kieslich, S. Schippers, W. Shi, A. Mueller, G. Gwinner, M. Schnell, A. Wolf, E. Lindroth, M. Tokman
Determination of the 2s-2p excitation energy of lithiumlike scandium using dielectronic recombination.
Phys. Rev. A 70, 042714 (2004)

e + Sc^{18+}	Recombination	0-30 eV	E/T

426. J. Jacobi, H. Knopp, S. Schippers, A. Mueller, S. D. Loch, M. Witthoeft, M. S. Pindzola, C. P. Ballance
Strong contributions of indirect processes to the electron-impact ionization cross section of Sc^{+} ions.
Phys. Rev. A 70, 042717 (2004)

e + Sc^{+}	Ionization	0-1000 eV	E/T

427. V. G. Baryshevskii, I. D. Feranchuk, P. B. Kats
Regularization of the Coulomb scattering problem.
Phys. Rev. A 70, 052704 (2004)

e + Sr	Elastic Scattering	1-100 eV	E/T
e + Ba	Elastic Scattering	1-100 eV	E/T
e + Sr	Angular Scattering	1-100 eV	E/T
e + Ba	Angular Scattering	1-100 eV	E/T
e + Sr	Total Scattering	1-100 eV	E/T
e + Ba	Total Scattering	1-100 eV	E/T

428. W. M. Ariyasinghe, C. Goains
Total electron scattering cross sections of Kr and Xe in the energy range 250-4500 eV.
Phys. Rev. A 70, 052709 (2004)

e + Kr	Elastic Scattering	250-4500 eV	E/T
e + Xe	Elastic Scattering	250-4500 eV	E/T
e + Kr	Excitation	250-4500 eV	E/T
e + Xe	Excitation	250-4500 eV	E/T
e + Kr	Ionization	250-4500 eV	E/T
e + Xe	Ionization	250-4500 eV	E/T

429. 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.
Phys. Rev. A 70, 052712 (2004)

e + H_2	Dissociation	0-6 eV	Th
e + H_2	Excitation	0-6 eV	Th

430. S. D. Loch, M. S. Pindzola, N. R. Badnell, F. Scheuermann, K. Kramer, K. Huber, E. Salzborn
Electron-impact ionization of Bi^{q+} for q=1-10.
Phys. Rev. A 70, 052714 (2004)

e + Bi^{+}	Ionization	0-100 eV	E/T
e + Bi^{2+}	Ionization	0-100 eV	E/T
e + Bi^{3+}	Ionization	0-100 eV	E/T
e + Bi^{4+}	Ionization	0-100 eV	E/T
e + Bi^{5+}	Ionization	0-100 eV	E/T
e + Bi^{6+}	Ionization	0-100 eV	E/T
e + Bi^{7+}	Ionization	0-100 eV	E/T
e + Bi^{8+}	Ionization	0-100 eV	E/T
e + Bi^{9+}	Ionization	0-100 eV	E/T
e + Bi^{10+}	Ionization	0-100 eV	E/T

431. B. J. McCall, A. J. Huneycutt, R. J. Saykally, N. Djuric, G. H. Dunn, J. Semaniak, O. Novotny, A. Al-Khalili, A. Ehlerding, F. Hellberg, S. Kalhori, A. Neau, R. D. Thomas, A. Paal, F. Osterdahl, M. Larsson
Dissociative recombination of rotationally cold $H_3{}^+$.
Phys. Rev. A 70, 052716 (2004)

e + $H_3{}^+$	Dissociation	0-10 eV	E/T
e + $H_3{}^+$	Recombination	0-10 eV	E/T

432. N. R. Badnell, D. M. Mitnik, M. S. Pindzola, S. D. Loch, Sh. A. Abdel-Naby
Dielectronic recombination of Pb^{79+} via high angular momenta.
Phys. Rev. A 70, 054701 (2004)

e + Pb^{79+}	Recombination	13-19 eV	E/T

433. C. P. Ballance, N. R. Badnell, E. S. Smyth
A pseudo-state sensitivity study on hydrogenic ions.
J. Phys. B 36, 3707 (2003)

e + He^{+}	Excitation	3-225 Ry	Th
e + Li^{2+}	Excitation	3-225 Ry	Th
e + Be^{3+}	Excitation	3-225 Ry	Th
e + B^{4+}	Excitation	3-225 Ry	Th
e + C^{5+}	Excitation	3-225 Ry	Th
e + O^{7+}	Excitation	3-225 Ry	Th
e + Ne^{9+}	Excitation	3-225 Ry	Th

434. C. Herting, G. F. Hanne, K. Bartschat, K. Muktavat, R. Srivastava, A. D. Stauffer
Validation of orientation propensities in electron-impact excitation of lead.
J. Phys. B 36, 3877 (2003)

e + Pb	Angular Scattering	5-13 eV	E/T
e + Pb	Excitation	5-13 eV	E/T

435. C. Szmytkowski, S. Kwitnewski
Isomer effects on the total cross section for electron scattering from C_4F_5 molecules.
J. Phys. B 36, 4865 (2003)

e + C_4F_6	Elastic Scattering	0.6-370 eV	Exp
e + C_4F_6	Excitation	0.6-370 eV	Exp

436. A. J. Murray, D. Cvejanovic
Coplanar symmetric (e,2e) measurements from calcium at low energy.
J. Phys. B 36, 4875 (2003)

e + Ca	Angular Scattering	10.1-64.6 eV	Exp
e + Ca	Ionization	10.1-64.6 eV	Exp

437. A. J. Murray, D. Cvejanovic
Low energy superelastic scattering from the 4 $^1P_1$ state of calcium in an (e,2e) spectrometer.
J. Phys. B 36, 4889 (2003)

e + Ca	Angular Scattering	20-35 eV	Exp
e + Ca	Excitation	20-35 eV	Exp

438. M. Mattioli, K. B. Fournier, I. Coffey, M. Finkenthal, C. Jupen, M. Valisa
Experimental and simulated M-shell nickel spectra in the 14.4-18.0 nm region from magnetic fusion devices.
J. Phys. B 37, 13 (2004)

e + Ni^{+}	Recombination	25-500 eV	Th
e + Ni^{2+}	Recombination	25-500 eV	Th
e + Ni^{3+}	Recombination	25-500 eV	Th
e + Ni^{4+}	Recombination	25-500 eV	Th
e + Ni^{5+}	Recombination	25-500 eV	Th
e + Ni^{6+}	Recombination	25-500 eV	Th
e + Ni^{7+}	Recombination	25-500 eV	Th
e + Ni^{8+}	Recombination	25-500 eV	Th
e + Ni^{9+}	Recombination	25-500 eV	Th
e + Ni^{10+}	Recombination	25-500 eV	Th
e + Ni^{11+}	Recombination	25-500 eV	Th

e + Ni^{12+}	Recombination	25-500 eV	Th
e + Ni^{13+}	Recombination	25-500 eV	Th
e + Ni^{14+}	Recombination	25-500 eV	Th
e + Ni^{9+}	Ionization	25-500 eV	Th
e + Ni^{10+}	Ionization	25-500 eV	Th
e + Ni^{11+}	Ionization	25-500 eV	Th
e + Ni^{12+}	Ionization	25-500 eV	Th
e + Ni^{13+}	Ionization	25-500 eV	Th
e + Ni^{14+}	Ionization	25-500 eV	Th

439. M.-W. Ruf, S. Barsotti, M. Braun, H. Hotop, I. I. Fabrikant
Dissociative attachment and vibrational excitation in low-energy electron collisions with chlorine molecules.
J. Phys. B 37, 41 (2004)

e + Cl_2	Attachment	0-9 eV	E/T
e + Cl_2	Dissociation	0-9 eV	E/T
e + Cl_2	Excitation	0-9 eV	E/T

440. S. Zakowicz, W. Scheid, N. Gruen
Dielectronic recombination into hydrogen-like heavy ions with emission of two photons.
J. Phys. B 37, 131 (2004)

e + U^{91+}	Recombination	63.8-73.2 keV	Th

441. J. R. Harries, P. Hammond, R. Chandler, A. J. Murray
Laser probing of the electron-impact excited c(2p)$^3\Pi_u$ manifold of states in H_2.
J. Phys. B 37, 179 (2004)

e + H_2	Excitation	10.5-13.5 eV; 340-375 nm	Exp

442. R. King, G. J. Pert, K. M. Aggarwal, F. P. Keenan, S. J. Rose
An investigation into the use of atomic datasets in simulations of the Ni-like gadolinium x-ray laser.
J. Phys. B 37, 225 (2004)

e + Gd^{36+}	Excitation	250-3000 eV	Th

443. M. A. Khakoo, P. Vandeventer, J. G. Childers, I. Kanik, C. J. Fontes, K. Bartschat, V. Zeman, D. H. Madison, S. Saxena, R. Srivastava, A. D. Stauffer
Electron impact excitation of the argon $3p^54s$ configuration: Differential cross-sections and cross-section ratios.
J. Phys. B 37, 247 (2004)

e + Ar	Angular Scattering	14-100 eV	E/T
e + Ar^*	Angular Scattering	14-100 eV	E/T
e + Ar	Excitation	14-100 eV	E/T
e + Ar^*	Excitation	14-100 eV	E/T

444. B. Sierra, R. Martinez, F. Castano
The electron-impact dissociative ionization of CCl_2F_2.
J. Phys. B 37, 295 (2004)

e + CCl_2F_2	Dissociation	10-70 eV	Exp
e + CCl_2F_2	Ionization	10-70 eV	Exp

445. Y. Itikawa
Vibrational excitation of polyatomic molecules by electron collisions.
J. Phys. B 37, R1 (2004)

e + H_2O	Excitation	0.1-15 eV	E/T
e + CH_4	Excitation	0.1-15 eV	E/T
e + CO_2	Excitation	0.1-15 eV	E/T
e + C_2H_6	Excitation	0.1-15 eV	E/T
e + H_2O	Electron Collisions	0.1-15 eV	E/T
e + CH_4	Electron Collisions	0.1-15 eV	E/T
e + CO_2	Electron Collisions	0.1-15 eV	E/T
e + C_2H_6	Electron Collisions	0.1-15 eV	E/T

446. K. L. Baluja, J. A. Tossell
Electron collisions with the SF_2 radical using the R-matrix method.
J. Phys. B 37, 609 (2004)

e + SF_4	Elastic Scattering	0-15 eV	Th
e + SF_4	Excitation	0-15 eV	Th

447. H. Cho, Y. S. Park, H. Tanaka, S. J. Buckman
Measurements of elastic electron scattering by water vapour extended to backward angles.
J. Phys. B 37, 625 (2004)

e + H_2O	Elastic Scattering	4-50 eV	Exp
e + H_2O	Angular Scattering	4-50 eV	Exp

448. P. L. Bartlett, A. T. Stelbovics, I. Bray
Iteratively-coupled propagating exterior complex scaling method for electron-hydrogen collisions.
J. Phys. B 37, L69 (2004)

e + H	Angular Scattering	30 eV	Th
e + H	Excitation	30 eV	Th

449. J. W. Cooper, R. W. van Boeyen
Double ionization of argon by electron impact: New theoretical results.
J. Phys. B 37, L77 (2004)

e + Ar	Angular Scattering	561.4 eV	Th
e + Ar	Ionization	561.4 eV	Th

450. A. Faure, J. D. Gorfinkiel, J. Tennyson
Low-energy electron collisions with water: Elastic and rotationally inelastic scattering.
J. Phys. B 37, 801 (2004)

e + H_2O	Elastic Scattering	0-7 eV	Th
e + H_2O	Angular Scattering	0-7 eV	Th
e + H_2O	Excitation	0-7 eV	Th

451. Z. Chen, D. H. Madison, C. T. Whelan, H.R.J. Walters
Second-order distorted wave calculation for electron impact ionization of hydrogen.
J. Phys. B 37, 981 (2004)

e + H	Ionization	54-25 eV	E/T

452. D. H. Madison, A. Dasgupta, K. Bartschat, D. Vaid
Integral cross section for electron-impact excitation of the $3p^5 3d$ states of argon.
J. Phys. B 37, 1073 (2004)

e + Ar	Excitation	10-200 eV	E/T

453. B. V. Hall, Y. Shen, A. J. Murray, M. C. Standage, W. R. MacGillivray, I. Bray
Superelastic electron scattering from laser excited rubidium at 20 eV incident energy.
J. Phys. B 37, 1113 (2004)

e + Rb*	De-excitation	20 eV	E/T
e + Rb	Elastic Scattering	20 eV	E/T
e + Rb*	Elastic Scattering	20 eV	E/T

454. R. F. da Costa, F. J. da Paixao, M.A.P. Lima
Electron-impact excitation of H_2: Minimal orbital basis for single configuration interaction.
J. Phys. B 37, L129 (2004)

e + $\mathbf{H_2}$	Angular Scattering	15-30 eV	Th
e + $\mathbf{H_2}$	Excitation	15-30 eV	Th

455. A. Mansouri, C. Dal Cappello, S. Houamer, I. Charpentier, A. Lahmam-Bennani
Double ionization of H_2 by electron impact: A second Born treatment.
J. Phys. B 37, 1203 (2004)

e + $\mathbf{H_2}$	Angular Scattering	612-5612 eV	Th
e + $\mathbf{H_2}$	Ionization	612-5612 eV	Th

456. T. Geyer
Electron impact double ionization of helium from classical trajectory calculations.
J. Phys. B 37, 1215 (2004)

e + He	Ionization	25-3000 eV	Th

457. K. M. Dunseath, M. Terao-Dunseath
Scattering of low-energy electrons by helium in a CO_2 laser field.
J. Phys. B 37, 1305 (2004)

e + $\mathbf{CO_2}$	Elastic Scattering	1-8 eV	Th
e + $\mathbf{CO_2}$	Angular Scattering	1-8 eV	Th

458. M. Kimura, C. Makochekanwa, O. Sueoka
Contrasting low-energy behavior in total cross sections for electron and positron scattering from benzene molecules.
J. Phys. B 37, 1461 (2004)

e + $\mathbf{C_6H_6}$	Elastic Scattering	0.04-1000 eV	E/T
e + $\mathbf{C_6H_6}$	Excitation	0.04-1000 eV	E/T

459. H. M. Boechat-Roberty, M.L.M. Rocco, C. A. Lucas, G.G.B. de Souza
Absolute differential cross sections for elastic and inelastic electron scattering from benzene with 1 kev impact energy.
J. Phys. B 37, 1467 (2004)

e + $\mathbf{C_6H_6}$	Elastic Scattering	1 keV	Exp
e + $\mathbf{C_6H_6}$	Angular Scattering	1 keV	Exp
e + $\mathbf{C_6H_6}$	Excitation	1 keV	Exp

460. C. Becker, H. Knopp, J. Jacobi, H. Teng, S. Schippers, A. Mueller
Electron-impact single and multiple ionization of Mg^+ ions.
J. Phys. B 37, 1503 (2004)

e + Mg^+	Ionization	15-1000 eV	E/T

461. C. Szmytkowski, L. Klosowski, A. Domaracka, M. Piotrowicz, E. Ptasinska-Denga
Scattering of electrons from hydride molecules: PH_3.
J. Phys. B 37, 1833 (2004)

e + PH_3	Elastic Scattering	0.5-370 eV	Exp
e + PH_3	Excitation	0.5-370 eV	Exp
e + PH_3	Ionization	0.5-370 eV	Exp

462. C. Makochekanwa, O. Sueoka, M. Kimura
Experimental investigation of electron and positron interactions with monosubstituted and disubstituted benzene derivatives: Fluorobenzene, 1, 3-difluorobenzene and 1, 4-difluorobenzene molecules.
J. Phys. B 37, 1841 (2004)

e + C_6H_6	Elastic Scattering	0.4-1000 eV	Exp
e + $C_6H_4F_2$	Elastic Scattering	0.4-1000 eV	Exp
e + C_6H_5F	Elastic Scattering	0.4-1000 eV	Exp
e + C_6H_5Cl	Elastic Scattering	0.4-1000 eV	Exp
e + C_6H_6	Excitation	0.4-1000 eV	Exp
e + $C_6H_4F_2$	Excitation	0.4-1000 eV	Exp
e + C_6H_5F	Excitation	0.4-1000 eV	Exp
e + C_6H_5Cl	Excitation	0.4-1000 eV	Exp
e + C_6H_6	Ionization	0.4-1000 eV	Exp
e + $C_6H_4F_2$	Ionization	0.4-1000 eV	Exp
e + C_6H_5F	Ionization	0.4-1000 eV	Exp
e + C_6H_5Cl	Ionization	0.4-1000 eV	Exp

463. M. L. Gradziel, R. W. O'Neill
Direct measurement of P^+ for electron impact excitation of H(2p) at 54.4 eV.
J. Phys. B 37, 1893 (2004)

e + H	Excitation	54.4 eV	Exp
e + H^*	Excitation	54.4 eV	Exp

464. M. A. Uddin, A. K. Basak, A.K.M.A. Islam, F. B. Malik
Electron impact single ionization of light ionic targets with charge q ¿ 2.
J. Phys. B 37, 1909 (2004)

e + C^{3+}	Ionization	70-15,000 eV	Th
e + N^{4+}	Ionization	70-15,000 eV	Th
e + O^{4+}	Ionization	70-15,000 eV	Th
e + O^{5+}	Ionization	70-15,000 eV	Th
e + Ne^{6+}	Ionization	70-15,000 eV	Th
e + Ne^{7+}	Ionization	70-15,000 eV	Th

465. C. A. Terrell, D. L. Hansen, J. M. Ajello
The near-ultraviolet and visible emission spectrum of O_2 by electron impact.
J. Phys. B 37, 1931 (2004)

e + O_2	Fluorescence	10-400 eV	Exp
e + O_2	Excitation	10-400 eV	Exp

466. O. Marchuk, G. Bertschinger, H.-J. Kunze, N. R. Badnell, S. Fritzsche
Cascades between doubly excited levels in helium-like argon.
J. Phys. B 37, 1951 (2004)

e + Ar^{16+}	Recombination	Low energy	E/T
e + Ar^{16+}	Fluorescence	Low energy	E/T

467. T. Kai, R. Srivastava, S. Nakazaki
Electron-impact excitation of Si^{2+}: Differential cross sections and Stokes parameters.
J. Phys. B 37, 2045 (2004)

e + Si^{2+}	Angular Scattering	10.5-13.2 eV	Th
e + Si^{2+}	Excitation	10.5-13.2 eV	Th

468. K. Muktavat, R. Srivastava, A. D. Stauffer
Electron impact coherence parameters for the excitation of the $6^1S_0 - 6^1P_1$ transition in barium.
J. Phys. B 37, 2165 (2004)

e + Ba	Angular Scattering	5-16 eV	Th
e + Ba	Excitation	5-16 eV	Th

469. O. Zatsarinny, K. Bartschat
B-spline Breit-Pauli R-matrix calculations for electron collisions with neon atoms.
J. Phys. B 37, 2173 (2004)

e + Ne	Angular Scattering	16.6-51 eV	Th
e + Ne	Excitation	16.6-51 eV	Th

470. L. H. Andersen, O. Herber, Zajfman,D.
Physics with electrostatic rings and traps.
J. Phys. B 37, R57 (2004)

e + C_2^-	Detachment	0-30 eV	Exp
e + C_2^-	Electron Collisions	0-30 eV	Exp

471. X. Zhang, J. R. Crespo Lopez-Urrutia, P. Guo, V. Mironov, X. Shi, A. J. Gonzalez Martinez, H. Tawara, J. Ullrich
Experimental study of the deep-lying dielectronic recombination resonances of He-like germanium ions.
J. Phys. B 37, 2277 (2004)

e + Ge^{30+}	Recombination	6500-11,000 eV	E/T

472. B. E. O'Rourke, H. Kuramoto, Y. M. Li, S. Ohtani, X. M. Tong, H. Watanabe, F. J. Currell
Dielectronic recombination in He-like titanium ions.
J. Phys. B 37, 2343 (2004)

e + Ti^{20+}	Recombination	3-5 keV	E/T

473. A. V. Korol, F. J. Currell, G. F. Gribakin
The role of target polarization in electron-ion recombination.
J. Phys. B 37, 2411 (2004)

e + Kr^{8+}	Recombination	0-5 keV	Th
e + Kr^{26+}	Recombination	0-5 keV	Th
e + Zr^{12+}	Recombination	0-5 keV	Th
e + Ru^{16+}	Recombination	0-5 keV	Th
e + Cd^{20+}	Recombination	0-5 keV	Th
e + Xe^{26+}	Recombination	0-5 keV	Th
e + Xe^{44+}	Recombination	0-5 keV	Th

474. S. Feil, K. Gluch, S. Matt-Leubner, P. Scheier, J. Limtrakul, M. Probst, H. Deutsch, K. Becker, A. Stamatovic, T. D. Maerk
Partial cross sections for positive and negative ion formation following electron impact on uracil.
J. Phys. B 37, 3013 (2004)

e + $C_4H_4N_2O_2$	Ionization	0-1000 eV	E/T

475. J. Royal, A. Larson, A. E. Orel
Effect of couplings in the resonance continuum.
J. Phys. B 37, 3075 (2004)

e + $H_3{}^+$	Dissociation	5-30 eV	Th
e + HeH^+	Dissociation	5-30 eV	Th
e + $H_3{}^+$	Recombination	5-30 eV	Th
e + HeH^+	Recombination	5-30 eV	Th

476. A. A. Sorokin, I. L. Beigman, S. V. Bobashev, M. Richter, L. A. Vainshtein
Total electron-impact ionization cross sections of helium.
J. Phys. B 37, 3215 (2004)

e + He	Ionization	100-4000 eV	E/T

477. A. Chattopadhyay, C. Sinha
Laser assisted excitation in electron-hydrogen-like ion collisions.
J. Phys. B 37, 3283 (2004)

e + He^+ Z= ?-?	Angular Scattering	2-30 excitation threshold units	Th
e + He^+	Angular Scattering	2-30 excitation threshold units	Th
e + He^+ Z= ?-?	Excitation	2-30 excitation threshold units	Th
e + He^+	Excitation	2-30 excitation threshold units	Th

478. C. W. McCurdy, M. Baertschy, T. N. Rescigno
Solving the three-body Coulomb breakup problem using exterior complex scaling.
J. Phys. B 37, R137 (2004)

e + H	Ionization	0-2 Hartrees	E/T

479. M. Allan
Decay channels in the dissociative electron attachment to NO.
J. Phys. B 37, L359 (2004)

e + NO	Attachment	7.6-10 eV	Exp
e + NO	Dissociation	7.6-10 eV	Exp

480. L. U. Ancarani, M. C. Chidichimo
Partial wave completion technique for scattering amplitudes in Coulomb dipole excitation.
J. Phys. B 37, 4339 (2004)

e + Ca^+	Excitation	1.5-500 threshold	Th

481. T. van Zoest, H. Knopp, J. Jacobi, S. Schippers, R. A. Phaneuf, A. Mueller
Electron-impact ionization of Ti^{3+} ions.
J. Phys. B 37, 4387 (2004)

e + Ti^{3+}	Ionization	40-1000 eV	Exp

482. S. Y. Yousif Al-Mulla
The elastic scattering of electrons from atoms and ions containing core holes.
J. Phys. B 37, 305 (2004)

e + Ne	Elastic Scattering	10-100 eV	Th
e + Ne^+	Elastic Scattering	10-100 eV	Th
e + Na	Elastic Scattering	10-100 eV	Th
e + Na^+	Elastic Scattering	10-100 eV	Th
e + Ar	Elastic Scattering	10-100 eV	Th
e + Ar^+	Elastic Scattering	10-100 eV	Th

483. J. E. Hudson, C. Vallance, P. W. Harland
Absolute electron impact ionization cross-sections for CO, CO_2, OCS and CS_2.
J. Phys. B 37, 445 (2004)

e + CO	Ionization	0-250 eV	Exp
e + CO_2	Ionization	0-250 eV	Exp
e + CS_2	Ionization	0-250 eV	Exp
e + OCS	Ionization	0-250 eV	Exp

484. L. M. Brescansin, P. Rawat, I. Iga, M.G.P. Homem, M.-T. Lee, L. E. Machado
Elastic and absorption cross sections for electron scattering by ethylene in the intermediate energy range.
J. Phys. B 37, 471 (2004)

e + C_2H_4	Elastic Scattering	10-500 eV	E/T
e + C_2H_4	Total Scattering	10-500 eV	E/T

485. B. K. Antony, K. N. Joshipura, N. J. Mason, J. Tennyson
R-matrix calculation of low-energy electron collisions with LiH.
J. Phys. B 37, 1689 (2004)

e + LiH	Elastic Scattering	0-6 eV	Th
e + LiH	Excitation	0-6 eV	Th

486. M. J. Roberts
Two-body off-shell effects in the second-order Faddeev-Watson approximation for atomic ionization processes.
J. Phys. B 37, 2869 (2004)

e + He	Ionization	200 eV; 1 MeV	Th

487. C. P. Ballance, D. C. Griffin
Electron-impact excitation of neon: A pseudo-state convergence study.
J. Phys. B 37, 2943 (2004)

e + Ne	Excitation	16-40 eV	Th

488. M. Plummer, C. J. Noble, M. Le Dourneuf
Low-energy behaviour of e-O scattering calculations.
J. Phys. B 37, 2979 (2004)

e + O	Elastic Scattering	0.5-18 eV	Th
e + O	Excitation	0.5-18 eV	Th

489. J. D. Gorfinkiel, J. Tennyson
Electron – $H_3{}^+$ **collisions at intermediate energies.**
J. Phys. B 37, L343 (2004)

e + $\mathbf{H_3{}^+}$	Excitation	15-42 eV	Th
e + $\mathbf{H_3{}^+}$	Ionization	15-42 eV	Th

490. G. Angelova, J. L. LeGarrec, C. Rebrion-Rowe, B. R. Rowe, O. Novotny, J.B.A. Mitchell
The dissociative recombination of $CF_3{}^+$**.**
J. Phys. B 37, 4135 (2004)

e + $\mathbf{CF_3{}^+}$	Dissociation	100 K	Exp
e + $\mathbf{CF_3{}^+}$	Recombination	100 K	Exp

491. T. Fiegele, G. Hanel, O. Echt, A. Stamatovic, P. Scheier, T. D. Maerk
Appearance energies of hydrogen and deuterium cluster ions.
J. Phys. B 37, 4167 (2004)

e + $\mathbf{H_2}$	Ionization	10-20 eV	Exp
e + $\mathbf{H_3}$	Ionization	10-20 eV	Exp
e + $\mathbf{D_2}$	Ionization	10-20 eV	Exp
e + $\mathbf{D_3}$	Ionization	10-20 eV	Exp
e + Hn	Ionization	10-20 eV	Exp
e + Dm	Ionization	10-20 eV	Exp
e + $\mathbf{H_5}$	Ionization	10-20 eV	Exp
e + $\mathbf{H_7}$	Ionization	10-20 eV	Exp
e + $\mathbf{H_9}$	Ionization	10-20 eV	Exp
e + $\mathbf{H_{11}}$	Ionization	10-20 eV	Exp
e + $\mathbf{D_5}$	Ionization	10-20 eV	Exp
e + $\mathbf{D_7}$	Ionization	10-20 eV	Exp
e + $\mathbf{D_9}$	Ionization	10-20 eV	Exp
e + $\mathbf{D_{11}}$	Ionization	10-20 eV	Exp

492. D. Vrinceanu, H. R. Sadeghpour, K. Bartschat
Electron-impact broadening of Sr^+ **lines in ultracold neutral plasmas.**
J. Phys. B 37, L371 (2004)

e + $\mathbf{Sr^+}$	Line Broadening	0-0.6 eV	Th

493. A. Prideaux, D. H. Madison
Doubly differential cross sections for ionization of xenon by spin-polarized electrons.
J. Phys. B 37, 4423 (2004)

e + Xe	Angular Scattering	40-50 eV	Th
e + Xe	Ionization	40-50 eV	Th

494. Y. Wu, Z. An, M. T. Liu, Y. M. Duan, C. H. Tang, Z. M. Luo
Measurements of L-shell x-ray production cross sections of Au and Ag by low energy electron impact.
J. Phys. B 37, 4527 (2004)

e + Ag	Ionization	5-25 keV	Exp
e + Au	Ionization	5-25 keV	Exp

495. N. Watanabe, J. W. Cooper, R. W. van Boeyen, J. P. Doering, J. H. Moore, M. A. Coplan
(e,3e) collisions on Mg in the impulsive regime studied by the second Born approximation.
J. Phys. B 37, 4551 (2004)

e + Mg	Angular Scattering	1059 eV	Th
e + Mg	Ionization	1059 eV	Th

496. N. R. Badnell, K. A. Berrington, H. P. Summers, M. G. O'Mullane, A. D. Whiteford, C. P. Ballance
Electron-impact excitation of Xe^{26+} and its resultant spectral signature.
J. Phys. B 37, 4589 (2004)

e + Xe^{26+}	Excitation	0-85 Ry	Th

497. H. Cho, R. P. McEachran, H. Tanaka, S. J. Buckman
The role of absorption in intermediate energy elastic electron scattering from krypton.
J. Phys. B 37, 4639 (2004)

e + Kr	Elastic Scattering	20-100 eV	E/T
e + Kr	Excitation	20-100 eV	E/T

498. I. Linert, G. C. King, M. Zubek
Measurements of differential cross sections for elastic electron scattering in the backward direction by molecular oxygen.
J. Phys. B 37, 4681 (2004)

e + O_2	Elastic Scattering	7-10 eV	E/T

499. O. Zatsarinny, K. Bartschat
B-spline Breit-Pauli R-matrix calculations for electron collisions with argon atoms.
J. Phys. B 37, 4693 (2004)

e + Ar	Excitation	11.5-14 eV	E/T

500. A. Dasgupta, K. G. Whitney
Z-scaled K-shell dielectronic recombination rate coefficients.
Phys. Rev. A 69, 022702 (2004)

e + Fe^{24+}	Line Broadening	0-10 keV	Th
e + Fe^{25+}	Line Broadening	0-10 keV	Th
e + Ni^{26+}	Line Broadening	0-10 keV	Th
e + Ni^{27+}	Line Broadening	0-10 keV	Th
e + Mo^{40+}	Line Broadening	0-10 keV	Th
e + Mo^{41+}	Line Broadening	0-10 keV	Th
e + Fe^{24+}	Recombination	0-10 keV	Th
e + Fe^{25+}	Recombination	0-10 keV	Th
e + Ni^{26+}	Recombination	0-10 keV	Th
e + Ni^{27+}	Recombination	0-10 keV	Th
e + Mo^{40+}	Recombination	0-10 keV	Th
e + Mo^{41+}	Recombination	0-10 keV	Th
e + Fe^{24+}	Excitation	0-10 keV	Th
e + Fe^{25+}	Excitation	0-10 keV	Th
e + Ni^{26+}	Excitation	0-10 keV	Th
e + Ni^{27+}	Excitation	0-10 keV	Th
e + Mo^{40+}	Excitation	0-10 keV	Th
e + Mo^{41+}	Excitation	0-10 keV	Th

501. P. L. Bartlett, A. T. Stelbovics
Complete direct method for electron-hydrogen scattering: Application to the collinear and Temkin-Poet models.
Phys. Rev. A 69, 022703 (2004)

e + H	Elastic Scattering	0.01-1.0 a.u.	Th
e + H	Total Scattering	0.01-1.0 a.u.	Th
e + H	Ionization	0.01-1.0 a.u.	Th

502. E. Behar, V. L. Jacobs, J. Oreg, A. Bar-Shalom, S. L. Haan
Effects of quantum interference between radiative and dielectronic recombination on photorecombination cross-section profiles for the He-like ions Ar^{16+} and Fe^{24+}.
Phys. Rev. A 69, 022704 (2004)

e + $\mathbf{Ar}^{16+}$	Recombination	2000-5000 eV	Th
e + $\mathbf{Fe}^{24+}$	Recombination	2000-5000 eV	Th
e + $\mathbf{Ar}^{16+}$	Excitation	2000-5000 eV	Th
e + $\mathbf{Fe}^{24+}$	Excitation	2000-5000 eV	Th

503. K. N. Joshipura, M. Vinodkumar, C. G. Limbachiya, B. K. Antony
Calculated total cross sections of electron-impact ionization and excitations in tetrahedral (XY_4) and SF_6 molecules.
Phys. Rev. A 69, 022705 (2004)

e + $\mathbf{CH}_4$	Excitation	10-2000 eV	Th
e + $\mathbf{CF}_4$	Excitation	10-2000 eV	Th
e + $\mathbf{CCl}_4$	Excitation	10-2000 eV	Th
e + $\mathbf{SiH}_4$	Excitation	10-2000 eV	Th
e + $\mathbf{SF}_6$	Excitation	10-2000 eV	Th
e + $\mathbf{GeH}-4$	Excitation	10-2000 eV	Th
e + $\mathbf{SiF}_4$	Excitation	10-2000 eV	Th
e + $\mathbf{CH}_4$	Ionization	10-2000 eV	Th
e + $\mathbf{CF}_4$	Ionization	10-2000 eV	Th
e + $\mathbf{CCl}_4$	Ionization	10-2000 eV	Th
e + $\mathbf{SiH}_4$	Ionization	10-2000 eV	Th
e + $\mathbf{SF}_6$	Ionization	10-2000 eV	Th
e + $\mathbf{GeH}-4$	Ionization	10-2000 eV	Th
e + $\mathbf{SiF}_4$	Ionization	10-2000 eV	Th

504. A. Laricchiuta, R. Celiberto, R. K. Janev
Electron-impact-induced allowed transitions between triplet states of H_2.
Phys. Rev. A 69, 022706 (2004)

e + $\mathbf{H}_2$	Dissociation	0-10 eV	Th
e + $\mathbf{H}_2$	Excitation	0-10 eV	Th

505. J. G. Childers, K. E., Jr. James, I. Bray, M. Baertschy, M. A. Khakoo
Low-energy electron scattering from atomic hydrogen. I. Ionization.
Phys. Rev. A 69, 022709 (2004)

e + H	Ionization	14.6-40 eV	Exp

506. K. E., Jr. James, J. G. Childers, M. A. Khakoo
Low-energy electron scattering from atomic hydrogen. II. Elastic and inelastic scattering.
Phys. Rev. A 69, 022710 (2004)

e + H	Dissociation	14.6-40 eV	Exp
e + H	Elastic Scattering	14.6-40 eV	Exp
e + H	Excitation	14.6-40 eV	Exp
e + H	Ionization	14.6-40 eV	Exp

507. S. Kalhori, R. Thomas, A. Al-Khalili, A. Ehlerding, F. Hellberg, A. Neau, M. Larsson, A. Larson, A. J. Huneycutt, B. J. McCall, N. Djuric, G. H. Dunn, J. Semaniak, O. Novotny, A. Paal, F. Osterdahl, A. E. Orel
Resonant ion-pair formation in electron collisions with rovibrationally cold $H_3{}^+$.
Phys. Rev. A 69, 022713 (2004)

e + $\mathbf{H_3{}^+}$	Attachment	2-20 eV	E/T
e + $\mathbf{H_3{}^+}$	Dissociation	2-20 eV	E/T

508. D. S. Milne-Brownlie, S. J. Cavanagh, B. Lohmann, C. Champion, P. A. Hervieux, J. Hanssen
Dynamics in electron-impact ionization of H_2O.
Phys. Rev. A 69, 032701 (2004)

e + $\mathbf{H_2O}$	Ionization	250 eV	E/T

509. A.C.F. Santos, A. Hasan, R. D. DuBois
Doubly differential multiple ionization of krypton by positron and electron impact.
Phys. Rev. A 69, 032706 (2004)

e + Kr	Angular Scattering	750 eV	Exp
e + Kr	Ionization	750 eV	Exp

510. C. Merlet, X. Llovet, F. Salvat
Measurements of absolute K-shell ionization cross sections and L-shell x-ray production cross sections of Ge by electron impact.
Phys. Rev. A 69, 032708 (2004)

e + Ge	Fluorescence	1.62-40.62 keV	Exp
e + Ge	Ionization	1.62-40.62 keV	Exp

511. A. S. Kheifets
Second-order Born model for two-electron atomic ionization by fast charged-particle impact.
Phys. Rev. A 69, 032712 (2004)

e + He	Excitation	0.5-5.5 keV	Th
e + He	Ionization	0.5-5.5 keV	Th

512. J.-Y. Chesnel, D. Martina, P. Sobocinski, O. Kamalou, F. Fremont, J. Fernandez, F. Martin
Autoionization electrons following double excitation of D_2 in 2.4 keV e^- + D_2 collisions: Experimental and theoretical evidence.
Phys. Rev. A 70, 010701(R) (2004)

e + $\mathbf{H_2}$	Dissociation	2 keV	E/T
e + $\mathbf{D_2}$	Dissociation	2 keV	E/T
e + $\mathbf{H_2}$	Ionization	2 keV	E/T
e + $\mathbf{D_2}$	Ionization	2 keV	E/T

513. C. S. Trevisan, A. E. Orel, T. N. Rescigno
Ab initio study of low-energy electron collisions with tetrafluoroethene C_2F_4.
Phys. Rev. A 70, 012704 (2004)

e + C_2F_4	Elastic Scattering	0.5-20 eV	Th
e + C_2F_4	Angular Scattering	0.5-20 eV	Th
e + C_2F_4	Total Scattering	0.5-20 eV	Th

514. G. Baum, S. Foerster, N. Pavlovic, B. Roth, K. Bartschat, I. Bray
Angle-differential cross sections and spin-asymmetry parameters for spin-polarized electron-impact excitation of spin-polarized cesium atoms.
Phys. Rev. A 70, 012707 (2004)

e + Cs	Angular Scattering	5-25 eV	E/T
e + Cs	Excitation	5-25 eV	E/T

515. J.-M. Sun, Z.-P. Zhong, L.-F. Zhu, W.-B. Li, X.-J. Liu, Z.-S. Yuan, K.-Z. Xu
Superexcited states of NO studied by angle-resolved electron-energy-loss spectroscopy.
Phys. Rev. A 70, 012708 (2004)

e + NO	Elastic Scattering	2500 eV	Exp
e + NO	Angular Scattering	2500 eV	Exp

516. L. U. Ancarani, T. Montagnese, C. Dal Cappello
Role of the helium ground state in (e,3e) processes.
Phys. Rev. A 70, 012711 (2004)

e + He	Angular Scattering	2-5.6 keV	Th
e + He	Ionization	2-5.6 keV	Th

517. S. Jones, J. H. Macek, D. H. Madison
Test of the Pluvinage wave function for the helium ground state.
Phys. Rev. A 70, 012712 (2004)

e + He	Angular Scattering	5.6 keV	Th
e + He	Ionization	5.6 keV	Th

518. C. Makochekanwa, M. Kimura, O. Sueoka
Experimental study of total cross sections for positron and electron scattering by SF_6 molecules.
Phys. Rev. A 70, 022702 (2004)

e + SF_6	Elastic Scattering	0.8-1000 eV	Exp
e + SF_6	Excitation	0.8-1000 eV	Exp
e + SF_6	Electron Collisions	0.8-1000 eV	Exp

519. D. A. Erwin, J. A. Kunc
Ionization of excited xenon atoms by electrons.
Phys. Rev. A 70, 022705 (2004)

e + Xe	Ionization	0-500 eV	Th

520. H. Takagi
Theoretical study of the dissociative recombination of HeH^+.
Phys. Rev. A 70, 022709 (2004)

e + HeH^+	Dissociation	0.001-1 eV	Th
e + HeH	Recombination	0.001-1 eV	Th

521. M. Oura, Y. Tamenori, T. Hayaishi, Y. Kanai, H. Yoshii, K. Tsukamoto, F. Koike
Observation of the angle-resolved resonant Auger emission from the [1s2p]$(^{3,1}P)3p^2$ ^1P doubly excited 2p-2h states of Ne.
Phys. Rev. A 70, 022710 (2004)

e + Ne	Excitation	910 eV	Exp
e + Ne	Ionization	910 eV	Exp

522. M. C. Witthoeft, S. D. Loch, M. S. Pindzola
Time-dependent close-coupling theory for e+H elastic and inelastic scattering.
Phys. Rev. A 70, 022711 (2004)

e + H	Elastic Scattering	4-30 eV	Th
e + H	Total Scattering	4-30 eV	Th
e + H	Excitation	4-30 eV	Th

523. D. L. Robbins, A. Ya. Faenov, T. A. Pikuz, H. Chen, P. Beiersdorfer, M. J. May, J. Dunn, K. J. Reed, A. J. Smith
Measurement of the polarization of the K-shell resonance line emission of S^{13+} and S^{14+} at relativistic electron beam energies.
Phys. Rev. A 70, 022715 (2004)

e + $\mathbf{S}^{13+}$	De-excitation	0-144 eV	Exp
e + $\mathbf{S}^{14+}$	De-excitation	0-144 eV	Exp
e + $\mathbf{S}^{13+}$	Excitation	0-144 eV	Exp
e + $\mathbf{S}^{14+}$	Excitation	0-144 eV	Exp

524. G. B. Poparic, S.M.D. Galijas, D. S. Belic
Forward-to-backward differential-cross-section ratio in electron-impact vibrational excitation via the $^2\Pi$ resonance of CO.
Phys. Rev. A 70, 024701 (2004)

e + CO	Excitation	1.91 eV	Exp

525. K. Bartschat, O. Zatsarinny, I. Bray, D. V. Fursa, A. T. Stelbovics
On the convergence of close-coupling results for low-energy electron scattering from magnesium.
J. Phys. B 37, 2617 (2004)

e + Mg	Elastic Scattering	0-1 eV	Th

526. L. I. Kurkina
Resonance behaviour of the bremsstrahlung process in collisions of the low-energy electrons with alkali-metal clusters.
J. Phys. B 37, 2649 (2004)

e + $\mathbf{Na}_{20}$	Bremsstrahlung	10-30 eV	Th
e + $\mathbf{Na}_{8}$	Bremsstrahlung	10-30 eV	Th
e + $\mathbf{Na}_{92}$	Bremsstrahlung	10-30 eV	Th
e + $\mathbf{Na}_{196}$	Bremsstrahlung	10-30 eV	Th
e + $\mathbf{K}_{92}$	Bremsstrahlung	10-30 eV	Th
e + $\mathbf{Li}_{92}$	Bremsstrahlung	10-30 eV	Th

527. V. Milosavljevic, S. Djenize, M. S. Dimitrijevic
Electron and ion contributions to the Ne I spectral line broadening.
J. Phys. B 37, 2713 (2004)

e + Ne	Line Broadening	1000-50,000 K	Th

528. N. Andersen, K. Bartschat
Dipole polarization in coherently excited Stark manifolds.
J. Phys. B 37, 3809 (2004)

e + He^{+}	Angular Scattering	1585-5640 eV	Th
e + He^{+*}	Angular Scattering	1585-5640 eV	Th
e + He^{+}	Excitation	1585-5640 eV	Th
e + He^{+*}	Excitation	1585-5640 eV	Th
e + He^{+}	Ionization	1585-5640 eV	Th
e + He^{+*}	Ionization	1585-5640 eV	Th

529. M.H.F. Bettega, M.A.P. Lima
Electron collisions with the hydrides PH_3, AsH_3 **and** SbH_3**.**
J. Phys. B 37, 3859 (2004)

e + PH$_2$	Elastic Scattering	0.5-8 eV	Th
e + AsH$_3$	Elastic Scattering	0.5-8 eV	Th
e + SbH$_3$	Elastic Scattering	0.5-8 eV	Th

530. O. Zatsarinny, T. W. Gorczyca, K. T. Korista, N. R. Badnell, D. W. Savin
Dielectronic recombination data for dynamic finite-density plasmas. IV. The carbon isoelectronic sequence.
Astron. Astrophys. 417, 1173 (2004)

e + N^{+}	Recombination	$1-10^5$ eV	Th
e + O^{2+}	Recombination	$1-10^5$ eV	Th
e + F^{3+}	Recombination	$1-10^5$ eV	Th
e + Ne^{4+}	Recombination	$1-10^5$ eV	Th
e + Na^{5+}	Recombination	$1-10^5$ eV	Th
e + Mg^{6+}	Recombination	$1-10^5$ eV	Th
e + Al^{7+}	Recombination	$1-10^5$ eV	Th
e + Si^{8+}	Recombination	$1-10^5$ eV	Th
e + P^{9+}	Recombination	$1-10^5$ eV	Th
e + S^{10+}	Recombination	$1-10^5$ eV	Th
e + Cl^{11+}	Recombination	$1-10^5$ eV	Th
e + Ar^{12+}	Recombination	$1-10^5$ eV	Th
e + K^{13+}	Recombination	$1-10^5$ eV	Th
e + Ca^{14+}	Recombination	$1-10^5$ eV	Th
e + Sc^{15+}	Recombination	$1-10^5$ eV	Th
e + Ti^{16+}	Recombination	$1-10^5$ eV	Th
e + V^{17+}	Recombination	$1-10^5$ eV	Th
e + Cr^{18+}	Recombination	$1-10^5$ eV	Th
e + Mn^{19+}	Recombination	$1-10^5$ eV	Th
e + Fe^{20+}	Recombination	$1-10^5$ eV	Th
e + Co^{21+}	Recombination	$1-10^5$ eV	Th
e + Ni^{22+}	Recombination	$1-10^5$ eV	Th
e + Cu^{23+}	Recombination	$1-10^5$ eV	Th
e + Zn^{24+}	Recombination	$1-10^5$ eV	Th
e + Kr^{30+}	Recombination	$1-10^5$ eV	Th
e + Mo^{36+}	Recombination	$1-10^5$ eV	Th
e + Cd^{42+}	Recombination	$1-10^5$ eV	Th
e + Xe^{48+}	Recombination	$1-10^5$ eV	Th

531. J. Colgan, M. S. Pindzola, N. R. Badnell
Dielectronic recombination data for dynamic finite-density plasmas. V: The lithium isoelectronic sequence.
Astron. Astrophys. 417, 1183 (2004)

e + Be^{+}	Recombination	$10^3 - 10^9$ K	Th
e + B^{2+}	Recombination	$10^3 - 10^9$ K	Th
e + C^{3+}	Recombination	$10^3 - 10^9$ K	Th
e + N^{4+}	Recombination	$10^3 - 10^9$ K	Th
e + O^{5+}	Recombination	$10^3 - 10^9$ K	Th
e + F^{6+}	Recombination	$10^3 - 10^9$ K	Th
e + Ne^{7+}	Recombination	$10^3 - 10^9$ K	Th
e + Na^{8+}	Recombination	$10^3 - 10^9$ K	Th
e + Mg^{9+}	Recombination	$10^3 - 10^9$ K	Th
e + Al^{10+}	Recombination	$10^3 - 10^9$ K	Th
e + Si^{11+}	Recombination	$10^3 - 10^9$ K	Th
e + P^{12+}	Recombination	$10^3 - 10^9$ K	Th
e + S^{13+}	Recombination	$10^3 - 10^9$ K	Th
e + Cl^{14+}	Recombination	$10^3 - 10^9$ K	Th
e + Ar^{15+}	Recombination	$10^3 - 10^9$ K	Th
e + Ca^{17+}	Recombination	$10^3 - 10^9$ K	Th
e + Ti^{19+}	Recombination	$10^3 - 10^9$ K	Th
e + Cr^{21+}	Recombination	$10^3 - 10^9$ K	Th
e + Fe^{23+}	Recombination	$10^3 - 10^9$ K	Th
e + Ni^{25+}	Recombination	$10^3 - 10^9$ K	Th
e + Zn^{27+}	Recombination	$10^3 - 10^9$ K	Th
e + Kr^{33+}	Recombination	$10^3 - 10^9$ K	Th
e + Mo^{39+}	Recombination	$10^3 - 10^9$ K	Th
e + Xe^{51+}	Recombination	$10^3 - 10^9$ K	Th

532. S. S. Tayal
Electron impact excitation of fine-structure levels in Cl II.
Astron. Astrophys. 418, 363 (2004)

e + Cl^{+}	Excitation	0-20 Ry	Th

533. K. M. Aggarwal, F. P. Keenan
Electron impact excitation of Fe XIII.
Astron. Astrophys. 418, 371 (2004)

e + Fe^{12+}	Excitation	15-45 Ry	Th

534. M. A. Bautista, C. Mendoza, T. R. Kallman, P. Palmeri
K-shell photoionization and electron impact excitation of Fe XVII-Fe XXIII.
Astron. Astrophys. 418, 1171 (2004)

e + Fe^{16+}	Excitation	100-2000 Ry	Th
e + Fe^{17+}	Excitation	100-2000 Ry	Th
e + Fe^{18+}	Excitation	100-2000 Ry	Th
e + Fe^{19+}	Excitation	100-2000 Ry	Th
e + Fe^{20+}	Excitation	100-2000 Ry	Th
e + Fe^{21+}	Excitation	100-2000 Ry	Th
e + Fe^{22+}	Excitation	100-2000 Ry	Th

535. M. A. Bautista
Atomic data from the Iron project. LV. Electron impact excitation of Ni II.
Astron. Astrophys. 420, 763 (2004)

e + Ni^{+}	Excitation	0-0.5 Ry	Th

536. Z. Altun, A. Yumak, N. R. Badnell, J. Colgan, M. S. Pindzola
Dielectronic recombination data for dynamic finite-density plasmas. VI. The boron isoelectronic sequence.
Astron. Astrophys. 420, 775 (2004)

e + C^{+}	Recombination	$10^3 - 10^9$ K	Th
e + N^{2+}	Recombination	$10^3 - 10^9$ K	Th
e + O^{3+}	Recombination	$10^3 - 10^9$ K	Th
e + F^{4+}	Recombination	$10^3 - 10^9$ K	Th
e + Ne^{5+}	Recombination	$10^3 - 10^9$ K	Th
e + Na^{6+}	Recombination	$10^3 - 10^9$ K	Th
e + Mg^{7+}	Recombination	$10^3 - 10^9$ K	Th
e + Al^{8+}	Recombination	$10^3 - 10^9$ K	Th
e + Si^{9+}	Recombination	$10^3 - 10^9$ K	Th
e + P^{10+}	Recombination	$10^3 - 10^9$ K	Th
e + S^{11+}	Recombination	$10^3 - 10^9$ K	Th
e + Cl^{12+}	Recombination	$10^3 - 10^9$ K	Th
e + Ar^{13+}	Recombination	$10^3 - 10^9$ K	Th
e + Ca^{15+}	Recombination	$10^3 - 10^9$ K	Th
e + Ti^{17+}	Recombination	$10^3 - 10^9$ K	Th
e + Cr^{19+}	Recombination	$10^3 - 10^9$ K	Th
e + Fe^{21+}	Recombination	$10^3 - 10^9$ K	Th
e + Ni^{23+}	Recombination	$10^3 - 10^9$ K	Th
e + Zn^{25+}	Recombination	$10^3 - 10^9$ K	Th
e + Kr^{31+}	Recombination	$10^3 - 10^9$ K	Th
e + Mo^{37+}	Recombination	$10^3 - 10^9$ K	Th
e + Xe^{49+}	Recombination	$10^3 - 10^9$ K	Th

537. S. Schippers, M. Schnell, C. Brandau, S. Kieslich, A. Mueller, A. Wolf
Experimental Mg IX photorecombination rate coefficient.
Astron. Astrophys. 421, 1185 (2004)

e + Mg^{8+}	Recombination	0-207 eV	Exp

538. W. D. Geppert, F. Hellberg, A. Ehlerding, J. Semaniak, F. Osterdahl, M. Kaminska, V. Zhaunerchyk, A. Al-Khalili, M. af Ugglas, R. Thomas, A. Kaellberg, M. Larsson
Dissociative recombination of $S^{18}O_2{}^+$: Evidence for three-body breakup.
Astrophys. J., Part 1 610, 1228 (2004)

e + $SO_2{}^+$	Dissociation	0.0001-1.0 eV	Exp
e + $SO_2{}^+$	Recombination	0.0001-1.0 eV	Exp

539. D. M. Mitnik, N. R. Badnell
Dielectronic recombination data for dynamic finite-density plasmas. VIII. The nitrogen isoelectronic sequence.
Astron. Astrophys. 425, 1153 (2004)

e + O^{+}	Recombination	$10 - 10^9$ K	Th
e + F^{2+}	Recombination	$10 - 10^9$ K	Th
e + Ne^{3+}	Recombination	$10 - 10^9$ K	Th
e + Na^{4+}	Recombination	$10 - 10^9$ K	Th
e + Mg^{5+}	Recombination	$10 - 10^9$ K	Th
e + Al^{6+}	Recombination	$10 - 10^9$ K	Th
e + Si^{7+}	Recombination	$10 - 10^9$ K	Th
e + P^{8+}	Recombination	$10 - 10^9$ K	Th
e + S^{9+}	Recombination	$10 - 10^9$ K	Th
e + Cl^{10+}	Recombination	$10 - 10^9$ K	Th
e + Ar^{11+}	Recombination	$10 - 10^9$ K	Th
e + Ca^{13+}	Recombination	$10 - 10^9$ K	Th
e + Ti^{15+}	Recombination	$10 - 10^9$ K	Th
e + Cr^{17+}	Recombination	$10 - 10^9$ K	Th
e + Fe^{19+}	Recombination	$10 - 10^9$ K	Th

e + Ni^{21+}	Recombination	$10 - 10^9$ K	Th
e + Zn^{23+}	Recombination	$10 - 10^9$ K	Th
e + Kr^{29+}	Recombination	$10 - 10^9$ K	Th
e + Mo^{35+}	Recombination	$10 - 10^9$ K	Th
e + Xe^{47+}	Recombination	$10 - 10^9$ K	Th

540. O. Zatsarinny, T. W. Gorczyca, K. Korista, N. R. Badnell, D. W. Savin
Dielectronic recombination data for dynamic finite-density plasmas.
Astron. Astrophys. 426, 699 (2004)

e + Na^{+}	Recombination	$1 - 10^5$ eV	Th
e + Mg^{2+}	Recombination	$1 - 10^5$ eV	Th
e + Al^{3+}	Recombination	$1 - 10^5$ eV	Th
e + Si^{4+}	Recombination	$1 - 10^5$ eV	Th
e + P^{5+}	Recombination	$1 - 10^5$ eV	Th
e + S^{6+}	Recombination	$1 - 10^5$ eV	Th
e + Cl^{7+}	Recombination	$1 - 10^5$ eV	Th
e + Ar^{8+}	Recombination	$1 - 10^5$ eV	Th
e + K^{9+}	Recombination	$1 - 10^5$ eV	Th
e + Ca^{10+}	Recombination	$1 - 10^5$ eV	Th
e + Sc^{11+}	Recombination	$1 - 10^5$ eV	Th
e + Ti^{12+}	Recombination	$1 - 10^5$ eV	Th
e + V^{13+}	Recombination	$1 - 10^5$ eV	Th
e + Cr^{14+}	Recombination	$1 - 10^5$ eV	Th
e + Mn^{15+}	Recombination	$1 - 10^5$ eV	Th
e + Fe^{16+}	Recombination	$1 - 10^5$ eV	Th
e + Co^{17+}	Recombination	$1 - 10^5$ eV	Th
e + Ni^{18+}	Recombination	$1 - 10^5$ eV	Th
e + Cu^{19+}	Recombination	$1 - 10^5$ eV	Th
e + Zn^{20+}	Recombination	$1 - 10^5$ eV	Th
e + Ga^{21+}	Recombination	$1 - 10^5$ eV	Th
e + Ge^{22+}	Recombination	$1 - 10^5$ eV	Th
e + As^{23+}	Recombination	$1 - 10^5$ eV	Th
e + Se^{24+}	Recombination	$1 - 10^5$ eV	Th
e + Br^{25+}	Recombination	$1 - 10^5$ eV	Th
e + Kr^{26+}	Recombination	$1 - 10^5$ eV	Th
e + Rb^{27+}	Recombination	$1 - 10^5$ eV	Th
e + Sr^{28+}	Recombination	$1 - 10^5$ eV	Th
e + Y^{29+}	Recombination	$1 - 10^5$ eV	Th
e + Zr^{30+}	Recombination	$1 - 10^5$ eV	Th
e + Nb^{31+}	Recombination	$1 - 10^5$ eV	Th
e + Mo^{32+}	Recombination	$1 - 10^5$ eV	Th
e + Tc^{33+}	Recombination	$1 - 10^5$ eV	Th
e + Ru^{34+}	Recombination	$1 - 10^5$ eV	Th
e + Rh^{35+}	Recombination	$1 - 10^5$ eV	Th
e + Pd^{36+}	Recombination	$1 - 10^5$ eV	Th
e + Ag^{37+}	Recombination	$1 - 10^5$ eV	Th
e + Cd^{38+}	Recombination	$1 - 10^5$ eV	Th
e + In^{39+}	Recombination	$1 - 10^5$ eV	Th
e + Sn^{40+}	Recombination	$1 - 10^5$ eV	Th
e + Sb^{41+}	Recombination	$1 - 10^5$ eV	Th
e + Te^{42+}	Recombination	$1 - 10^5$ eV	Th
e + I^{43+}	Recombination	$1 - 10^5$ eV	Th
e + Xe^{44+}	Recombination	$1 - 10^5$ eV	Th

541. K. M. Aggarwal, F. P. Keenan
Effective collision strengths for transitions in Fe XIII.
Astron. Astrophys. 429, 1117 (2005)

e + $\mathbf{Fe}^{12+}$	Excitation	$0 - 7x10^5$ K	Th

542. E. Landi, P. J. Storey, C. J. Zeippen
Atomic data and spectral line intensities for Ca VIII
Astrophys. J., Part 1 607, 640 (2004)

e + $\mathbf{Ca}^{7+}$	Excitation	0-10 Ry	Th

543. W. D. Geppert, R. Thomas, J. Semaniak, A. Ehlerding, T. J. Millar, F. Osterdahl, M. af Ugglas, N. Djuric, A. Paal, M. Larsson
Dissociative recombination of N_2H^+: Evidence for fracture of the N-N bond.
Astrophys. J., Part 1 609, 459 (2004)

e + $\mathbf{N_2H}^+$	Recombination	0.001-0.2 eV	Exp

544. X. Liu, D. E. Shemansky
Ionization of molecular hydrogen.
Astrophys. J., Part 1 614, 1132 (2004)

e + $\mathbf{H}_2$	Ionization	15-3000 eV	Th

545. S. Pal, J. Kumar
Differential, partial and total electron impact ionization cross sections for SF_6.
J. Chem. Phys. 120, 4658 (2004)

e + $\mathbf{SF}_6$	Ionization	0-900 eV	Th

546. J. Ojekull, P. U. Andersson, M. B. Nagard, J.B.C. Pettersson, A. M. Derkatch, A. Neau, S. Rosen, R. Thomas, M. Larsson, F. Osterdahl, J. Semaniak, H. Danared, A. Kaellberg, M. af Ugglas, N. Markovic
Dissociative recombination of $NH_4{}^+$ and $ND_4{}^+$ ions: Storage ring experiments and ab initio molecular dynamics.
J. Chem. Phys. 120, 7391 (2004)

e + $\mathbf{NH_4}^+$	Recombination	0.001-1.0 eV	E/T
e + $\mathbf{ND_4}^+$	Recombination	0.001-1.0 eV	E/T

547. R. Panajotovic, M. Jelisavcic, R. Kajita, T. Tanaka, M. Kitajima, H. Cho, H. Tanaka, S. J. Buckman
Electron scattering from tetrafluoroethylene.
J. Chem. Phys. 121, 4559 (2004)

e + $\mathbf{C_2F_4}$	Elastic Scattering	1-100 eV	Exp

548. C. Winstead, V. McKoy
Low-energy electron collisions with sulfur hexafluoride, SF_6.
J. Chem. Phys. 121, 5828 (2004)

e + $\mathbf{SF}_6$	Elastic Scattering	0-50 eV	Th
e + $\mathbf{SF}_6$	Excitation	0-50 eV	Th

549. C. Champion, J. Hanssen, P.-A. Hervieux
Differential and total (e,2e) cross sections of simple polyatomic molecules.
J. Chem. Phys. 121, 9423 (2004)

e + $\mathbf{H_2O}$	Ionization	1-1000 eV	Th
e + $\mathbf{CH}_4$	Ionization	1-1000 eV	Th
e + $\mathbf{NH}_3$	Ionization	1-1000 eV	Th

550. A. Jablonski, F. Salvat, C. J. Powell
Comparison of electron elastic-scattering cross sections calculated from two commonly using atomic potentials.
J. Phys. Chem. Ref. Data 33, 409 (2004)

e + H	Elastic Scattering	100-10,000 eV	Th
e + Al	Elastic Scattering	100-10,000 eV	Th
e + Ni	Elastic Scattering	100-10,000 eV	Th
e + Ag	Elastic Scattering	100-10,000 eV	Th
e + Cm	Elastic Scattering	100-10,000 eV	Th
e + H	Angular Scattering	100-10,000 eV	Th
e + Al	Angular Scattering	100-10,000 eV	Th
e + Ni	Angular Scattering	100-10,000 eV	Th
e + Ag	Angular Scattering	100-10,000 eV	Th
e + Cm	Angular Scattering	100-10,000 eV	Th

551. Y. Nishikawa, E. Kimura, T. Kai, Y. Itikawa, S. Nakazaki
Elastic scattering of electrons from Na-like ions.
J. Phys. Soc. Japan 73, 348 (2004)

e + $\mathbf{Al^{2+}}$	Elastic Scattering	Undef.	Th
e + $\mathbf{Ar^{7+}}$	Elastic Scattering	Undef.	Th
e + $\mathbf{Al^{2+}}$	Angular Scattering	Undef.	Th
e + $\mathbf{Ar^{7+}}$	Angular Scattering	Undef.	Th

552. T. Kai, T. Kubo, R. Srivastava, S. Nakazaki
Electron impact excitation to the 3 ^1D **state of magnesium from the ground state.**
J. Phys. Soc. Japan 73, 885 (2004)

e + Mg	Angular Scattering	10-20 eV	Th
e + Mg	Excitation	10-20 eV	Th

553. M. L. Mallikarjuna, S. B. Appaji Gowda, K. E. Ganesh, R. Gowda, T. K. Umesh
A method to determine the K-shell photoeffect cross sections of some rare earth elements.
Nucl. Instrum. Methods Phys. Res. B 215, 4 (2004)

e + La	Ionization	52-84 keV	Exp
e + Ce	Ionization	52-84 keV	Exp
e + Pr	Ionization	52-84 keV	Exp
e + Nd	Ionization	52-84 keV	Exp
e + Sm	Ionization	52-84 keV	Exp
e + Gd	Ionization	52-84 keV	Exp
e + Dy	Ionization	52-84 keV	Exp
e + Ho	Ionization	52-84 keV	Exp
e + Er	Ionization	52-84 keV	Exp

554. W. M. Ariyasinghe, T. Wijeratne, P. Palihawadana
Total electron scattering cross sections of CH_4 **and** NH_3 **molecules in the energy range 400-4000 eV.**
Nucl. Instrum. Methods Phys. Res. B 217, 389 (2004)

e + $\mathbf{CH_4}$	Elastic Scattering	400-4000 eV	Exp
e + $\mathbf{NH_3}$	Elastic Scattering	400-4000 eV	Exp

555. M. S. Pindzola, F. Robicheaux, J. P. Colgan, M. C. Witthoeft, J. A. Ludlow
Electron-impact single and double ionization of helium.
Phys. Rev. A 70, 032705 (2004)

e + He	Ionization	100-200 eV	Th

556. M. A. Uddin, M.A.K. Fazlul Haque, A. K. Basak, B. C. Saha
Calculations of electron-impact single-ionization cross sections of helium isoelectronic systems.
Phys. Rev. A 70, 032706 (2004)

e + He Z= ?-?	Ionization	25-100,000 eV	Th
e + He	Ionization	25-100,000 eV	Th
e + $\mathbf{Li^{+}}$	Ionization	25-100,000 eV	Th
e + $\mathbf{B^{3+}}$	Ionization	25-100,000 eV	Th
e + $\mathbf{C^{4+}}$	Ionization	25-100,000 eV	Th
e + $\mathbf{N^{5+}}$	Ionization	25-100,000 eV	Th
e + $\mathbf{O^{6+}}$	Ionization	25-100,000 eV	Th
e + $\mathbf{Ne^{8+}}$	Ionization	25-100,000 eV	Th
e + $\mathbf{Na^{9+}}$	Ionization	25-100,000 eV	Th
e + $\mathbf{Fe^{24+}}$	Ionization	25-100,000 eV	Th
e + $\mathbf{Ag^{45+}}$	Ionization	25-100,000 eV	Th
e + $\mathbf{U^{90+}}$	Ionization	25-100,000 eV	Th

557. C. Szmytkowski, A. Domaracka, P. Mozejko, E. Ptasinska-Denga, L. Klosowski, M. Piotrowicz, G. Kasperski
Electron collisions with nitrogen trifluoride (NF_3) molecules.
Phys. Rev. A 70, 032707 (2004)

e + $\mathbf{NF_3}$	Elastic Scattering	0.5-370 eV	E/T
e + $\mathbf{NF_3}$	Excitation	0.5-370 eV	E/T
e + $\mathbf{NF_3}$	Ionization	0.5-370 eV	E/T

558. A.M.C. Sobrinho, N.B.H. Lozano, M.-T. Lee
Elastic and absorption cross sections for electron-hydroxyl radical collisions.
Phys. Rev. A 70, 032717 (2004)

e + OH	Elastic Scattering	1-500 eV	Th
e + OH	Angular Scattering	1-500 eV	Th
e + OH	Excitation	1-500 eV	Th
e + OH	Ionization	1-500 eV	Th

559. E. Surdutovich, W. E. Kauppila, C. K. Kwan, E. G. Miller, S. P. Parikh, K. A. Price, T. S. Stein
Measurements of cross-sections for positrons and electrons scattered by Cs atoms.
Nucl. Instrum. Methods Phys. Res. B 221, 97 (2004)

e + Cs	Elastic Scattering	6-200 eV	Exp
e + Cs	Angular Scattering	6-200 eV	Exp
e + Cs	Excitation	6-200 eV	Exp
e + Cs	Ionization	6-200 eV	Exp

560. M. O. Abdellahi El Ghazaly, J. Jureta, X. Urbain, P. Defrance
Total cross sections and kinetic energy release for the electron impact dissociation of $H_2{}^+$ and $D_2{}^+$.
J. Phys. B 37, 2467 (2004)

e + $\mathbf{H_2{}^+}$	Dissociation	5-3000 eV	Exp
e + $\mathbf{D_2{}^+}$	Dissociation	5-3000 eV	Exp

561. M. Stevenson, A. Crowe
Excitation-ionization of the calcium atom by electron impact.
J. Phys. B 37, 2493 (2004)

e + Ca	Angular Scattering	400 eV	Exp
e + Ca	Excitation	400 eV	Exp
e + Ca	Ionization	400 eV	Exp

562. F. Delahaye, S. N. Nahar, A. K. Pradhan, H. L. Zhang
Resolution and accuracy of resonances in R-matrix cross sections.
J. Phys. B 37, 2585 (2004)

e + O^{5+}	Recombination	Undef.	Th

563. O. Chuluunbaatar, B. B. Joulakian, K. Tsookhuu, S. I. Vinitsky
Modified two-centre continuum wavefunction: Application to the dissociative ionization of $H_2{}^+$ by fast electrons.
J. Phys. B 37, 2607 (2004)

e + $H_2{}^+$	Dissociation	2 keV	Th
e + $H_2{}^+$	Angular Scattering	2 keV	Th
e + $H_2{}^+$	Ionization	2 keV	Th

564. S. Milisavljevic, D. Sevic, V. Pejcev, D. M. Filipovic, B. P. Marinkovic
Differential and integrated cross sections for the electron excitation of the 4 $^1P^0$ state of calcium atom.
J. Phys. B 37, 3571 (2004)

e + Ca	Angular Scattering	10-100 eV	Exp
e + Ca	Excitation	10-100 eV	Exp

565. C. A. Ramsbottom, C. J. Noble, V. M. Burke, M. P. Scott, P. G. Burke
Configuration interaction effects in low-energy electron collisions with Fe II.
J. Phys. B 37, 3609 (2004)

e + Fe^+	Excitation	0.03-0.35 Ry	Th

566. C. Plottke, P. Nicol, I. Bray, D. V. Fursa, A. T. Stelbovics
Electron-impact helium double excitation within the S-wave model.
J. Phys. B 37, 3711 (2004)

e + He	Excitation	50-500 eV	Th
e + He	Ionization	50-500 eV	Th

567. C. P. Ballance, D. C. Griffin, J. A. Ludlow, M. S. Pindzola
Electron-impact ionization of metastable neon.
J. Phys. B 37, 4779 (2004)

e + Ne	Ionization	5-90 eV	Th
e + Ne^*	Ionization	5-90 eV	Th

568. A. B. Voitkiv, B. Najjari
Ionization of helium by relativistic highly charged ions within the symmetric eikonal approximation.
J. Phys. B 37, 4831 (2004)

e + He	Angular Scattering	1 GeV	Th
e + He	Ionization	1 GeV	Th

569. T. Skalicky, M. Allan
The assignment of dissociative electron attachment bands in compounds containing hydroxyl and amino groups.
J. Phys. B 37, 4849 (2004)

e + CH_3OH	Attachment	0-16 eV	Exp
e + $(C_2H_5)_2NH$	Attachment	0-16 eV	Exp
e + $(CH_3)_2N_2(CH_3)_2$	Attachment	0-16 eV	Exp
e + CH_3OH	Dissociation	0-16 eV	Exp
e + $(C_2H_5)_2NH$	Dissociation	0-16 eV	Exp
e + $(CH_3)_2N_2(CH_3)_2$	Dissociation	0-16 eV	Exp

570. A. R. Milosavljevic, D. Sevic, B. P. Marinkovic
Critical minimum in elastic electron scattering by krypton.
J. Phys. B 37, 4861 (2004)

e + Kr	Elastic Scattering	100-260 eV	Exp
e + Kr	Angular Scattering	100-260 eV	Exp

571. C. P. Ballance, D. C. Griffin, J. P. Colgan, S. D. Loch, M. S. Pindzola
Electron-impact excitation of beryllium and its ions.
Phys. Rev. A 68, 062705 (2003)

e + Be	Excitation	3-200 eV	Th
e + Be^+	Excitation	3-200 eV	Th
e + Be^{2+}	Excitation	3-200 eV	Th
e + Be^{3+}	Excitation	3-200 eV	Th

572. C. S. Trevisan, A. E. Orel, T. N. Rescigno
Ab initio study of low-energy electron collisions with ethylene.
Phys. Rev. A 68, 062707 (2003)

e + C_2H_4	Elastic Scattering	0.5-20 eV	Th
e + C_2H_4	Angular Scattering	0.5-20 eV	Th

573. S. J. Smith, J. A. Lozano, S. S. Tayal, A. Chutjian
Electron excitation cross sections for the $2s^22p\ ^2P^0$ -¿ $2s2p^2\ ^4P$ and $2s2p^2\ ^2D$ transitions in O^{3+}.
Phys. Rev. A 68, 062708 (2003)

e + O^{3+}	Excitation	8-20 eV	Exp

574. H. Feng, W. Sun, M. A. Morrison
Parameter-free nonadiabatic correlation-polarization potential for vibrational excitation in electron-molecule scattering: Application to $e - N_2$ collisions.
Phys. Rev. A 68, 062709 (2003)

e + N_2	Excitation	0-5 eV	Th

575. S. Mondal, R. Shanker
Observation of interference effects in ejected electrons from 16.0-keV $e^- - SF_6$ collisions.
Phys. Rev. A 69, 060701 (2004)

e + SF_6	Angular Scattering	16 keV	Exp
e + SF_6	Ionization	16 keV	Exp

576. K. Bartschat, A. Dasgupta, D. H. Madison
Close-coupling and distorted-wave calculations for electron-impact excitation of the $(5p^56p)$ states of xenon.
Phys. Rev. A 69, 062706 (2004)

e + Xe	Excitation	10-200 eV	Th

577. X.-F. Jia, M.-H. Liu, S.-Y. Sun, Y. Wu
Triple-differential cross sections for inner-shell electron-impact ionization of carbon.
Phys. Rev. A 69, 062707 (2004)

e + C	Angular Scattering	10-200 eV	Th
e + C	Ionization	10-200 eV	Th

578. Z. Zhang, W. Vanroose, C. W. McCurdy, A. E. Orel, T. N. Rescigno
Low-energy electron scattering of NO: Ab initio analysis of the $^2\Sigma^-$, $^1\Delta$, and $^1\Sigma^+$ shape resonances in the local complex potential model.
Phys. Rev. A 69, 062711 (2004)

e + NO	Elastic Scattering	0-2 eV	Th
e + NO	Excitation	0-2 eV	Th

579. D. J. Haxton, Z. Zhang, H.-D. Meyer, T. N. Rescigno, C. W. McCurdy
Dynamics of dissociative attachment of electrons to water through the $^2B_1$ metastable state of the anion.
Phys. Rev. A 69, 062714 (2004)

e + H_2O	Attachment	5-10 eV	Th
e + H_2O	Dissociation	5-10 eV	Th

580. B. Mielewska, I. Linert, G. C. King, M. Zubek
Differential cross sections for elastic electron scattering in argon over the angular range 130 deg **- 180** deg**.**
Phys. Rev. A 69, 062716 (2004)

e + Ar	Elastic Scattering	5-10 eV	Exp
e + Ar	Angular Scattering	5-10 eV	Exp

581. Y. Attaourti, S. Taj
Relativistic electronic dressing in laser-assisted ionization of atomic hydrogen by electron impact.
Phys. Rev. A 69, 063411 (2004)

e + H	Angular Scattering	575-1350 eV	Th
e + H	Ionization	575-1350 eV	Th

582. D. Strasser, L. Lammich, H. Kreckel, M. Lange, S. Krohn, D. Schwalm, A. Wolf, D. Zajfman
Breakup dynamics and isotope effects in D_2H^+ and H_2D^+ dissociative recombination.
Phys. Rev. A 69, 064702 (2004)

e + $H_3{}^+$	Dissociation	0 eV	Exp
e + H_2D^+	Dissociation	0 eV	Exp
e + $HD_2{}^+$	Dissociation	0 eV	Exp
e + $H_3{}^+$	Recombination	0 eV	Exp
e + H_2D^+	Recombination	0 eV	Exp
e + $HD_2{}^+$	Recombination	0 eV	Exp

583. M. F. Gu
Electron-impact excitation of Fe XXII: Comparative study of relativistic R-matrix and distorted-wave approaches.
Phys. Rev. A 70, 062704 (2004)

e + Fe^{21+}	Excitation	10-2500 eV	Th

584. T. Kai, R. Srivastava, S. Nakazaki
Electron-impact excitation of the 3s3p $^1P^0$ state of Mg-like ions: S^{4+}, Ar^{6+}, and Ca^{8+}.
Phys. Rev. A 70, 062705 (2004)

e + S^{4+}	Angular Scattering	15-50 eV	Th
e + Ar^{6+}	Angular Scattering	15-50 eV	Th
e + Ca^{8+}	Angular Scattering	15-50 eV	Th
e + S^{4+}	Excitation	15-50 eV	Th
e + Ar^{6+}	Excitation	15-50 eV	Th
e + Ca^{8+}	Excitation	15-50 eV	Th

585. Z.-S. Yuan, X.-Y. Han, X.-J. Liu, L.-F. Zhu, K.-Z. Xu, L. Voky, J.-M. Li
Theoretical investigations on the dynamical correlation in double excitations of helium by the R-matrix method.
Phys. Rev. A 70, 062706 (2004)

e + He	Excitation	56-65 eV	Th

586. M.H.F. Bettega, M.A.P. Lima, L. G. Ferreira
Elastic scattering of low-energy electrons by OCS.
Phys. Rev. A 70, 062711 (2004)

e + OCS	Elastic Scattering	0.1-10 eV	Th
e + OCS	Angular Scattering	0.1-10 eV	Th

587. D. Nikolic, E. Lindroth, S. Kieslich, C. Brandau, S. Schippers, W. Shi, A. Mueller, G. Gwinner, M. Schnell, A. Wolf
Dielectronic recombination resonances in Na^{8+}.
Phys. Rev. A 707, 062723 (2004)

e + Na^{8+}	Recombination	0-0.5 eV	Exp

588. W. M. Ariyasinghe, C. Goains, D. Powers, T. Wijeratne, P. Palihawadana
Total electron scattering cross sections of He, Ne and Ar at intermediate electron energies.
Nucl. Instrum. Methods Phys. Res. B 225, 191 (2004)

e + He	Elastic Scattering	300-4500 eV	Exp
e + Ne	Elastic Scattering	300-4500 eV	Exp
e + Ar	Elastic Scattering	300-4500 eV	Exp
e + He	Angular Scattering	300-4500 eV	Exp
e + Ne	Angular Scattering	300-4500 eV	Exp
e + Ar	Angular Scattering	300-4500 eV	Exp
e + He	Excitation	300-4500 eV	Exp
e + Ne	Excitation	300-4500 eV	Exp
e + Ar	Excitation	300-4500 eV	Exp
e + He	Ionization	300-4500 eV	Exp
e + Ne	Ionization	300-4500 eV	Exp
e + Ar	Ionization	300-4500 eV	Exp

589. M. J. Berger, J. W. Motz
X-rays from thick tungsten targets irradiated by 500-50 keV electrons.
Nucl. Instrum. Methods Phys. Res. B 226, 327 (2004)

e + W	Ionization	50-500 keV	Th
e + Au	Ionization	50-500 keV	Th

590. K. M. Aggarwal, F. P. Keenan
Electron impact excitation of Mo XXXIV.
Phys. Scr. 69, 176 (2004)

e + Mo^{33+}	Excitation	Undef.	Th

591. G. Purohit, R. Choubisa, V. Patidar, K. K. Sud
Spin asymmetry in (e, 2e) processes on Li, Be^+, B^{2+} and C^{3+} targets by transversely polarized electrons.
Phys. Scr. 69, 208 (2004)

e + Li	Ionization	55-113 eV	Th
e + Be^+	Ionization	55-113 eV	Th
e + B^{2+}	Ionization	55-113 eV	Th
e + C^{3+}	Ionization	55-113 eV	Th

592. K. M. Aggarwal, F. P. Keenan
Electron impact excitation of C IV.
Phys. Scr. 69, 385 (2004)

e + C^{3+}	Excitation	10-70 eV	Th

593. W. Vanroose, Z. Zhang, C. W. McCurdy, T. N. Rescigno
Threshold vibrational excitation of CO_2 by slow electrons.
Phys. Rev. Lett. 92, 053201 (2004)

e + CO_2	Excitation	0.2-1.2 eV	Th

594. P. L. Bartlett, A. T. Stelbovics
Threshold behavior of e-H ionizing collisions.
Phys. Rev. Lett. 93, 233201 (2004)

e + H	Ionization	0-0.1 a.u.	Th

595. V. Stary, J. Zemek
Low energy electron elastic reflection from solid surfaces.
Surf. Sci. 566-568, 1206 (2004)

e + Si	Elastic Scattering	0.2-20 keV	Th
e + Cu	Elastic Scattering	0.2-20 keV	Th
e + Au	Elastic Scattering	0.2-20 keV	Th

596. D. A. Horner, C. W. McCurdy, T. N. Rescigno
Electron-impact excitation autoionization of helium in the S-wave limit.
Phys. Rev. A 71, 010701 (2005)

e + He	Angular Scattering	37-45 eV	Th
e + He^*	Angular Scattering	37-45 eV	Th
e + He	Excitation	37-45 eV	Th
e + He^*	Excitation	37-45 eV	Th
e + He	Ionization	37-45 eV	Th
e + He^*	Ionization	37-45 eV	Th

597. O. Kamalou, J.-Y. Chesnel, D. Martina, J. Hanssen, C. R. Stia, O. A. Fojon, R. D. Rivarola, F. Fremont
Evidence for interference effects in both slow and fast electron emission from D_2 by energetic electron impact.
Phys. Rev. A 71, 010702 (2005)

e + H_2	Angular Scattering	2.4 keV	E/T
e + D_2	Angular Scattering	2.4 keV	E/T
e + H_2	Ionization	2.4 keV	E/T
e + D_2	Ionization	2.4 keV	E/T

598. D. A. Horner, C. W. McCurdy, T. N. Rescigno
Electron-helium scattering in the S-wave model using exterior complex scaling.
Phys. Rev. A 71, 012701 (2005)

e + He	Angular Scattering	1-30 eV	Th
e + He*	Angular Scattering	1-30 eV	Th
e + He	Excitation	1-30 eV	Th
e + He*	Excitation	1-30 eV	Th
e + He	Ionization	1-30 eV	Th
e + He*	Ionization	1-30 eV	Th

599. T. M. Miller, A. A. Viggiano
Electron attachment and detachment: C_6F_5Cl, C_6F_5Br, and C_6F_5I and the electron affinity of C_6F_5Cl.
Phys. Rev. A 71, 012702 (2005)

e + C_6F_5Cl	Attachment	300-550 K	E/T
e + C_6F_5Br	Attachment	300-550 K	E/T
e + C_6F_5I	Attachment	300-550 K	E/T

600. J. Boemmels, K. Franz, T. H. Hoffmann, A. Gopalan, O. Zatsarinny, K. Bartschat, M.-W. Ruf, H. Hotop
Low-lying resonances in electron-neon scattering: Measurements at 4-meV resolution and comparison with theory.
Phys. Rev. A 71, 012704 (2005)

e + Ne	Angular Scattering	16-19 eV	E/T
e + Ne	Excitation	16-19 eV	E/T

601. B. M. Nestmann, S.V.K. Kumar, S. D. Peyerimhoff
Contribution of Feshbach resonance to the 1.3-eV dissociative-electron-attachment cross section of ozone.
Phys. Rev. A 71, 012705 (2005)

e + O_3	Attachment	0-10 eV	Th
e + O_3	Dissociation	0-10 eV	Th

602. S. D. Loch, M. Witthoeft, M. S. Pindzola, I. Bray, D. V. Fursa, M. Fogle, R. Schuch, P. Glans, C. P. Ballance, D. C. Griffin
Influence of long-lived metastable levels on the electron-impact single ionization of C^{2+}.
Phys. Rev. A 71, 012716 (2005)

e + C^{2+}	Ionization	40-400 eV	Th
e + C^{2+*}	Ionization	40-400 eV	Th

603. S. d'A. Sanchez, A. R. Lopes, M.H.F. Bettega, M.A.P. Lima, L. G. Ferreira
Polarization effects in the elastic scattering of low-energy electrons by C_3H_4 isomers.
Phys. Rev. A 71, 062702 (2005)

e + C_3H_4	Elastic Scattering	1-10 eV	Th
e + C_3H_4	Angular Scattering	1-10 eV	Th

604. M. A. Khakoo, P. V. Johnson, I. Ozkay, P. Yan, S. Trajmar, I. Kanik
Differential cross sections for the electron impact excitation of the A $^3\Sigma_u{}^+$, B $^3\Pi_g$, W $^3\Delta_u$, B^ℓ $^3\Sigma_u{}^-$, A^ℓ $^1\Sigma_u{}^-$, a $^1\Pi_g$, w $^1\Delta_u$, and C $^3\Pi_u$ states of N_2.
Phys. Rev. A 71, 062703 (2005)

e + N_2	Angular Scattering	10-100 eV	Exp
e + N_2	Excitation	10-100 eV	Exp

605. Y. Attaourti, S. Taj, B. Manaut
Semirelativistic model for ionization of atomic hydrogen by electron impact.
71, 062705 (2005)

e + H	Angular Scattering	250-25,000 eV	Th
e + H	Ionization	250-25,000 eV	Th

606. V. Horvat, R. L. Watson, J. M. Blackadar, A. N. Perumal, Y. Peng
L x rays emitted from multiply ionized holmium atoms.
Phys. Rev. A 71, 062709 (2005)

e + Ho	Fluorescence	0.01-6 MeV/u	Exp
e + Ho	Ionization	0.01-6 MeV/u	Exp

607. N. B. Avdonina, D. Fursa, A. Z. Msezane, R. H. Pratt
Minima in generalized oscillator strengths of atomic transitions and the approach to the high-energy limit.
Phys. Rev. A 71, 062711 (2005)

e + Ba	Angular Scattering	0.1-30 a.u.	Th
e + Ba	Excitation	0.1-30 a.u.	Th

608. Z.-S. Yuan, L.-F. Zhu, X.-J. Liu, W.-B. Li, H.-D. Cheng, J.-M. Sun, K.-Z. Xu
Inner-shell excitations of krypton 3d investigated by electron impact with high resolution.
Phys. Rev. A 71, 064701 (2005)

e + Kr	Angular Scattering	2.5 keV	Exp
e + Kr	Excitation	2.5 keV	Exp

609. X. Urbain, N. Djuric, C. P. Safvan, M. J. Jensen, H. B. Pedersen, L. Vejby Sogaard, L. H. Andersen
Storage ring study of the dissociative recombination of $He_2{}^+$.
J. Phys. B 38, 43 (2005)

e + $He_2{}^+$	Dissociation	0.001-20 eV	Exp
e + $He_2{}^+$	Recombination	0.001-20 eV	Exp

610. N. Lahmidi, B. Joulakian
Dissociative simple ionization of two active electron diatomic systems by fast electron impact.
J. Phys. B 38, 51 (2005)

e + H_2	Dissociation	4087 eV	Th
e + Li_2	Dissociation	4087 eV	Th
e + H_2	Angular Scattering	4087 eV	Th
e + Li_2	Angular Scattering	4087 eV	Th
e + H_2	Ionization	4087 eV	Th
e + Li_2	Ionization	4087 eV	Th

611. B. M. Nestmann, V. Brems, A. Dora, S. Kumar
Total cross sections for dissociative electron attachment to ozone caused by the $^2A_2$ Feshbach resonance.
J. Phys. B 38, 75 (2005)

e + O_3	Attachment	0-5 eV	Th
e + O_3	Dissociation	0-5 eV	Th

612. P. L. Bartlett, A. T. Stelbovics, G. M. Lee, I. Bray
H(2p) excitation by 54.4 eV electrons.
J. Phys. B 38, L95 (2005)

e + H	Angular Scattering	54.4 eV	Th
e + H	Excitation	54.4 eV	Th

613. J.B.A. Mitchell, O. Novotny, G. Angelova, J. L. LeGarrec, C. Rebrion-Rowe, A. Svendsen, L. H. Andersen, A. I. Florescu-Mitchell, A. E. Orel
Dissociative recombination of rare gas hydride ions: I. NeH^+.
J. Phys. B 38, 693 (2005)

e + NeH^+	Dissociation	0.01-30 eV	E/T
e + NeH^+	Recombination	0.01-30 eV	E/T

614. C. Szmytkowski, A. Domaracka, P. Mozejko, E. Ptasinska-Denga, S. Kwitnewski
Electron scattering by sulfur tetrafluoride (SF_4) molecules.
J. Phys. B 38, 745 (2005)

e + SF_4	Elastic Scattering	0.1-370 eV	Exp
e + SF_4	Ionization	0.1-370 eV	Exp

615. S. Proctor, M. A. Khakoo
Electron impact excitation of argon and krypton: Improved r-ratios.
J. Phys. B 38, 929 (2005)

e + Ar	Angular Scattering	13.5-30 eV	Exp
e + Kr	Angular Scattering	13.5-30 eV	Exp
e + Ar	Excitation	13.5-30 eV	Exp
e + Kr	Excitation	13.5-30 eV	Exp

616. C. Vallance, P. W. Harland
Corrigendum: Corrections to electron impact ionization efficiency curves calculated using the BEB model for molecules containing third and fourth row atoms.
J. Phys. B 38, 1077 (2005)

e + Br_2	Ionization	10-300 eV	E/T
e + CS_2	Ionization	10-300 eV	E/T
e + CCl_4	Ionization	10-300 eV	E/T
e + SF_6	Ionization	10-300 eV	E/T
e + OCS	Ionization	10-300 eV	E/T
e + $CHCl_3$	Ionization	10-300 eV	E/T
e + CH_3Cl	Ionization	10-300 eV	E/T
e + CF_3Br	Ionization	10-300 eV	E/T
e + CF_2Cl_2	Ionization	10-300 eV	E/T
e + C_2H_5Cl	Ionization	10-300 eV	E/T
e + C_3H_7Cl	Ionization	10-300 eV	E/T
e + C_4H_9Cl	Ionization	10-300 eV	E/T
e + C_2Cl_4	Ionization	10-300 eV	E/T

e + C_2Cl_6	Ionization	10-300 eV	E/T
e + CH_3Cl_2	Ionization	10-300 eV	E/T
e + CH_2Br_2	Ionization	10-300 eV	E/T
e + CF_2Br_2	Ionization	10-300 eV	E/T
e + $C_2F_4Br_2$	Ionization	10-300 eV	E/T
e + CH_2ClCCl_3	Ionization	10-300 eV	E/T
e + CH_2ClCH_2Cl	Ionization	10-300 eV	E/T
e + $CH_2ClCNCl_2$	Ionization	10-300 eV	E/T
e + CH_3CCl_3	Ionization	10-300 eV	E/T
e + $CHCl_2CCl_3$	Ionization	10-300 eV	E/T
e + $CHCl_2CH_3$	Ionization	10-300 eV	E/T
e + $CHCl_2CHCl_2$	Ionization	10-300 eV	E/T
e + CHClCHCl	Ionization	10-300 eV	E/T
e + $CHClCCl_2$	Ionization	10-300 eV	E/T

617. D. C. Griffin, C. P. Ballance, M. S. Pindzola, F. Robicheaux, S. D. Loch, J. A. Ludlow, M. Witthoeft, J. Colgan, C. J. Fontes, D. R. Schultz
The validity of classical trajectory and perturbative quantal methods for electron-impact ionization from excited states in H-like ions.
J. Phys. B 38, L199 (2005)

e + H	Ionization	2-400 eV	Th
e + H^*	Ionization	2-400 eV	Th
e + Li^{2+}	Ionization	2-400 eV	Th
e + Li^{2+*}	Ionization	2-400 eV	Th
e + B^{4+}	Ionization	2-400 eV	Th
e + B^{4+*}	Ionization	2-400 eV	Th

618. A. J. Murray
(e, 2e) studies of H_2 in the intermediate energy regime.
J. Phys. B 38, 1999 (2005)

e + H_2	Angular Scattering	25.3-55.3 eV	E/T
e + H_2	Ionization	25.3-55.3 eV	E/T

619. J. Jacobi, H. Knopp, S. Schippers, W. Shi, A. Mueller
Multiple ionization of $Sc^+ - ions$ by electron impact.
J. Phys. B 38, 2015 (2005)

e + Sc^+	Ionization	30 eV	Exp

620. B. M. McLaughlin, A. Hibbert, M. P. Scott, C. J. Noble, V. M. Burke, P. G. Burke
Electron impact excitation of Fe-peak elements: Forbidden transitions in the $3d^5$ manifold of Fe IV.
J. Phys. B 38, 2029 (2005)

e + Fe^{3+}	Excitation	$2x10^3 - 2x10^6$ K	Th

621. J. Colgan, M. S. Pindzola, N. R. Badnell
Erratum: Dielectronic recombination data for dynamic finite-density plasmas. V. The lithium isoelectronic sequence.
Astron. Astrophys. 429, 369 (2005)

e + Li Z= ?-?	Recombination	Undef.	Th
e + Cl^{14+}	Recombination	Undef.	Th
e + Ca^{17+}	Recombination	Undef.	Th
e + Ni^{25+}	Recombination	Undef.	Th
e + Zn^{27+}	Recombination	Undef.	Th

622. M. C. Chidichimo, G. Del Zanna, H. E. Mason, N. R. Badnell, J. A. Tully, K. A. Berrington
Atomic data from the Iron Project. LVI. Electron excitation of Be-like Fe XXIII for the n=2,3,4 configurations.
Astron. Astrophys. 430, 331 (2005)

e + Fe^{22+}	Excitation	0.0-100.0 Ry	Th

623. K. M. Aggarwal, F. P. Keenan, S. J. Rose
Electron impact excitation of Al XIII: A relativistic approach.
Astron. Astrophys. 432, 1151 (2005)

e + Al^{12+}	Excitation	170-300 Ry	Th

624. N. J. Wilson, K. L. Bell, C. E. Hudson
Effective collision strengths for electron impact excitation of C II.
Astron. Astrophys. 432, 731 (2005)

e + C^{+}	Excitation	3.0-5.5 log T(k)	Th

625. Z. Altun, A. Yumak, N. R. Badnell, J. P. Colgan, M. S. Pindzola
Erratum: Dielectronic recombination data for dynamic finite-density plasmas. VI. The boron isoelectronic sequence.
Astron. Astrophys. 433, 395 (2005)

e + Ne^{5+}	Recombination	Undef.	Th
e + Na^{6+}	Recombination	Undef.	Th
e + Mg^{7+}	Recombination	Undef.	Th

626. P. J. Storey, G. Del Zanna, H. E. Mason, C. J. Zeippen
Atomic data from the Iron Project. LVIII. Electron impact excitation of Fe XII.
Astron. Astrophys. 433, 717 (2005)

e + Fe^{11+}	Excitation	0-10.0 Ry	Th

627. M. Melendez, M. A. Bautista
Atomic data from the Iron project. LVII. Radiative transition rates and collision strengths within the $3d^7$ configuration of Ni IV.
Astron. Astrophys. 436, 1123 (2005)

e + Ni^{3+}	Excitation	0.0-2.0 Ry	Th

628. C. E. Hudson, K. L. Bell
Fine structure effective collision strengths for the electron impact excitation of Al III.
Astron. Astrophys. 436, 1131 (2005)

e + Al^{2+}	Excitation	3.6-5.6 $log_{10}T(k)$	Th

629. S. Boehm, A. Mueller, S. Schippers, W. Shi, M. Fogle, P. Glans, R. Schuch, H. Danared
Experimental N V and Ne VIII low-temperature dielectronic recombination rate coefficients.
Astron. Astrophys. 437, 1151 (2005)

e + N^{4+}	Recombination	0.0-15.0 eV	E/T
e + Ne^{7+}	Recombination	0.0-15.0 eV	E/T

630. O. Zatsarinny, T. W. Gorczyca, K. T. Korista, J. Fu, N. R. Badnell, W. Mitthumsiri, D. W. Savin
Erratum. Dielectronic recombination data for dynamic finite-density plasmas. II. The oxygen isoelectronic sequence.
Astron. Astrophys. 438, 743 (2005)

e + O Z= ?-?	Recombination	Undef.	Th

631. H. Chen, P. Beiersdorfer, J. H. Scofield, G. V. Brown, K. R. Boyce, R. L. Kelley, C. A. Kilbourne, F. S. Porter, M. F. Gu, S. M. Kahn
Excitation cross section measurement for n=3 to n=2 line emission in Fe^{20+} to Fe^{23+}.
Astrophys. J., Part 1 618, 1086 (2005)

e + Fe^{20+}	Excitation	2.1-3.0 keV	E/T
e + Fe^{21+}	Excitation	2.1-3.0 keV	E/T
e + Fe^{22+}	Excitation	2.1-3.0 keV	E/T
e + Fe^{23+}	Excitation	2.1-3.0 keV	E/T

632. N. C. Pyper, M. Kampp, C. T. Whelan
Symmetry properties of the S matrix in a fully relativistic distorted-wave treatment of electron-impact ionization.
Phys. Rev. A 71, 052701 (2005)

e + U^{91+}	Ionization	100-500 keV	Th

633. J. F. Williams, R. W. van Boeyen, S. Samarin
Krypton fine structure n perpendicular-plane electron-impact ionization.
Phys. Rev. A 71, 052709 (2005)

e + Kr	Ionization	20-450 eV	Exp

634. R. Srivastava, A. D. Stauffer
Inelastic electron scattering from excited barium atoms.
Phys. Rev. A 71, 052715 (2005)

e + Ba^*	De-excitation	20-40 eV	E/T
e + Ba^*	Angular Scattering	20-40 eV	E/T
e + Ba^*	Excitation	20-40 eV	E/T

635. A. T. Stelbovics, I. Bray, D. V. Fursa, K. Bartschat
Electron-impact ionization of helium for equal-energy-sharing kinematics.
Phys. Rev. A 71, 052716 (2005)

e + He	Ionization	64.6 eV	E/T

636. 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 (2005)

e + C^{2+}	Excitation	0-150 Ry	Th
e + Fe^{22+}	Excitation	0-150 Ry	Th
e + W^{70+}	Excitation	0-150 Ry	Th

637. V. P. Shevelko, H. Tawara, F. Scheuermann, B. Fabian, A. Mueller, E. Salzborn
Semiempirical formulae for electron-impact double-ionization cross sections of light positive ions.
J. Phys. B 38, 525 (2005)

e + H^+	Ionization	E ¡ 50 threshold	E/T
e + He^+	Ionization	E ¡ 50 threshold	E/T
e + Li^+	Ionization	E ¡ 50 threshold	E/T
e + Be^+	Ionization	E ¡ 50 threshold	E/T
e + B^+	Ionization	E ¡ 50 threshold	E/T
e + C^+	Ionization	E ¡ 50 threshold	E/T
e + N^+	Ionization	E ¡ 50 threshold	E/T
e + O^+	Ionization	E ¡ 50 threshold	E/T
e + F^+	Ionization	E ¡ 50 threshold	E/T
e + Ne^+	Ionization	E ¡ 50 threshold	E/T
e + Na^+	Ionization	E ¡ 50 threshold	E/T
e + Mg^+	Ionization	E ¡ 50 threshold	E/T
e + Al^+	Ionization	E ¡ 50 threshold	E/T
e + Si^+	Ionization	E ¡ 50 threshold	E/T
e + P^+	Ionization	E ¡ 50 threshold	E/T
e + S^+	Ionization	E ¡ 50 threshold	E/T
e + Cl^+	Ionization	E ¡ 50 threshold	E/T
e + Ar^+	Ionization	E ¡ 50 threshold	E/T
e + K^+	Ionization	E ¡ 50 threshold	E/T
e + Ca^+	Ionization	E ¡ 50 threshold	E/T
e + Sc^+	Ionization	E ¡ 50 threshold	E/T
e + Ti^+	Ionization	E ¡ 50 threshold	E/T
e + V^+	Ionization	E ¡ 50 threshold	E/T
e + Cr^+	Ionization	E ¡ 50 threshold	E/T
e + Mn^+	Ionization	E ¡ 50 threshold	E/T
e + Fe^+	Ionization	E ¡ 50 threshold	E/T
e + A	Ionization	E ¡ 50 threshold	E/T

638. S. W. Rachedi, M. K. Inal, J. Dubau
Density dependence of the polarization of the 2 $^3P_1$ -¿ 1 $^1S_0$ intercombination line emitted by helium-like neon excited by an electron beam.
J. Phys. B 38, 547 (2005)

e + Ne^{8+}	Fluorescence	925-1905 eV	Th
e + Ne^{8+}	Excitation	925-1905 eV	Th

639. H. Fukuzawa, T. Odagiri, T. Nakazato, M. Murata, H. Miyagi, N. Kouchi
Doubly excited states of methane produced by photon and electron interactions.
J. Phys. B 38, 565 (2005)

e + CH_4	Excitation	18-51 eV; 80 eV	Exp

640. J. D. Gorfinkiel, J. Tennyson
Electron impact ionization of small molecules at intermediate energies: The molecular R-matrix with pseudostates method.
J. Phys. B 38, 1607 (2005)

e + H_2	Excitation	15-45 eV	E/T
e + $H_3{}^+$	Excitation	15-45 eV	E/T
e + H_2	Ionization	15-45 eV	E/T
e + $H_3{}^+$	Ionization	15-45 eV	E/T

641. E. M. Bahati, R. D. Thomas, C. R. Vane, M. E. Bannister
Electron-impact dissociation of $D^{13}CO^+$ molecular ions to $^{13}CO^+$ ions.
J. Phys. B 38, 1645 (2005)

e + HCO^+	Dissociation	3-200 eV	E/T

e + DCO^+	Dissociation	3-200 eV	E/T
e + HCO^+	Excitation	3-200 eV	E/T
e + DCO^+	Excitation	3-200 eV	E/T

642. K. A. Berrington, C. P. Ballance, D. C. Griffin, N. R. Badnell
The agreement of Breit-Pauli and Dirac R-matrix collision strengths for iron peak elements: An Fe^{14+} case study.
J. Phys. B 38, 1667 (2005)

e + Fe^{14+}	Excitation	$0 - 8x10^6$ K	Th

643. M. Allan
Excitation of the four fundamental vibrations of CH_4 by electron impact near threshold.
J. Phys. B 38, 1679 (2005)

e + CH_4	Excitation	0.1-1.5 eV	E/T

644. J. J. Jureta
The threshold electron impact spectrum of H_2O.
Eur. Phys. J. D 32, 319 (2005)

e + H_2O	Excitation	5-14 eV	Exp
e + H_2O	Ionization	5-14 eV	Exp

645. L. E. Machado, L. M. Brescansin, I. Iga, M.-T. Lee
Elastic and rotational excitation cross-sections for electron-water collisions in the low- and intermediate-energy ranges.
Eur. Phys. J. D 33, 193 (2005)

e + H_2O	Elastic Scattering	2-500 eV	Th
e + H_2O	Angular Scattering	2-500 eV	Th
e + H_2O	Excitation	2-500 eV	Th

646. P. Mandelbaum, M. Cohen, J. L. Schwob, A. Bar-Shalom
Excitation-autoionization cross-sections and rate coefficients for Ge-like ions.
Eur. Phys. J. D 33, 213 (2005)

e + Ge Z= ?-?	Excitation	0.1-10 ionized energy	Th
e + Kr^{4+}	Excitation	0.1-10 ionized energy	Th
e + Rb^{5+}	Excitation	0.1-10 ionized energy	Th
e + Sr^{6+}	Excitation	0.1-10 ionized energy	Th
e + Y^{7+}	Excitation	0.1-10 ionized energy	Th
e + Zr^{8+}	Excitation	0.1-10 ionized energy	Th
e + Nb^{9+}	Excitation	0.1-10 ionized energy	Th
e + Mo^{10+}	Excitation	0.1-10 ionized energy	Th
e + Tc^{11+}	Excitation	0.1-10 ionized energy	Th
e + Ru^{12+}	Excitation	0.1-10 ionized energy	Th
e + Rh^{13+}	Excitation	0.1-10 ionized energy	Th
e + Pd^{14+}	Excitation	0.1-10 ionized energy	Th
e + Ag^{15+}	Excitation	0.1-10 ionized energy	Th
e + Cd^{16+}	Excitation	0.1-10 ionized energy	Th
e + In^{17+}	Excitation	0.1-10 ionized energy	Th
e + Sn^{18+}	Excitation	0.1-10 ionized energy	Th
e + Sb^{19+}	Excitation	0.1-10 ionized energy	Th
e + Te^{20+}	Excitation	0.1-10 ionized energy	Th
e + I^{21+}	Excitation	0.1-10 ionized energy	Th

e + Xe^{22+}	Excitation	0.1-10 ionized energy	Th
e + Cs^{23+}	Excitation	0.1-10 ionized energy	Th
e + Ba^{24+}	Excitation	0.1-10 ionized energy	Th
e + La^{25+}	Excitation	0.1-10 ionized energy	Th
e + Ce^{26+}	Excitation	0.1-10 ionized energy	Th
e + Pr^{27+}	Excitation	0.1-10 ionized energy	Th
e + Nd^{28+}	Excitation	0.1-10 ionized energy	Th
e + Pm^{29+}	Excitation	0.1-10 ionized energy	Th
e + Sm^{30+}	Excitation	0.1-10 ionized energy	Th
e + Eu^{31+}	Excitation	0.1-10 ionized energy	Th
e + Gd^{32+}	Excitation	0.1-10 ionized energy	Th
e + Tb^{33+}	Excitation	0.1-10 ionized energy	Th
e + Dy^{34+}	Excitation	0.1-10 ionized energy	Th
e + Ho^{35+}	Excitation	0.1-10 ionized energy	Th
e + Er^{36+}	Excitation	0.1-10 ionized energy	Th
e + Tm^{37+}	Excitation	0.1-10 ionized energy	Th
e + Yb^{38+}	Excitation	0.1-10 ionized energy	Th
e + Lu^{39+}	Excitation	0.1-10 ionized energy	Th
e + Hf^{40+}	Excitation	0.1-10 ionized energy	Th
e + Ta^{41+}	Excitation	0.1-10 ionized energy	Th
e + W^{42+}	Excitation	0.1-10 ionized energy	Th
e + Re^{43+}	Excitation	0.1-10 ionized energy	Th
e + Os^{44+}	Excitation	0.1-10 ionized energy	Th
e + Ir^{45+}	Excitation	0.1-10 ionized energy	Th
e + Pt^{46+}	Excitation	0.1-10 ionized energy	Th
e + Au^{47+}	Excitation	0.1-10 ionized energy	Th
e + Hg^{48+}	Excitation	0.1-10 ionized energy	Th
e + Tl^{49+}	Excitation	0.1-10 ionized energy	Th
e + Pb^{50+}	Excitation	0.1-10 ionized energy	Th
e + Bi^{51+}	Excitation	0.1-10 ionized energy	Th
e + Po^{52+}	Excitation	0.1-10 ionized energy	Th
e + At^{53+}	Excitation	0.1-10 ionized energy	Th
e + Rn^{54+}	Excitation	0.1-10 ionized energy	Th
e + Fr^{55+}	Excitation	0.1-10 ionized energy	Th
e + Ra^{56+}	Excitation	0.1-10 ionized energy	Th
e + Ac^{57+}	Excitation	0.1-10 ionized energy	Th
e + Th^{58+}	Excitation	0.1-10 ionized energy	Th
e + Pa^{59+}	Excitation	0.1-10 ionized energy	Th
e + U^{60+}	Excitation	0.1-10 ionized energy	Th

647. A. Petrignani, W. J. van der Zande, P. C. Cosby, F. Hellberg, R. D. Thomas, M. Larsson
Vibrationally resolved rate coefficients and branching fractions in the dissociative recombination of $O_2{}^+$.
J. Chem. Phys. 122, 014302 (2005)

e + $O_2{}^+$	Dissociation	0.0-0.4 eV	Exp
e + $O_2{}^+$	Recombination	0.0-0.4 eV	Exp

648. O. Zatsarinny, K. Bartschat, L. Bandurina, V. Gedeon
Electron-impact excitation of carbon.
Phys. Rev. A 71, 042702 (2005)

e + C	Excitation	0-60 eV	Th

649. E. D. Emmons, A. Aguilar, M. F. Gharaibeh, S.W.J. Scully, R. A. Phaneuf, A.L.D. Kilcoyne, A. S. Schlachter, I. Alvarez, C. Cisneros, G. Hinojosa
Photoionization and electron-impact ionization of Xe^{3+}.
Phys. Rev. A 71, 042704 (2005)

e + Xe^{3+}	Ionization	37.5-115 eV	Exp

650. H. Zhang, Y. Li, J. Yan, J. Wang
Dielectronic recombination processes through doubly excited states (4l4l',4l5l') in Co-like Pd ions.
Phys. Rev. A 71, 042705 (2005)

e + Pd^{19+}	Recombination	$0.1 - 10^4$ eV	Th

651. B. Manaut, S. Taj, Y. Attaourti
Mott scattering of polarized electrons in a strong laser field.
Phys. Rev. A 71, 043401 (2005)

e + A	Elastic Scattering	1.01-5 γ	Th
e + A	Angular Scattering	1.01-5 γ	Th

652. J. Z. Kaminski, F. Ehlotzky
Time-frequency analysis of x-ray generation by recombination in short laser pulses.
Phys. Rev. A 71, 043402 (2005)

e + H	Recombination	1000 eV	Th

653. M. Stevenson, G. J. Leighton, A. Crowe, K. Bartschat, O. K. Vorov, D. H. Madison
Experimental and theoretical (e,2e) studies of argon (3p) ionization in asymmetric geometry.
J. Phys. B 38, 433 (2005)

e + Ar	Angular Scattering	200 eV	E/T
e + Ar	Ionization	200 eV	E/T

654. O. Peyrusse, C. Bauche-Arnoult, J. Bauche
Calculation of the charge state distribution of a highly ionized coronal Au plasma.
J. Phys. B 38, L137 (2005)

e + Au^{46+}	Recombination	2500 eV	Th
e + Au^{46+}	Ionization	2500 eV	Th

655. B. A. deHarak, Z. Chen, D. H. Madison, N.L.S. Martin
Experimental and theoretical momentum transfer dependence of the He (e,2e) cross section.
J. Phys. B 38, L145 (2005)

e + He	Angular Scattering	488 eV	E/T
e + He	Ionization	488 eV	E/T

656. J.B.A. Mitchell, O. Novotny, J. L. LeGarrec, A. Florescu-Mitchell, C. Rebrion-Rowe, A. V. Stolyarov, M. S. Child, A. Svendsen, M. A. El Ghazaly, L. H. Andersen
Dissociative recombination of rare gas hydride ions: II. ArH^+**.**
J. Phys. B 38, L175 (2005)

e + ArH^+	Dissociation	0-33 eV	Exp
e + ArH^+	Recombination	0-33 eV	Exp
e + ArH^+	Excitation	0-33 eV	Exp

657. S. Elazzouzi, C. Dal Cappello, A. Lahmam-Bennani, F. Catoire
Double ionization of helium by electron impact: Angular distributions at low incident energy.
J. Phys. B 38, 1391 (2005)

e + He	Angular Scattering	601 eV	E/T
e + He	Ionization	601 eV	E/T

658. 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, A. Ehlerding, A. A. Viggiano, F. Hellberg, R. D. Thomas, V. Zhaunerchyk, W. D. Geppert, H. Montaigne, M. Kaminska, F. Osterdahl, M. Larsson
The dissociative recombination of fluorocarbon ions: II. CF^+.
J. Phys. B 38, 1471 (2005)

e + CF^+	Dissociation	0-12.5 eV	Exp
e + CF^+	Recombination	0-12.5 eV	Exp
e + CF^+	Excitation	0-12.5 eV	Exp

659. J. R. Goetz, M. Walter, J. S. Briggs
The effect of dynamical screening on helium (e,3e) differential cross-sections.
J. Phys. B 38, 1569 (2005)

e + He	Angular Scattering	2000 eV	Th
e + He	Ionization	2000 eV	Th

660. Y. Itikawa, N. Mason
Cross sections for electronic collisions with water molecules.
J. Phys. Chem. Ref. Data 34, 1 (2005)

e + H_2O	Electron Collisions	Undef.	E/T

661. Y. Tohyama, T. Nagata
Electron impact emission of N_2 $2P(\nu', \nu'')$ bands studied under single-collision condition.
J. Phys. Soc. Japan 74, 326 (2005)

e + N_2	Excitation	Undef.	Exp

662. C. O. Reinhold, J. Burgdorfer, F. B. Dunning
Collisional decoherence in very-high-n Rydberg atoms.
Nucl. Instrum. Methods Phys. Res. B 233, 48 (2005)

K + Xe	Excitation	Undef.	Th
e + Xe	Excitation	Undef.	Th

663. A. Mueller
Many-electron phenomena in the ionization of ions.
Nucl. Instrum. Methods Phys. Res. B 233, 141 (2005)

e + H^-	Ionization	$2x10^{-3} - 10^6$ keV	E/T
e + H	Ionization	$2x10^{-3} - 10^6$ keV	E/T
e + He	Ionization	$2x10^{-3} - 10^6$ keV	E/T
e + He^+	Ionization	$2x10^{-3} - 10^6$ keV	E/T
e + Li^+	Ionization	$2x10^{-3} - 10^6$ keV	E/T
e + B^{4+}	Ionization	$2x10^{-3} - 10^6$ keV	E/T

664. S. B. Levin
Description of the electron-hydrogen collision by the Coulomb Fourier transform method.
Nucl. Instrum. Methods Phys. Res. B 233, 172 (2005)

e + H	Electron Collisions	Undef.	Th

665. F. F. Chipev, I. V. Chernyshova, J. E. Kontros, O. B. Shpenik
Near threshold electron impact ionization cross-section for tellurium atoms.
Nucl. Instrum. Methods Phys. Res. B 233, 232 (2005)

e + Te	Ionization	6-18 eV	Exp

666. A. Gomonai, E. Ovcharenko, A. Imre, Yu. Hutych
Peculiarities of the electron-impact excitation of single-charged indium ion.
Nucl. Instrum. Methods Phys. Res. B 233, 250 (2005)

e + In^+	Excitation	7-300 eV	Exp

667. F. Jarai-Szabo, L. Nagy, S. Fritzsche
Correlation effects for double K-shell vacancy production in lithium by fast charged projectile impact.
Nucl. Instrum. Methods Phys. Res. B 233, 276 (2005)

e + Li	Excitation	60-95 MeV/u; 0.1-5.0 keV	Th
e + Li	Ionization	60-95 MeV/u; 0.1-5.0 keV	Th

668. M. J. Evrij, A. A., Jr. Borovik, L. L. Shimon, J. E. Kontros, A. A. Borovik
Resonance excitation of the $3p^6-subshell$ in potassium: Contribution to the single ionization.
Nucl. Instrum. Methods Phys. Res. B 233, 280 (2005)

e + K	Ionization	18.7-24.4 eV	Exp

669. A. N. Zavilopulo, F. F. Chipev, O. B. Shpenik
Ionization of water and carbon dioxide molecules by electron impact near threshold.
Nucl. Instrum. Methods Phys. Res. B 233, 298 (2005)

e + H_2O	Dissociation	7-35 eV	Exp
e + CO	Dissociation	7-35 eV	Exp
e + H_2O	Ionization	7-35 eV	Exp
e + CO	Ionization	7-35 eV	Exp

670. K. Tokesi, L. Gulyas, B. Paripas, Gy. Vikor, G. Vitez
Single ionization of Ar(2p) by antiproton and electron impact.
Nucl. Instrum. Methods Phys. Res. B 233, 324 (2005)

e + Ar	Angular Scattering	2 keV	Th
e + Ar	Ionization	2 keV	Th

671. M. J. May, P. Beiersdorfer, N. Jordan, J. H. Scofield, K. J. Reed, S. B. Hansen, K. B. Fournier, M. F. Gu, G. V. Brown, F. S. Porter, R. Kelley, C. A. Kilbourne, K. R. Boyce
Measurement of electron impact collisional excitation cross sections of Ni to Ga-like gold.
Nucl. Instrum. Methods Phys. Res. B 235, 231 (2005)

e + Au^{50+}	Excitation	2.9-5.5 keV	Exp

672. S. Nakazaki, A. Ohsaki, E. Kimura, K. A. Berrington, P. H. Norrington
Collision strengths and rate coefficients for excitation of He-like ions by electron impact.
Nucl. Instrum. Methods Phys. Res. B 235, 245 (2005)

e + $\mathbf{S}^{14+}$	Excitation	Undef.	Th
e + $\mathbf{Ar}^{16+}$	Excitation	Undef.	Th
e + $\mathbf{Ca}^{18+}$	Excitation	Undef.	Th

673. T. Kai, S. Nakazaki, K. A. Berrington
Polarization of radiation emitted from He-like ions following electron impact.
Nucl. Instrum. Methods Phys. Res. B 235, 249 (2005)

e + $\mathbf{Be}^{2+}$	Excitation	$10^3 - 10^5$ eV	Th
e + $\mathbf{C}^{4+}$	Excitation	$10^3 - 10^5$ eV	Th
e + $\mathbf{O}^{6+}$	Excitation	$10^3 - 10^5$ eV	Th
e + $\mathbf{Cl}^{15+}$	Excitation	$10^3 - 10^5$ eV	Th
e + $\mathbf{Fe}^{24+}$	Excitation	$10^3 - 10^5$ eV	Th
e + $\mathbf{Kr}^{34+}$	Excitation	$10^3 - 10^5$ eV	Th
e + $\mathbf{Xe}^{52+}$	Excitation	$10^3 - 10^5$ eV	Th

674. A. Kupliauskiene
Investigation of fluorescence radiation following radiative recombination of ions and electrons.
Nucl. Instrum. Methods Phys. Res. B 235, 252 (2005)

e + $\mathbf{He}^{2+}$	Recombination	0-400 eV	Th
e + $\mathbf{F}^{9+}$	Recombination	0-400 eV	Th
e + $\mathbf{Na}^{+}$	Recombination	0-400 eV	Th
e + $\mathbf{Mg}^{2+}$	Recombination	0-400 eV	Th
e + $\mathbf{Al}^{3+}$	Recombination	0-400 eV	Th
e + $\mathbf{Ar}^{8+}$	Recombination	0-400 eV	Th
e + $\mathbf{Ar}^{18+}$	Recombination	0-400 eV	Th
e + $\mathbf{Fe}^{16+}$	Recombination	0-400 eV	Th
e + $\mathbf{Zn}^{20+}$	Recombination	0-400 eV	Th
e + $\mathbf{Xe}^{54+}$	Recombination	0-400 eV	Th
e + $\mathbf{He}^{2+}$	Excitation	0-400 eV	Th
e + $\mathbf{F}^{9+}$	Excitation	0-400 eV	Th
e + $\mathbf{Na}^{+}$	Excitation	0-400 eV	Th
e + $\mathbf{Mg}^{2+}$	Excitation	0-400 eV	Th
e + $\mathbf{Al}^{3+}$	Excitation	0-400 eV	Th
e + $\mathbf{Ar}^{8+}$	Excitation	0-400 eV	Th
e + $\mathbf{Ar}^{18+}$	Excitation	0-400 eV	Th
e + $\mathbf{Fe}^{16+}$	Excitation	0-400 eV	Th
e + $\mathbf{Zn}^{20+}$	Excitation	0-400 eV	Th
e + $\mathbf{Xe}^{54+}$	Excitation	0-400 eV	Th

675. H. Watanabe, A. P. Kavanagh, H. Kuramoto, Y. M. Li, N. Nakamura, S. Ohtani, B. E. O'Rourke, A. Sato, H. Tawara, X. M. Tong, F. J. Currell
Dielectronic recombination of hydrogen-like ions.
Nucl. Instrum. Methods Phys. Res. B 235, 261 (2005)

e + $\mathbf{Ti}^{21+}$	Recombination	3-5 keV	Exp

676. S. Schippers, G. Gwinner, C. Brandau, S. Boehm, M. Grieser, S. Kieslich, H. Knopp, A. Mueller, R. Repnow, D. Schwalm, A. Wolf
Hyperfine quenching of resonances in dielectronic recombination of zinc-like Pt^{48+}**.**
Nucl. Instrum. Methods Phys. Res. B 235, 265 (2005)

e + $\mathbf{Pt}^{48+}$	Recombination	0-69 eV	Exp

677. A. N. Artemyev, A. E. Klasnikov, T. Beier, J. Eichler, C. Kozhuharov, V. M. Shabaev, T. Stoehlker, V. A. Yerokhin
Negative-continuum dielectronic recombination into low-lying bound states of heavy ions.
Nucl. Instrum. Methods Phys. Res. B 235, 270 (2005)

e + Pb^{82+}	Recombination	1000-3000 keV	Th
e + U^{92+}	Recombination	1000-3000 keV	Th

678. A. Surzhykov, S. Fritzsche, W.-D. Sepp, Th. Stoehlker, A. Orsic Muthig
Polarization and alignment transfer in heavy hydrogen-like ions following radiative electron capture.
Nucl. Instrum. Methods Phys. Res. B 235, 276 (2005)

e + U^{91+}	Recombination	100-600 MeV/u	Th

679. G. Bednarz, A. Warczak, D. Sierpowski, T. Stoehlker, S. Hagmann, F. Bosch, A. Gumberidze, C. Kozhuharov, D. Liesen, P. H. Mokler, X. Ma, Z. Stachura
Charge state dependence of L-REC into highly charged U-ions.
Nucl. Instrum. Methods Phys. Res. B 235, 280 (2005)

e + U^{89+}	Recombination	216 MeV/u	Th
e + U^{90+}	Recombination	216 MeV/u	Th
e + U^{91+}	Recombination	216 MeV/u	Th

680. A. E. Klasnikov, V. M. Shabaev, A. N. Artemyev, A. V. Kovtun, T. Stoehlker
Polarization effects in radiative recombination of an electron with a highly charged ion.
Nucl. Instrum. Methods Phys. Res. B 235, 284 (2005)

e + U^{91+}	Recombination	365-1458 MeV/u	Th

681. M. Hoerndl, S. Yoshida, K. Tokesi, J. Burgdorfer
Enhancement of low energy electron-ion recombination in a magnetic field: Influence of transient field effects.
Nucl. Instrum. Methods Phys. Res. B 235, 290 (2005)

e + C^{6+}	Recombination	Undef.	Exp

682. K. M. Aggarwal, F. P. Keenan
Electron impact excitation of O VI.
Phys. Scr. 70, 222 (2005)

e + O^{5+}	Excitation	8-64 Ry	Th

683. L. K. Jha, B. N. Roy
Double ionization of singly and doubly charged titanium ions by electron impact.
Phys. Scr. 71, 185 (2005)

e + Ti^{+}	Ionization	50-1000 eV	E/T
e + Ti^{2+}	Ionization	50-1000 eV	E/T

684. K. M. Aggarwal, F. P. Keenan
Radiative rates, collision strengths and effective collision strengths for transitions in Mo XXXIV.
Phys. Scr. 71, 251 (2005)

e + Mo^{33+}	Excitation	Undef.	Th

685. C. E. Hudson, K. L. Bell
Calculated rate coefficients for the electron impact excitation of singly ionized nitrogen.
Phys. Scr. 71, 268 (2005)

e + N^+	Ionization	2-12 eV	Th

686. K. M. Aggarwal, F. P. Keenan, R. Kisielius, P. H. Norrington, R. E. King, G. J. Pert, S. J. Rose
Radiative rates, collision strengths and effective collision strengths for transitions in Gd XXXVII.
Phys. Scr. 71, 356 (2005)

e + Gd^{36+}	Excitation	Undef.	Th

687. R. O. Jung, T. E. Stone, J. B. Boffard, L. W. Anderson, C. C. Lin
Electron-impact excitation out of the metastable levels of krypton.
Phys. Rev. Lett. 94, 163202 (2005)

e + Kr	Excitation	0-10 eV	Exp
e + Kr^*	Excitation	0-10 eV	Exp

688. M. Takahashi, N. Watanabe, Y. Khajuria, Y. Udagawa, J. H. Eland
Observation of molecular frame (e,2e) cross section: An (e,2e + M) triple coincidence study of H_2.
Phys. Rev. Lett. 94, 213202 (2005)

e + H_2	Angular Scattering	1200 eV	Exp
e + H_2	Ionization	1200 eV	Exp

689. K. M. Aggarwal, F. P. Keenan
Effective collision strengths for transitions in Fe X.
Vacuum 439, 1215 (2005)

e + Fe^{9+}	Excitation	0.0-210.0 Ry	Th

690. K. M. Aggarwal, F. P. Keenan
Electron impact excitation of Ar XVII.
Astron. Astrophys. 441, 831 (2005)

e + Ar^{16+}	Excitation	0-580 Ry	Th

691. S. J. Smith, N. Djuric, J. A. Lozano, K. A. Berrington, A. Chutjian
Measurement of absolute cross sections for excitation of the $2s^2$ ^1S -¿ 2s2p $^1P^0$ transition in O^{+4}.
Astron. Astrophys. 630, 1213 (2005)

e + O^{4+}	Excitation	17.6-30.0 eV	Exp

692. J. D. Gorfinkiel, A. Faure, S. Taioli, C. Piccarreta, G. Halmova, J. Tennyson
Electron-molecule collisions at low and intermediate energies using the R-matrix method.
Eur. Phys. J. D 35, 231 (2005)

e + H_2O	Dissociation	0-30 eV	Th
e + H_2O	Elastic Scattering	0-30 eV	Th
e + H_2O	Angular Scattering	0-30 eV	Th
e + H_2	Ionization	0-30 eV	Th

693. G. Sakhelashvili, A. Dorn, C. Hoehr, J. Ullrich, A. S. Kheifets, J. Lower, K. Bartschat
Triple coincidence (e,γ 2e) experiment for simultaneous electron impact ionization excitation of helium.
Phys. Rev. Lett. 95, 033201 (2005)

e + He	Excitation	500 eV	Exp
e + He	Ionization	500 eV	Exp

694. I. I. Fabrikant, H. Hotop, M. Allan
Elastic scattering, vibrational excitation, and attachment in low-energy $electron-SF_6$ scattering: Experiment and effective range theory.
Phys. Rev. A 71, 022712 (2005)

e + SF_6	Attachment	0.01-0.6 eV	Th
e + SF_6	Elastic Scattering	0.01-0.6 eV	Th
e + SF_6	Excitation	0.01-0.6 eV	Th

695. O. Zatsarinny, K. Bartschat
Benchmark calculations for electron collisions with zinc atoms.
Phys. Rev. A 71, 022716 (2005)

e + Zn	Elastic Scattering	3-50 eV	Th
e + Zn	Excitation	3-50 eV	Th

696. A. A. Borovik, A. N. Grum-Grzhimailo, K. Bartschat, O. Zatsarinny
Electron impact excitation of the $(3p^5 4s^2)^2 P_{3/2,1/2}$ autoionizing states in potassium.
J. Phys. B 38, 1081 (2005)

e + K	Excitation	29-500 eV	Exp

697. O. K. Vorov, K. Bartschat
Model sensitivity of theoretical results for ionization-excitation of helium.
J. Phys. B 38, 1189 (2005)

e + He	Excitation	20-800 eV	Th
e + He	Ionization	20-800 eV	Th

698. E. Bahati, H. Cherkani-Hassani, P. Defrance, J. J. Jureta, T. Kereselidze, Z. Machavariani, I. Noselidze
On the behaviour of the (e,3e) total cross section for helium at high and intermediate energies.
J. Phys. B 38, 1261 (2005)

e + He	Ionization	70-3000 eV	E/T

699. S.-M. Li, J. Berakdar, S.-T. Zhang, J. Chen
Laser-assisted (e,2e) reaction in one-electron atoms and ions.
J. Phys. B 38, 1291 (2005)

e + H	Ionization	150-500 eV	Th

700. L. Q. Chen, X. J. Chen, X. J. Wu, X. Shan, K. Z. Xu
Triple differential cross sections of Li^+ $(1s^2)$ and K^+ $(3p^6)$ for electron-impact ionization.
J. Phys. B 38, 1371 (2005)

e + He	Ionization	1000 eV	Th
e + $\mathbf{Li^+}$	Ionization	1000 eV	Th
e + Ar	Ionization	1000 eV	Th
e + $\mathbf{K^+}$	Ionization	1000 eV	Th

701. L. Nagy, F. Jarai-Szabo, S. Fritzsche
Ionization-excitation of lithium by fast charged projectiles.
J. Phys. B 38, 141 (2005)

e + Li	Excitation	6-20 v (a.u.)	Th
e + Li	Ionization	6-20 v (a.u.)	Th

702. B. K. Antony, K. N. Joshipura, N. J. Mason
Total and ionization cross sections of electron scattering by fluorocarbons.
J. Phys. B 38, 189 (2005)

e + $\mathbf{CF_4}$	Elastic Scattering	20-5000 eV	Th
e + $\mathbf{CF_3I}$	Elastic Scattering	20-5000 eV	Th
e + $\mathbf{C_2F_6}$	Elastic Scattering	20-5000 eV	Th
e + $\mathbf{C_3F_8}$	Elastic Scattering	20-5000 eV	Th
e + $\mathbf{CF_3}$	Elastic Scattering	20-5000 eV	Th
e + $\mathbf{C_2F_4}$	Elastic Scattering	20-5000 eV	Th
e + $\mathbf{CF_2}$	Elastic Scattering	20-5000 eV	Th
e + CF	Elastic Scattering	20-5000 eV	Th
e + $\mathbf{CF_4}$	Excitation	20-5000 eV	Th
e + $\mathbf{CF_3I}$	Excitation	20-5000 eV	Th
e + $\mathbf{C_2F_6}$	Excitation	20-5000 eV	Th
e + $\mathbf{C_3F_8}$	Excitation	20-5000 eV	Th
e + $\mathbf{CF_3}$	Excitation	20-5000 eV	Th
e + $\mathbf{C_2F_4}$	Excitation	20-5000 eV	Th
e + $\mathbf{CF_2}$	Excitation	20-5000 eV	Th
e + CF	Excitation	20-5000 eV	Th
e + $\mathbf{CF_4}$	Ionization	20-5000 eV	Th
e + $\mathbf{CF_3I}$	Ionization	20-5000 eV	Th
e + $\mathbf{C_2F_6}$	Ionization	20-5000 eV	Th
e + $\mathbf{C_3F_8}$	Ionization	20-5000 eV	Th
e + $\mathbf{CF_3}$	Ionization	20-5000 eV	Th
e + $\mathbf{C_2F_4}$	Ionization	20-5000 eV	Th
e + $\mathbf{CF_2}$	Ionization	20-5000 eV	Th
e + CF	Ionization	20-5000 eV	Th

703. T. A. Field, A. E. Slattery, D. J. Adams, D. D. Morrison
Experimental observation of dissociative electron attachment to S_2O **and** S_2O_2 **with a new spectrometer for unstable molecules.**
J. Phys. B 38, 255 (2005)

e + $\mathbf{S_2O}$	Attachment	0-14 eV	Exp
e + $\mathbf{S_2O_2}$	Attachment	0-14 eV	Exp
e + $\mathbf{S_2O}$	Dissociation	0-14 eV	Exp
e + $\mathbf{S_2O_2}$	Dissociation	0-14 eV	Exp

704. L.-L. Lan, Z.-P. Zhong, L.-F. Zhu, X.-J. Liu, Z.-S. Yuan, J.-M. Sun, K.-Z. Xu
Superexcited states of oxygen studied by fast-electron impact.
Phys. Rev. A 71, 032704 (2005)

e + $\mathbf{O_2}$	Angular Scattering	2500 eV	Exp
e + $\mathbf{O_2}$	Excitation	2500 eV	Exp

705. H. M. Al-Khateeb, B. G. Birdsey, T. J. Gay
Angular momentum partitioning and the subshell multipole moments in impulsively excited argon ions.
Phys. Rev. A 71, 032707 (2005)

e + Ar	Excitation	0-200 eV	Exp

706. R. K. Chauhan, M. K. Srivastava, R. Srivastava
Triple differential cross sections of coplanar symmetric (e,2e) processes on calcium at low energies.
Phys. Rev. A 71, 032708 (2005)

e + Ca	Angular Scattering	10-70 eV	Th
e + Ca	Ionization	10-70 eV	Th

707. R. D. Thomas, F. Hellberg, A. Neau, S. Rosen, M. Larsson, C. R. Vane, M. E. Bannister, S. Datz, A. Petrignani, W. J. van der Zande
Three-body fragmentation dynamics of amidogen and methylene radicals via dissociative recombination.
Phys. Rev. A 71, 032711 (2005)

e + $\mathbf{H_2O^+}$	Dissociation	0 eV	Exp
e + $\mathbf{CH_2{}^+}$	Dissociation	0 eV	Exp
e + $\mathbf{NH_2{}^+}$	Dissociation	0 eV	Exp
e + $\mathbf{H_2O^+}$	Angular Scattering	0 eV	Exp
e + $\mathbf{CH_2{}^+}$	Angular Scattering	0 eV	Exp
e + $\mathbf{NH_2{}^+}$	Angular Scattering	0 eV	Exp
e + $\mathbf{H_2O^+}$	Recombination	0 eV	Exp
e + $\mathbf{CH_2{}^+}$	Recombination	0 eV	Exp
e + $\mathbf{NH_2{}^+}$	Recombination	0 eV	Exp

708. H.-D. Cheng, L.-F. Zhu, X.-J. Liu, Z.-S. Yuan, W.-B. Li, K.-Z. Xu
Selectivity in valence excitation processes of noble atoms studied by fast electron impact.
Phys. Rev. A 71, 032714 (2005)

e + Ne	Excitation	2500 eV	E/T
e + Ar	Excitation	2500 eV	E/T
e + Kr	Excitation	2500 eV	E/T

709. M. A. Uddin, A.K.F. Haque, M. M. Billah, A. K. Basak, K. R. Karim, B. C. Saha
Computation of electron-impact K-shell ionization cross sections of atoms.
Phys. Rev. A 71, 032715 (2005)

e + C	Ionization	0.1-10,000 keV	Th
e + Ar	Ionization	0.1-10,000 keV	Th
e + Ti	Ionization	0.1-10,000 keV	Th
e + Cr	Ionization	0.1-10,000 keV	Th
e + Ni	Ionization	0.1-10,000 keV	Th
e + Ge	Ionization	0.1-10,000 keV	Th
e + Ag	Ionization	0.1-10,000 keV	Th
e + Sn	Ionization	0.1-10,000 keV	Th

710. C. Makochekanwa, O. Sueoka, M. Kimura, M. Kitajima, H. Tanaka
Electron and positron scattering from perfluorocyclobutane $(c-C_4F_8)$ **molecules.**
Phys. Rev. A 71, 032717 (2005)

e + C_4F_8	Dissociation	0.8-600 eV	Exp
e + C_4F_8	Elastic Scattering	0.8-600 eV	Exp
e + C_4F_8	Angular Scattering	0.8-600 eV	Exp
e + C_4F_8	Excitation	0.8-600 eV	Exp
e + C_4F_8	Ionization	0.8-600 eV	Exp

711. K. Bartschat
Direct ionization of heavy noble gases by positron impact.
Phys. Rev. A 71, 032718 (2005)

e + Ar	Ionization	10-100 eV	Th
e + Ar^*	Ionization	10-100 eV	Th

712. P. Limao-Vieira, F. Blanco, J. C. Oller, A. Munoz, J. M. Perez, M. Vinodkumar, G. Garcia, N. J. Mason
Electron scattering cross sections for SF_6 and SF_5CF_3 at intermediate and high energies (100-10000 eV).
Phys. Rev. A 71, 032720 (2005)

e + SF_6	Dissociation	1-10,000 eV	E/T
e + SF_5CF_3	Dissociation	1-10,000 eV	E/T
e + SF_6	Elastic Scattering	1-10,000 eV	E/T
e + SF_5CF_3	Elastic Scattering	1-10,000 eV	E/T
e + SF_6	Excitation	1-10,000 eV	E/T
e + SF_5CF_3	Excitation	1-10,000 eV	E/T
e + SF_6	Ionization	1-10,000 eV	E/T
e + SF_5CF_3	Ionization	1-10,000 eV	E/T

713. E. S. Shuman, T. F. Gallagher
Resonant enhancement of dielectronic recombination by a high-frequency microwave field.
Phys. Rev. A 71, 033415 (2005)

e + Ba^+	Dissociation	0-31 V/cm	Exp

714. A.C.F. Santos, A. Hasan, R. D. DuBois
Doubly differential cross sections for single and multiple ionization of Ne by electron impact.
Phys. Rev. A 71, 034701 (2005)

e + Ne	Angular Scattering	750 eV	Exp
e + Ne	Ionization	750 eV	Exp

3.2.3 Heavy Particles Collisions

715. K. Enomoto, K. Hirano, M. Kumakura, Y. Takahashi, T. Yabuzaki
Emission spectra of alkali-metal (k, Na, Li) – He exciplexes in cold helium gas.
Phys. Rev. A 69, 012501 (2004)

Li + He	Interaction Potentials	Undef.	Th
Na + He	Interaction Potentials	Undef.	Th
K + He	Interaction Potentials	Undef.	Th

716. T. Kiljunen, L. Lehtovaara, H. Kunttu, J. Eloranta
Solvation of triplet Rydberg states of molecular hydrogen in superfluid helium.
Phys. Rev. A 69, 012506 (2004)

H + H	Interaction Potentials	Undef.	Th
H^* + H	Interaction Potentials	Undef.	Th
He + H_2	Interaction Potentials	Undef.	Th
He + $H_2{}^*$	Interaction Potentials	Undef.	Th

717. N. Stolterfoht, B. Sulik, B. Skogvall, J. Y. Chesnel, F. Fremont, D. Hennecart, A. Cassimi, L. Adoui, S. Hossain, J. A. Tanis
Frequency doubling of interference structures in electron emission interferences from H_2 by 68-MeV/u Kr^{33+} impact.
Phys. Rev. A 69, 012701 (2004)

Kr^{33+} + H_2	Ionization	68 MeV/u	E/T

718. F. Zappa, G. Jalbert, L.F.S. Coelho, A. B. Rocha, S. D. Magalhaes, N. V. de Castro Faria
Absolute electron detachment cross sections of atomic anions of the second and third periods incident on noble gases.
Phys. Rev. A 69, 012703 (2004)

C^- + He	Interaction Potentials	2.25-56.25 keV/u	E/T
C + He	Interaction Potentials	2.25-56.25 keV/u	E/T
Li^- + He	Detachment	2.25-56.25 keV/u	E/T
Li^- + Ne	Detachment	2.25-56.25 keV/u	E/T
Li^- + Ar	Detachment	2.25-56.25 keV/u	E/T
B^- + He	Detachment	2.25-56.25 keV/u	E/T
B^- + Ne	Detachment	2.25-56.25 keV/u	E/T
B^- + Ar	Detachment	2.25-56.25 keV/u	E/T
C^- + He	Detachment	2.25-56.25 keV/u	E/T
C^- + Ne	Detachment	2.25-56.25 keV/u	E/T
C^- + Ar	Detachment	2.25-56.25 keV/u	E/T
O^- + He	Detachment	2.25-56.25 keV/u	E/T
O^- + Ne	Detachment	2.25-56.25 keV/u	E/T
O^- + Ar	Detachment	2.25-56.25 keV/u	E/T
F^- + He	Detachment	2.25-56.25 keV/u	E/T
F^- + Ne	Detachment	2.25-56.25 keV/u	E/T
F^- + Ar	Detachment	2.25-56.25 keV/u	E/T
Na^- + He	Detachment	2.25-56.25 keV/u	E/T
Na^- + Ne	Detachment	2.25-56.25 keV/u	E/T
Na^- + Ar	Detachment	2.25-56.25 keV/u	E/T
Al^- + He	Detachment	2.25-56.25 keV/u	E/T
Al^- + Ne	Detachment	2.25-56.25 keV/u	E/T
Al^- + Ar	Detachment	2.25-56.25 keV/u	E/T
Si^- + He	Detachment	2.25-56.25 keV/u	E/T
Si^- + Ne	Detachment	2.25-56.25 keV/u	E/T
Si^- + Ar	Detachment	2.25-56.25 keV/u	E/T
S^- + He	Detachment	2.25-56.25 keV/u	E/T
S^- + Ne	Detachment	2.25-56.25 keV/u	E/T
S^- + Ar	Detachment	2.25-56.25 keV/u	E/T
Cl^- + He	Detachment	2.25-56.25 keV/u	E/T
Cl^- + Ne	Detachment	2.25-56.25 keV/u	E/T
Cl^- + Ar	Detachment	2.25-56.25 keV/u	E/T

719. L. F. Errea, L. Fernandez, A. Macias, L. Mendez, I. Rabadan, A. Riera
Single and double electron capture in $N^{5+} + H_2$ collisions at low impact energies.
Phys. Rev. A 69, 012705 (2004)

N^{5+} + H_2	Charge Transfer	0.2-10 keV/u	Th
N^{5+} + H_2	Interaction Potentials	0.2-10 keV/u	Th

720. V. P. Mogendorff, E.J.D. Vredenbregt, B. J. Verhaar, H.C.W. Beijerinck
Metastable neon collisions: Anisotropy and scattering length.
Phys. Rev. A 69, 012706 (2004)

Ne + Ne	Elastic Scattering	Undef.	Th
Ne* + Ne	Elastic Scattering	Undef.	Th
Ne* + Ne*	Elastic Scattering	Undef.	Th
Ne + Ne	Interaction Potentials	Undef.	Th
Ne* + Ne	Interaction Potentials	Undef.	Th
Ne* + Ne*	Interaction Potentials	Undef.	Th

721. T. Kirchner, M. Horbatsch, M. Keim, H. J. Ludde
State-selective electron-capture calculations for p-Ar collisions in an independent many-electron model.
Phys. Rev. A 69, 012708 (2004)

H$^+$ + Ar	Charge Transfer	1-200 keV/u	Th

722. M. Kajita
Cold collisions between boson or fermion molecules.
Phys. Rev. A 69, 012709 (2004)

OCS + OCS	Elastic Scattering	$10^{-8} - 10^{-6}$ K	Th
CH_3Cl + CH_3Cl	Elastic Scattering	$10^{-8} - 10^{-6}$ K	Th
OCS + OCS	Excitation	$10^{-8} - 10^{-6}$ K	Th
CH_3Cl + CH_3Cl	Excitation	$10^{-8} - 10^{-6}$ K	Th

723. M. Pichler, W. C. Stwalley, R. Beuc, G. Pichler
Formation of ultracold Cs_2 molecules through the double-minimum Cs_2 3 $^1\Sigma_u{}^+$ state.
Phys. Rev. A 69, 013403 (2004)

Cs + Cs	Association	100 μ k	Th

724. O. Docenko, M. Tamanis, R. Ferber, A. Pashov, H. Knoeckel, E. Tiemann
Potential of the ground state of NaRb.
Phys. Rev. A 69, 042503 (2004)

Na + Rb	Interaction Potentials	Undef.	E/T

725. Y. Fukuyama, Y. Moriwaki, Y. Matsuo
Laser-induced fluorescence spectra of Ba^{+}*-He exciplexes produced in cold He gas.
Phys. Rev. A 69, 042505 (2004)

Ba$^+$ + He	Interaction Potentials	3-30 K	Exp
Ba^{+*} + He	Interaction Potentials	3-30 K	Exp

726. J. Koperski, M. Czajkowski
Electronic structure of the CdKr lowest Rydberg state determined from laser-excitation spectra using supersonic beam and double optical resonance methods.
Phys. Rev. A 69, 042509 (2004)

Cd + Kr	Interaction Potentials	Undef.	E/T

727. A.C.F. Santos, R. D. DuBois
Scaling laws for single and multiple electron loss from projectiles in collisions with a many-electron target.
Phys. Rev. A 69, 042709 (2004)

A + Ar	Ionization	0.001-100 MeV/amu	Exp

728. T. G. Winter
Ionization, excitation, and electron transfer in MeV-energy collisions between light nuclei and $C^{5+}(1s)$ ions studied with a Sturmian basis.
Phys. Rev. A 69, 042711 (2004)

$\mathbf{C^{5+} + H^+}$	Charge Transfer	1-24 MeV/amu	Th
$\mathbf{C^{5+} + He^{2+}}$	Charge Transfer	1-24 MeV/amu	Th
$\mathbf{C^{5+} + Li^{3+}}$	Charge Transfer	1-24 MeV/amu	Th
$\mathbf{C^{5+} + Be^{4+}}$	Charge Transfer	1-24 MeV/amu	Th
$\mathbf{C^{5+} + H^+}$	Excitation	1-24 MeV/amu	Th
$\mathbf{C^{5+} + He^{2+}}$	Excitation	1-24 MeV/amu	Th
$\mathbf{C^{5+} + Li^{3+}}$	Excitation	1-24 MeV/amu	Th
$\mathbf{C^{5+} + Be^{4+}}$	Excitation	1-24 MeV/amu	Th
$\mathbf{C^{5+} + H^+}$	Ionization	1-24 MeV/amu	Th
$\mathbf{C^{5+} + He^{2+}}$	Ionization	1-24 MeV/amu	Th
$\mathbf{C^{5+} + Li^{3+}}$	Ionization	1-24 MeV/amu	Th
$\mathbf{C^{5+} + Be^{4+}}$	Ionization	1-24 MeV/amu	Th

729. A. V. Eletskii, M. Capitelli, R. Celiberto, A. Laricchiuta
Resonant charge exchange and relevant transport cross sections for excited states of oxygen and nitrogen atoms.
Phys. Rev. A 69, 042718 (2004)

$\mathbf{N^+ + N}$	Charge Transfer	0.1-10 eV	Th
$\mathbf{O^+ + O}$	Charge Transfer	0.1-10 eV	Th

730. I. Ben-Itzhak, O. Herber, I. Gertner, A. Bar-David, B. Rosner
Reexamining if long-lived N^- anions are produced in fast dissociative electron-capture collisions.
Phys. Rev. A 69, 052701 (2004)

$\mathbf{N_2{}^+ + Ar}$	Dissociation	0.9 MeV	Exp
$\mathbf{N_2{}^+ + Ar}$	Charge Transfer	0.9 MeV	Exp

731. R. Rejoub, M. E. Bannister, C. C. Havener, D. W. Savin, C. J. Verzani, J. G. Wang, P. C. Stancil
Electron capture by Ne^{3+} ions from atomic hydrogen.
Phys. Rev. A 69, 052704 (2004)

$\mathbf{Ne^{3+} + H}$	Charge Transfer	0.1-2000 eV/u	E/T

732. K. Tilford, M. Hoster, P. M. Florian, R. C. Forrey
Cold collisions involving rotationally hot oxygen molecules.
Phys. Rev. A 69, 052705 (2004)

$\mathbf{He + O_2}$	De-excitation	$10^{-4} - 10^2$ K	Th

733. E. Edgu-Fry, A. Wech, J. Stuhlman, T. G. Lee, C. D. Lin, C. L. Cocke
Cold-target recoil-ion momentum spectroscopy studies of capture from atomic and molecular hydrogen by O^{8+} and Ar^{8+}.
Phys. Rev. A 69, 052714 (2004)

$\mathbf{O^{8+} + H}$	Charge Transfer	0.3-0.95 a.u.	E/T
$\mathbf{O^{8+} + H_2}$	Charge Transfer	0.3-0.95 a.u.	E/T
$\mathbf{Ar^{8+} + H}$	Charge Transfer	0.3-0.95 a.u.	E/T
$\mathbf{Ar^{8+} + H_2}$	Charge Transfer	0.3-0.95 a.u.	E/T

734. H. Gao, V.H.S. Kwong
Single- and double-electron-capture collision of C^{q+} (q=3,4) with CO at keV energies.
Phys. Rev. A 69, 052715 (2004)

C^{3+} + CO	Charge Transfer	0.5 keV/u	Exp
C^{4+} + CO	Charge Transfer	0.5 keV/u	Exp

735. E. P. Benis, T.J.M. Zouros, T. W. Gorczyca, A. D. Gonzalez, P. Richard
Elastic resonant and nonresonant differential scattering of quasifree electrons from $B^{4+}(1s)$ and $B^{3+}(1s^2)$ ions.
Phys. Rev. A 69, 052718 (2004)

B^{3+} + H_2	Ionization	3.1-7.5 MeV	E/T
B^{4+} + H_2	Ionization	3.1-7.5 MeV	E/T

736. R. Valero, G.-J. Kroes
Role of CO vibration in the complex-forming OH+CO-¿$H + CO_2$ reaction.
Phys. Rev. A 70, 040701 (2004)

OH + CO	Association	0.1-0.8 eV	Th
OH + CO	Interchange reaction	0.1-0.8 eV	Th

737. B. G. Lindsay, W. S. Yu, K. F. McDonald, R. F. Stebbings
Electron capture and loss by kilo-electron-volt oxygen atoms in collisions with He, H_2, N_2, and O_2.
Phys. Rev. A 70, 042701 (2004)

O + He	Charge Transfer	1-5 keV	Exp
O + H_2	Charge Transfer	1-5 keV	Exp
O + N_2	Charge Transfer	1-5 keV	Exp
O + O_2	Charge Transfer	1-5 keV	Exp
O + He	Total Scattering	1-5 keV	Exp
O + H_2	Total Scattering	1-5 keV	Exp
O + N_2	Total Scattering	1-5 keV	Exp
O + O_2	Total Scattering	1-5 keV	Exp
O + He	Ionization	1-5 keV	Exp
O + H_2	Ionization	1-5 keV	Exp
O + N_2	Ionization	1-5 keV	Exp
O + O_2	Ionization	1-5 keV	Exp

738. A. L. Landers, E. Wells, T. Osipov, K. D. Carnes, A. S. Alnaser, J. A. Tanis, J. H. McGuire, I. Ben-Itzhak, C. L. Cocke
Interference effects in double ionization of spatially aligned hydrogen molecules by fast highly charged ions.
Phys. Rev. A 70, 042702 (2004)

F^{8+} + H_2	Total Scattering	19 MeV	E/T
F^{8+} + D_2	Total Scattering	19 MeV	E/T
F^{8+} + H_2	Ionization	19 MeV	E/T
F^{8+} + D_2	Ionization	19 MeV	E/T

739. R. Cabrera-Trujillo, Y. Oehrn, E. Deumens, J. R. Stabin, B. G. Lindsay
Absolute differential and total cross sections for direct and charge-transfer scattering of keV protons by O_2.
Phys. Rev. A 70, 042705 (2004)

$\mathbf{H^+ + O_2}$	Elastic Scattering	0.5-25.0 keV	E/T
$\mathbf{H^+ + O_2}$	Charge Transfer	0.5-25.0 keV	E/T
$\mathbf{H^+ + O_2}$	Total Scattering	0.5-25.0 keV	E/T

740. P. S. Krstic, J. H. Macek, S. Yu. Ovchinnikov, D. R. Schultz
Analysis of structures in the cross sections for elastic scattering and spin exchange in low-energy H^+ + H collisions.
Phys. Rev. A 70, 042711 (2004)

$\mathbf{H^+ + H}$	Elastic Scattering	$10^{-4} - 100$ eV	Th
$\mathbf{H^+ + H}$	Charge Transfer	$10^{-4} - 100$ eV	Th
$\mathbf{H^+ + H}$	Interaction Potentials	$10^{-4} - 100$ eV	Th
$\mathbf{H^+ + H}$	Total Scattering	$10^{-4} - 100$ eV	Th

741. K. Ishii, A. Itoh, K. Okuno
Electron-capture cross sections of multiply charged slow ions of carbon, nitrogen, and oxygen in He.
Phys. Rev. A 70, 042716 (2004)

$\mathbf{C^{2+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{C^{3+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{C^{4+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{C^{5+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{C^{6+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{N^{2+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{N^{3+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{N^{4+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{N^{5+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{N^{6+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{O^{2+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{O^{3+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{O^{4+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{O^{5+} + He}$	Charge Transfer	2-10,800 eV	Exp
$\mathbf{O^{6+} + He}$	Charge Transfer	2-10,800 eV	Exp

742. S. Knoop, R. Morgenstern, R. Hoekstra
Direct observation of pure one-electron capture from the target inner shell in low-energy p+Na collisions.
Phys. Rev. A 70, 050702 (2004)

$\mathbf{H^+ + Na}$	Charge Transfer	4-25 keV	E/T
$\mathbf{H^+ + Na}$	Ionization	4-25 keV	E/T

743. O. Furuhashi, T. Kinugawa, T. Hirayama, T. Koizumi, C. Yamada, S. Ohtani
Double-charge-transfer spectroscopy of $O_2{}^{2+}$: Band analyses of low-lying repulsive states.
Phys. Rev. A 70, 052501 (2004)

$\mathbf{H^+ + O_2}$	Charge Transfer	1.5 keV	E/T
$\mathbf{H^+ + O_2}$	Ionization	1.5 keV	E/T

744. J. H. Macek, S. Yu. Ovchinnikov
Energy and angular distributions of electrons ejected from atomic hydrogen by low-energy proton impact.
Phys. Rev. A 70, 052702 (2004)

$\mathbf{H^+ + H_2}$	Ionization	5 keV	E/T

745. A. Andalkar, M. Iinuma, J. W. Smit, E. N. Fortson
Measurement of the collisional self-broadening of the cesium $6S_{1/2}$ -¿ $5D_{3/2}$ (689-nm) electric quadrupole transition.
Phys. Rev. A 70, 052703 (2004)

Cs + Cs	Line Broadening	220-370 deg C	Exp

746. T. Kusakabe, L. Pichl, R. J. Buenker, M. Kimura, H. Tawara
Isotope effect in charge-transfer collisions of slow H^+ and D^+ ions with H_2, HD, and D_2 molecules.
Phys. Rev. A 70, 052710 (2004)

$\mathbf{H^+ + H_2}$	Charge Transfer	0.18-1.0 keV/u	E/T
$\mathbf{H^+}$ **+ HD**	Charge Transfer	0.18-1.0 keV/u	E/T
$\mathbf{H^+ + D_2}$	Charge Transfer	0.18-1.0 keV/u	E/T
$\mathbf{D^+ + H_2}$	Charge Transfer	0.18-1.0 keV/u	E/T
$\mathbf{D^+}$ **+ HD**	Charge Transfer	0.18-1.0 keV/u	E/T
$\mathbf{D^+ + D_2}$	Charge Transfer	0.18-1.0 keV/u	E/T

747. L. F. Errea, C. Illescas, L. Mendez, B. Pons, A. Riera, J. Suarez
Accuracy of the classical trajectory Monte Carlo method for electron capture in Li^{3+} and Ne^{10+} + H(1s) collisions.
Phys. Rev. A 70, 052713 (2004)

$\mathbf{Li^{3+} + H}$	Charge Transfer	0-5 V (a.u.)	E/T
$\mathbf{Ne^{10+} + H}$	Charge Transfer	0-5 V (a.u.)	E/T

748. S. O. Adamson, A. I. Dement'ev, V. V. Maleev
The application of stabilization and exterior complex scaling methods to calculations of predissociation resonances in the hydrogen molecule.
J. Phys. B 36, 3731 (2003)

H + H	Interaction Potentials	1-5 $\AA$	Th

749. M. F. Ciappina, W. R. Cravero, C. R. Garibotti
Post-prior discrepancies in the continuum distorted wave-eikonal initial state approximation for ion-helium ionization.
J. Phys. B 36, 3775 (2003)

$\mathbf{C^{6+} + He}$	Total Scattering	1-25 MeV/u	Th
$\mathbf{F^{9+} + He}$	Total Scattering	1-25 MeV/u	Th
$\mathbf{Ne^{10+} + He}$	Total Scattering	1-25 MeV/u	Th
$\mathbf{Mo^{40+} + He}$	Total Scattering	1-25 MeV/u	Th
$\mathbf{C^{6+} + He}$	Ionization	1-25 MeV/u	Th
$\mathbf{F^{9+} + He}$	Ionization	1-25 MeV/u	Th
$\mathbf{Ne^{10+} + He}$	Ionization	1-25 MeV/u	Th
$\mathbf{Mo^{40+} + He}$	Ionization	1-25 MeV/u	Th

750. J. M. Sanders, S. L. Varghese, C. H. Fleming, G. A. Soosai
Electron capture by protons and electron loss from hydrogen atoms in collisions with hydrocarbon and hydrogen molecules in the 60-120 keV energy range.
J. Phys. B 36, 3835 (2003)

$\mathbf{H^+ + CH_4}$	Charge Transfer	60-120 keV	Exp
$\mathbf{H^+ + C_2H_2}$	Charge Transfer	60-120 keV	Exp
$\mathbf{H^+ + C_2H_4}$	Charge Transfer	60-120 keV	Exp
$\mathbf{H^+ + C_2H_6}$	Charge Transfer	60-120 keV	Exp

$H^+ + C_3H_6$	Charge Transfer	60-120 keV	Exp
$H^+ + C_3H_8$	Charge Transfer	60-120 keV	Exp
$H + CH_4$	Ionization	60-120 keV	Exp
$H + C_2H_2$	Ionization	60-120 keV	Exp
$H + C_2H_4$	Ionization	60-120 keV	Exp
$H + C_2H_6$	Ionization	60-120 keV	Exp
$H + C_3H_6$	Ionization	60-120 keV	Exp
$H + C_3H_8$	Ionization	60-120 keV	Exp

751. S. Tsurubuchi, K. Motohashi
Energy-gain-characterized 3D momentum-imaging spectroscopy of N^+ ions produced in Ar^{q+} (q=3, 8, 9, 11 and 12) collisions with N_2 moleclues.
J. Phys. B 36, 3847 (2003)

$Ar^{3+} + N_2$	Dissociation	8 keV	Exp
$Ar^{8+} + N_2$	Dissociation	8 keV	Exp
$Ar^{9+} + N_2$	Dissociation	8 keV	Exp
$Ar^{11+} + N_2$	Dissociation	8 keV	Exp
$Ar^{12+} + N_2$	Dissociation	8 keV	Exp
$Ar^{3+} + N_2$	Charge Transfer	8 keV	Exp
$Ar^{8+} + N_2$	Charge Transfer	8 keV	Exp
$Ar^{9+} + N_2$	Charge Transfer	8 keV	Exp
$Ar^{11+} + N_2$	Charge Transfer	8 keV	Exp
$Ar^{12+} + N_2$	Charge Transfer	8 keV	Exp
$Ar^{3+} + N_2$	Ionization	8 keV	Exp
$Ar^{8+} + N_2$	Ionization	8 keV	Exp
$Ar^{9+} + N_2$	Ionization	8 keV	Exp
$Ar^{11+} + N$	Ionization	8 keV	Exp
$Ar^{12+} + N_2$	Ionization	8 keV	Exp

752. V. A. Vorontsov, M. Born, I. F. Shaikhislamov, B. N. Chichkov, B. Wellegehausen
Charge-transfer pumping for XUV lasers.
J. Phys. B 36, 3865 (2003)

$C^{4+} + H$	Charge Transfer	Undef.	Exp

753. M. Aymar, S. Azizi, O. Dulieu
Model-potential calculations for ground and excited Σ states of $Rb_2{}^+$, $Cs_2{}^+$ and $RbCs^+$ ions.
J. Phys. B 36, 4799 (2003)

$Rb^+ + Rb$	Interaction Potentials	5-35 a.u.	Th
$Rb^+ + Cs$	Interaction Potentials	5-35 a.u.	Th
$Cs^+ + Rb$	Interaction Potentials	5-35 a.u.	Th
$Cs^+ + Cs$	Interaction Potentials	5-35 a.u.	Th

754. S. Martinez, G. Bernardi, P. Focke, A. D. Gonzalez, S. Suarez
H_2 dissociation by H^+ and He^{2+} projectiles at intermediate energies.
J. Phys. B 36, 4813 (2003)

$H^+ + H_2$	Dissociation	25-100 keV/u	Exp
$He^{2+} + H_2$	Dissociation	25-100 keV/u	Exp
$H^+ + H_2$	Total Scattering	25-100 keV/u	Exp
$He^{2+} + H_2$	Total Scattering	25-100 keV/u	Exp

755. M. Busch, R. Drozdowski, Th. Ludwig, G. von Oppen
Paul-trap resonance in $He^+ - He$ collisions.
J. Phys. B 36, 4849 (2003)

He^+ + He	Excitation	30-50 keV	Exp

756. J. T. Pottage, D. R. Flower, S. L. Davis
The torsional excitation of methanol by helium.
J. Phys. B 37, 165 (2004)

He + CH_3OH	Excitation	20-500 cm^{-1}	Th

757. V. P. Shevelko, O. Rosmej, H. Tawara, I. Yu. Tolstikhina
The target-density effect in electron-capture processes.
J. Phys. B 37, 201 (2004)

C^{6+} + Cs	Charge Transfer	$1-10^5$ keV/u	Th
O^{7+} + He	Charge Transfer	$1-10^5$ keV/u	Th
Ni^{28+} + SiO_2	Charge Transfer	$1-10^5$ keV/u	Th
C^{6+} + Cs	Excitation	$1-10^5$ keV/u	Th
O^{7+} + He	Excitation	$1-10^5$ keV/u	Th
Ni^{28+} + SiO_2	Excitation	$1-10^5$ keV/u	Th
C^{6+} + Cs	Ionization	$1-10^5$ keV/u	Th
O^{7+} + He	Ionization	$1-10^5$ keV/u	Th
Ni^{28+} + SiO_2	Ionization	$1-10^5$ keV/u	Th

758. A. S. Dickinson, F. X. Gadea, T. Leininger
Scattering lengths for spin-polarized metastable helium-3 and helium-4.
J. Phys. B 37, 587 (2004)

He + He	Elastic Scattering	Very low	Th

759. M. Hochlaf
Ab initio investigations of the unimolecular decay of $CS_2{}^+$ for internal energies lower than 10 eV.
J. Phys. B 37, 595 (2004)

S^+ + CS	Interaction Potentials	0-10 eV	Th
CS^+ + S	Interaction Potentials	0-10 eV	Th

760. B. Kerkeni, P. S. Barklem, A. Spielfiedel, N. Feautrier
Collisional broadening of Mg, Sr, Ca and Na resonance lines by atomic hydrogen.
J. Phys. B 37, 677 (2004)

Na + H	Line Broadening	0-20,000 K	Th
Mg + H	Line Broadening	0-20,000 K	Th
Sr + H	Line Broadening	0-20,000 K	Th
Na + H	Interaction Potentials	0-20,000 K	Th
Mg + H	Interaction Potentials	0-20,000 K	Th
Sr + H	Interaction Potentials	0-20,000 K	Th

761. J.-Y. Zhang, Z.-C. Yan
Long-range interactions for hydrogen molecular ions.
J. Phys. B 37, 723 (2004)

$H_2{}^+$ + $H_2{}^+$	Elastic Scattering	Very low	Th
$H_2{}^+$ + HD^+	Elastic Scattering	Very low	Th
$H_2{}^+$ + HT^+	Elastic Scattering	Very low	Th
$H_2{}^+$ + $D_2{}^+$	Elastic Scattering	Very low	Th
$H_2{}^+$ + DT^+	Elastic Scattering	Very low	Th
$H_2{}^+$ + $T_2{}^+$	Elastic Scattering	Very low	Th

$\mathbf{HD^+ + HD^+}$	Elastic Scattering	Very low	Th
$\mathbf{HD^+ + HT^+}$	Elastic Scattering	Very low	Th
$\mathbf{HD^+ + DT^+}$	Elastic Scattering	Very low	Th
$\mathbf{HT^+ + HT^+}$	Elastic Scattering	Very low	Th
$\mathbf{HT^+ + DT^+}$	Elastic Scattering	Very low	Th
$\mathbf{D_2{}^+ + HD^+}$	Elastic Scattering	Very low	Th
$\mathbf{D_2{}^+ + HT^+}$	Elastic Scattering	Very low	Th
$\mathbf{D_2{}^+ + D_2{}^+}$	Elastic Scattering	Very low	Th
$\mathbf{D_2{}^+ + DT^+}$	Elastic Scattering	Very low	Th
$\mathbf{D_2{}^+ + T_2{}^+}$	Elastic Scattering	Very low	Th
$\mathbf{DT^+ + DT^+}$	Elastic Scattering	Very low	Th
$\mathbf{T_2{}^+ + HD^+}$	Elastic Scattering	Very low	Th
$\mathbf{T_2{}^+ + HT^+}$	Elastic Scattering	Very low	Th
$\mathbf{T_2{}^+ + DT^+}$	Elastic Scattering	Very low	Th
$\mathbf{T_2{}^+ + T_2{}^+}$	Elastic Scattering	Very low	Th
$\mathbf{H_2{}^+ + H_2{}^+}$	Interaction Potentials	Very low	Th
$\mathbf{H_2{}^+ + HD^+}$	Interaction Potentials	Very low	Th
$\mathbf{H_2{}^+ + HT^+}$	Interaction Potentials	Very low	Th
$\mathbf{H_2{}^+ + D_2{}^+}$	Interaction Potentials	Very low	Th
$\mathbf{H_2{}^+ + DT^+}$	Interaction Potentials	Very low	Th
$\mathbf{H_2{}^+ + T_2{}^+}$	Interaction Potentials	Very low	Th
$\mathbf{HD^+ + HD^+}$	Interaction Potentials	Very low	Th
$\mathbf{HD^+ + HT^+}$	Interaction Potentials	Very low	Th
$\mathbf{HD^+ + DT^+}$	Interaction Potentials	Very low	Th
$\mathbf{HT^+ + HT^+}$	Interaction Potentials	Very low	Th
$\mathbf{HT^+ + DT^+}$	Interaction Potentials	Very low	Th
$\mathbf{D_2{}^+ + HD^+}$	Interaction Potentials	Very low	Th
$\mathbf{D_2{}^+ + HT^+}$	Interaction Potentials	Very low	Th
$\mathbf{D_2{}^+ + D_2{}^+}$	Interaction Potentials	Very low	Th
$\mathbf{D_2{}^+ + DT^+}$	Interaction Potentials	Very low	Th
$\mathbf{D_2{}^+ + T_2{}^+}$	Interaction Potentials	Very low	Th
$\mathbf{DT^+ + DT^+}$	Interaction Potentials	Very low	Th
$\mathbf{T_2{}^+ + HD^+}$	Interaction Potentials	Very low	Th
$\mathbf{T_2{}^+ + HT^+}$	Interaction Potentials	Very low	Th
$\mathbf{T_2{}^+ + DT^+}$	Interaction Potentials	Very low	Th
$\mathbf{T_2{}^+ + T_2{}^+}$	Interaction Potentials	Very low	Th

762. P. N. Abufager, A. E. Martinez, R. D. Rivarola, P. D. Fainstein
CDW-EIS model for single-electron capture in ion-atom collisions involving multielectronic targets.
J. Phys. B 37, 817 (2004)

$\mathbf{H^+ + He}$	Charge Transfer	40-9000 keV	Th
$\mathbf{H^+ + Ne}$	Charge Transfer	40-9000 keV	Th
$\mathbf{H^+ + Ar}$	Charge Transfer	40-9000 keV	Th
$\mathbf{He^{2+} + He}$	Charge Transfer	40-9000 keV	Th
$\mathbf{He^{2+} + Ne}$	Charge Transfer	40-9000 keV	Th
$\mathbf{Li^{3+} + Ne}$	Charge Transfer	40-9000 keV	Th

763. D. Fischer, M. Schulz, R. Moshammer, J. Ullrich
Comparative study of single and double ionization of helium by ion impact.
J. Phys. B 37, 1103 (2004)

$\mathbf{H^+ + He}$	Ionization	6 MeV	Exp

764. F. Marchal, P. Berejny, N. Sewraj, Y. Salamero, P. Millet
Energy transfers in Kr-Xe mixtures following selective multiphotonic excitation

of $Kr(^3P_1)$. Temporal analysis in Kr-Xe mixtures.
J. Phys. B 37, 1279 (2004)

Kr + Xe	Energy Transfer	120-376 nm	Exp
Kr* + Xe	Energy Transfer	120-376 nm	Exp

765. Z. D. Pesic, J.-Y. Chesnel, R. Hellhammer, B. Sulik, N. Stolterfoht
Fragmentation of H_2O molecules following the interaction with slow, highly charged Ne ions.
J. Phys. B 37, 1405 (2004)

Ne^{+} + H_2O	Dissociation	2-9 keV	Exp
Ne^{3+} + H_2O	Dissociation	2-9 keV	Exp
Ne^{5+} + H_2O	Dissociation	2-9 keV	Exp
Ne^{7+} + H_2O	Dissociation	2-9 keV	Exp
Ne^{9+} + H_2O	Dissociation	2-9 keV	Exp
Ne^{+} + H_2O	Charge Transfer	2-9 keV	Exp
Ne^{3+} + H_2O	Charge Transfer	2-9 keV	Exp
Ne^{5+} + H_2O	Charge Transfer	2-9 keV	Exp
Ne^{7+} + H_2O	Charge Transfer	2-9 keV	Exp
Ne^{9+} + H_2O	Charge Transfer	2-9 keV	Exp
Ne^{+} + H_2O	Total Scattering	2-9 keV	Exp
Ne^{3+} + H_2O	Total Scattering	2-9 keV	Exp
Ne^{5+} + H_2O	Total Scattering	2-9 keV	Exp
Ne^{7+} + H_2O	Total Scattering	2-9 keV	Exp
Ne^{9+} + H_2O	Total Scattering	2-9 keV	Exp

766. A. Hasan, N. V. Maydanyuk, B. Fendler, A. Voitkiv, B. Najjari, M. Schulz
Three-dimensional fully differential single ionization cross sections for 75 keV p + He collisions.
J. Phys. B 37, 1923 (2004)

H^{+} + He	Total Scattering	75 keV	E/T
H^{+} + He	Ionization	75 keV	E/T

767. A. L. Godunov, C. T. Whelan, H.R.J. Walters
Fully differential cross sections for transfer ionization – a sensitive probe of high level correlation effects in atoms.
J. Phys. B 37, L201 (2004)

H^{+} + He	Charge Transfer	400-1200 keV	Th
H^{+} + He	Total Scattering	400-1200 keV	Th
H^{+} + He	Ionization	400-1200 keV	Th

768. N. Vinci, J. Tennyson
Continuum states of CO^{+}.
J. Phys. B 37, 2011 (2004)

C^{2+} + O	Interaction Potentials	Undef.	Th
O^{2+} + C	Interaction Potentials	Undef.	Th

769. M. F. Ciappina, W. R. Cravero, C. R. Garibotti
Influence of initial state distortion in ion-atom collisions.
J. Phys. B 37, 2057 (2004)

H^{+} + He	Total Scattering	0.1-1.5 MeV/amu	Th
O^{8+} + He	Total Scattering	0.1-1.5 MeV/amu	Th

F^{9+} + He	Total Scattering	0.1-1.5 MeV/amu	Th
H^+ + He	Ionization	0.1-1.5 MeV/amu	Th
O^{8+} + He	Ionization	0.1-1.5 MeV/amu	Th
F^{9+} + He	Ionization	0.1-1.5 MeV/amu	Th

770. S. E. Nielsen, T. H. Rod, J. Salgado, D. Dowek, J. C. Houver, J. W. Thomsen, N. Andersen
Electron transfer from optically prepared states: He^+ **+ Na(3** ^2P) **-¿ He(2** $^{1,3}P$) + Na^+ **angular differential scattering.**
J. Phys. B 37, 2119 (2004)

He^+ + Na	Charge Transfer	1 keV	E/T
He^+ + Na^*	Charge Transfer	1 keV	E/T
He^+ + Na	Total Scattering	1 keV	E/T
He^+ + Na^*	Total Scattering	1 keV	E/T

771. P. S. Krstic
Coupled channel representation of the advanced adiabatic approach.
J. Phys. B 37, L217 (2004)

He^{2+} + H	Charge Transfer	10-406 eV/u	E/T

772. T. Kirchner, M. Horbatsch, H. J. Ludde
Coupled mean-field description of electron removal processes in $He^+ - Ne$ **and** $He^+ - Ar$ **collisions.**
J. Phys. B 37, 2379 (2004)

He^+ + Ne	Ionization	10-1000 keV/amu	E/T
He^+ + Ar	Ionization	10-1000 keV/amu	E/T

773. F. Lique, W.-U. L. Tchang-Brillet, A. Spielfiedel, N. Feautrier
Quantum non-adiabatic study of the quasi-molecular satellites of the Lyman α **line perturbed by H.**
J. Phys. B 37, 3021 (2004)

H + H	Line Broadening	5000-25,000 K	Th

774. J.H.D. Eland, M. Hochlaf, G. C. King, P. S. Kreynin, R. J. LeRoy, I. R. McNab, J.-M. Robbe
Photo double ionization spectra of CO: Comparison of theory with experiment.
J. Phys. B 37, 3197 (2004)

C + O	Interaction Potentials	40-50 eV	E/T
C^+ + O^+	Interaction Potentials	40-50 eV	E/T
C^{2+} + O	Interaction Potentials	40-50 eV	E/T
O^{2+} + C	Interaction Potentials	40-50 eV	E/T

775. S. Madzunkov, D. Fry, R. Schuch
Multiple electron capture and photon emission of slow highly charged Ta^{q+} **ions in collisions with He and Xe.**
J. Phys. B 37, 3239 (2004)

Ta^{41+} + He	Charge Transfer	0.3 a.u.	Exp
Ta^{41+} + Xe	Charge Transfer	0.3 a.u.	Exp
Ta^{42+} + He	Charge Transfer	0.3 a.u.	Exp
Ta^{42+} + Xe	Charge Transfer	0.3 a.u.	Exp
Ta^{43+} + He	Charge Transfer	0.3 a.u.	Exp
Ta^{43+} + Xe	Charge Transfer	0.3 a.u.	Exp
Ta^{44+} + He	Charge Transfer	0.3 a.u.	Exp

Ta^{44+} + Xe	Charge Transfer	0.3 a.u.	Exp
Ta^{45+} + He	Charge Transfer	0.3 a.u.	Exp
Ta^{45+} + Xe	Charge Transfer	0.3 a.u.	Exp
Ta^{46+} + He	Charge Transfer	0.3 a.u.	Exp
Ta^{46+} + Xe	Charge Transfer	0.3 a.u.	Exp
Ta^{47+} + He	Charge Transfer	0.3 a.u.	Exp
Ta^{47+} + Xe	Charge Transfer	0.3 a.u.	Exp
Ta^{48+} + He	Charge Transfer	0.3 a.u.	Exp
Ta^{48+} + Xe	Charge Transfer	0.3 a.u.	Exp
Ta^{49+} + He	Charge Transfer	0.3 a.u.	Exp
Ta^{49+} + Xe	Charge Transfer	0.3 a.u.	Exp

776. E. Ghanbari Adivi, M. A. Bolorizadeh
Faddeev treatment of single-electron capture by protons in collision with many-electron atoms.
J. Phys. B 37, 3321 (2004)

H^+ + He	Charge Transfer	0.293-7.42 MeV	Th
H^+ + Ne	Charge Transfer	0.293-7.42 MeV	Th
H^+ + Ar	Charge Transfer	0.293-7.42 MeV	Th
H^+ + He	Total Scattering	0.293-7.42 MeV	Th
H^+ + Ne	Total Scattering	0.293-7.42 MeV	Th
H^+ + Ar	Total Scattering	0.293-7.42 MeV	Th

777. A. B. Voitkiv, B. Najjari
Two-centre dielectronic interaction in mutually ionizing projectile-target collisions at relativistic energies.
J. Phys. B 37, 3339 (2004)

H + He^+ Z= ?-?	Total Scattering	0.1-1000 GeV/u	Th
He + He^+ Z= ?-?	Total Scattering	0.1-1000 GeV/u	Th
He^+ + H	Total Scattering	0.1-1000 GeV/u	Th
H + He^+ Z= ?-?	Ionization	0.1-1000 GeV/u	Th
He + He^+ Z= ?-?	Ionization	0.1-1000 GeV/u	Th
He^+ + H	Ionization	0.1-1000 GeV/u	Th

778. S. Chattopadhyay, K. K. Das
Multireference configuration interaction study of the low-lying electronic states of SiS^+.
J. Phys. B 37, 3355 (2004)

S^+ + Si	Interaction Potentials	Undef.	Th

779. C. Figl, J. Grosser, O. Hoffmann, F. Rebentrost
Repulsive K Ar potentials from differential optical collisions.
J. Phys. B 37, 3369 (2004)

K + Ar	Interaction Potentials	220-720 cm^{-1}	Exp
K + Ar	Total Scattering	220-720 cm^{-1}	Exp
K + Ar	Excitation	220-720 cm^{-1}	Exp

780. M. Cacciatore, A. Kurnosov, A. Napartovich, S. Shnyrev
Vibrational energy exchanges between N_2 and strongly excited CO molecules: Their role in vibrational kinetics.
J. Phys. B 37, 3379 (2004)

N_2 + CO	De-excitation	100-500 K	Th
N_2 + CO^*	De-excitation	100-500 K	Th
N_2 + CO	Energy Transfer	100-500 K	Th
N_2 + CO^*	Energy Transfer	100-500 K	Th
N_2 + CO	Excitation	100-500 K	Th
N_2 + CO^*	Excitation	100-500 K	Th

781. L. F. Errea, C. Illescas, L. Mendez, B. Pons, A. Riera, J. Suarez
Classical and semi-classical treatments of Li^{3+}, Ne^{10+} + H(1s) collisions.
J. Phys. B 37, 4323 (2004)

Li^{3+} + H	Charge Transfer	1-400 keV/u	Th
Ne^{10+} + H	Charge Transfer	1-400 keV/u	Th
Li^{3+} + H	Ionization	1-400 keV/u	Th
Ne^{10+} + H	Ionization	1-400 keV/u	Th

782. L. U. Ancarani, M. C. Chidichimo
Partial wave completion technique for scattering amplitudes in Coulomb dipole excitation.
J. Phys. B 37, 4339 (2004)

H^+ + Ca^+	Excitation	1.5-500 threshold	Th

783. H. A. Sakaue, A. Danjo, K. Hosaka, D. Kato, M. Kimura, A. Matsumoto, N. Nakamura, S. Ohtani, M. Sakurai, H. Tawara, I. Yamada, M. Yoshino
Electron transfer and decay processes of highly charged iodine ions.
J. Phys. B 37, 403 (2004)

I^{10+} + Ne	Charge Transfer	1.52 keV	Exp
I^{10+} + Ar	Charge Transfer	1.52 keV	Exp
I^{10+} + Kr	Charge Transfer	1.52 keV	Exp
I^{10+} + Xe	Charge Transfer	1.52 keV	Exp
I^{15+} + Ne	Charge Transfer	1.52 keV	Exp
I^{15+} + Ar	Charge Transfer	1.52 keV	Exp
I^{15+} + Kr	Charge Transfer	1.52 keV	Exp
I^{15+} + Xe	Charge Transfer	1.52 keV	Exp
I^{20+} + Ne	Charge Transfer	1.52 keV	Exp
I^{20+} + Ar	Charge Transfer	1.52 keV	Exp
I^{20+} + Kr	Charge Transfer	1.52 keV	Exp
I^{20+} + Xe	Charge Transfer	1.52 keV	Exp
I^{25+} + Ne	Charge Transfer	1.52 keV	Exp
I^{25+} + Ar	Charge Transfer	1.52 keV	Exp
I^{25+} + Kr	Charge Transfer	1.52 keV	Exp
I^{25+} + Xe	Charge Transfer	1.52 keV	Exp

784. S. Chattopadhyay, P. Ghosh, U. S. Mahapatra
Applications of size-consistent state-specific multi-reference coupled cluster (SS-MRCC) theory to study the potential energy curves of some interesting molecular systems.
J. Phys. B 37, 495 (2004)

Li + Li	Interaction Potentials	Undef.	Th
O^+ + H	Interaction Potentials	Undef.	Th
Na + Na	Interaction Potentials	Undef.	Th
Cs + Cs	Interaction Potentials	Undef.	Th

785. M. Foster, D. H. Madison, J. L. Peacher, M. Schulz, S. Jones, D. Fischer, R. Moshammer, J. Ullrich
Fully differential cross sections for C^{6+} single ionization of helium.
J. Phys. B 37, 1565 (2004)

$\mathbf{C^{6+} + He}$	Ionization	2 MeV/u	Exp

786. F. A. Rajgara, M. Krishnamurthy, D. Mathur, T. Nishide, H. Shiromaru, N. Kobayashi
Coulombic and non-Coulombic fragmentation of highly charged benzene.
J. Phys. B 37, 1699 (2004)

$\mathbf{Ar^{8+} + C_6H_6}$	Dissociation	120 keV	Exp
$\mathbf{Ar^{8+} + C_6H_6}$	Ionization	120 keV	Exp

787. M. J. Roberts
Two-body off-shell effects in the second-order Faddeev-Watson approximation for atomic ionization processes.
J. Phys. B 37, 2869 (2004)

$\mathbf{H^{+} + H}$	Ionization	200 eV; 1 MeV	Th

788. M. Busch, R. Drozdowski, Th. Ludwig, G. von Oppen
Anticrossing spectroscopy of He atoms excited by 30-300 keV He^{+} impact.
J. Phys. B 37, 2903 (2004)

$\mathbf{He^{+} + He}$	Excitation	30-300 keV	Exp

789. G. Veshapidze, M. Nomura, T. Nishide, F. A. Rajgara, H. Shiromaru, Y. Achiba, N. Kobayashi
Coplanar dissociation of ethylene and benzene by collision with Ar^{8+}.
J. Phys. B 37, 2969 (2004)

$\mathbf{Ar^{8+} + C_2H_4}$	Dissociation	120 keV	Exp
$\mathbf{Ar^{8+} + C_6H_6}$	Dissociation	120 keV	Exp

790. J. Carbonell, R. Lazauskas, V. I. Korobov
Relativistic and QED corrections to the $2p\sigma_u(\nu$=1) vibrational state of the $H_2{}^{+}$ molecular ion.
J. Phys. B 37, 2997 (2004)

$\mathbf{H^{+} + H}$	Interaction Potentials	10^{-9} a.u.	Th

791. M. Schulz, R. Moshammer, D. Fischer, J. Ullrich
Two-particle versus three-particle interactions in single ionization of helium by ion impact.
J. Phys. B 37, 4055 (2004)

$\mathbf{C^{6+} + He}$	Total Scattering	3.6-100 MeV	Exp
$\mathbf{Au^{24+} + He}$	Total Scattering	3.6-100 MeV	Exp
$\mathbf{Au^{53+} + He}$	Total Scattering	3.6-100 MeV	Exp
$\mathbf{C^{6+} + He}$	Ionization	3.6-100 MeV	Exp
$\mathbf{Au^{24+} + He}$	Ionization	3.6-100 MeV	Exp
$\mathbf{Au^{53+} + He}$	Ionization	3.6-100 MeV	Exp

792. T. Spranger, T. Kirchner
Auger-like processes in multiple ionization of noble gas atoms by protons.
J. Phys. B 37, 4159 (2004)

H^+ + Ne	Ionization	5-10,000 keV	Th
H^+ + Ar	Ionization	5-10,000 keV	Th

793. A. B. Voitkiv, B. Najjari, R. Moshammer, M. Schulz, J. Ullrich
Three-body quantum dynamics of helium single ionization by 1 GeV/u U^{92+} impact.
J. Phys. B 37, L365 (2004)

U^{92+} + He	Total Scattering	1 GeV/amu	Exp
U^{92+} + He	Ionization	1 GeV/amu	Exp

794. T. C. Scott, M. Aubert-Frecon, G. Hadinger, D. Andrae, J. Grotendorst, J. D., III Morgan
Asymptotically exact calculation of the exchange energies of one-active-electron diatomic ions with the surface integral method.
J. Phys. B 37, 4451 (2004)

Cs^+ + Cs	Interaction Potentials	Undef.	Th

795. A. A. Mihajlov, Lj. M. Ignjatovic, Z. Djuric, N. N. Ljepojevic
The rate coefficients for the processes of (n-n')-mixing in collisions of Rydberg atoms H*(n) with H(1s) atoms.
J. Phys. B 37, 4493 (2004)

H + H	Energy Transfer	$3x10^3 - 7x10^3$ K	Th
H^* + H	Energy Transfer	$3x10^3 - 7x10^3$ K	Th

796. R. E. Olson, R. L. Watson, V. Horvat, A. N. Perumal, Y. Peng, Th. Stoehlker
Projectile electron loss and capture in MeV/u collisions of U^{28+} with H_2, N_2 and Ar.
J. Phys. B 37, 4539 (2004)

U^{28+} + Ar	Charge Transfer	150 MeV/amu	E/T
U^{28+} + H_2	Charge Transfer	150 MeV/amu	E/T
U^{28+} + N_2	Charge Transfer	150 MeV/amu	E/T
U^{28+} + Ar	Ionization	150 MeV/amu	E/T
U^{28+} + H_2	Ionization	150 MeV/amu	E/T
U^{28+} + N_2	Ionization	150 MeV/amu	E/T

797. T. J. Beams, G. Peach, I. B. Whittingham
Ultracold atomic collisions in tight harmonic traps: perturbation theory, ionization losses and application to metastable helium atoms.
J. Phys. B 37, 4561 (2004)

He + He	Association	Undef.	Th
He^* + He^*	Association	Undef.	Th
He + He	Ionization	Undef.	Th
He^* + He^*	Ionization	Undef.	Th

798. M. Nimura, M. Hasuo, T. Fujimoto
Measurement of depolarization of neon excited atoms due to helium atom collisions at low temperature.
J. Phys. B 37, 4647 (2004)

Ne + He	De-excitation	17-300 K	Exp
Ne^* + He	De-excitation	17-300 K	Exp
Ne + He	Excitation	17-300 K	Exp
Ne^* + He	Excitation	17-300 K	Exp

799. D. Vrinceanu, S. Kotochigova, H. R. Sadeghpour
Pressure broadening and shift of He(2 $^3P_{0,1,2}$) $- He(2\ ^3S)$ lines.
Phys. Rev. A 69, 022714 (2004)

He + He	Line Broadening	310 K	Th
He + He	Energy Transfer	310 K	Th

800. M. Kemmann, I. Mistrik, S. Nussmann, H. Helm, C. J. Williams, P. S. Julienne
Near-threshold photoassociation of $^{87}Rb_2$.
Phys. Rev. A 69, 022715 (2004)

Rb + Rb	Association	Undef.	Exp

801. Z. Pavlovic, B. O. Roos, R. Cote, H. R. Sadeghpour
Collisional properties of trapped cold chromium atoms.
Phys. Rev. A 69, 030701(R) (2004)

Cr + Cr	Elastic Scattering	10^{-12} a.u.	Th
Cr + Cr	Interaction Potentials	10^{-12} a.u.	Th

802. T. Majima, Y. Nakai, H. Tsuchida, A. Itoh
Correlation between multiple ionization and fragmentation of C_{60} in 2-MeV Si^{2+} collisions: Evidence for fragmentation induced by internal excitation.
Phys. Rev. A 69, 031202(R) (2004)

Si^{2+} + C_{60}	Dissociation	2 MeV	Exp
Si^{2+} + C_{60}	Ionization	2 MeV	Exp

803. J. Leonard, A. P. Mosk, M. Walhout, P. van der Straten, M. Leduc, C. Cohen-Tannoudji
Analysis of photoassociation spectra for giant helium dimers.
Phys. Rev. A 69, 032702 (2004)

He + He	Association	2-30 μ K	Th
He + He	Interaction Potentials	2-30 μ K	Th

804. P. Cacciani, J. Cosleou, F. Herlemont, M. Khelkhal, J. Lecointre
Nuclear spin conversion in the gaseous phase in the presence of a static electric field: Intramolecular magnetic interactions and the role of collisions.
Phys. Rev. A 69, 032704 (2004)

CH_3F + CH_3F	Energy Transfer	0-17,000 V/cm	E/T

805. M. Erhard, H. Schmaljohann, J. Kronjaeger, K. Bongs, K. Sengstock
Measurement of a mixed-spin-channel Feshbach resonance in ^{87}Rb.
Phys. Rev. A 69, 032705 (2004)

Rb + Rb	Elastic Scattering	300 K	Exp

806. V. S. Melezhik, J. S. Cohen, C.-Y. Hu
Stripping and excitation in collisions between p and $He^+(n$¡3) calculated by a quantum time-dependent approach with semiclassical trajectories.
Phys. Rev. A 69, 032709 (2004)

H^+ + He^+	Excitation	0.5-2000 keV	Th
H^+ + He^{+*}	Excitation	0.5-2000 keV	Th
H^+ + He^+	Ionization	0.5-2000 keV	Th
H^+ + He^{+*}	Ionization	0.5-2000 keV	Th

807. Y. Susuki, K.-I. Nishioka, M. Maehara, J. Hyoi, T. Ikeda, K. Katsura
Effect of exit surface on neutral fraction in mega-electron-volt hydrogen beams transmitted through aluminum epitaxial foils under a planar channeling condition.
Phys. Rev. A 69, 032710 (2004)

$\mathbf{H^+ + Al}$	Charge Transfer	0.3-0.6 MeV	Exp

808. A. K. Gupta, G. Aravind, M. Krishnamurthy
Probing potential energy curves of $C_2{}^-$ by translational energy spectrometry.
Phys. Rev. A 69, 035201 (2004)

$\mathbf{Ar + C_2{}^-}$	Dissociation	15 keV	E/T
$\mathbf{Ar + C_2{}^-}$	Interaction Potentials	15 keV	E/T

809. T.-G. Lee, M. Hesse, A.-T. Le, C. D. Lin
Charge transfer in slow collisions of O^{8+} and Ar^{8+} ions with H(1s) below 2 keV/amu.
Phys. Rev. A 70, 012702 (2004)

$\mathbf{O^{8+} + H}$	Charge Transfer	1-2000 eV/u	Th
$\mathbf{Ar^{8+} + H}$	Charge Transfer	1-2000 eV/u	Th
$\mathbf{O^{8+} + H}$	Interaction Potentials	1-2000 eV/u	Th
$\mathbf{Ar^{8+} + H}$	Interaction Potentials	1-2000 eV/u	Th

810. P.J.J. Tol, W. Hogervorst, W. Vassen
Theory of evaporative cooling with energy-dependent elastic scattering cross section and application to metastable helium.
Phys. Rev. A 70, 013404 (2004)

$\mathbf{He + He}$	Elastic Scattering	0.001-2 mk	Th
$\mathbf{He^* + He^*}$	Elastic Scattering	0.001-2 mk	Th

811. L. Gulyas, T. Kirchner
Ionization of Ar by energetic proton impact.
Phys. Rev. A 70, 022704 (2004)

$\mathbf{H^+ + Ar}$	Ionization	10-5000 keV	Th

812. P. Barragan, L. F. Errea, L. Mendez, A. Macias, I. Rabadan, A. Riera
State-selective electron capture in collisions of ground and metastable N^{2+} ions with H(1s).
Phys. Rev. A 70, 022707 (2004)

$\mathbf{N^{2+} + H}$	Charge Transfer	$2x10^{-3} - 300$ keV	Th

813. S. Hayakawa, K. Kadomura, M. Kimura, C. M. Dutta
Double- and single-electron transfer in H^+ + K collisions from 0.3 to 4 keV: Separation of direct double transfer and two-step successive single-electron transfer.
Phys. Rev. A 70, 022708 (2004)

$\mathbf{H^+ + K}$	Charge Transfer	0.3-4 keV	Exp

814. T. Niederhausen, B. Feuerstein, U. Thumm
Circular dichroism in laser-assisted proton-hydrogen collisions.
Phys. Rev. A 70, 023408 (2004)

$\mathbf{H^+ + H}$	Charge Transfer	2 keV	Th
$\mathbf{H^+ + H}$	Ionization	2 keV	Th

815. V. Milosavljevic, S. Djenize, M. S. Dimitrijevic
Electron and ion contributions to the Ne I spectral line broadening.
J. Phys. B 37, 2713 (2004)

$\mathbf{H^+ + Ne}$	Line Broadening	1000-50,000 K	Th

816. M. Foster, D. H. Madison, J. L. Peacher, J. Ullrich
Highly charged particle impact ionization of He.
J. Phys. B 37, 3797 (2004)

$\mathbf{Au^{24+} + He}$	Total Scattering	3.6 MeV/u	E/T
$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/u	E/T
$\mathbf{Au^{24+} + He}$	Ionization	3.6 MeV/u	E/T
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/u	E/T

817. R. O. Barrachina, M. Zitnik
Young's interference effect in the autoionization of atoms colliding with molecules.
J. Phys. B 37, 3847 (2004)

$\mathbf{He^{2+} + H_2}$	Charge Transfer	25 keV/u	Th
$\mathbf{He^{2+} + H_2}$	Total Scattering	25 keV/u	Th
$\mathbf{He^{2+} + H_2}$	Ionization	25 keV/u	Th

818. J. Fiol, R. E. Olson
Three- and four-body dynamics in fast heavy ion-atom ionization.
J. Phys. B 37, 3947 (2004)

$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/u	Th
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/u	Th

819. T. Minami, C. O. Reinhold, D. R. Schultz, M. S. Pindzola
Coherence parameters for charge transfer in collisions of protons with helium calculated using a hybrid numerical approach.
J. Phys. B 37, 4025 (2004)

$\mathbf{H^+ + He}$	Charge Transfer	20-200 keV	Th

820. D. W. Savin
Rate coefficients for D(1s) + H^+ **¡–¿** D^+ **+ H(1s) charge transfer and some astrophysical implications.**
Astrophys. J., Part 1 566, 599 (2002)

$\mathbf{H^+ + H}$	Charge Transfer	1-200,000 K	Th
$\mathbf{D + H^+}$	Charge Transfer	1-200,000 K	Th
$\mathbf{D^+ + H}$	Charge Transfer	1-200,000 K	Th

821. L. B. Zhao, P. C. Stancil, J. P. Gu, H.-P. Liebermann, Y. Li, P. Funke, R. J. Buenker, B. Zygelman, M. Kimura, A. Dalgarno
Radiative charge transfer in collisions of O with He^+**.**
Astrophys. J. 615, 1063 (2004)

$\mathbf{He^+ + O}$	Charge Transfer	0.0001-3.0000 eV	Th

822. O. Asvany, S. Schlemmer, D. Gerlich
Deuteration of $CH_n{}^+$ (n = 3-5) in collisions with HD measured in a low-temperature ion trap.
Astrophys. J., Part 1 617, 685 (2004)

$\mathbf{CH_3{}^+ + H_2}$	Interchange reaction	15 K	Exp
$\mathbf{CH_3{}^+ + HD}$	Interchange reaction	15 K	Exp
$\mathbf{CH_4{}^+ + H_2}$	Interchange reaction	15 K	Exp
$\mathbf{CH_4{}^+ + HD}$	Interchange reaction	15 K	Exp
$\mathbf{CH_5{}^+ + H_2}$	Interchange reaction	15 K	Exp
$\mathbf{CH_5{}^+ + HD}$	Interchange reaction	15 K	Exp

823. N. F. Allard, J. F. Kielkopf, G. Hebrard, J. M. Peek
Theoretical study of the Lyman γ line profile of atomic hydrogen perturbed by collisions with protons - Lyman γ line profile.
Eur. Phys. J. D 29, 7 (2004)

$\mathbf{H^+ + H}$	Line Broadening	20,000-25,000 deg K	Th

824. M. Purkait
Double electron capture cross-sections of the ground state in the collisions of He^{2+} and Li^{3+} with He.
Eur. Phys. J. D 30, 11 (2004)

$\mathbf{He^{2+} + He}$	Charge Transfer	60-200 keV/amu	Th
$\mathbf{Li^{3+} + He}$	Charge Transfer	60-200 keV/amu	Th

825. E. M. Staicu-Casagrande, T. Nzeyimana, E. A. Naji, N. de Ruette, B. Fabre, A. Le Padellec, X. Urbain
Abstraction and insertion mechanisms in reactive collisions of $H_2{}^+$ and $D_2{}^+$ with O^-.
Eur. Phys. J. D 31, 469 (2004)

$\mathbf{H_2{}^+ + O^-}$	Interchange reaction	10 MeV	Exp
$\mathbf{D_2{}^+ + O^-}$	Interchange reaction	10 MeV	Exp

826. A. E. Pomerantz, F. Ausfelder, R. N. Zare, S. C. Althorpe, F. J. Aoiz, L. Banares, J. F. Castillo
Disagreement between theory and experiment in the simplest chemical reaction: Collision energy dependent rotational distributions for H + D_2 -¿ HD (ν' = 3,j') + D.
J. Chem. Phys. 120, 3244 (2004)

$\mathbf{H + H_2}$	Interchange reaction	1.49-1.85 eV	E/T
$\mathbf{H + D_2}$	Interchange reaction	1.49-1.85 eV	E/T

827. F. Ausfelder, A. E. Pomerantz, R. N. Zare, S. C. Althorpe, F. J. Aoiz, L. Banares, J. F. Castillo
Collision energy dependence of the HD (ν' = 2) product rotational distribution of the H + D_2 reaction in the range 1.30-1.89 eV.
J. Chem. Phys. 120, 3255 (2004)

$\mathbf{H + H_2}$	Interchange reaction	1.30-1.89 eV	E/T
$\mathbf{H + D_2}$	Interchange reaction	1.30-1.89 eV	E/T

828. M. Baunstein, S. Adler-Golden, B. Maiti, G. C. Schatz
Quantum and classical studies of the $O(^3P) + H_2(v{-}0{-}3, j$=0) -¿ OH + H reaction using benchmark potential surfaces.
J. Chem. Phys. 120, 4316 (2004)

O + H$_2$	Interchange reaction	0-30 kcal/mole	Th

829. R. Martinez, J. Millan, M. Gonzalez
Ab initio analytical potential energy surface and quasiclassical trajectory study of the O^+ (^4S) + H_2 ($X^1\Sigma_g{}^+$) -¿ OH^+ ($X^3\Sigma^-$) + $H(^2S)$ reaction and isotopic variants.
J. Chem. Phys. 120, 4705 (2004)

O$^+$ + H$_2$	Interchange reaction	0.3 eV	Th

830. H. Teitelbaum, P.J.S.B. Caridade, A.J.C. Varandas
Calculation of the rate constant for state-selected recombination of H + $O_2(v)$ as a function of temperature and pressure.
J. Chem. Phys. 120, 10483 (2004)

H + O$_2$	Interchange reaction	300-10,000 K	Th

831. T.J.D. Kumar, S. Kumar
Vibrationally inelastic collisions in H^+ + CO system: Comparing quantum calculations with experiments.
J. Chem. Phys. 121, 191 (2004)

H$^+$ + CO	Excitation	0-140 eV	Th

832. P. B. Armentrout, F.-X. Li
Probes of spin conservation in heavy metal reactions: Experimental and theoretical studies of the reactions of Re^+ with H_2, D_2, and HD.
J. Chem. Phys. 121, 248 (2004)

Re$^+$ + H$_2$	Interchange reaction	0-8 eV	E/T
Re$^+$ + HD	Interchange reaction	0-8 eV	E/T
Re$^+$ + D$_2$	Interchange reaction	0-8 eV	E/T

833. S. Y. Lin, H. Guo
Reactions of $C(^1D)$ with H_2 and its deuterated isotopomers, a wave packet study.
J. Chem. Phys. 121, 1285 (2004)

C + H$_2$	Interchange reaction	0-0.5 eV	Th
C + HD	Interchange reaction	0-0.5 eV	Th
C + D$_2$	Interchange reaction	0-0.5 eV	Th

834. M. H. Alexander, E. J. Rackham, D. E. Manolopoulos
Product multiplet branching in the $O(^1D)$ + H_2 -¿ $OH(^2\Pi)$ + H reaction.
J. Chem. Phys. 121, 5221 (2004)

O + H$_2$	Interchange reaction	0.1 eV	Th

835. M. Sabido, J. de Andres, J. Sogas, J. M. Lucas, M. Alberti, J. M. Bofill, A. Aguilar
Electronic excitation and charge transfer processes in collisions between Mg(3 $^1S_0$) atoms and $Rb^+(^1S_0)$ ions in the 0.07-4.00 keV energy range.
J. Chem. Phys. 121, 5284 (2004)

Rb$^+$ + Mg	Charge Transfer	0-4000 eV	Exp

836. N. Balakrishnan
Quantum calculations of the $O(^3P)$ + H_2 -¿ OH + H reaction.
J. Chem. Phys. 121, 6346 (2004)

O + H$_2$	Interchange reaction	0-1.0 eV	Th

837. A. E. Pomerantz, F. Ausfelder, R. N. Zare, J. C. Juanes-Marcos, S. C. Althorpe, V. Saez Rabanos, F. J. Aoiz, L. Banares, J. F. Castillo
Rovibrational product state distribution for inelastic H + D_2 collisions.
J. Chem. Phys. 121, 6587 (2004)

H + H_2	Excitation	1.5 eV	Exp
H + D_2	Excitation	1.5 eV	Exp

838. R. Padmanaban, S. Mahapatra
Quantum wave-packet dynamics of H + HLi scattering: Reaction cross section and thermal rate constant.
J. Chem. Phys. 121, 7681 (2004)

H + LiH	Interchange reaction	0.0-1.0 eV	Th

839. M. Brouard, I. Burak, S. Marinakis, L. Rubio Lago, P. Tampkins, C. Vallance
Product spin-orbit state resolved dynamics of the H + H_2O and H + D_2O abstraction reactions.
J. Chem. Phys. 121, 10426 (2004)

H + H_2O	Interchange reaction	1.2-2.5 eV	Exp
H + D_2O	Interchange reaction	1.2-2.5 eV	Exp

840. R. A. Sultanov, N. Balakrishnan
Isotope branching and tunneling in $O(^3P)$ + HD -¿ OH + D; OD + H reactions.
J. Chem. Phys. 121, 11038 (2004)

O + H_2	Interchange reaction	0.0-2.0 eV	Th
O + HD	Interchange reaction	0.0-2.0 eV	Th
O + D_2	Interchange reaction	0.0-2.0 eV	Th

841. G. E. Moyano, D. Pearson, M. A. Collins
Interpolated potential energy surfaces and dynamics for atom exchange between H and $H_3{}^+$, and D and $H_3{}^+$.
J. Chem. Phys. 121, 12396 (2004)

$H_3{}^+$ + H	Interchange reaction	1.0-20.0 kJ/mol	Th
$H_3{}^+$ + D	Interchange reaction	1.0-20.0 kJ/mol	Th

842. L. Pichl, S. Zou, M. Kimura, I. Murakami, T. Kato
Total, partial, and differential ionization cross sections in proton-hydrogen atom collisions in the energy region of 0.1-10 keV/u.
J. Phys. Chem. Ref. Data 33, 1031 (2004)

H^+ + H	Total Scattering	0.1-10 keV/u	E/T
H^+ + H	Ionization	0.1-10 keV/u	E/T

843. Y. C. Yu, K. M. Chen
M X-ray production in Nd, Gd, Ho and Lu by 1-6 MeV lithium ions.
Nucl. Instrum. Methods Phys. Res. B 219-220, 284 (2004)

Li^+ + Nd	Excitation	1-6 MeV	Exp
Li^+ + Gd	Excitation	1-6 MeV	Exp
Li^+ + Ho	Excitation	1-6 MeV	Exp
Li^+ + Lu	Excitation	1-6 MeV	Exp
Li^+ + Nd	Ionization	1-6 MeV	Exp
Li^+ + Gd	Ionization	1-6 MeV	Exp
Li^+ + Ho	Ionization	1-6 MeV	Exp
Li^+ + Lu	Ionization	1-6 MeV	Exp

844. M. Lugo-Licona, J. Miranda
L-Shell X-ray production cross-sections by impact of 5.0 to 7.5 MeV $^{10}B^{2+}$ ions on selected rare earth elements.
Nucl. Instrum. Methods Phys. Res. B 219-220, 289 (2004)

B^{2+} + Ce	Excitation	5-7 MeV	Exp
B^{2+} + Nd	Excitation	5-7 MeV	Exp
B^{2+} + Sm	Excitation	5-7 MeV	Exp
B^{2+} + Eu	Excitation	5-7 MeV	Exp
B^{2+} + Gd	Excitation	5-7 MeV	Exp
B^{2+} + Dy	Excitation	5-7 MeV	Exp
B^{2+} + Ho	Excitation	5-7 MeV	Exp
B^{2+} + Yb	Excitation	5-7 MeV	Exp
B^{2+} + Ce	Ionization	5-7 MeV	Exp
B^{2+} + Nd	Ionization	5-7 MeV	Exp
B^{2+} + Sm	Ionization	5-7 MeV	Exp
B^{2+} + Eu	Ionization	5-7 MeV	Exp
B^{2+} + Gd	Ionization	5-7 MeV	Exp
B^{2+} + Dy	Ionization	5-7 MeV	Exp
B^{2+} + Ho	Ionization	5-7 MeV	Exp
B^{2+} + Yb	Ionization	5-7 MeV	Exp

845. J. F. Browning, J. C. Banks, W. R. Wampler, B. L. Doyle
Cross-sections for the elastic recoil of hydrogen isotopes for high energy helium ions.
Nucl. Instrum. Methods Phys. Res. B 219-220, 317 (2004)

He^{+} + H	Elastic Scattering	9-11.6 MeV	Exp
He^{+} + D	Elastic Scattering	9-11.6 MeV	Exp
He^{+} + T	Elastic Scattering	9-11.6 MeV	Exp
He^{+} + H	Total Scattering	9-11.6 MeV	Exp
He^{+} + D	Total Scattering	9-11.6 MeV	Exp
He^{+} + T	Total Scattering	9-11.6 MeV	Exp

846. H. Suno, S. N. Rai, H.-P. Liebermann, R. J. Buenker, M. Kimura, R. K. Janev
Elastic and inelastic processes in $H^+ + CH_2$ collisions between 0.5 and 1.5 keV.
Phys. Rev. A 70, 032703 (2004)

H^{+} + CH_2	Elastic Scattering	0.5-1.5 keV	Th
H^{+} + CH_2	Charge Transfer	0.5-1.5 keV	Th
H^{+} + CH_2	Interaction Potentials	0.5-1.5 keV	Th
H^{+} + CH_2	Total Scattering	0.5-1.5 keV	Th

847. H. Nguyen, R. Bredy, H. A. Camp, T. Awata, B. D. DePaola
Differential charge-transfer cross sections for systems with energetically degenerate or near-degenerate channels.
Phys. Rev. A 70, 032704 (2004)

Li^{+} + Rb	Charge Transfer	7 keV	Exp
K^{+} + Rb	Charge Transfer	7 keV	Exp
Rb^{+} + Rb	Charge Transfer	7 keV	Exp
Li^{+} + Rb	Total Scattering	7 keV	Exp
K^{+} + Rb	Total Scattering	7 keV	Exp
Rb^{+} + Rb	Total Scattering	7 keV	Exp

848. P. M. Florian, M. Hoster, R. C. Forrey
Rotational relaxation in ultracold CO + He collisions.
Phys. Rev. A 70, 032709 (2004)

He + CO	De-excitation	0-30 K	Th
He + CO	Excitation	0-30 K	Th

849. R. D. DuBois, A.C.F. Santos, Th. Stoehlker, F. Bosch, A. Brauning-Demian, A. Gumberidze, S. Hagmann, C. Kozhuharov, R. Mann, A. Orsic Muthig, U. Spillmann, S. Tachenov, W. Bart, L. Dahl, B. Franzke, J. Glatz, L. Groening, S. Richter, D. Wilms, K. Ullmann, O. Jagutzki
Electron loss from 1.4-MeV/u $U^{4,6,10+}$ ions colliding with Ne, N_2, and Ar targets.
Phys. Rev. A 70, 032712 (2004)

U^{4+} + Ne	Ionization	1.4 MeV/u	Exp
U^{4+} + Ar	Ionization	1.4 MeV/u	Exp
U^{4+} + N_2	Ionization	1.4 MeV/u	Exp
U^{6+} + Ne	Ionization	1.4 MeV/u	Exp
U^{6+} + Ar	Ionization	1.4 MeV/u	Exp
U^{6+} + N_2	Ionization	1.4 MeV/u	Exp
U^{10+} + Ne	Ionization	1.4 MeV/u	Exp
U^{10+} + Ar	Ionization	1.4 MeV/u	Exp
U^{10+} + N_2	Ionization	1.4 MeV/u	Exp

850. J. Caillat, A. Dubois, I. Sundvor, J.-P. Hansen
Classical and semiclassical calculations of electron transfer cross sections in keV-energy ion-molecule collisions.
Phys. Rev. A 70, 032715 (2004)

He^{2+} + $H_2{}^+$	Charge Transfer	0.2-1.5 V a.u.	Th
Ar^{2+} + $H_2{}^+$	Charge Transfer	0.2-1.5 V a.u.	Th
He^{2+} + $H_2{}^+$	Total Scattering	0.2-1.5 V a.u.	Th
Ar^{2+} + $H_2{}^+$	Total Scattering	0.2-1.5 V a.u.	Th

851. J. F. Reading, J. Fu, M. J. Fitzpatrick
Finite-Hilbert-basis-set calculations for the angular distribution of ionized electrons produced in p+H impact at 20 keV.
Phys. Rev. A 70, 032718 (2004)

H^+ + H	Ionization	20 keV	Th

852. M. E. Galassi, R. D. Rivarola, P. D. Fainstein
Multicenter character in single-electron emission from H_2 molecules by ion impact.
Phys. Rev. A 70, 032721 (2004)

H^+ + H_2	Ionization	0.114-68 MeV/u	Th
Kr^{33+} + H_2	Ionization	0.114-68 MeV/u	Th
Kr^{34+} + H_2	Ionization	0.114-68 MeV/u	Th

853. C. Zhu, A. Dalgarno, S. G. Porsev, A. Derevianko
Dipole polarizabilities of excited alkali-metal atoms and long-range interactions of ground- and excited-state alkali-metal atoms with helium atoms.
Phys. Rev. A 70, 032722 (2004)

Na + He	Interaction Potentials	Low energy	Th
K + He	Interaction Potentials	Low energy	Th
Rb + He	Interaction Potentials	Low energy	Th

854. D. Aumiler, T. Ban, G. Pichler
High-resolution measurements of the pressure broadening and shift of the rubidium 5 $^2S_{1/2} - 6^2P_{3/2}$ line by argon and helium.
Phys. Rev. A 70, 032723 (2004)

Rb + He	Line Broadening	10 torr	Exp
Rb + Ar	Line Broadening	10 torr	Exp

855. E. Luc-Koenig, R. Kosloff, F. Masnou-Seeuws, M. Vatasescu
Photoassociation of cold atoms with chirped laser pulses: Time-dependent calculations and analysis of the adiabatic transfer within a two-state model.
Phys. Rev. A 70, 033414 (2004)

Cs + Cs	Association	54 μ k	Th

856. F. Zappa, A.L.F. de Barros, L.F.S. Coelho, G. Jalbert, S. D. Magalhaes, N. V. de Castro Faria
Ionization of helium by impact of negative B, O, and F ions.
Phys. Rev. A 70, 034701 (2004)

$\mathbf{B^-}$ **+ He**	Ionization	1.1-1.9 V a.u.	Exp
$\mathbf{O^-}$ **+ He**	Ionization	1.1-1.9 V a.u.	Exp
$\mathbf{F^-}$ **+ He**	Ionization	1.1-1.9 V a.u.	Exp

857. M. M. Cassar, G.W.F. Drake
High precision variational calculations for $H_2{}^+$.
J. Phys. B 37, 2485 (2004)

$\mathbf{H^+}$ **+ H**	Interaction Potentials	Undef.	Th

858. A. A. Mihajlov, A. M. Ermolaev, Lj. M. Ignjatovic, N. M. Sakan
Radiative charge exchange in ion-atom collisions at intermediate impact velocities: Spectral characteristics and possibilities of experimental studies.
J. Phys. B 37, 3563 (2004)

$\mathbf{H^+}$ **+ H**	Charge Transfer	50 keV	Th
$\mathbf{He^+}$ **+ H**	Charge Transfer	50 keV	Th
$\mathbf{H^+}$ **+ H**	Excitation	50 keV	Th
$\mathbf{He^+}$ **+ H**	Excitation	50 keV	Th

859. F.A.U. Thiel, L. Thiel, A. J. Yencha, M.-W. Ruf, W. Meyer, H. Hotop
Experimental and theoretical electron energy spectra due to ionizing collisions of metastable Ar*($^3P_2$), Ar*($^3P_0$) and Kr*($^3P_0$) atoms with ground-state Hg atoms.
J. Phys. B 37, 3691 (2004)

Ar + Hg	Interaction Potentials	0-250 MeV	E/T
$\mathbf{Ar^*}$ **+ Hg**	Interaction Potentials	0-250 MeV	E/T
Kr + Hg	Interaction Potentials	0-250 MeV	E/T
$\mathbf{Kr^*}$ **+ Hg**	Interaction Potentials	0-250 MeV	E/T
Ar + Hg	Ionization	0-250 MeV	E/T
$\mathbf{Ar^*}$ **+ Hg**	Ionization	0-250 MeV	E/T
Kr + Hg	Ionization	0-250 MeV	E/T
$\mathbf{Kr^*}$ **+ Hg**	Ionization	0-250 MeV	E/T

860. J. Bradley, R.J.S. Lee, M. McCartney, D.S.F. Crothers
Multi-ionization of helium and lithium using the independent electron and independent event models with intrinsic CDW.
J. Phys. B 37, 3723 (2004)

$\mathbf{H^+}$ **+ He**	Ionization	50-1000 keV/u	Th
$\mathbf{H^+}$ **+ Li**	Ionization	50-1000 keV/u	Th
$\mathbf{He^{2+}}$ **+ He**	Ionization	50-1000 keV/u	Th
$\mathbf{He^{2+}}$ **+ Li**	Ionization	50-1000 keV/u	Th

861. B. J. Killian, R. Cabrera-Trujillo, E. Deumens, Y. Oehrn
Resonant charge transfer between H^+ and H from 1 to 5000 eV.
J. Phys. B 37, 4733 (2004)

H + H$^+$	Charge Transfer	1-5000 eV	Th
H + H$^+$	Total Scattering	1-5000 eV	Th

862. A. B. Voitkiv, B. Najjari
Ionization of helium by relativistic highly charged ions within the symmetric eikonal approximation.
J. Phys. B 37, 4831 (2004)

U^{92+} + He	Ionization	1 GeV	Th

863. C.-N. Liu, A.-T. Le, C. D. Lin
Charge transfer in slow collisions of C^{4+} with H below 1 keV/amu.
Phys. Rev. A 68, 062702 (2003)

C^{4+} + H	Charge Transfer	$10^{-3} - 10^3$ eV/u	Th
C^{4+} + H	Interaction Potentials	$10^{-3} - 10^3$ eV/u	Th

864. A. K. Belyaev, P. S. Barklem
Cross sections for low-energy inelastic H + Li collisions.
Phys. Rev. A 68, 062703 (2003)

Li + H	Excitation	Undef.	Th
Li* + H	Excitation	Undef.	Th

865. M. Telmini, C. Jungen
R-matrix implementation giving well-behaved quantum defect matrices of molecular hydrogen.
Phys. Rev. A 68, 062704 (2003)

H + H	Interaction Potentials	Undef.	Th

866. J. Mitroy, M.W.J. Bromley
Dispersion coefficients for H and He interactions with alkali-metal and alkaline-earth-metal atoms.
Phys. Rev. A 68, 062710 (2003)

H + Li	Interaction Potentials	Undef.	Th
H + Na	Interaction Potentials	Undef.	Th
H + K	Interaction Potentials	Undef.	Th
H + Rb	Interaction Potentials	Undef.	Th
He + Li	Interaction Potentials	Undef.	Th
He + Na	Interaction Potentials	Undef.	Th
He + K	Interaction Potentials	Undef.	Th
He + Rb	Interaction Potentials	Undef.	Th

867. H. Martinez, F. B. Yousif
Collision-induced dissociation and dissociative capture of $H_2{}^+$ in Ar and Kr.
Phys. Rev. A 69, 062701 (2004)

H$_2{}^+$ + Ar	Dissociation	1-5 keV	Exp
H$_2{}^+$ + Kr	Dissociation	1-5 keV	Exp
H$_2{}^+$ + Ar	Charge Transfer	1-5 keV	Exp
H$_2{}^+$ + Kr	Charge Transfer	1-5 keV	Exp

868. J. G. Wang, P. C. Stancil, A. R. Turner, D. L. Cooper
Vibrationally resolved charge transfer of O^{3+} with molecular hydrogen.
Phys. Rev. A 69, 062702 (2004)

$\mathbf{O^{3+} + H_2}$	Charge Transfer	$0.1 - 10^4$ eV/u	Th
$\mathbf{O^{3+} + H_2}$	Interaction Potentials	$0.1 - 10^4$ eV/u	Th

869. A.-T. Le, C. D. Lin, L. F. Errea, L. Mendez, A. Riera, B. Pons
Comparison of hyperspherical versus common-reaction-coordinate close-coupling methods for ion-atom collisions at low energies.
Phys. Rev. A 69, 062703 (2004)

$\mathbf{He^{2+} + H}$	Charge Transfer	20-1600 eV	Th

870. L. Toth, S. Ricz, E. Takacs, B. Sulik, J. Vegh, I. Kadar
Experimental study of coherence and correlation in the anisotropy of Ne KL-LLL satellite Auger decay.
Phys. Rev. A 69, 062708 (2004)

$\mathbf{H^+ + Ne}$	Total Scattering	700-2000 keV	Exp
$\mathbf{He^+ + Ne}$	Total Scattering	700-2000 keV	Exp
$\mathbf{H^+ + Ne}$	Excitation	700-2000 keV	Exp
$\mathbf{He^+ + Ne}$	Excitation	700-2000 keV	Exp
$\mathbf{H^+ + Ne}$	Ionization	700-2000 keV	Exp
$\mathbf{He^+ + Ne}$	Ionization	700-2000 keV	Exp

871. Z. Zhang, W. Vanroose, C. W. McCurdy, A. E. Orel, T. N. Rescigno
Low-energy electron scattering of NO: Ab initio analysis of the $^2\Sigma^-$, $^1\Delta$, and $^1\Sigma^+$ shape resonances in the local complex potential model.
Phys. Rev. A 69, 062711 (2004)

N + O	Interaction Potentials	0-2 eV	Th

872. L. Pichl, Y. Li, H.-P. Liebermann, R. J. Buenker, M. Kimura
Electron capture and excitation in collisions of $O^+(^4S,^2D,^2P)$ with H_2 molecules.
Phys. Rev. A 69, 062715 (2004)

$\mathbf{O^+ + H_2}$	Charge Transfer	$50 - 2x10^5$ eV/u	Th
$\mathbf{O^{+*} + H_2}$	Charge Transfer	$50 - 2x10^5$ eV/u	Th
$\mathbf{O^+ + H_2}$	Interaction Potentials	$50 - 2x10^5$ eV/u	Th
$\mathbf{O^{+*} + H_2}$	Interaction Potentials	$50 - 2x10^5$ eV/u	Th
$\mathbf{O^+ + H_2}$	Excitation	$50 - 2x10^5$ eV/u	Th
$\mathbf{O^{+*} + H_2}$	Excitation	$50 - 2x10^5$ eV/u	Th

873. G. M. Siguad, M. M. Sant-Anna, H. Luna, A.C.F. Santos, C. McGrath, M. B. Shah, E. G. Cavalcanti, E. C. Montenegro
Multiple ionization of noble gases by swift $H_2{}^+$ ions in breakup and nonbreakup collisions.
Phys. Rev. A 69, 062718 (2004)

$\mathbf{H_2{}^+ + He}$	Ionization	1.0 MeV/u	Exp
$\mathbf{H_2{}^+ + Ne}$	Ionization	1.0 MeV/u	Exp
$\mathbf{H_2{}^+ + Ar}$	Ionization	1.0 MeV/u	Exp
$\mathbf{H_2{}^+ + Kr}$	Ionization	1.0 MeV/u	Exp
$\mathbf{H_2{}^+ + Xe}$	Ionization	1.0 MeV/u	Exp

874. T. Kirchner
Laser-field-induced modifications of electron-transfer processes in ion-atom collisions.
Phys. Rev. A 69, 063412 (2004)

$\mathbf{He^{2+} + H}$	Charge Transfer	0.1-10 keV/u	Th

875. O. Busic, N. Gruen, W. Scheid
Calculations for electron transitions on a three-dimensional lattice in relativistic heavy-ion collisions.
Phys. Rev. A 70, 062707 (2004)

$\mathbf{U^{91+} + U^{79+}}$	Charge Transfer	466-930 MeV/u	Th
$\mathbf{U^{92+} + U^{79+}}$	Charge Transfer	466-930 MeV/u	Th
$\mathbf{U^{92+} + U^{91+}}$	Charge Transfer	466-930 MeV/u	Th
$\mathbf{U^{92+} + U^{92+}}$	Charge Transfer	466-930 MeV/u	Th
$\mathbf{U^{91+} + U^{79+}}$	Excitation	466-930 MeV/u	Th
$\mathbf{U^{92+} + U^{79+}}$	Excitation	466-930 MeV/u	Th
$\mathbf{U^{92+} + U^{91+}}$	Excitation	466-930 MeV/u	Th
$\mathbf{U^{92+} + U^{92+}}$	Excitation	466-930 MeV/u	Th
$\mathbf{U^{91+} + U^{79+}}$	Ionization	466-930 MeV/u	Th
$\mathbf{U^{92+} + U^{79+}}$	Ionization	466-930 MeV/u	Th
$\mathbf{U^{92+} + U^{91+}}$	Ionization	466-930 MeV/u	Th
$\mathbf{U^{92+} + U^{92+}}$	Ionization	466-930 MeV/u	Th

876. M. F. Ciappina, W. R. Cravero, C. R. Garibotti
Influence of the electron binding energy in the distortion of the initial state in ion-atom collisions.
Phys. Rev. A 70, 062713 (2004)

$\mathbf{H^{+} + He}$	Total Scattering	50-1500 keV	Th
$\mathbf{He^{2+} + He}$	Total Scattering	50-1500 keV	Th
$\mathbf{F^{9+} + He}$	Total Scattering	50-1500 keV	Th
$\mathbf{H^{+} + He}$	Ionization	50-1500 keV	Th
$\mathbf{He^{2+} + He}$	Ionization	50-1500 keV	Th
$\mathbf{F^{9+} + He}$	Ionization	50-1500 keV	Th

877. F. Gobet, S. Eden, B. Coupier, J. Tabet, B. Farizon, M. Farizon, M. J. Gaillard, M. Carre, S. Ouaskit, T. D. Maerk, P. Scheier
Ionization of water by (20-150)-keV protons: Separation of direct-ionization and electron-capture processes.
Phys. Rev. A 70, 062716 (2004)

$\mathbf{H^{+} + H_2O}$	Dissociation	20-150 keV	Exp
$\mathbf{H^{+} + H_2O}$	Ionization	20-150 keV	Exp

878. G. Lapicki, G.A.V. Ramana Murty, G. J. Naga Raju, B. Seetharami Reddy, S. Bhuloka Reddy, V. Vijayan
Effects of multiple ionization and intrashell coupling in L-subshell ionization by heavy ions.
Phys. Rev. A 70, 062718 (2004)

$\mathbf{C^{3+} + Re}$	Ionization	4-8 MeV	Exp
$\mathbf{C^{3+} + Pt}$	Ionization	4-8 MeV	Exp
$\mathbf{C^{3+} + Au}$	Ionization	4-8 MeV	Exp

879. M. Kobal, M. Ravcic, M. Budnar, J.-Cl. Dousse, Y.-P. Maillard, O. Mauron, P.-A. Raboud, K. Toekesi
Double-K-shell ionization of Mg and Si induced in collisions with C and Ne ions.
Phys. Rev. A 70, 062720 (2004)

$\mathbf{C^{2+} + Mg}$	Charge Transfer	34-50 MeV	Exp
$\mathbf{C^{2+} + Si}$	Charge Transfer	34-50 MeV	Exp
$\mathbf{Ne^{3+} + Mg}$	Charge Transfer	34-50 MeV	Exp
$\mathbf{Ne^{3+} + Si}$	Charge Transfer	34-50 MeV	Exp
$\mathbf{C^{2+} + Mg}$	Ionization	34-50 MeV	Exp
$\mathbf{C^{2+} + Si}$	Ionization	34-50 MeV	Exp
$\mathbf{Ne^{3+} + Mg}$	Ionization	34-50 MeV	Exp
$\mathbf{Ne^{3+} + Si}$	Ionization	34-50 MeV	Exp

880. M. M. Li, D. J. O'Connor, H. Timmers
A study of the charge state approach to the stopping power of MeV B, N and O ions in carbon.
Nucl. Instrum. Methods Phys. Res. B 222, 11 (2004)

$\mathbf{B^{3+} + C}$	Charge Transfer	5-70 MeV	Th
$\mathbf{B^{4+} + C}$	Charge Transfer	5-70 MeV	Th
$\mathbf{B^{5+} + C}$	Charge Transfer	5-70 MeV	Th
$\mathbf{N^{5+} + C}$	Charge Transfer	5-70 MeV	Th
$\mathbf{N^{6+} + C}$	Charge Transfer	5-70 MeV	Th
$\mathbf{N^{7+} + C}$	Charge Transfer	5-70 MeV	Th
$\mathbf{O^{6+} + C}$	Charge Transfer	5-70 MeV	Th
$\mathbf{O^{7+} + C}$	Charge Transfer	5-70 MeV	Th
$\mathbf{O^{8+} + C}$	Charge Transfer	5-70 MeV	Th

881. U. Haellsten, O. Solin
A method for calculating the energy distribution and yield of electrons ejected by protons in nitrogen gas targets.
Nucl. Instrum. Methods Phys. Res. B 222, 421 (2004)

$\mathbf{H^{+} + N_2}$	Ionization	4.3 MeV	Th

882. X. Cai, D. Yu, R. Lu, Z. Cao, W. Yang, C. Shao, X. Chen, X. Ma
Binding energy enhancement in the isocharge sequence of ions in collisions with Ne.
Nucl. Instrum. Methods Phys. Res. B 225, 185 (2004)

$\mathbf{C^{4+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{C^{5+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{C^{6+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{N^{4+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{N^{5+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{N^{6+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{O^{4+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{O^{5+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{O^{6+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{Ne^{4+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{Ne^{5+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{Ne^{6+} + Ne}$	Charge Transfer	25 keV	Exp
$\mathbf{C^{4+} + Ne}$	Ionization	25 keV	Exp
$\mathbf{C^{5+} + Ne}$	Ionization	25 keV	Exp
$\mathbf{C^{6+} + Ne}$	Ionization	25 keV	Exp
$\mathbf{N^{4+} + Ne}$	Ionization	25 keV	Exp

N^{5+} + Ne	Ionization	25 keV	Exp
N^{6+} + Ne	Ionization	25 keV	Exp
O^{4+} + Ne	Ionization	25 keV	Exp
O^{5+} + Ne	Ionization	25 keV	Exp
O^{6+} + Ne	Ionization	25 keV	Exp
Ne^{4+} + Ne	Ionization	25 keV	Exp
Ne^{5+} + Ne	Ionization	25 keV	Exp
Ne^{6+} + Ne	Ionization	25 keV	Exp

883. R. Dey, A. C. Roy
Projectile angular distribution in the single ionization of He by proton impact.
Nucl. Instrum. Methods Phys. Res. B 225, 207 (2004)

H^{+} + He	Total Scattering	50-150 keV	Th
H^{+} + He	Ionization	50-150 keV	Th

884. I. S. Dmitriev, Ya. A. Teplova, Yu. A. Fainerg, Yu. A. Belkova
Formation of metastable states of light ions in ion-atom collisions.
Phys. Scr. 68, 383 (2003)

Li^{+} + H	Charge Transfer	Undef.	E/T
Li^{+} + He	Charge Transfer	Undef.	E/T
Li^{+} + Li	Charge Transfer	Undef.	E/T
Li^{+} + B	Charge Transfer	Undef.	E/T
Li^{+} + N	Charge Transfer	Undef.	E/T
Li^{+} + Ne	Charge Transfer	Undef.	E/T
Li^{+} + Ar	Charge Transfer	Undef.	E/T
Be^{2+} + H	Charge Transfer	Undef.	E/T
Be^{2+} + He	Charge Transfer	Undef.	E/T
Be^{2+} + Li	Charge Transfer	Undef.	E/T
Be^{2+} + B	Charge Transfer	Undef.	E/T
Be^{2+} + N	Charge Transfer	Undef.	E/T
Be^{2+} + Ne	Charge Transfer	Undef.	E/T
Be^{2+} + Ar	Charge Transfer	Undef.	E/T
B^{3+} + H	Charge Transfer	Undef.	E/T
B^{3+} + He	Charge Transfer	Undef.	E/T
B^{3+} + Li	Charge Transfer	Undef.	E/T
B^{3+} + B	Charge Transfer	Undef.	E/T
B^{3+} + N	Charge Transfer	Undef.	E/T
B^{3+} + Ne	Charge Transfer	Undef.	E/T
B^{3+} + Ar	Charge Transfer	Undef.	E/T
N^{5+} + H	Charge Transfer	Undef.	E/T
N^{5+} + He	Charge Transfer	Undef.	E/T
N^{5+} + Li	Charge Transfer	Undef.	E/T
N^{5+} + B	Charge Transfer	Undef.	E/T
N^{5+} + N	Charge Transfer	Undef.	E/T
N^{5+} + Ne	Charge Transfer	Undef.	E/T
N^{5+} + Ar	Charge Transfer	Undef.	E/T

885. J. A. Tanis, A. L. Landers, D. J. Pole, A. S. Alnaser, S. Hossain, T. Kirchner
Evidence for Pauli exchange leading to excited-state enhancement in electron transfer.
Phys. Rev. Lett. 92, 133201 (2004)

F^{7+} + He	Charge Transfer	1.1 MeV/u	Exp
F^{7+} + Ne	Charge Transfer	1.1 MeV/u	Exp
F^{8+} + He	Charge Transfer	1.1 MeV/u	Exp

F^{8+} + Ne	Charge Transfer	1.1 MeV/u	Exp
F^{7+} + He	Excitation	1.1 MeV/u	Exp
F^{7+} + Ne	Excitation	1.1 MeV/u	Exp
F^{8+} + He	Excitation	1.1 MeV/u	Exp
F^{8+} + Ne	Excitation	1.1 MeV/u	Exp

886. D. Misra, U. Kadhane, Y. P. Singh, L. C. Tribedi, P. D. Fainstein, P. Richard
Interference effect in electron emission in heavy ion collisions with H_2 detected by comparison with the measured electron spectrum from atomic hydrogen.
Phys. Rev. Lett. 92, 153201 (2004)

C^{6+} + H_2	Total Scattering	0-14 a.u.	Th
F^{9+} + H_2	Total Scattering	0-14 a.u.	Th
C^{6+} + H_2	Ionization	0-14 a.u.	Th
F^{9+} + H_2	Ionization	0-14 a.u.	Th

887. C. Dimopoulou, R. Moshammer, D. Fischer, C. Hoehr, A. Dorn, P. D. Fainstein, J. R. Crespo, L. Urrutia, C. D. Schroeter, H. Kollmus, R. Mann, S. Hagmann, J. Ullrich
Breakup of H_2 in singly ionizing collisions with fast protons: Channel-selective low-energy electron spectra.
Phys. Rev. Lett. 93, 123203 (2004)

H^+ + H_2	Dissociation	6 MeV	Exp
H^+ + H_2	Ionization	6 MeV	Exp

888. C. M. Laperle, J. E. Mann, T. G. Clements, R. E. Continetti
Three-body dissociation dynamics of the low-lying Rydberg states of H_3 and D_3.
Phys. Rev. Lett. 93, 153202 (2004)

${H_3}^+$ + Cs	Dissociation	12 keV	Exp
${D_3}^+$ + Cs	Dissociation	12 keV	Exp
${H_3}^+$ + Cs	Charge Transfer	12 keV	Exp
${D_3}^+$ + Cs	Charge Transfer	12 keV	Exp

889. J. H. Macek, P. S. Krstic, S. Yu. Ovchinnikov
Regge oscillations in integral cross sections for proton impact on atomic hydrogen.
Phys. Rev. Lett. 93, 183203 (2004)

H^+ + H	Elastic Scattering	0.01-1 eV	Th

890. T. Burnus, M.A.L. Marques, E.K.U. Gross
Time-dependent electron localization function.
Phys. Rev. A 71, 010501 (2005)

H^+ + C_2H_4	Dissociation	2 keV	Th

891. A. Zaitsevskii, E. A. Pazyuk, A. V. Stolyarov, O. Docenko, I. Klincare, O. Nikolayeva, M. Auzinsh, M. Tamanis, R. Ferber
Permanent electric dipoles and $\Lambda - doubling$ constants in the lowest $^1\Pi$ states of RbCs.
Phys. Rev. A 71, 012510 (2005)

Rb + Cs	Interaction Potentials	Undef.	Th

892. P. S. Vinitsky, Yu. V. Popov, O. Chuluunbaatar
Fast proton-hydrogen charge exchange reaction at small scattering angles.
Phys. Rev. A 71, 012706 (2005)

$\mathbf{H^+ + H}$	Charge Transfer	2.8-5 MeV	Th
$\mathbf{H^+ + H}$	Total Scattering	2.8-5 MeV	Th

893. D. Hennecart, J. Pascale
Classical approach to $H_2{}^+ - H(1s)$ collisions.
Phys. Rev. A 71, 012710 (2005)

$\mathbf{H_2{}^+ + H}$	Dissociation	2.5-1000 keV	Th
$\mathbf{H_2{}^+ + H}$	Charge Transfer	2.5-1000 keV	Th
$\mathbf{H_2{}^+ + H}$	Excitation	2.5-1000 keV	Th
$\mathbf{H_2{}^+ + H}$	Ionization	2.5-1000 keV	Th

894. A. Marks, A. P. Hickman, A. D. Streater, J. Huennekens
Thermalization of fast cesium $5D_{3/2}$ atoms in collisions with ground-state cesium atoms.
Phys. Rev. A 71, 012711 (2005)

Cs + Cs	Energy Transfer	Undef.	E/T
$\mathbf{Cs^* + Cs}$	Energy Transfer	Undef.	E/T

895. C. Chin, P. S. Julienne
Radio-frequency transitions on weakly bound ultracold molecules.
Phys. Rev. A 71, 012713 (2005)

Li + Li	Elastic Scattering	10^{-12} K	Th

896. S. Bhattacharya, N. C. Deb, K. Roy, S. Sahoo, D.S.F. Crothers
Shifting of the electron-capture-to-the-continuum peak in proton-helium collisions at 10 and 20 keV.
Phys. Rev. A 71, 012714 (2005)

$\mathbf{H^+ + He}$	Ionization	10-20 keV	Th

897. M. A. Gearba, R. A. Komara, S. R. Lundeen, C. W. Fehrenbach, B. D. DePaola
Stark-induced x-ray emission from H-like and He-like Rydberg ions.
Phys. Rev. A 71, 013424 (2005)

$\mathbf{Ne^{10+} + Rb}$	Charge Transfer	10-17 keV	Exp
$\mathbf{Si^{13+} + Rb}$	Charge Transfer	10-17 keV	Exp
$\mathbf{Si^{14+} + Rb}$	Charge Transfer	10-17 keV	Exp
$\mathbf{Ar^{17+} + Rb}$	Charge Transfer	10-17 keV	Exp
$\mathbf{Ne^{10+} + Rb}$	Fluorescence	10-17 keV	Exp
$\mathbf{Si^{13+} + Rb}$	Fluorescence	10-17 keV	Exp
$\mathbf{Si^{14+} + Rb}$	Fluorescence	10-17 keV	Exp
$\mathbf{Ar^{17+} + Rb}$	Fluorescence	10-17 keV	Exp

898. L. B. Zhao, P. C. Stancil, H.-P. Liebermann, P. Funke, R. J. Buenker
Charge transfer between O^+ ions and helium.
Phys. Rev. A 71, 060701 (2005)

$\mathbf{O^+ + He}$	Charge Transfer	0.5-10 keV	Th

899. M. Nakamura, A. Ichimura
Analysis of gross vibrational-rotational energy-loss spectra in $Li^+ - N_2$ collisions with the hard-potential model.
Phys. Rev. A 71, 062701 (2005)

$\mathbf{Li^+ + N_2}$	Energy Transfer	8-100 eV	Th
$\mathbf{Li^+ + N_2}$	Interaction Potentials	8-100 eV	Th
$\mathbf{Li^+ + N_2}$	Total Scattering	8-100 eV	Th

900. W. T. Zemke, R. Cote, W. C. Stwalley
Analysis of the α $^3\Sigma^+$ state of KRb.
Phys. Rev. A 71, 062706 (2005)

K + Rb	Interaction Potentials	10-30 a.u.	Th

901. C. Y. Lin, P. C. Stancil, J. P. Gu, R. J. Buenker, M. Kimura
Electron capture in collisions of N^+ with H and H^+ with N.
Phys. Rev. A 71, 062708 (2005)

$\mathbf{H^+ + N}$	Charge Transfer	$10^{-4} - 10^3$ eV/u	Th
$\mathbf{N^+ + H}$	Charge Transfer	$10^{-4} - 10^3$ eV/u	Th

902. V. Horvat, R. L. Watson, J. M. Blackadar, A. N. Perumal, Y. Peng
L x rays emitted from multiply ionized holmium atoms.
Phys. Rev. A 71, 062709 (2005)

$\mathbf{C^{2+} + Ho}$	Fluorescence	0.01-6 MeV/u	Exp
$\mathbf{Ne^{3+} + Ho}$	Fluorescence	0.01-6 MeV/u	Exp
$\mathbf{Ar^{6+} + Ho}$	Fluorescence	0.01-6 MeV/u	Exp
$\mathbf{Kr^{12+} + Ho}$	Fluorescence	0.01-6 MeV/u	Exp
$\mathbf{Xe^{18+} + Ho}$	Fluorescence	0.01-6 MeV/u	Exp
$\mathbf{C^{2+} + Ho}$	Ionization	0.01-6 MeV/u	Exp
$\mathbf{Ne^{3+} + Ho}$	Ionization	0.01-6 MeV/u	Exp
$\mathbf{Ar^{6+} + Ho}$	Ionization	0.01-6 MeV/u	Exp
$\mathbf{Kr^{12+} + Ho}$	Ionization	0.01-6 MeV/u	Exp
$\mathbf{Xe^{18+} + Ho}$	Ionization	0.01-6 MeV/u	Exp

903. L. Sarkadi, R. O. Barrachina
Divergency problem of the electron capture to the continuum cusp: Classical trajectory Monte Carlo simulation and experimental data.
Phys. Rev. A 71, 062712 (2005)

$\mathbf{H^+ + He}$	Charge Transfer	20 keV	Th
$\mathbf{H^+ + He}$	Ionization	20 keV	Th

904. L. B. Zhao, P. C. Stancil, J.-P. Gu, H.-P. Liebermann, P. Funke, R. J. Buenker, M. Kimura
Electron capture in collisions of S with H^+.
Phys. Rev. A 71, 062713 (2005)

$\mathbf{H^+ + S}$	Charge Transfer	$10^{-4} - 10^4$ eV/u	Th
$\mathbf{H^+ + S}$	Interaction Potentials	$10^{-4} - 10^4$ eV/u	Th

905. H. Nguyen, R. Bredy, T. G. Lee, H. A. Camp, T. Awata, B. D. DePaola
Entropy lowering in ion-atom collisions.
Phys. Rev. A 71, 062714 (2005)

$\mathbf{Rb^+ + Rb}$	Charge Transfer	7 keV	Exp
$\mathbf{Rb^+ + Rb}$	Interaction Potentials	7 keV	Exp

906. P. N. Abufager, P. D. Fainstein, A. E. Martinez, R. D. Rivarola
Single electron capture differential cross section in H^+ + He collisions at intermediate and high collision energies.
J. Phys. B 38, 11 (2005)

$\mathbf{H^+ + He}$	Charge Transfer	200-7400 keV	Th
$\mathbf{H^+ + He}$	Total Scattering	200-7400 keV	Th

907. A. Grimpe, C. Figl, J. Grosser, O. Hoffmann, F. Rebentrost
Oscillatory differential cross sections for Li + He, Ne, H_2 and D_2 optical collisions.
J. Phys. B 38, 135 (2005)

Li + He	Total Scattering	1750-3050 m/s	E/T
Li + Ne	Total Scattering	1750-3050 m/s	E/T
$\mathbf{Li + H_2}$	Total Scattering	1750-3050 m/s	E/T
$\mathbf{Li + D_2}$	Total Scattering	1750-3050 m/s	E/T
Li + He	Excitation	1750-3050 m/s	E/T
Li + Ne	Excitation	1750-3050 m/s	E/T
$\mathbf{Li + H_2}$	Excitation	1750-3050 m/s	E/T
$\mathbf{Li + D_2}$	Excitation	1750-3050 m/s	E/T

908. J.B.A. Mitchell, O. Novotny, G. Angelova, J. L. LeGarrec, C. Rebrion-Rowe, A. Svendsen, L. H. Andersen, A. I. Florescu-Mitchell, A. E. Orel
Dissociative recombination of rare gas hydride ions: I. NeH^+.
J. Phys. B 38, 693 (2005)

H + Ne	Interaction Potentials	0.01-30 eV	E/T
$\mathbf{H^+ + Ne}$	Interaction Potentials	0.01-30 eV	E/T

909. A. B. Voitkiv, B. Najjari, J. Ullrich
Four-body quantum dynamics of helium double ionization by relativistic highly charged ion impact.
J. Phys. B 38, L107 (2005)

$\mathbf{U^{92+} + He}$	Total Scattering	1 GeV/u	Th
$\mathbf{U^{92+} + He}$	Ionization	1 GeV/u	Th

910. A. Rentenier, P. Moretto-Capelle, D. Bordenave-Montesquieu, A. Bordenave-Montesquieu
Analysis of fragment size distributions in collisions of monocharged ions with the C_{60} molecule.
J. Phys. B 38, 789 (2005)

$\mathbf{H^+ + C_{60}}$	Dissociation	2-130 keV	Exp
$\mathbf{H_2{}^+ + C_{60}}$	Dissociation	2-130 keV	Exp
$\mathbf{H_3{}^+ + C_{60}}$	Dissociation	2-130 keV	Exp
$\mathbf{H^+ + C_{60}}$	Ionization	2-130 keV	Exp
$\mathbf{H_2{}^+ + C_{60}}$	Ionization	2-130 keV	Exp
$\mathbf{H_3{}^+ + C_{60}}$	Ionization	2-130 keV	Exp

911. I. F. Barna, K. Tokesi, J. Burgdorfer
Single and double ionization of helium in heavy-ion impact.
J. Phys. B 38, 1001 (2005)

$\mathbf{He^{2+} + He}$	Ionization	0.19-2.31 MeV/u	Th
$\mathbf{Li^{2+} + He}$	Ionization	0.19-2.31 MeV/u	Th
$\mathbf{B^{5+} + He}$	Ionization	0.19-2.31 MeV/u	Th
$\mathbf{C^{6+} + He}$	Ionization	0.19-2.31 MeV/u	Th
$\mathbf{O^{4+} + He}$	Ionization	0.19-2.31 MeV/u	Th
$\mathbf{O^{5+} + He}$	Ionization	0.19-2.31 MeV/u	Th
$\mathbf{O^{6+} + He}$	Ionization	0.19-2.31 MeV/u	Th
$\mathbf{O^{7+} + He}$	Ionization	0.19-2.31 MeV/u	Th
$\mathbf{O^{8+} + He}$	Ionization	0.19-2.31 MeV/u	Th

912. D. Bordenave-Montesquieu, A. Bordenave-Montesquieu, A. Rentenier, P. Moretto-Capelle
Asymmetric fission and evaporation of $C_{60}{}^{r+}$ (r=2-4) fullerene ions in $ion - C_{60}$ collisions: III. Universal behaviour of fission.
J. Phys. B 38, 1037 (2005)

$\mathbf{H^+ + C_{60}}$	Dissociation	1-130 keV	Exp
$\mathbf{He^+ + C_{60}}$	Dissociation	1-130 keV	Exp
$\mathbf{H_2{}^+ + C_{60}}$	Dissociation	1-130 keV	Exp
$\mathbf{H_3{}^+ + C_{60}}$	Dissociation	1-130 keV	Exp
$\mathbf{H^+ + C_{60}}$	Ionization	1-130 keV	Exp
$\mathbf{He^+ + C_{60}}$	Ionization	1-130 keV	Exp
$\mathbf{H_2{}^+ + C_{60}}$	Ionization	1-130 keV	Exp
$\mathbf{H_3{}^+ + C_{60}}$	Ionization	1-130 keV	Exp

913. E. A. Solov'ev
The advanced adiabatic approach and inelastic transitions via hidden crossings.
J. Phys. B 38, R153 (2005)

$\mathbf{He^{2+} + H}$	Heavy Particle Collisions	1-15 keV/u	E/T
$\mathbf{He^{2+} + H}$	Charge Transfer	1-15 keV/u	E/T

914. M. Cherid, M. B. Afra, M. D. Khodja
Interaction of excited He and Ne rare gas metastable atoms with the CHF_2Cl molecule.
J. Phys. B 38, 1833 (2005)

$\mathbf{He + CHF_2Cl}$	Dissociation	500 K	Exp
$\mathbf{He^* + CHF_2Cl}$	Dissociation	500 K	Exp
$\mathbf{Ne + CHF_2Cl}$	Dissociation	500 K	Exp
$\mathbf{Ne^* + CHF_2Cl}$	Dissociation	500 K	Exp
$\mathbf{He + CHF_2Cl}$	Ionization	500 K	Exp
$\mathbf{He^* + CHF_2Cl}$	Ionization	500 K	Exp
$\mathbf{Ne + CHF_2Cl}$	Ionization	500 K	Exp
$\mathbf{Ne^* + CHF_2Cl}$	Ionization	500 K	Exp

915. M. Walter
Fragmentation of s Rydberg states in H_3 molecules.
J. Phys. B 38, 1845 (2005)

$\mathbf{H + H + H}$	Interaction Potentials	Undef.	Th
$\mathbf{H + H_2}$	Interaction Potentials	Undef.	Th

916. B. G. Lindsay, W. S. Yu, R. F. Stebbings
Electron transfer in collisions of keV hydrogen atoms and ions with methane.
J. Phys. B 38, 1977 (2005)

$\mathbf{H + CH_4}$	Charge Transfer	0.5-5 keV	Exp
$\mathbf{H^+ + CH_4}$	Charge Transfer	0.5-5 keV	Exp
$\mathbf{H + CH_4}$	Total Scattering	0.5-5 keV	Exp
$\mathbf{H^+ + CH_4}$	Total Scattering	0.5-5 keV	Exp

917. S. Knoop, R. E. Olson, H. Ott, V. G. Hasan, R. Morgenstern, R. Hoekstra
Single ionization and electron capture in He^{2+} + Na collisions.
J. Phys. B 38, 1987 (2005)

$\mathbf{He^{2+} + Na}$	Charge Transfer	2-13 keV/u	E/T
$\mathbf{He^{2+} + Na}$	Ionization	2-13 keV/u	E/T

918. C. Reese, T. Stoecklin, A. Voronin, J. C. Rayez
Rotational excitation and de-excitation of HF molecules by He atoms.
Astron. Astrophys. 430, 1139 (2005)

He + HF	Excitation	$10^{-6} - 10^{3}$ K	Th

919. C. Zhu, J. F. Babb, A. Dalgarno
Theoretical study of pressure broadening of lithium resonance lines by helium atoms.
Phys. Rev. A 71, 052710 (2005)

Li + He	Line Broadening	200-3000 K	E/T

920. A. L. Godunov, C. T. Whelan, H.R.J. Walters, V. S. Schipakov, M. Schoeffler, V. Mergel, R. Doerner, O. Jagutzki, L.Ph.H. Schmidt, J. Titze, H. Schmidt-Boecking
Transfer ionization process p+H -¿ $H^0 + He^{2+} + e^-$ with the ejected electron detected in the plane perpendicular to the incident beam direction.
Phys. Rev. A 71, 052712 (2005)

H^+ + He	Charge Transfer	630 keV	E/T
H^+ + He	Ionization	630 keV	E/T

921. L. G. Marcassa, A. L. de Oliveira, M. Weidmueller, V. S. Bagnato
Colliding atomic pair distribution in an ultralong-range Rydberg potential.
Phys. Rev. A 71, 054701 (2005)

Rb + Rb	Interaction Potentials	200 μ k	E/T

922. C. Dimopoulou, R. Moshammer, D. Fischer, P. D. Fainstein, C. Hoehr, A. Dorn, J. R. Crespo Lopez-Urrutia, C. D. Schroeter, H. Kollmus, R. Mann, S. Hagmann, J. Ullrich
Dissociative ionization of H_2 by fast protons: Three-body break-up and molecular-frame electron emission.
J. Phys. B 38, 593 (2005)

H^+ + H_2	Dissociation	6 MeV	E/T
H^+ + H_2	Ionization	6 MeV	E/T

923. J. Bradley, S.F.C. O'Rourke, D.S.F. Crothers
Multi-state CDW approximation to electron capture during slow p-H collisions.
J. Phys. B 38, 1695 (2005)

H^+ + H	Charge Transfer	5-100 keV	E/T

924. A. B. Voitkiv
Resonance effects in projectile-electron loss in relativistic collisions with excited atoms.
J. Phys. B 38, 1773 (2005)

Be^{3+} + H	Ionization	1-100 GeV/u	Th

925. K. Miculis, I. I. Beterov, N. N. Bezuglov, I. I. Ryabtsev, D. B. Tretyakov, A. N. Klucharev
Collisional and thermal ionization of sodium Rydberg atoms: II. Theory for nS, nP and nD states with n = 5-25.
J. Phys. B 38, 1811 (2005)

Na + Na	Ionization	360-1100 m/sec	E/T
Na^* + Na	Ionization	360-1100 m/sec	E/T

926. G. Barinovs, M. C. van Hemert, R. Krems, A. Dalgarno
Fine-structure excitation of C^+ and Si^+ by atomic hydrogen.
Astrophys. J., Part 1 620, 537 (2005)

C^+ + H	Excitation	15-2000 eV	Th
Si^+ + H	Excitation	15-2000 eV	Th

927. A. E. Glassgold, P. S. Krstic, D. R. Schultz
H^+ + H scattering and ambipolar diffusion heating.
Astrophys. J., Part 1 621, 808 (2005)

H^+ + H	Elastic Scattering	$10^{-4} - 10^2$ eV	Th

928. B. Zygelman
Hyperfine level-changing collisions of hydrogen atoms and tomography of the dark age universe.
Astrophys. J., Part 1 622, 1356 (2005)

H + H	Excitation	1-300 K	Th

929. C. M. Andreazza, E. P. Marinho
Formation of SO, SO^+, and S_2 by radiative association.
Astrophys. J., Part 1 624, 1121 (2005)

S + O	Association	300-14,000 T(k)	Th
S + S	Association	300-14,000 T(k)	Th
S^+ + O	Association	300-14,000 T(k)	Th

930. H. Luna, C. McGrath, M. B. Shah, R. E. Johnson, M. Liu, C. J. Latimer, E. C. Montenegro
Dissociative charge exchange and ionization of O_2 by fast H^+ and O^+ ions: Energetic ion interactions in Europa's oxygen atmosphere and neutral torus.
Astrophys. J., Part 1 628, 1086 (2005)

H^+ + O_2	Charge Transfer	10-100 keV	Exp
O^+ + O_2	Charge Transfer	10-100 keV	Exp
H^+ + O_2	Ionization	10-100 keV	Exp
O^+ + O_2	Ionization	10-100 keV	Exp

931. R. A. Sultanov, N. Balakrishnan
Oxygen chemistry in the interstellar medium: The effect of vibrational excitation of H_2 in the $O(^3P) + H_2$ reaction.
Astrophys. J., Part 1 629, 305 (2005)

O + H_2	Interchange reaction	100-4000 K	Th

932. T.-G. Lee, C. Rochow, R. Martin, T. K. Clark, R. C. Forrey, N. Balakrishnan, P. C. Stancil, A. Dalgarno, G. J. Ferland
Close-coupling calculations of low-energy inelastic and elastic processes in ^4He collisions with H_2: A comparative study of two potential energy surfaces.
J. Chem. Phys. 122, 024307 (2005)

He + H_2	Interchange reaction	$10^{-8} - 10^4$ cm^{-1}	Th

933. A. N. Panda, N. Sathyamurthy
Time-dependent quantum mechanical wave packet study of the He + $H_2{}^+$ (v,j) -¿ HeH^+ + H reaction.
J. Chem. Phys. 122, 054304 (2005)

H_2^+ + He	Interchange reaction	1.0 eV	Th

934. M. Bartolomei, M. I. Hernandez, J. Campos-Martinez
Wave packet dynamics of $H_2(v_1$=8-14) + $H_2(v_2$=0-2): The role of the potential energy surface on different reactive and dissociative processes.
J. Chem. Phys. 122, 063405 (2005)

H_2 + H_2	Interchange reaction	5.0 eV	Th

935. S. Y. Lin, H. Guo
Quantum statistical and wave packet studies of insertion reactions of $S(^1D)$ with H_2, HD, and D_2.
J. Chem. Phys. 122, 074304 (2005)

S + H_2	Interchange reaction	0-0.5 eV	Th
S + HD	Interchange reaction	0-0.5 eV	Th
S + D_2	Interchange reaction	0-0.5 eV	Th

936. Y. Zheng
Quantum transition state theory for the full three-dimensional H + H_2 reaction.
J. Chem. Phys. 122, 094316 (2005)

H + H_2	Interchange reaction	300-1500 K	Th

937. L. Adam, W. Hack, H. Zhu, Z.-W. Qu, T. Schinke
Experimental and theoretical investigation of the reaction $NH(X^3\Sigma^-)$ + $H(^2S)$ -¿ $N(^4S)$ + H_2 $(X^1\Sigma_g{}^+)$.
J. Chem. Phys. 122, 114301 (2005)

H + NH	Interchange reaction	300-3000 K	E/T

938. L. Yu. Rusin, M. B. Sevryuk, J. P. Toennies
Comparison of experimental time-of-flight spectra of the HF products from the F + H_2 reaction with exact quantum mechanical calculations.
J. Chem. Phys. 122, 134314 (2005)

F + H_2	Interchange reaction	69-81 MeV	E/T
F + D_2	Interchange reaction	69-81 MeV	E/T

939. P. F. Weck, N. Balakrishnan
Quantum dynamics of the Li + HF -¿ H + LiF reaction at ultralow temperatures.
J. Chem. Phys. 122, 154309 (2005)

Li + HF	Interchange reaction	$10^{-7} - 10^{-1}$ eV	Th

940. X. N. Tang, H. Xu, T. Zhang, Y. Hou, C. Chang, C. Y. Ng, Y. Chiu, R. A. Dressler, D. J. Levandier
A pulsed-field ionization photoelectron secondary ion coincidence study of the $H_2{}^+(X, \nu^+ =$ 0-15, $N^+ = 1)$ + He proton transfer reaction.
J. Chem. Phys. 122, 164301 (2005)

H_2^+ + He	Interchange reaction	0.6-3.1 eV	E/T

941. E. I. Dashevskaya, I. Litvin, E. E. Nikitin, J. Troe
Rates of complex formation in collisions of rotationally excited homonuclear diatoms with ions at very low temperatures: Application to hydrogen isotopes and hydrogen-containing ions.
J. Chem. Phys. 122, 184311 (2005)

$\mathbf{H_2 + H_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2 + H_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2 + HD^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2 + H_2D^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2 + HD_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2 + D_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2 + D_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2 + CH_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2 + C_2H_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_3^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_3^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_3^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD + H_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD + H_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD + HD^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD + H_2D^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD + HD_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD + D_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD + D_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD + CH_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD + C_2H_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2D^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2D^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{H_2D^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD_2^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD_2^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{HD_2^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2 + H_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2 + H_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2 + HD^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2 + H_2D^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2 + HD_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2 + D_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2 + D_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2 + CH_3^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2 + C_2H_2^+}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_2^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_3^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_3^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{D_3^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{CH_3^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{CH_3^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{CH_3^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{C_2H_2^+ + H_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{C_2H_2^+ + HD}$	Interchange reaction	1.0-15.0 10^{-3} K	Th
$\mathbf{C_2H_2^+ + D_2}$	Interchange reaction	1.0-15.0 10^{-3} K	Th

942. J. C. Juanes-Marcos, S. C. Althorpe
Geometric phase effects in the H + H_2 reaction: Quantum wave-packet calcula-

tions of integral and differential cross sections.
J. Chem. Phys. 122, 204324 (2005)

H + H_2	Interchange reaction	0.0-3.0 eV	Th

943. T.-S. Chu, X. Zhang, K.-L. Han
A quantum wave-packet study of intersystem crossing effects in the $O(^3P_{2,1,0}$, $^1D_2)$ + H_2 reaction.
J. Chem. Phys. 122, 214301 (2005)

O + H_2	Interchange reaction	0.0-2.0 eV	Th

944. P. Defazio, C. Petrongolo, P. Gamallo, M. Gonzalez
Product distributions, rate constants, and mechanisms of LiH + H reactions.
J. Chem. Phys. 122, 214303 (2005)

LiH + H	Interchange reaction	0.0-3.0 eV	Th

945. F. Mrugala, W. P. Kraemer
Radiative association of He^+ with H_2 at temperatures below 100 K.
J. Chem. Phys. 122, 224321 (2005)

He^+ + H_2	Association	0.0-100.0 K	E/T
He^+ + H_2	Interchange reaction	0.0-100.0 K	E/T

946. N. Balucani, G. Capozza, E. Segoloni, A. Russo, R. Bobbenkamp, P. Casavecchia, T. Gonzalez-Lezana, E. J. Rackham, L. Banares, F. J. Aoiz
Dynamics of the $C(^1D)$ + D_2 reaction: A comparison of crossed molecular-beam experiments with quasiclassical trajectory and accurate statistical calculations.
J. Chem. Phys. 122, 234309 (2005)

C + H_2	Interchange reaction	15.5 kJ/mole	E/T
C + D_2	Interchange reaction	15.5 kJ/mole	E/T

947. P. F. Weck, N. Balakrishnan
Heavy atom tunneling in chemical reactions: Study of H + LiF collisions.
J. Chem. Phys. 122, 234310 (2005)

H + LiF	Interchange reaction	0.0-100.0 K	Th

948. R. Bobbenkamp, A. Paladini, A. Russo, H. J. Loesch, M. Menendez, E. Verdasco, F. J. Aoiz, H.-J. Werner
Effect of rotational energy on the reaction Li + HF (ν = 0,j) -¿ LiF + H: An experimental and computational study.
J. Chem. Phys. 122, 244304 (2005)

Li + HF	Interchange reaction	97-363 MeV	Exp

949. T.-S. Shu, R.-F. Lu, K.-L. Han, X. N. Tang, H.-F. Xu, C. Y. Ng
A time-dependent wave-packet quantum scattering study of the reaction $H_2{}^+$ (v = 0-2, 4, 6; j = 1) + He -¿ HeH^+ + H.
J. Chem. Phys. 122, 244322 (2005)

$H_2{}^+$ + He	Interchange reaction	0.0-2.4 eV	Th

950. A. E. Gorodetsky, R. Kh. Zalavutdinov, A. P. Zakharov, S. P. Vnukov, I. G. Varshavskaya, A. N. Makhankov, I. V. Mazul, G. Federici
Increased recombination of CH_3 radicals on stainless steel.
J. Nucl. Mater. 337-339, 892 (2005)

CH_3 + H	Interchange reaction	Undef.	Exp

951. J. Mitroy, M.W.J. Bromley
Higher-order C_n dispersion coefficients for the alkali-metal atoms.
Phys. Rev. A 71, 042701 (2005)

H + H	Interaction Potentials	Undef.	Th
H + Li	Interaction Potentials	Undef.	Th
H + Na	Interaction Potentials	Undef.	Th
H + K	Interaction Potentials	Undef.	Th
H + Rb	Interaction Potentials	Undef.	Th
Li + H	Interaction Potentials	Undef.	Th
Li + Li	Interaction Potentials	Undef.	Th
Li + Na	Interaction Potentials	Undef.	Th
Li + K	Interaction Potentials	Undef.	Th
Li + Rb	Interaction Potentials	Undef.	Th
Na + H	Interaction Potentials	Undef.	Th
Na + Li	Interaction Potentials	Undef.	Th
Na + Na	Interaction Potentials	Undef.	Th
Na + K	Interaction Potentials	Undef.	Th
Na + Rb	Interaction Potentials	Undef.	Th
K + H	Interaction Potentials	Undef.	Th
K + Li	Interaction Potentials	Undef.	Th
K + Na	Interaction Potentials	Undef.	Th
K + K	Interaction Potentials	Undef.	Th
K + Rb	Interaction Potentials	Undef.	Th
Rb + H	Interaction Potentials	Undef.	Th
Rb + Li	Interaction Potentials	Undef.	Th
Rb + Na	Interaction Potentials	Undef.	Th
Rb + K	Interaction Potentials	Undef.	Th
Rb + Rb	Interaction Potentials	Undef.	Th

952. F. Fremont, D. Martina, O. Kamalou, P. Sobocinski, J.-Y. Chesnel, I. R. McNab, F. R. Bennett
Proton emission following multiple electron capture in slow N^{7+} + HCl collisions.
Phys. Rev. A 71, 042706 (2005)

N^{7+} + HCl	Dissociation	98 keV	Exp
N^{7+} + HCl	Charge Transfer	98 keV	Exp
N^{7+} + HCl	Total Scattering	98 keV	Exp

953. C. C. Havener, R. Rejoub, P. S. Krstic, A.C.H. Smith
Charge transfer in low-energy collisions of He^{2+} with atomic hydrogen.
Phys. Rev. A 71, 042707 (2005)

He^{2+} + H	Charge Transfer	10-3000 eV/u	E/T

954. A. O. Caride, G. L. Klimchitskaya, V. M. Mostepanenko, S. I. Zanette
Dependences of the van der Waals atom-wall interaction on atomic and material properties.
Phys. Rev. A 71, 042901 (2005)

He + Au	Interaction Potentials	Undef.	Th
He + SiO_2	Interaction Potentials	Undef.	Th
He^* + Au	Interaction Potentials	Undef.	Th
He^* + SiO_2	Interaction Potentials	Undef.	Th
Na + Au	Interaction Potentials	Undef.	Th
Na + SiO_2	Interaction Potentials	Undef.	Th

955. R. Cabrera-Trujillo, J. R. Sabin, E. Deumens, Y. Ohrn
Prediction of the energy dependence of molecular fragmentation cross sections for collisions of swift protons with ethane and acetylene.
Phys. Rev. A 71, 044702 (2005)

$\mathbf{H^+ + C_2H_2}$	Dissociation	0.01-10 keV	Th
$\mathbf{H^+ + C_2H_6}$	Dissociation	0.01-10 keV	Th

956. P. D. Fainstein, L. Gulyas
Three- and four-body dynamics in single ionization of He by swift highly charged Au^{53+} ions.
J. Phys. B 38, 317 (2005)

$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/u	Th
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/u	Th

957. L. Machin, E. Roueff
Rotational excitation and de-excitation of interstellar ammonia in collisions with helium.
J. Phys. B 38, 1519 (2005)

$\mathbf{He + NH_3}$	Energy Transfer	5-300 K	Th
$\mathbf{He + NH_3}$	Excitation	5-300 K	Th

958. I. D. Kaganovich, E. A. Startsev, R. C. Davidson, S. R. Kecskemeti, A. Bin-Nun, D. Mueller, L. Grisham, R. L. Watson, V. Horvat, K. E. Zaharakis, Y. Peng
Ionization cross-sections for ion-atom collisions in high-energy ion beams.
Nucl. Instrum. Methods Phys. Res. A 544, 91 (2005)

$\mathbf{H^- + N}$	Detachment	3-38 MeV/amu	E/T
$\mathbf{H^- + N^{7+}}$	Detachment	3-38 MeV/amu	E/T
$\mathbf{I^- + N}$	Detachment	3-38 MeV/amu	E/T
$\mathbf{I^- + N^{7+}}$	Detachment	3-38 MeV/amu	E/T
$\mathbf{H^+ + H}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{He^+ + He}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{He^+ + Ar}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{He^+ + Xe}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{He^+ + N_2}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{He^{2+} + H}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Li^{3+} + H}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{C^{6+} + H}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Ar^{6+} + He}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Ar^{6+} + Ar}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Ar^{6+} + Xe}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Ar^{6+} + N_2}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Ar^{8+} + He}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Ar^{8+} + Ar}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Ar^{8+} + Xe}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Ar^{8+} + N_2}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Kr^{7+} + N_2}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Xe^{11+} + N_2}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Cs^+ + N}$	Ionization	3-38 MeV/amu	E/T
$\mathbf{Cs^+ + N^{7+}}$	Ionization	3-38 MeV/amu	E/T

959. R. E. Olson, R. L. Watson, V. Horvat, K. E. Zaharakis, R. D. DuBois, Th. Stoehlker
Electron stripping cross-sections for fast, low charge state uranium ions.
Nucl. Instrum. Methods Phys. Res. A 544, 333 (2005)

$\mathbf{U^{10+} + Ar}$	Ionization	1-200 MeV/amu	Th
$\mathbf{U^{10+} + H_2}$	Ionization	1-200 MeV/amu	Th
$\mathbf{U^{10+} + N_2}$	Ionization	1-200 MeV/amu	Th
$\mathbf{U^{28+} + Ar}$	Ionization	1-200 MeV/amu	Th
$\mathbf{U^{28+} + H_2}$	Ionization	1-200 MeV/amu	Th
$\mathbf{U^{28+} + N_2}$	Ionization	1-200 MeV/amu	Th

960. A. N. Perumal, V. Horvat, R. L. Watson, Y. Peng, K. S. Fruchey
Cross sections for charge change in argon and equilibrium charge states of 3.5 MeV/amu uranium ions passing through argon and carbon targets.
Nucl. Instrum. Methods Phys. Res. B 227, 251 (2005)

$\mathbf{U^{28+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp
$\mathbf{U^{31+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp
$\mathbf{U^{33+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp
$\mathbf{U^{39+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp
$\mathbf{U^{42+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp
$\mathbf{U^{52+} + Ar}$	Charge Transfer	3.5 MeV/amu	Exp
$\mathbf{U^{28+} + Ar}$	Ionization	3.5 MeV/amu	Exp
$\mathbf{U^{31+} + Ar}$	Ionization	3.5 MeV/amu	Exp
$\mathbf{U^{33+} + Ar}$	Ionization	3.5 MeV/amu	Exp
$\mathbf{U^{39+} + Ar}$	Ionization	3.5 MeV/amu	Exp
$\mathbf{U^{42+} + Ar}$	Ionization	3.5 MeV/amu	Exp
$\mathbf{U^{52+} + Ar}$	Ionization	3.5 MeV/amu	Exp

961. Y. Huang, S. Wu, E. Yang, M. Gao, X. Zhang, G. Li, F. Lu
Single and double electron detachment cross sections for C^- incident on helium.
Nucl. Instrum. Methods Phys. Res. B 229, 46 (2005)

$\mathbf{H^- + He}$	Detachment	4-30 keV	Exp
$\mathbf{C^- + He}$	Detachment	4-30 keV	Exp

962. M. A. Reis, P. C. Chaves, J. C. Soares
Particle induced X-ray emission – relative yield ion energy dependence, an IBA chemical speciation method.
Nucl. Instrum. Methods Phys. Res. B 229, 413 (2005)

$\mathbf{H^+ + W}$	Ionization	1.7-5 MeV	Exp
$\mathbf{He^{2+} + W}$	Ionization	1.7-5 MeV	Exp

963. T. Okazawa, Y. Hoshino, T. Nishimura, K. Umezawa, S. Nakanishi, Y. Kido
Dynamic response of target electrons upon low and medium energy ion impact.
Nucl. Instrum. Methods Phys. Res. B 230, 31 (2005)

$\mathbf{He^+ + Ni}$	Elastic Scattering	2-3 keV	Th
$\mathbf{He^+ + Sb}$	Elastic Scattering	2-3 keV	Th
$\mathbf{He^+ + Hf}$	Elastic Scattering	2-3 keV	Th
$\mathbf{Ne^+ + Ni}$	Elastic Scattering	2-3 keV	Th
$\mathbf{Ne^+ + Sb}$	Elastic Scattering	2-3 keV	Th
$\mathbf{Ne^+ + Hf}$	Elastic Scattering	2-3 keV	Th
$\mathbf{He^+ + Ni}$	Total Scattering	2-3 keV	Th
$\mathbf{He^+ + Sb}$	Total Scattering	2-3 keV	Th
$\mathbf{He^+ + Hf}$	Total Scattering	2-3 keV	Th
$\mathbf{Ne^+ + Ni}$	Total Scattering	2-3 keV	Th
$\mathbf{Ne^+ + Sb}$	Total Scattering	2-3 keV	Th
$\mathbf{Ne^+ + Hf}$	Total Scattering	2-3 keV	Th

964. H. Schmidt-Boecking, M. S. Schoeffler, T. Jahnke, A. Czasch, V. Mergel, L. Schmidt, R. Doerner, O. Jagutzki, M. Hattass, Th. Weber, E. Weigold, H. T. Schmidt, R. Schuch, H. Cederquist, Y. Demkov, C. Whelan, A. Godunov, J. Walters
Many-particle fragmentation processes in atomic and molecular physics – new insight into the world of correlation.
Nucl. Instrum. Methods Phys. Res. B 233, 3 (2005)

$\mathbf{H^+ + He}$	Charge Transfer	630 keV	E/T
$\mathbf{H^+ + He}$	Ionization	630 keV	E/T

965. R. E. Olson, J. Fiol, J. Perez, P. Beiersdorfer
Dynamics of collisions revealed by classical methods.
Nucl. Instrum. Methods Phys. Res. B 233, 12 (2005)

$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/amu	Th
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/amu	Th

966. G. Lanzano, E. De Filippo, H. Rothard, C. Volant, A. Anzalone, N. Arena, M. Geraci, F. Giustolisi, A. Pagano
Fast electron production in collisions of swift heavy ions (20 MeV/u ¡ E ¡ 100 MeV/u) with foils of solids.
Nucl. Instrum. Methods Phys. Res. B 233, 31 (2005)

$\mathbf{Ni^{19+} + C}$	Ionization	45 MeV/u	Exp
$\mathbf{Ni^{19+} + Al}$	Ionization	45 MeV/u	Exp
$\mathbf{Ni^{19+} + Ni}$	Ionization	45 MeV/u	Exp
$\mathbf{Ni^{19+} + Ag}$	Ionization	45 MeV/u	Exp
$\mathbf{Ni^{19+} + Au}$	Ionization	45 MeV/u	Exp
$\mathbf{Ni^{19+} + Bi}$	Ionization	45 MeV/u	Exp

967. H. T. Schmidt, A. Fardi, J. Jensen, P. Reinhed, R. Schuch, K. Stochkel, H. Zettergren, H. Cederquist, C. L. Cocke
Transfer ionization in p + He collisions.
Nucl. Instrum. Methods Phys. Res. B 233, 43 (2005)

$\mathbf{H^+ + He}$	Charge Transfer	1.4-5.8 MeV	Exp
$\mathbf{H^+ + He}$	Ionization	1.4-5.8 MeV	Exp

968. C. O. Reinhold, J. Burgdorfer, F. B. Dunning
Collisional decoherence in very-high-n Rydberg atoms.
Nucl. Instrum. Methods Phys. Res. B 233, 48 (2005)

K + Xe	De-excitation	Undef.	Th

969. A. Mueller
Many-electron phenomena in the ionization of ions.
Nucl. Instrum. Methods Phys. Res. B 233, 141 (2005)

$\mathbf{H^+ + H}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T
$\mathbf{H^+ + He}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T
$\mathbf{He^{2+} + H}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T
$\mathbf{He^{2+} + He}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T
$\mathbf{N^{7+} + He}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T
$\mathbf{O^{8+} + He}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T
$\mathbf{Ne^{10+} + He}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T
$\mathbf{S^{13+} + He}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T
$\mathbf{Ni^{28+} + He}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T
$\mathbf{Kr^{34+} + He}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T
$\mathbf{Xe^{44+} + He}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T
$\mathbf{U^{92+} + He}$	Ionization	$2x10^{-3} - 10^6$ keV	E/T

970. A. B. Voitkiv
Projectile-electron loss in collisions with hydrogen at relativistic impact energies.
Nucl. Instrum. Methods Phys. Res. B 233, 157 (2005)

$\mathbf{O^{7+} + H}$	Ionization	0.1-1000 GeV/u	Th

971. 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 (2005)

$\mathbf{B^{2+} + H_2}$	Ionization	16 MeV	E/T
$\mathbf{C^{4+} + H_2}$	Ionization	16 MeV	E/T
$\mathbf{N^{5+} + H_2}$	Ionization	16 MeV	E/T
$\mathbf{O^{6+} + H_2}$	Ionization	16 MeV	E/T
$\mathbf{F^{9+} + Ar}$	Ionization	16 MeV	E/T
$\mathbf{F^{9+} + Kr}$	Ionization	16 MeV	E/T

972. I. F. Barna, A. C. Gagyi-Palffy, L. Gulyas, K. Tokesi, J. Burgdorfer
Singly differential electron emission cross sections for ionization of helium by protons.
Nucl. Instrum. Methods Phys. Res. B 233, 176 (2005)

$\mathbf{H^{+} + He}$	Ionization	0.3-1.5 MeV	Th

973. B. Siegmann, U. Werner, R. Mann
Fragmentation patterns of multiply ionized hydrocarbons in collisions with swift ions.
Nucl. Instrum. Methods Phys. Res. B 233, 182 (2005)

$\mathbf{H^{+} + CH_4}$	Dissociation	$20x10^{-6} - 500$ MeV	Exp
$\mathbf{He^{+} + CH_4}$	Dissociation	$20x10^{-6} - 500$ MeV	Exp
$\mathbf{Xe^{21+} + CH_4}$	Dissociation	$20x10^{-6} - 500$ MeV	Exp
$\mathbf{H^{+} + CH_4}$	Ionization	$20x10^{-6} - 500$ MeV	Exp
$\mathbf{He^{+} + CH_4}$	Ionization	$20x10^{-6} - 500$ MeV	Exp
$\mathbf{Xe^{21+} + CH_4}$	Ionization	$20x10^{-6} - 500$ MeV	Exp

974. K. Tokesi, B. Sulik, N. Stolterfoht
Fermi-shuttle type multiple electron scattering in atomic collisions.
Nucl. Instrum. Methods Phys. Res. B 233, 187 (2005)

$\mathbf{N^{+} + Ar}$	Total Scattering	1-50 keV/u	Th
$\mathbf{N^{+} + Ar}$	Ionization	1-50 keV/u	Th

975. S. Hossain, N. Stolterfoht, J. A. Tanis
Coherent two-center electron emission from static and transient molecules.
Nucl. Instrum. Methods Phys. Res. B 233, 201 (2005)

$\mathbf{H^{+} + H_2}$	Ionization	1-5 MeV	E/T

976. P. Sobocinski, Z. D. Pesic, R. Hellhammer, N. Stolterfoht, J.-Y. Chesnel, S. Legendre, B. Sulik
Fragmentation of H_2O molecules following interaction with slow He^{2+} ions.
Nucl. Instrum. Methods Phys. Res. B 233, 207 (2005)

$\mathbf{He^{2+} + H_2O}$	Dissociation	1-5 keV	Exp
$\mathbf{He^{2+} + H_2O}$	Charge Transfer	1-5 keV	Exp
$\mathbf{He^{2+} + H_2O}$	Ionization	1-5 keV	Exp

977. M. Kavcic, M. Kobal, M. Budnar, J.-Cl. Dousse, K. Tokesi
Double 1s shell ionization of Si induced in collisions with protons and heavy ions.
Nucl. Instrum. Methods Phys. Res. B 233, 235 (2005)

$\mathbf{H^{+} + Si}$	Ionization	2-50 MeV	Exp
$\mathbf{C^{2+} + Si}$	Ionization	2-50 MeV	Exp
$\mathbf{Ne^{3+} + Si}$	Ionization	2-50 MeV	Exp

978. M. Keim, A. Achenbach, H. J. Luedde, T. Kirchner
Time-dependent density functional theory calculations for collisions of bare ions with helium.
Nucl. Instrum. Methods Phys. Res. B 233, 240 (2005)

$\mathbf{H^{+} + He}$	Charge Transfer	$1 - 4x10^3$ keV	Th
$\mathbf{He^{2+} + He}$	Charge Transfer	$1 - 4x10^3$ keV	Th
$\mathbf{H^{+} + He}$	Ionization	$1 - 4x10^3$ keV	Th
$\mathbf{He^{2+} + He}$	Ionization	$1 - 4x10^3$ keV	Th

979. P. N. Abufager, A. E. Martinez, R. D. Rivarola, P. D. Fainstein
Single electron capture in ion-atom collisions involving multielectronic targets.
Nucl. Instrum. Methods Phys. Res. B 233, 255 (2005)

$\mathbf{H^{+} + Ne}$	Charge Transfer	$10^2 - 5000$ keV	Th
$\mathbf{H^{+} + Ar}$	Charge Transfer	$10^2 - 5000$ keV	Th

980. K. Tokesi
Double electron excitation of helium by charged particle impact.
Nucl. Instrum. Methods Phys. Res. B 233, 266 (2005)

$\mathbf{H^{+} + He}$	Excitation	0.25-5 MeV	Th

981. F. Jarai-Szabo, L. Nagy, S. Fritzsche
Correlation effects for double K-shell vacancy production in lithium by fast charged projectile impact.
Nucl. Instrum. Methods Phys. Res. B 233, 276 (2005)

$\mathbf{Ar^{13+} + Li}$	Excitation	60-95 MeV/u; 0.1-5.0 keV	Th
$\mathbf{Kr^{34+} + Li}$	Excitation	60-95 MeV/u; 0.1-5.0 keV	Th
$\mathbf{Ar^{13+} + Li}$	Ionization	60-95 MeV/u; 0.1-5.0 keV	Th
$\mathbf{Kr^{34+} + Li}$	Ionization	60-95 MeV/u; 0.1-5.0 keV	Th

982. I. Ben-Itzhak, A. Max Sayler, M. Leonard, J. W. Maseberg, D. Hathiramani, E. Wells, M. A. Smith, J. Xia, P. Wang, K. D. Carnes, B. D. Esry
Bond rearrangement caused by sudden single and multiple ionization of water molecules.
Nucl. Instrum. Methods Phys. Res. B 233, 284 (2005)

$\mathbf{H^{+} + H_2O}$	Dissociation	1 MeV/u	Exp
$\mathbf{H^{+} + D_2O}$	Dissociation	1 MeV/u	Exp
$\mathbf{F^{4+} + H_2O}$	Dissociation	1 MeV/u	Exp
$\mathbf{F^{4+} + D_2O}$	Dissociation	1 MeV/u	Exp
$\mathbf{F^{7+} + H_2O}$	Dissociation	1 MeV/u	Exp
$\mathbf{F^{7+} + D_2O}$	Dissociation	1 MeV/u	Exp
$\mathbf{F^{9+} + H_2O}$	Dissociation	1 MeV/u	Exp
$\mathbf{F^{9+} + D_2O}$	Dissociation	1 MeV/u	Exp
$\mathbf{H^{+} + H_2O}$	Ionization	1 MeV/u	Exp
$\mathbf{H^{+} + D_2O}$	Ionization	1 MeV/u	Exp

$\mathbf{F^{4+} + H_2O}$	Ionization	1 MeV/u	Exp
$\mathbf{F^{4+} + D_2O}$	Ionization	1 MeV/u	Exp
$\mathbf{F^{7+} + H_2O}$	Ionization	1 MeV/u	Exp
$\mathbf{F^{7+} + D_2O}$	Ionization	1 MeV/u	Exp
$\mathbf{F^{9+} + H_2O}$	Ionization	1 MeV/u	Exp
$\mathbf{F^{9+} + D_2O}$	Ionization	1 MeV/u	Exp

983. K. Pora, L. Nagy
Interference effects in the differential ionization cross-section of H_2 by H^+ impact.
Nucl. Instrum. Methods Phys. Res. B 233, 293 (2005)

$\mathbf{H^+ + H_2}$	Ionization	1-5 MeV	Th

984. A. Kahoul, M. Nekab
L1, L2 and L3 subshell ionization cross sections for elements with 71 ¡ Z ¡ 80 for protons of 0.5 to 3.0 MeV.
Nucl. Instrum. Methods Phys. Res. B 234, 412 (2005)

$\mathbf{H^+ + Ta}$	Ionization	0.5-3.0 MeV	E/T
$\mathbf{H^+ + Au}$	Ionization	0.5-3.0 MeV	E/T

985. F. Afaneh, R. Doerner, L.Ph.H. Schmidt, H. Schmidt-Boecking
Experimental investigation of the ionization dynamics in slow $p - H_2$ collisions.
Nucl. Instrum. Methods Phys. Res. B 234, 431 (2005)

$\mathbf{H^+ + H_2}$	Charge Transfer	15 keV	Exp
$\mathbf{H^+ + H_2}$	Ionization	15 keV	Exp

986. M. Schulz, R. Moshammer, A. Voitkiv, B. Najjari, J. Ullrich
Fully differential single ionization cross sections of helium by relativistic heavy-ion impact.
Nucl. Instrum. Methods Phys. Res. B 235, 296 (2005)

$\mathbf{U^{92+} + He}$	Ionization	1 GeV/amu	Exp

987. I. Fijal, M. Jaskola, A. Korman, D. Banas, J. Braziewicz, M. Czarnota, U. Majewska, M. Pajek, J. Semaniak, W. Kretschmer, D. Trautmann, T. Mukoyama
Coupling and binding effects in L-shell ionization of heavy atoms by oxygen, silicon and sulphur ions.
Nucl. Instrum. Methods Phys. Res. B 235, 301 (2005)

$\mathbf{O^+ + Au}$	Ionization	0.3-5.0 MeV/amu	E/T
$\mathbf{Si^+ + Au}$	Ionization	0.3-5.0 MeV/amu	E/T
$\mathbf{S^+ + Au}$	Ionization	0.3-5.0 MeV/amu	E/T

988. P. D. Fainstein, L. Gulyas
Theoretical study of the Bethe surface in non-perturbative single ionization of He by swift highly charged ions.
Nucl. Instrum. Methods Phys. Res. B 235, 306 (2005)

$\mathbf{H^+ + He}$	Total Scattering	3.6 MeV/u	Th
$\mathbf{Fe^{26+} + He}$	Total Scattering	3.6 MeV/u	Th
$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/u	Th
$\mathbf{H^+ + He}$	Ionization	3.6 MeV/u	Th
$\mathbf{Fe^{26+} + He}$	Ionization	3.6 MeV/u	Th
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/u	Th

989. P. Verma, P. H. Mokler, A. Brauning-Demian, H. Brauning, E. Berdermann, S. Chatterjee, A. Gumberidze, S. Hagmann, C. Kozhuharov, A. Orsic-Muthig, R. Reuschl, M. Schoeffler, U. Spillmann, Th. Stoehlker, Z. Stachura, S. Tashenov, M. A. Wahab
Charge exchange and X-ray emission in 70 MeV/u Bi-Au collisions.
Nucl. Instrum. Methods Phys. Res. B 235, 309 (2005)

$\mathbf{Bi^{82+} + Au}$	Charge Transfer	70 MeV/u	Exp
$\mathbf{Bi^{82+} + Au}$	Excitation	70 MeV/u	Exp

990. L. F. Errea, C. Illescas, L. Mendez, B. Pons, A. Riera, J. Suarez
Classical and semiclassical treatments of highly charged ions + H(1s) collisions.
Nucl. Instrum. Methods Phys. Res. B 235, 315 (2005)

$\mathbf{Ne^{10+} + H}$	Charge Transfer	1-500 eV	Th
$\mathbf{Ar^{18+} + H}$	Charge Transfer	1-500 eV	Th
$\mathbf{Ne^{10+} + H}$	Excitation	1-500 eV	Th
$\mathbf{Ar^{18+} + H}$	Excitation	1-500 eV	Th

991. A. V. Selin, A. M. Ermolaev
Ionization of light atoms by ultra-fast ions.
Nucl. Instrum. Methods Phys. Res. B 235, 321 (2005)

$\mathbf{U^{92+} + He}$	Ionization	Undef.	Exp

992. D. Banas, Th. Stoehlker, D. C. Ionescu, H. F. Beyer, F. Bosch, A. Brauning-Demian, A. Gumberidze, S. Hagmann, C. Kozhuharov, X. Ma, P. H. Mokler, R. Mann, D. Sierpowski, S. Tachenov, Z. Stachura, A. Warczak
X-ray emission studies in relativistic collisions of Li-like uranium ions with gaseous target.
Nucl. Instrum. Methods Phys. Res. B 235, 326 (2005)

$\mathbf{U^{89+} + N_2}$	Charge Transfer	397 MeV/u	Exp
$\mathbf{U^{89+} + N_2}$	Excitation	397 MeV/u	Exp

993. H. Tanuma, H. Ohashi, E. Shibuya, N. Kobayashi, T. Okuno, S. Fujioka, H. Nishimura, K. Nishihara
EUV emission spectra from excited multiply charged xenon ions produced in charge-transfer collisions.
Nucl. Instrum. Methods Phys. Res. B 235, 331 (2005)

$\mathbf{Xe^{9+} + He}$	Charge Transfer	180-340 keV	Exp
$\mathbf{Xe^{10+} + He}$	Charge Transfer	180-340 keV	Exp
$\mathbf{Xe^{11+} + He}$	Charge Transfer	180-340 keV	Exp
$\mathbf{Xe^{12+} + He}$	Charge Transfer	180-340 keV	Exp
$\mathbf{Xe^{13+} + He}$	Charge Transfer	180-340 keV	Exp
$\mathbf{Xe^{14+} + He}$	Charge Transfer	180-340 keV	Exp
$\mathbf{Xe^{15+} + He}$	Charge Transfer	180-340 keV	Exp
$\mathbf{Xe^{16+} + He}$	Charge Transfer	180-340 keV	Exp
$\mathbf{Xe^{17+} + He}$	Charge Transfer	180-340 keV	Exp
$\mathbf{Xe^{9+} + He}$	Excitation	180-340 keV	Exp
$\mathbf{Xe^{10+} + He}$	Excitation	180-340 keV	Exp
$\mathbf{Xe^{11+} + He}$	Excitation	180-340 keV	Exp
$\mathbf{Xe^{12+} + He}$	Excitation	180-340 keV	Exp
$\mathbf{Xe^{13+} + He}$	Excitation	180-340 keV	Exp
$\mathbf{Xe^{14+} + He}$	Excitation	180-340 keV	Exp
$\mathbf{Xe^{15+} + He}$	Excitation	180-340 keV	Exp
$\mathbf{Xe^{16+} + He}$	Excitation	180-340 keV	Exp
$\mathbf{Xe^{17+} + He}$	Excitation	180-340 keV	Exp

994. M. Janowicz, K. Slabkowska, P. Matuszak, M. Polasik
Semi-classical approaches to the ion-atom scattering.
Nucl. Instrum. Methods Phys. Res. B 235, 337 (2005)

$\mathbf{S^{16+} + H}$	Charge Transfer	0-120 MeV	Exp
$\mathbf{S^{16+} + H}$	Ionization	0-120 MeV	Exp

995. C. Ciortea, I. Piticu, D. Fluerasu, D. E. Dumitriu, A. Enulescu, M. M. Gugiu, A. T. Radu, L. C. Penescu
K-shell ionization in (0.2-1.75) MeV/u Fe, Co + Cr and Fe + Cu collisions.
Nucl. Instrum. Methods Phys. Res. B 235, 342 (2005)

$\mathbf{Fe^{+} + Co}$	Ionization	0.2-1.75 MeV/u	Exp
$\mathbf{Fe^{+} + Cu}$	Ionization	0.2-1.75 MeV/u	Exp
$\mathbf{Co^{+} + Co}$	Ionization	0.2-1.75 MeV/u	Exp
$\mathbf{Co^{+} + Cu}$	Ionization	0.2-1.75 MeV/u	Exp

996. M. Hoshino, T. Kambara, Y. Kanai, R. Schuch, Y. Yamazaki
Multi-electron processes in large-angle scattering between slow Ne^{q+} (q = 1, 2 and 3) and Ar.
Nucl. Instrum. Methods Phys. Res. B 235, 347 (2005)

$\mathbf{Ne^{+} + Ar}$	Charge Transfer	5 keV	Exp
$\mathbf{Ne^{2+} + Ar}$	Charge Transfer	5 keV	Exp
$\mathbf{Ne^{3+} + Ar}$	Charge Transfer	5 keV	Exp
$\mathbf{Ne^{+} + Ar}$	Total Scattering	5 keV	Exp
$\mathbf{Ne^{2+} + Ar}$	Total Scattering	5 keV	Exp
$\mathbf{Ne^{3+} + Ar}$	Total Scattering	5 keV	Exp
$\mathbf{Ne^{+} + Ar}$	Ionization	5 keV	Exp
$\mathbf{Ne^{2+} + Ar}$	Ionization	5 keV	Exp
$\mathbf{Ne^{3+} + Ar}$	Ionization	5 keV	Exp

997. T. Kaneyasu, T. Azuma, K. Okuno
Collision dynamics of MCI-molecule systems studied by multi-coincidence technique.
Nucl. Instrum. Methods Phys. Res. B 235, 352 (2005)

$\mathbf{Kr^{8+} + N_2}$	Dissociation	19-200 eV/u	Exp
$\mathbf{Kr^{8+} + N_2}$	Charge Transfer	19-200 eV/u	Exp
$\mathbf{Kr^{8+} + N_2}$	Ionization	19-200 eV/u	Exp

998. D. Bodewits, A.G.G.M. Tielens, R. Morgenstern, R. Hoekstra
Fingerprints of charge exchange between He^{2+} and water molecules.
Nucl. Instrum. Methods Phys. Res. B 235, 358 (2005)

$\mathbf{He^{2+} + H_2O}$	Charge Transfer	6-48 keV	Exp
$\mathbf{He^{2+} + H_2O}$	Excitation	6-48 keV	Exp

999. L. F. Errea, A. Macias, L. Mendez, I. Rabadan, A. Riera
Charge transfer in $H_2{}^+$ - H(1s) collisions.
Nucl. Instrum. Methods Phys. Res. B 235, 362 (2005)

$\mathbf{H_2{}^{+} + H}$	Charge Transfer	0.4-50 keV	Th
$\mathbf{H_2{}^{+} + H}$	Excitation	0.4-50 keV	Th

1000. A. Gojska, D. Chmielewska, J. Rzadkiewicz, Z. Sujkowski, T. Adachi, H. Fujita, Y. Fujita, K. Hara, Y. Haruyama, J. Kamiya, H. Ogawa, M. Saito, Y. Shimizu, Y. Shimbara, M. Tanaka, H. P. Yoshida, I. Katayama
Charge exchange processes for semi-relativistic helium ions (β = 0.51) in solid gold.
Nucl. Instrum. Methods Phys. Res. B 235, 368 (2005)

$\mathbf{He^{2+} + Au}$	Charge Transfer	1.5 MeV/amu	Exp
$\mathbf{He^{+} + Au}$	Ionization	1.5 MeV/amu	Exp

1001. B. Zarour, C. Champion, J. Hanssen, B. Lasri
Charge transfer and dissociation of H_2 molecule in slow collisions with C^{4+} ions.
Nucl. Instrum. Methods Phys. Res. B 235, 374 (2005)

$\mathbf{C^{4+} + H_2}$	Dissociation	0.1-4.67 keV/amu	Th
$\mathbf{C^{4+} + H_2}$	Charge Transfer	0.1-4.67 keV/amu	Th

1002. T. Ohyama-Yamaguchi, A. Ichimura
Near-site far-site charge asymmetry in diatomic Coulomb fragmentation with slow highly charged ions.
Nucl. Instrum. Methods Phys. Res. B 235, 382 (2005)

$\mathbf{Kr^{8+} + N_2}$	Dissociation	Undef.	Th
$\mathbf{Kr^{8+} + N_2}$	Charge Transfer	Undef.	Th
$\mathbf{Kr^{8+} + N_2}$	Ionization	Undef.	Th

1003. X. L. Zhu, X. Ma, B. Wei, H. P. Liu, Z. L. Wang, S. Sha, W. T. Feng, S. P. Cao, D. B. Qian, B. Li, L. F. Chen
Dissociation and fragmentation of N_2 molecules by slow highly charged ions.
Nucl. Instrum. Methods Phys. Res. B 235, 387 (2005)

$\mathbf{Xe^{17+} + N_2}$	Dissociation	340-420 keV	Exp
$\mathbf{Xe^{18+} + N_2}$	Dissociation	340-420 keV	Exp
$\mathbf{Xe^{20+} + N_2}$	Dissociation	340-420 keV	Exp
$\mathbf{Xe^{21+} + N_2}$	Dissociation	340-420 keV	Exp
$\mathbf{Xe^{17+} + N_2}$	Charge Transfer	340-420 keV	Exp
$\mathbf{Xe^{18+} + N_2}$	Charge Transfer	340-420 keV	Exp
$\mathbf{Xe^{20+} + N_2}$	Charge Transfer	340-420 keV	Exp
$\mathbf{Xe^{21+} + N_2}$	Charge Transfer	340-420 keV	Exp
$\mathbf{Xe^{17+} + N_2}$	Ionization	340-420 keV	Exp
$\mathbf{Xe^{18+} + N_2}$	Ionization	340-420 keV	Exp
$\mathbf{Xe^{20+} + N_2}$	Ionization	340-420 keV	Exp
$\mathbf{Xe^{21+} + N_2}$	Ionization	340-420 keV	Exp

1004. T. Ricsoka, Gy. Vikor, Sz. Nagy, K. Tokesi, Z. Berenyi, B. Paripas, N. Stolterfoht, B. Sulik
Accelerating multiple scattering of the emitted electrons in collisions of ions with atoms and molecules.
Nucl. Instrum. Methods Phys. Res. B 235, 397 (2005)

$\mathbf{N^{+} + Ne}$	Total Scattering	700-1500 keV	Exp
$\mathbf{N^{+} + Ar}$	Total Scattering	700-1500 keV	Exp
$\mathbf{N^{+} + N_2}$	Total Scattering	700-1500 keV	Exp
$\mathbf{N^{+} + Ne}$	Ionization	700-1500 keV	Exp
$\mathbf{N^{+} + Ar}$	Ionization	700-1500 keV	Exp
$\mathbf{N^{+} + N_2}$	Ionization	700-1500 keV	Exp

1005. A. Le Padellec
Partial near threshold cross sections for the associative ionization to form CO^+, NO^+ and $O_2{}^+$.
Phys. Scr. 71, 621 (2005)

C + O	Association	Undef.	Th
N + O	Association	Undef.	Th
O + O	Association	Undef.	Th

1006. H. Luna, E. C. Montenegro
Fragmentation of water by heavy ions.
Phys. Rev. Lett. 94, 043201 (2005)

$\mathbf{C^{3+} + H_2O}$	Dissociation	60-350 keV/amu	Exp
$\mathbf{C^{4+} + H_2O}$	Dissociation	60-350 keV/amu	Exp
$\mathbf{C^{3+} + H_2O}$	Charge Transfer	60-350 keV/amu	Exp
$\mathbf{C^{4+} + H_2O}$	Charge Transfer	60-350 keV/amu	Exp
$\mathbf{C^{3+} + H_2O}$	Ionization	60-350 keV/amu	Exp
$\mathbf{C^{4+} + H_2O}$	Ionization	60-350 keV/amu	Exp

1007. B. Yang, P. C. Stancil
A close-coupling study of vibrational-rotational quenching of CO by collision with hydrogen atoms.
J. Chem. Phys. 123, 094308 (2005)

H + CO	Energy Transfer	$10^{-6} - 1500\ cm^{-1}$	Th

1008. M. Sabido, J. de Andres, J. Sogas, J. M. Lucas, M. Alberti, J. M. Bofill, A. Aguilar
Inelastic electronic excitation and electron transfer processes in collisions between Mg(3 $^1S_9$) atoms and $K^+(^1S_0)$ ions studied by crossed beams in the 0.10-3.80-keV energy range.
J. Chem. Phys. 123, 124314 (2005)

$\mathbf{K^+ + Mg}$	Charge Transfer	0.1-3.8 keV	Exp

1009. A. T. Hasan
Experimental study of single- and double-electron-capture by Ne ions from He gas.
Eur. Phys. J. D 35, 461 (2005)

$\mathbf{Ne^{2+} + He}$	Charge Transfer	600-1000 eV/q	Exp
$\mathbf{Ne^{3+} + He}$	Charge Transfer	600-1000 eV/q	Exp
$\mathbf{Ne^{4+} + He}$	Charge Transfer	600-1000 eV/q	Exp
$\mathbf{Ne^{5+} + He}$	Charge Transfer	600-1000 eV/q	Exp
$\mathbf{Ne^{6+} + He}$	Charge Transfer	600-1000 eV/q	Exp

1010. N. V. Maydanyuk, A. Hasan, M. Foster, B. Tooke, E. Nanni, D. H. Madison, M. Schulz
Projectile-residual-target-ion scattering after single ionization of helium by slow proton impact.
Phys. Rev. Lett. 94, 243201 (2005)

$\mathbf{H^+ + He}$	Total Scattering	75 keV	Exp
$\mathbf{H^+ + He}$	Ionization	75 keV	Exp

1011. K. Koszinowski, N. T. Goldberg, A. E. Pomerantz, R. N. Zare
Collision-energy dependence of HD (ν' = 1,j') product rotational distributions for the H + D_2 reaction.
J. Chem. Phys. 123, 054306 (2005)

H + H_2	Interchange reaction	1.43-2.55 eV	E/T
H + D_2	Interchange reaction	1.43-2.55 eV	E/T

1012. H. Song, D. Dai, G. Wu, C. C. Wang, S. A. Harich, M. Y. Hayes, X. Wang, D. Gerlich, X. Yang, R. T. Skodje
Chemical reaction dynamics of Rydberg atoms with neutral molecules: A comparison of molecular-beam and classical trajectory results for the H(n) + D_2 -¿ HD + D(n') reaction.
J. Chem. Phys. 123, 074314 (2005)

H + H_2	Interchange reaction	0.124-1.024 eV	Th
H + D_2	Interchange reaction	0.124-1.024 eV	Th

1013. A. Devdariani, T. M. Kereselidze, I. L. Noselidze, E. Dalimier, P. Sauvan, P. Angelo, R. Schott
Dipole transition-matrix elements of the one-electron heterodiatomic quasimolecules.
Phys. Rev. A 71, 022512 (2005)

He^+ + H^+	Interaction Potentials	Undef.	Th

1014. B. Seredyuk, R. W. McCullough, H. Tawara, H. B. Gilbody, D. Bodewits, R. Hoekstra, A.G.G.M. Tielens, P. Sobocinski, D. Pesic, R. Hellhammer, B. Sulik, N. Stolterfoht, O. Abu-Haija, E. Y. Kamber
Charge exchange and dissociative processes in collisions of slow He^{2+} ions with H_2O molecules.
Phys. Rev. A 71, 022705 (2005)

He^{2+} + H_2O	Dissociation	1.025-12 keV/u	E/T
He^{2+} + H_2O	Charge Transfer	1.025-12 keV/u	E/T

1015. N. C. Bacalis, A. Metropoulos, D. A. Papaconstantopoulos
Description of the lowest-energy surface of the CH + O system: Interpolation of ab initio configuration-interaction total energies by a tight-binding Hamiltonian.
Phys. Rev. A 71, 022707 (2005)

CH + O	Interaction Potentials	Undef.	Th

1016. B. Seredyuk, R. W. McCullough, H. B. Gilbody
Collision mechanisms in one-electron capture by He^{2+} ions in collisions with hydrocarbons.
Phys. Rev. A 71, 022713 (2005)

He^{2+} + CH_4	Charge Transfer	200-2000 eV/u	Exp
He^{2+} + C_2H_4	Charge Transfer	200-2000 eV/u	Exp
He^{2+} + C_2H_6	Charge Transfer	200-2000 eV/u	Exp

1017. I. I. Ryabtsev, D. B. Tretyakov, I. I. Beterov, N. N. Bezuglov, K. Miculis, A. Ekers
Collisional and thermal ionization of sodium Rydberg atoms: I. Experiment for nS and nD atoms with n = 8-20.
J. Phys. B 38, S17 (2005)

Na + Na	Association	300 K	E/T
Na + Na	Ionization	300 K	E/T

1018. E. Favilla, S. Barsanti, P. Bicchi
Rydberg levels population via energy pooling collisions in resonantly laser excited dense In vapour.
J. Phys. B 38, S37 (2005)

In + In	Line Broadening	950 K	Exp
hν + In	De-excitation	950 K	Exp
In + In	Energy Transfer	950 K	Exp
hν + In	Energy Transfer	950 K	Exp
In + In	Fluorescence	950 K	Exp
In + In	Excitation	950 K	Exp
hν + In	Excitation	950 K	Exp

1019. M. R. Flannery, D. Vrinceanu, V. N. Ostrovsky
Long-range interaction between polar Rydberg atoms.
J. Phys. B 38, S279 (2005)

H + H	Interaction Potentials	Undef.	Th
He + He	Interaction Potentials	Undef.	Th

1020. K. Singer, J. Stanojevic, M. Weidemueller, R. Cote
Long-range interactions between alkali Rydberg atom pairs correlated to the ns-ns, np-np and nd-nd asymptotes.
J. Phys. B 38, S295 (2005)

Li + Li	Interaction Potentials	Undef.	Th
Na + Na	Interaction Potentials	Undef.	Th
K + K	Interaction Potentials	Undef.	Th
Rb + Rb	Interaction Potentials	Undef.	Th
Cs + Cs	Interaction Potentials	Undef.	Th

1021. T. G. Walker, M. Saffman
Zeros of Rydberg-Rydberg Foster interactions.
J. Phys. B 38, S309 (2005)

Rb + Rb	Interaction Potentials	Undef.	E/T

1022. M. Schoeffler, A. L. Godunov, C. T. Whelan, H.R.J. Walters, V. S. Schipakov, V. Mergel, R. Doerner, O. Jagutzki, L.Ph.H. Schmidt, J. Titze, E. Weigold, H. Schmidt-Boecking
Revealing the effect of angular correlation in the ground-state He wavefunction: A coincidence study of the transfer ionization process.
J. Phys. B 38, L123 (2005)

H^+ + He	Charge Transfer	630 keV	E/T
H^+ + He	Ionization	630 keV	E/T

1023. J.M.H. Lo, M. Klobusowski, D. Bielinska-Waz, G.H.F. Diercksen, E.W.S. Schreiner
Effects of confinement on the Rydberg molecule NeH.
J. Phys. B 38, 1143 (2005)

Ne + H	Interaction Potentials	Undef.	Th

1024. M. Lehner, R. Xu, M. Jungen
The emission spectrum of the Li(2p)He_2:$1^2\Pi_u$ exciplex.
J. Phys. B 38, 1235 (2005)

Li + He	De-excitation	Undef.	Th
Li + He	Interaction Potentials	Undef.	Th
Li + He	Excitation	Undef.	Th

1025. T. Kaneyasu, T. Azuma, K. Okuno
Collision dynamics of the Kr^{8+} + N_2 system studied by a multi-coincidence technique.
J. Phys. B 38, 1341 (2005)

Kr^{8+} + N_2	Charge Transfer	9.5-171 ev/u	Exp

1026. M. Schulz, D. Fischer, R. Moshammer, J. Ullrich
Electron-electron correlations and dipole selection rules in double ionization of helium by proton impact.
J. Phys. B 38, 1363 (2005)

H^+ + He	Ionization	6 MeV	Exp

1027. F. Alvarado, R. Hoekstra, R. Morgenstern, T. Schlathoelter
Experimental observation of reduced electronic stopping in photo-excited C_{60}.
J. Phys. B 38, L55 (2005)

He^+ + C_{60}	Dissociation	0.26 v (a.u.)	Exp

1028. L. Nagy, F. Jarai-Szabo, S. Fritzsche
Ionization-excitation of lithium by fast charged projectiles.
J. Phys. B 38, 141 (2005)

Ar^{18+} + Li	Excitation	6-20 v (a.u.)	Th
Ar^{18+} + Li	Ionization	6-20 v (a.u.)	Th

1029. B. G. Lindsay, W. S. Yu, R. F. Stebbings
Cross sections for charge-changing processes involving kilo-electron-volt H and H^+ with CO and CO_2.
Phys. Rev. A 71, 032705 (2005)

H + CO	Charge Transfer	1-5 keV	Exp
H + CO_2	Charge Transfer	1-5 keV	Exp
H + N_2	Charge Transfer	1-5 keV	Exp
H^+ + CO	Charge Transfer	1-5 keV	Exp
H^+ + CO_2	Charge Transfer	1-5 keV	Exp
H + CO	Total Scattering	1-5 keV	Exp
H + CO_2	Total Scattering	1-5 keV	Exp
H + N_2	Total Scattering	1-5 keV	Exp
H^+ + CO	Total Scattering	1-5 keV	Exp
H^+ + CO_2	Total Scattering	1-5 keV	Exp
H + CO	Ionization	1-5 keV	Exp
H + CO_2	Ionization	1-5 keV	Exp
H + N_2	Ionization	1-5 keV	Exp
H^+ + CO	Ionization	1-5 keV	Exp
H^+ + CO_2	Ionization	1-5 keV	Exp

1030. J. Bradley, S.F.C. O'Rourke, D.S.F. Crothers
Total and single differential cross sections for simple resonant collisions using a fully orthonormal continuum-distorted-wave basis.
Phys. Rev. A 71, 032706 (2005)

H^+ + H	Charge Transfer	0.01-25 keV/u	Th
He^+ + He	Charge Transfer	0.01-25 keV/u	Th
H^+ + H	Total Scattering	0.01-25 keV/u	Th
He^+ + He	Total Scattering	0.01-25 keV/u	Th

1031. J. Mitroy, M.W.J. Bromley
Higher-order C_n dispersion coefficients for hydrogen.
Phys. Rev. A 71, 032709 (2005)

H + H	Elastic Scattering	Ultralow	Th
H + H	Interaction Potentials	Ultralow	Th

1032. R. Suzuki, S. N. Rai, H.-P. Liebermann, R. J. Buenker, L. Pichl, M. Kimura
Elastic and electron-capture processes in $H^+ + C_2H_4$ collisions below the 10-keV regime.
Phys. Rev. A 71, 032710 (2005)

$\mathbf{H^+ + C_2H_4}$	Elastic Scattering	0.1-10 keV	Th
$\mathbf{H^+ + C_2H_4}$	Charge Transfer	0.1-10 keV	Th
$\mathbf{H^+ + C_2H_4}$	Interaction Potentials	0.1-10 keV	Th

1033. J.-Y. Zhang, Z.-C. Yan, D. Vrinceanu, H. R. Sadeghpour
Anisotropic van der Waals coefficients for He(1 $^1S) - He(2\ ^3P)$.
Phys. Rev. A 71, 032712 (2005)

He + He	Elastic Scattering	Ultralow	Th
He + He*	Elastic Scattering	Ultralow	Th
He + He	Interaction Potentials	Ultralow	Th
He + He*	Interaction Potentials	Ultralow	Th

1034. G. Quemener, P. Honvault, J.-M. Launay, P. Soldan, D. E. Potter, J. M. Hutson
Ultracold quantum dynamics: Spin-polarized K + K_2 collisions with three identical bosons or fermions.
Phys. Rev. A 71, 032722 (2005)

$\mathbf{K + K_2}$	Elastic Scattering	$10^{-9} - 10^{-2}$ K	Th
$\mathbf{K + K_2}$	Interaction Potentials	$10^{-9} - 10^{-2}$ K	Th
$\mathbf{K + K_2}$	Total Scattering	$10^{-9} - 10^{-2}$ K	Th

1035. M. S. Gravielle, J. E. Miraglia
Interference effects in electron capture from insulator surfaces.
Phys. Rev. A 71, 032901 (2005)

$\mathbf{H^+}$ **+ LiF**	Charge Transfer	100 keV	Th

1036. S. Diaz-Tendero, P.-A. Hervieux, M. Alcami, F. Martin
Statistical fragmentation of small neutral carbon clusters.
Phys. Rev. A 71, 033202 (2005)

$\mathbf{C_5{}^+ + He}$	Dissociation	9-60 eV	Exp
$\mathbf{C_7{}^+ + He}$	Dissociation	9-60 eV	Exp
$\mathbf{C_9{}^+ + He}$	Dissociation	9-60 eV	Exp
$\mathbf{C_5{}^+ + He}$	Charge Transfer	9-60 eV	Exp
$\mathbf{C_7{}^+ + He}$	Charge Transfer	9-60 eV	Exp
$\mathbf{C_9{}^+ + He}$	Charge Transfer	9-60 eV	Exp

1037. C. C. Havener, R. Rejoub, C. R. Vane, H. F. Krause, D. W. Savin, M. Schnell, J. G. Wang, P. C. Stancil
Electron capture by Ne^{4+} ions from atomic hydrogen.
Phys. Rev. A 71, 034702 (2005)

$\mathbf{Ne^{4+} + H}$	Charge Transfer	0.1-1006 eV/u	E/T

3.3 Surface Interactions

1038. M. N. Faraggi, M. S. Gravielle, V. M. Silkin
Quantum-mechanical model for valence-electron emission from metal surfaces.
Phys. Rev. A 69, 042901 (2004)

H^+ + Al	Secondary Electron Emission	100 keV	Th

1039. M. S. Gravielle, J. E. Miraglia, G. G. Otero, E. A. Sanchez, O. Grizzi
Angular dependence of electron emission induced by grazing-ion-surface collisions.
Phys. Rev. A 69, 042902 (2004)

H^+ + Al	Secondary Electron Emission	100 keV	E/T

1040. S. Ninomiya, C. Imada, M. Nagai, Y. Nakata, N. Imanishi
Secondary-ion emission from III-V semiconductive materials under MeV-energy heavy-ion bombardment.
Phys. Rev. A 70, 042903 (2004)

Si + InP	Sputtering	0.5-5.0 MeV	Exp
Si + InSb	Sputtering	0.5-5.0 MeV	Exp
Si + InAs	Sputtering	0.5-5.0 MeV	Exp

1041. R. K. Yadav, R. Shanker
Energy and angular distributions of backscattered electrons from the collision of 8-keV electrons with a thick tungsten target.
Phys. Rev. A 70, 052901 (2004)

e + W	Reflection	8 keV	E/T

1042. J. Bastiaansen, V. Philipsen, P. Lievens, R. E. Silverans, E. Vandeweert
Influence of the atomic structure on the quantum state of sputtered Ir atoms.
Phys. Rev. A 70, 052902 (2004)

He^+ + Ir	Sputtering	2 keV	E/T

1043. H. Chakraborty, T. Niederhausen, U. Thumm
Resonant neutralization of H^- near Cu surfaces: Effects of the surface symmetry and ion trajectory.
Phys. Rev. A 70, 052903 (2004)

H^- + Cu	Neutraliz., Ioniz., Dissoc.	50 eV	Th

1044. Y. Morishita, R. Hutton, H. A. Torii, K. Komaki, T. Brage, K. Ando, K. Ishii, Y. Kanai, H. Masuda, M. Sekiguchi, F. B. Rosmej, Y. Yamazaki
Direct observation of the initial-state distribution of the first electron transferred to slow highly charged ions interacting with a metal surface.
Phys. Rev. A 70, 012902 (2004)

Ar^{6+} + Ni	Reflection	0.88-2 keV/u	E/T
Ar^{7+} + Ni	Reflection	0.88-2 keV/u	E/T
Ar^{8+} + Ni	Reflection	0.88-2 keV/u	E/T
Ar^{9+} + Ni	Reflection	0.88-2 keV/u	E/T
Ar^{10+} + Ni	Reflection	0.88-2 keV/u	E/T

1045. K. Kimura, T. Tsujioka, S. Tanaka, A. Nakamoto, K. Nakajima, M. Suzuki
Auger neutralization rate for slow Ar^+ ions in front of KCl(001).
Phys. Rev. A 70, 022901 (2004)

Ar^+ + KCl	Secondary Electron Emission	5-15 keV	Exp
Ar^+ + KCl	Neutraliz., Ioniz., Dissoc.	5-15 keV	Exp

1046. B. Lin, H. G. Berry, T. Shibata, A. E. Livingston, H.-P. Garnir, T. Bastin, J. Desequelles
$1s2s2p^23p\ ^6L - 1s2p^33p\ ^6P$ transitions in O IV, F V and Ne VI.
J. Phys. B 37, 2797 (2004)

O^+ + C	Surface Interactions	1.5-4.0 MeV	E/T
Ne^+ + C	Surface Interactions	1.5-4.0 MeV	E/T
HF^+ + C	Surface Interactions	1.5-4.0 MeV	E/T

1047. K. Franzreb, R. C., Jr. Sobers, J. Loerincik, P. Williams
Formation of doubly positively charged diatomic ions of $Mo_2{}^{2+}$ produced by Ar^+ sputtering of an Mo metal surface.
J. Chem. Phys. 120, 7983 (2004)

$Mo_2{}^+$ + Ar	Neutraliz., Ioniz., Dissoc.	8 keV	Exp

1048. R. G. Mccaulay-Newcombe, A. A. Haasz, C. H. Wu, J. W. Davis
W erosion due to low energy O^+ and D^+ impact.
J. Nucl. Mater. 327, 114 (2004)

Ar^+ + W	Chemical Reactions	0.15-10 keV	Exp
$H_3{}^+$ + W	Chemical Reactions	0.15-10 keV	Exp
$D_3{}^+$ + W	Chemical Reactions	0.15-10 keV	Exp
$O_2{}^+$ + W	Chemical Reactions	0.15-10 keV	Exp
Ar^+ + W	Sputtering	0.15-10 keV	Exp
$H_3{}^+$ + W	Sputtering	0.15-10 keV	Exp
$D_3{}^+$ + W	Sputtering	0.15-10 keV	Exp
$O_2{}^+$ + W	Sputtering	0.15-10 keV	Exp

1049. W. Eckstein, J. Roth, W. Nagel, R. Dohmen
Sputtering mechanisms near the threshold energy.
J. Nucl. Mater. 328, 55 (2004)

Li^+ + Li	Sputtering	5-35 eV	Th
C^+ + C	Sputtering	5-35 eV	Th
Si^+ + Si	Sputtering	5-35 eV	Th
Cu^+ + Cu	Sputtering	5-35 eV	Th
Au^+ + Au	Sputtering	5-35 eV	Th

1050. Y. Yamauchi, T. Yamada, Y. Hirohata, T. Hino, T. Muroga
Deuterium retention in V-4Cr-4Ti alloy after deuterium ion irradiation.
J. Nucl. Mater. 329-333, 397 (2004)

H^+ + Ti	Trapping, Detrapping	1.7 keV	Exp
H^+ + V	Trapping, Detrapping	1.7 keV	Exp
H^+ + Cr	Trapping, Detrapping	1.7 keV	Exp
D^+ + Ti	Trapping, Detrapping	1.7 keV	Exp
D^+ + V	Trapping, Detrapping	1.7 keV	Exp
D^+ + Cr	Trapping, Detrapping	1.7 keV	Exp

1051. M. Tokitani, M. Miyamoto, K. Tokunaga, H. Iwakiri, T. Fujiwara, N. Yoshida
Desorption of helium from austenitic stainless steel heavily bombarded by low energy He ions.
J. Nucl. Mater. 329-333, 761 (2004)

He^+ + Fe	Trapping, Detrapping	2 keV	Exp
He^+ + SS	Trapping, Detrapping	2 keV	Exp

1052. J. Roth, C. Hopf
Sticking coefficient and surface loss probability of eroded species during bombardment of carbon with deuterium.
J. Nucl. Mater. 334, 97 (2004)

C + C	Adsorption, Desorption	0.045-3.0 keV	Exp
CH + C	Adsorption, Desorption	0.045-3.0 keV	Exp
H^+ + C	Sputtering	0.045-3.0 keV	Exp
He^+ + C	Sputtering	0.045-3.0 keV	Exp
D^+ + C	Sputtering	0.045-3.0 keV	Exp

1053. Z. Chaoui, N. Bouarissa
Positron and electron backscattering from elemental solids in the 1-10 keV energy range.
J. Phys. Condens. Matter 16, 799 (2004)

e + Al	Secondary Electron Emission	1-10 keV	Th
e + Cu	Secondary Electron Emission	1-10 keV	Th
e + Ag	Secondary Electron Emission	1-10 keV	Th
e + Au	Secondary Electron Emission	1-10 keV	Th

1054. R. A. Trasca, N. Ferralis, R. D. Diehl, M. W. Cole
The adsorption of Xe and Ar on quasicrystalline Al-Ni-Co.
J. Phys. Condens. Matter 16, S2911 (2004)

Ar + Al	Adsorption, Desorption	300 deg K	E/T
Ar + Co	Adsorption, Desorption	300 deg K	E/T
Ar + Ni	Adsorption, Desorption	300 deg K	E/T
Xe + Al	Adsorption, Desorption	300 deg K	E/T
Xe + Co	Adsorption, Desorption	300 deg K	E/T
Xe + Ni	Adsorption, Desorption	300 deg K	E/T

1055. I. Moroz, H. Ambaye, J. R. Manson
Molecule scattering from insulator and metal surfaces.
J. Phys. Condens. Matter 16, S2953 (2004)

CH_4 + LiF	Reflection	90-500 MeV	Th
O_2 + Al	Reflection	90-500 MeV	Th

1056. P. Rajasekar, E. B. Kadossov, N. F. Materer
Ion-bombardment induced light emission from Se(100) surfaces under continuous silane exposures.
J. Vac. Sci. Technol. A 22, 2083 (2004)

Ar^+ + Si	Sputtering	1-5 keV	Exp

1057. M. H. Shapiro, P. Lu
The influence of the ion-atom potential on molecular dynamics simulations of sputtering.
Nucl. Instrum. Methods Phys. Res. B 215, 326 (2004)

Ar^+ + Cu	Sputtering	1-100 eV	Th

1058. J. Vukanic, R. Simovic
Scaling properties in single collision model of light ion reflection.
Nucl. Instrum. Methods Phys. Res. B 215, 337 (2004)

$\mathbf{H^+ + Al}$	Reflection	1-100 keV	Th
$\mathbf{H^+ + Fe}$	Reflection	1-100 keV	Th
$\mathbf{H^+ + Cu}$	Reflection	1-100 keV	Th
$\mathbf{H^+ + Ag}$	Reflection	1-100 keV	Th
$\mathbf{H^+ + Au}$	Reflection	1-100 keV	Th
$\mathbf{H^+ + Pb}$	Reflection	1-100 keV	Th
$\mathbf{He^+ + Al}$	Reflection	1-100 keV	Th
$\mathbf{He^+ + Fe}$	Reflection	1-100 keV	Th
$\mathbf{He^+ + Cu}$	Reflection	1-100 keV	Th
$\mathbf{He^+ + Ag}$	Reflection	1-100 keV	Th
$\mathbf{He^+ + Au}$	Reflection	1-100 keV	Th
$\mathbf{He^+ + Pb}$	Reflection	1-100 keV	Th
$\mathbf{D^+ + Al}$	Reflection	1-100 keV	Th
$\mathbf{D^+ + Fe}$	Reflection	1-100 keV	Th
$\mathbf{D^+ + Cu}$	Reflection	1-100 keV	Th
$\mathbf{D^+ + Ag}$	Reflection	1-100 keV	Th
$\mathbf{D^+ + Au}$	Reflection	1-100 keV	Th
$\mathbf{D^+ + Pb}$	Reflection	1-100 keV	Th
$\mathbf{T^+ + Al}$	Reflection	1-100 keV	Th
$\mathbf{T^+ + Fe}$	Reflection	1-100 keV	Th
$\mathbf{T^+ + Cu}$	Reflection	1-100 keV	Th
$\mathbf{T^+ + Ag}$	Reflection	1-100 keV	Th
$\mathbf{T^+ + Au}$	Reflection	1-100 keV	Th
$\mathbf{T^+ + Pb}$	Reflection	1-100 keV	Th

1059. M. Stepanova, S. K. Dew
Anisotropic energies of sputtered atoms under oblique ion incidence.
Nucl. Instrum. Methods Phys. Res. B 215, 357 (2004)

$\mathbf{Ar^+ + Si}$	Sputtering	400 eV	Th
$\mathbf{Ar^+ + Cu}$	Sputtering	400 eV	Th
$\mathbf{Ar^+ + W}$	Sputtering	400 eV	Th

1060. A. Tolstogouzov, S. Daolio, C. Pagura
MARISS study on ion yields of Ne^+ scattered from III-V compound semiconductors.
Nucl. Instrum. Methods Phys. Res. B 217, 246 (2004)

$\mathbf{Ne^+ + Ga}$	Reflection	0.6-1.6 keV	Exp
$\mathbf{Ne^+ + In}$	Reflection	0.6-1.6 keV	Exp
$\mathbf{Ne^+ + GaAs}$	Reflection	0.6-1.6 keV	Exp
$\mathbf{Ne^+ + InP}$	Reflection	0.6-1.6 keV	Exp
$\mathbf{Ne^+ + GaP}$	Reflection	0.6-1.6 keV	Exp
$\mathbf{Ne^+ + InAs}$	Reflection	0.6-1.6 keV	Exp

1061. M. H. Shapiro, T. A. Tombrello
Temporal development of sputtered atom distributions from Au(111) targets following bombardment with 100 keV/atom Au_2 ions.
Nucl. Instrum. Methods Phys. Res. B 217, 253 (2004)

$\mathbf{Au_2{}^+ + Au}$	Sputtering	200 keV	Th

1062. I. V. Veryovkin, S. F. Belykh, A. Adriaens, F. Adams
Sputtering with polyatomic ions: Revisiting kinetic energy distributions of secondary ions.
Nucl. Instrum. Methods Phys. Res. B 219-220, 215 (2004)

Au^+ + Ta	Sputtering	6-18 keV	Exp
$Au_2{}^+$ + Ta	Sputtering	6-18 keV	Exp
$Au_3{}^+$ + Ta	Sputtering	6-18 keV	Exp

1063. S. F. Belykh, V. V. Palitsin, A. Adriaens, F. Adams
Non-additivity of multiply charged ion emission from Si and Al produced by molecular projectiles.
Nucl. Instrum. Methods Phys. Res. B 219-220, 278 (2004)

Cu^- + Al	Sputtering	9-18 keV	Exp
Cu^- + Si	Sputtering	9-18 keV	Exp
Au^- + Al	Sputtering	9-18 keV	Exp
Au^- + Si	Sputtering	9-18 keV	Exp
$Cu_2{}^-$ + Al	Sputtering	9-18 keV	Exp
$Cu_2{}^-$ + Si	Sputtering	9-18 keV	Exp
$Au_2{}^-$ + Al	Sputtering	9-18 keV	Exp
$Au_2{}^-$ + Si	Sputtering	9-18 keV	Exp

1064. D. B. Rebuli, E. Sideras-Haddad, S. H. Connell
Emission of electrons from diamond surfaces induced by MeV ions.
Nucl. Instrum. Methods Phys. Res. B 219-220, 299 (2004)

H^+ + C	Secondary Electron Emission	1-10 MeV	Exp
C^+ + C	Secondary Electron Emission	1-10 MeV	Exp
Si^+ + C	Secondary Electron Emission	1-10 MeV	Exp

1065. W. M. Arnoldbik, N. Tomozeiu, F.H.P.M. Habraken
Desorption of O_2 from SiO_2 films during irradiation of SiO_2 with MeV/a.m.u. heavy ions.
Nucl. Instrum. Methods Phys. Res. B 219-220, 312 (2004)

Cu^+ + SiO_2	Desorption	50 MeV	Exp

1066. C. S. Lee, Y. C. Liu, Y. H. Chen, R. Wu, W.-H. Ip, T. S. Yih, S. Lee
Mass analysis of sputtered particles induced by Ar bombardment of two iced targets, H_2O and CO_2.
Nucl. Instrum. Methods Phys. Res. B 219-220, 323 (2004)

Ar^+ + H_2O	Sputtering	15 keV	Exp
Ar^+ + CO_2	Sputtering	15 keV	Exp

1067. P. Rossi, D. K. Brice, C. H. Seager, F. D. McDaniel, G. Vizkelethy, B. L. Doyle
Ion beam induced luminescence of doped yttrium compounds.
Nucl. Instrum. Methods Phys. Res. B 219-220, 327 (2004)

H^+ + Y_2O_3	Surface Interactions	3-50 MeV	Exp
H^+ + Y_2SiO_5	Surface Interactions	3-50 MeV	Exp
C^+ + Y_2O_3	Surface Interactions	3-50 MeV	Exp
C^+ + Y_2SiO_5	Surface Interactions	3-50 MeV	Exp
Cu^+ + Y_2O_3	Surface Interactions	3-50 MeV	Exp
Cu^+ + Y_2SiO_5	Surface Interactions	3-50 MeV	Exp

1068. K. Nakajima, Y. Okura, M. Suzuki, K. Kimura
Charge-state distribution of 400 keV He ions scattered from solid surfaces.
Nucl. Instrum. Methods Phys. Res. B 219-220, 514 (2004)

He^+ + Si	Reflection	400 keV	Exp
He^+ + Ag	Reflection	400 keV	Exp
He^+ + SiO_2	Reflection	400 keV	Exp

1069. H.-I. Lee, D. W. Moon, H. C. Shin, S. K. Oh, H. J. Kang
The surface transient effect in the Si sputtering yield by low energy $O_2{}^+$ and Ar^+ ion bombardments.
Nucl. Instrum. Methods Phys. Res. B 219-220, 959 (2004)

Ar^+ + Si	Sputtering	0.5 keV	Exp
$O_2{}^+$ + Si	Sputtering	0.5 keV	Exp

1070. S. Ghosh, D. K. Avasthi, A. Tripathi, D. Kabiraj, S. Singh, D. S. Misra
Electronic sputtering of carbon allotropes.
Nucl. Instrum. Methods Phys. Res. B 219-220, 973 (2004)

Au^{15+} + C	Sputtering	200 MeV	Exp

1071. F. Barrue, M. Chevallier, D. Dauvergne, R. Kirsch, J.-C. Poizat, C. Ray, L. Adoui, A. Cassimi, H. Rothard, M. Toulemonde, C. Cohen, A. L'Hoir, D. Vernhet, C. Demonchy, L. Giot, W. Mittig, S. Pita, P. Roussel-Chomaz, A. Billebaud
Electron emission induced by fast heavy ions in a thin silicon crystal.
Phys. Rev. A 70, 032902 (2004)

Pb^{56+} + Si	Secondary Electron Emission	29 MeV/u	Exp

1072. T. Bernhard, Z. L. Fang, H. Winter
Ion-induced low-energy electron diffraction.
Phys. Rev. A 69, 060901 (2004)

H^+ + Cu	Secondary Electron Emission	25 keV	Exp
He^+ + Cu	Secondary Electron Emission	25 keV	Exp

1073. J. Braziewicz, U. Majewska, K. Slabkowska, M. Polasik, I. Fijal, M. Jaskola, A. Korman, W. Czarnacki, S. Chojnacki, W. Kretschmer
Dynamics of formation of K-hole fractions of sulfur projectiles inside a carbon foil.
Phys. Rev. A 69, 062705 (2004)

S^{13+} + C	Neutraliz., Ioniz., Dissoc.	65-122 MeV	Exp
S^{14+} + C	Neutraliz., Ioniz., Dissoc.	65-122 MeV	Exp

1074. L. Lammich, H. Buhr, H. Kreckel, S. Krohn, M. Lange, D. Schwalm, R. Wester, A. Wolf, D. Strasser, D. Zajfman, Z. Vager, I. Abril, S. Heredia-Avalos, R. Garcia-Molina
Coulomb-explosion imaging of $CH_2{}^+$: Target-polarization effects and bond-angle distribution.
Phys. Rev. A 69, 062904 (2004)

$CH_2{}^+$ + C	Neutraliz., Ioniz., Dissoc.	6.7 MeV	Exp

1075. A. Brunelle, S. Della-Negra
Trends to a semi-empirical model for cluster induced metal sputtering.
Nucl. Instrum. Methods Phys. Res. B 222, 68 (2004)

Au^+ + Ag	Sputtering	300-1400 keV	Th
Au^+ + Au	Sputtering	300-1400 keV	Th

1076. H. Rothard
Electron ejection by heavy particles as precursor of track formation in condensed matter.
Nucl. Instrum. Methods Phys. Res. B 225, 27 (2004)

H^+ + Au	Surface Interactions	0.8-45 MeV/u	E/T
Ni^{28+} + C	Surface Interactions	0.8-45 MeV/u	E/T
Ni^{28+} + Au	Surface Interactions	0.8-45 MeV/u	E/T
$H_2{}^+$ + Au	Surface Interactions	0.8-45 MeV/u	E/T
H^+ + Au	Secondary Electron Emission	0.8-45 MeV/u	E/T
Ni^{28+} + C	Secondary Electron Emission	0.8-45 MeV/u	E/T
Ni^{28+} + Au	Secondary Electron Emission	0.8-45 MeV/u	E/T
$H_2{}^+$ + Au	Secondary Electron Emission	0.8-45 MeV/u	E/T

1077. K. Czerski, G. Schiwietz, M. Roth, F. Staufenbiel, P. Grande, S. R. Bhattacharyya
Non-equilibrium emission of secondary ions from BeO films sputtered by swift gold ions.
Nucl. Instrum. Methods Phys. Res. B 225, 72 (2004)

Au^{26+} + BeO	Sputtering	1.8 MeV/u	Exp
Au^{41+} + BeO	Sputtering	1.8 MeV/u	Exp

1078. T. Jalowy, L. S. Farenzena, M. Hattass, E. F. da Silveira, H. Schmidt-Boecking, K. O. Groeneveld
Analysis of the projectile track charging by H^+ secondary ion velocity distribution measurements.
Nucl. Instrum. Methods Phys. Res. B 225, 78 (2004)

Ar + Al	Sputtering	25 KeV/u	Exp
Ar + Au	Sputtering	25 KeV/u	Exp
Ar + Al_2O_3	Sputtering	25 KeV/u	Exp
Ar + LiF	Sputtering	25 KeV/u	Exp

1079. M. A. Karolewski
Classical dynamics simulation of the fluence dependence of sputtering properties for the 2 keV Cu -¿ Cu(100) system.
Nucl. Instrum. Methods Phys. Res. B 225, 217 (2004)

Cu^+ + Cu	Sputtering	2 keV	Th

1080. M. C. Moore, N. Kalyanasundaram, J. B. Freund, H. T. Johnson
Structural and sputtering effects of medium energy ion bombardment of silicon.
Nucl. Instrum. Methods Phys. Res. B 225, 241 (2004)

Ar^+ + Si	Sputtering	500-700 eV	Th

1081. A. Duvenbeck, F. Sroubek, Z. Sroubek, A. Wucher
Computer simulation of low-energy electronic excitations in atomic collision cascades.
Nucl. Instrum. Methods Phys. Res. B 225, 464 (2004)

Ag + Ag	Surface Interactions	5 keV	Th

1082. S. Ghalab, A. Wucher
Cluster formation at metal surfaces under bombardment with $SF_m{}^+$ (m=1,,5) and Ar^+ projectiles.
Nucl. Instrum. Methods Phys. Res. B 226, 264 (2004)

Ar^+ + In	Sputtering	10 keV	Exp

1083. M. J. Berger, J. W. Motz
X-rays from thick tungsten targets irradiated by 500-50 keV electrons.
Nucl. Instrum. Methods Phys. Res. B 226, 327 (2004)

e + W	Reflection	50-500 keV	Th

1084. P. R. Watson, W. Lovelalnd, P. M. Zielinski, K. E. Gregorich, H. Nitsche
Changes in surface composition and morphology of UF_4 targets during heavy ion irradiation.
Nucl. Instrum. Methods Phys. Res. B 226, 543 (2004)

Cl^+ + UF_4	Chemical Reactions	195 MeV	Exp

1085. F. Krok, J. J. Kolodziej, B. Such, P. Czuba, P. Piatkowski, P. Struski, M. Szymonski
Desorption and surface topography changes induced by He^+ ion bombardment of alkali halides.
Nucl. Instrum. Methods Phys. Res. B 226, 601 (2004)

He^+ + KBr	Sputtering	5 keV	Exp
He^+ + RbI	Sputtering	5 keV	Exp

1086. Y. T. Matulevich, P. A. Zeijlmans van Emmichoven
Electron emission from low-energy Xe^+ ions interacting with a MgO thin film deposited on a Mo substrate.
Phys. Rev. B 69, 245414 (2004)

Xe^+ + MgO	Secondary Electron Emission	47 eV	Exp

1087. J. Powers, J. R. Manson
Temperature-dependent scattering of hyperthermal energy K^+ ions.
Phys. Rev. B 70, 115413 (2004)

K^+ + Cu	Reflection	50-154 eV	Th

1088. S. Sarkar, P. Chakraborty, H. Gnaser
Energetics of $MCs_n{}^+$ molecular ions emitted from Cs^+ irradiated surfaces.
Phys. Rev. B 70, 195427 (2004)

Cs^+ + Al	Sputtering	1-5 keV	Exp
Cs^+ + Cu	Sputtering	1-5 keV	Exp
Cs^+ + Ag	Sputtering	1-5 keV	Exp

1089. E. D. German, A. M. Kuznetsov, M. Scheintuch
Predicting the kinetics of the dissociative adsorption of homonuclear molecules on metal surfaces in gas phase and solution II. Numerical calculations of the molecular oxygen dissociative adsorption on the Pd(111) surface.
Surf. Sci. 554, 170 (2004)

O_2 + Pd	Neutraliz., Ioniz., Dissoc.	Undef.	Th

1090. S.-Y. Ohno, K. Yagyuu, K. Nakasuji, F. Komori
Dissociation preference of oxygen molecules on an inhomogeneously strained Cu(001) surface.
Surf. Sci. 554, 183 (2004)

O_2 + Cu	Adsorption, Desorption	300 deg K	Exp
O_2 + Cu	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp

1091. P.A.W. van der Heide
Secondary ion formation/survival during the initial stages of sputtering Si and SiO_2 with Cs^+.
Surf. Sci. 555, 193 (2004)

Cs^+ + Si	Sputtering	1 keV	Exp
Cs^+ + SiO_2	Sputtering	1 keV	Exp

1092. J. C. Lancaster, F. J. Kontur, G. K. Walters, F. B. Dunning
Dynamics of temporary negative ion formation in He^+ ion neutralization at an Al(100)/K surface.
Surf. Sci. 555, L133 (2004)

He^+ + Al	Reflection	60 eV	Exp
He^+ + Al	Neutraliz., Ioniz., Dissoc.	60 eV	Exp

1093. S. Hashimoto, A. Tanaka, A. Murata, T. Sakurada
Formulation for XPS spectral change of oxides by ion bombardment as a function of sputtering time.
Surf. Sci. 556, 22 (2004)

Ar^+ + TiO_2	Chemical Reactions	2 keV	Exp

1094. G. Volpilhac, A. Salin
Dissociative adsorption of N_2 on the W(100) surface.
Surf. Sci. 556, 129 (2004)

N_2 + W	Adsorption, Desorption	Undef.	Th
N_2 + W	Neutraliz., Ioniz., Dissoc.	Undef.	Th

1095. T. Jalowy, L. S. Farenzena, C. R. Ponciano, H. Schmidt-Boecking, E. F. da Silveira, K. O. Groeneveld
Molecular secondary ion emission from binary collisions.
Surf. Sci. 557, 91 (2004)

Ar^+ + Al_2O_3	Sputtering	1 MeV	Exp
Ar^+ + LiF	Sputtering	1 MeV	Exp

1096. C. Corriol, G. R. Darling
Molecular trapping in the dissociation dynamics of N_2 on W(110).
Surf. Sci. 557, L156 (2004)

N_2 + W	Adsorption, Desorption	Undef.	Th
N_2 + W	Neutraliz., Ioniz., Dissoc.	Undef.	Th

1097. M. Boyukata, Z. B. Guvenc
Molecule-surface interaction: Dissociative chemisorption of a $D_2(\nu$=0,j=0) molecule on rigid low index Ni surfaces.
Surf. Sci. 562, 183 (2004)

H_2 + Ni	Adsorption, Desorption	0-1.0 eV	Th
D_2 + Ni	Adsorption, Desorption	0-1.0 eV	Th
H_2 + Ni	Neutraliz., Ioniz., Dissoc.	0-1.0 eV	Th
D_2 + Ni	Neutraliz., Ioniz., Dissoc.	0-1.0 eV	Th

1098. X.-Q. Gong, R. Raval, P. Hu
CO dissociation and O removal on Co(0001): A density functional theory study.
Surf. Sci. 562, 247 (2004)

CO + Co	Adsorption, Desorption	Undef.	Th
CO + Co	Desorption	Undef.	Th
CO + Co	Neutraliz., Ioniz., Dissoc.	Undef.	Th

1099. K. Nobuhara, H. Kasai, W. A. Dino, H. Nakanishi
***H_2* dissociative adsorption on Mg, Ti, Ni, Pd and La surfaces.**
Surf. Sci. 566-568, 703 (2004)

H_2 + Mg	Adsorption, Desorption	Undef.	Th
H_2 + Ti	Adsorption, Desorption	Undef.	Th
H_2 + Ni	Adsorption, Desorption	Undef.	Th
H_2 + Pd	Adsorption, Desorption	Undef.	Th
H_2 + La	Adsorption, Desorption	Undef.	Th
H_2 + Mg	Neutraliz., Ioniz., Dissoc.	Undef.	Th
H_2 + Ti	Neutraliz., Ioniz., Dissoc.	Undef.	Th
H_2 + Ni	Neutraliz., Ioniz., Dissoc.	Undef.	Th
H_2 + Pd	Neutraliz., Ioniz., Dissoc.	Undef.	Th
H_2 + La	Neutraliz., Ioniz., Dissoc.	Undef.	Th

1100. S. Ogura, K. Fukutani, M. Wilde, M. Matsumoto, T. Okano, M. Okada, T. Kasai, W. A. Dino
Hydrogen adsorption on Ag and Au monolayers grown on Pt(111).
Surf. Sci. 566-568, 755 (2004)

H + Ag	Adsorption, Desorption	Undef.	E/T
H + Pt	Adsorption, Desorption	Undef.	E/T
H + Au	Adsorption, Desorption	Undef.	E/T
H_2 + Ag	Adsorption, Desorption	Undef.	E/T
H_2 + Pt	Adsorption, Desorption	Undef.	E/T
H_2 + Au	Adsorption, Desorption	Undef.	E/T
H + Ag	Neutraliz., Ioniz., Dissoc.	Undef.	E/T
H + Pt	Neutraliz., Ioniz., Dissoc.	Undef.	E/T
H + Au	Neutraliz., Ioniz., Dissoc.	Undef.	E/T
H_2 + Ag	Neutraliz., Ioniz., Dissoc.	Undef.	E/T
H_2 + Pt	Neutraliz., Ioniz., Dissoc.	Undef.	E/T
H_2 + Au	Neutraliz., Ioniz., Dissoc.	Undef.	E/T

1101. D. M. Bird, M. Persson, J. R. Trail, S. Holloway
Dynamics of the spin transition in the adsorption of hydrogen atoms on metals.
Surf. Sci. 566-568, 761 (2004)

H + Cu	Adsorption, Desorption	Undef.	Th

1102. N. Tsuboi, H. Okuyama, T. Aruga
Adsorption of hydrogen on the Pd(100)-p(2x2)$-p4g-Pd_3Ti$ **surface.**
Surf. Sci. 566-568, 777 (2004)

H_2 + Ti	Adsorption, Desorption	Undef.	Exp
H_2 + Pd	Adsorption, Desorption	Undef.	Exp
H_2 + Ti	Neutraliz., Ioniz., Dissoc.	Undef.	Exp
H_2 + Pd	Neutraliz., Ioniz., Dissoc.	Undef.	Exp

1103. V. Stary, J. Zemek
Low energy electron elastic reflection from solid surfaces.
Surf. Sci. 566-568, 1206 (2004)

e + Al	Reflection	0.2-20 keV	Th
e + Si	Reflection	0.2-20 keV	Th
e + Cu	Reflection	0.2-20 keV	Th
e + Au	Reflection	0.2-20 keV	Th
e + SiO_2	Reflection	0.2-20 keV	Th

1104. V. M. Collado, L. S. Farenzena, C. R. Ponciano, E. F. da Silveira, K. Wien
Ion desorption from frozen H_2O irradiated by MeV heavy ions.
Surf. Sci. 569, 149 (2004)

$\mathbf{N^+ + H_2O}$	Desorption	0.13-0.85 MeV	Exp
$\mathbf{N^+ + H_2O}$	Sputtering	0.13-0.85 MeV	Exp

1105. S. Jequier, H. Jouin, C. Harel, F. A. Gutierrez
Simulations of electron transfer in grazing incidence ion-surface collisions.
Surf. Sci. 570, 189 (2004)

He + Al	Sputtering	2.3 keV	Th
$\mathbf{He^+ + Al}$	Sputtering	2.3 keV	Th

1106. A. Guttler, T. Zecho, J. Kuppers
Adsorption of D(H) atoms on Ar ion bombarded (0001) graphite surfaces.
Surf. Sci. 570, 218 (2004)

H + C	Adsorption, Desorption	2000 deg K	Exp
D + C	Adsorption, Desorption	2000 deg K	Exp

1107. M. Lischka, C. Mosch, A. Gross
CO and hydrogen adsorption on Pd(210).
Surf. Sci. 570, 227 (2004)

$\mathbf{H_2 + Pd}$	Adsorption, Desorption	Undef.	Th
CO + Pd	Adsorption, Desorption	Undef.	Th

1108. P. Riccardi, M. Ishimoto, P. Barone, R. A. Baragiola
Ion-induced electron emission from MgO by exciton decay into vacuum.
Surf. Sci. 571, L305 (2004)

$\mathbf{He^+ + MgO}$	Secondary Electron Emission	0.1-4.0 keV	Exp
$\mathbf{Ne^+ + MgO}$	Secondary Electron Emission	0.1-4.0 keV	Exp
$\mathbf{Na^+ + MgO}$	Secondary Electron Emission	0.1-4.0 keV	Exp
$\mathbf{Ar^+ + MgO}$	Secondary Electron Emission	0.1-4.0 keV	Exp

1109. J. Zemek, P. Jiricek, K. Olejnik
Photoelectron escape from iron oxide.
Surf. Sci. 572, 93 (2004)

$\mathbf{h\nu + Fe_2O_3}$	Secondary Electron Emission	1.5 keV	Exp
$\mathbf{h\nu + FeO}$	Secondary Electron Emission	1.5 keV	Exp

1110. K. Franzreb, J. Loerincik, P. Williams
Quantitative study of oxygen enhancement of sputtered ion yields. I. Argon ion bombardment of a silicon surface with O_2 flood.
Surf. Sci. 573, 291 (2004)

$\mathbf{Ar^+ + Si}$	Sputtering	4.4-17 keV	Exp
$\mathbf{O_2{}^+ + Si}$	Sputtering	4.4-17 keV	Exp

1111. J. K. Vincent, R. A. Olsen, G. J. Kroes, E. J. Baerends
Dissociative chemisorption of H_2 on Pt(111): Isotope effect and effects of the rotational distribution and energy dispersion.
Surf. Sci. 573, 433 (2004)

H_2 + Pt	Neutraliz., Ioniz., Dissoc.	Undef.	Th
D_2 + Pt	Neutraliz., Ioniz., Dissoc.	Undef.	Th

1112. J. Burgdorfer, L. Wirtz, C. O. Reinhold, C. Lemell
Multi-electron dynamics for neutralization of highly charged ions near surfaces.
Vacuum 73, 3 (2004)

Ne^{10+} + LiF	Reflection	Undef.	Th
Ne^{10+} + LiF	Neutraliz., Ioniz., Dissoc.	Undef.	Th

1113. J. A. Yarmoff, Y. Yang, G. F. Liu, X. Chen, Z. Sroubek
Charge exchange in low-energy ion-surface scattering.
Vacuum 73, 25 (2004)

Li^+ + Fe	Reflection	200-3500 eV	Exp
Li^+ + Cs	Reflection	200-3500 eV	Exp
Li^+ + I	Reflection	200-3500 eV	Exp
Na^+ + Au	Reflection	200-3500 eV	Exp
Al^+ + Al	Reflection	200-3500 eV	Exp
Li^+ + Fe	Neutraliz., Ioniz., Dissoc.	200-3500 eV	Exp
Li^+ + Cs	Neutraliz., Ioniz., Dissoc.	200-3500 eV	Exp
Li^+ + I	Neutraliz., Ioniz., Dissoc.	200-3500 eV	Exp
Na^+ + Au	Neutraliz., Ioniz., Dissoc.	200-3500 eV	Exp
Al^+ + Al	Neutraliz., Ioniz., Dissoc.	200-3500 eV	Exp

1114. G. V. Adamov, V. M. Bukhanov, J. S. Colligon, K. F. Minnebaev, A. A. Nasretdinov, L. B. Shelyakin, V. E. Yurasova, E. Yu. Zykova
Secondary ion emission of Fe-Ni alloys in the temperature range including the Curie point.
Vacuum 73, 47 (2004)

Ar^+ + Fe	Sputtering	10 keV	Exp
Ar^+ + Ni	Sputtering	10 keV	Exp

1115. K. Kimura, S. Usui, T. Tsujioka, S. Tanaka, K. Nakajima, M. Suzuki
Effects of surface track potential on secondary electron emission and surface stopping power.
Vacuum 73, 59 (2004)

H^+ + KCl	Reflection	0.5 MeV/u	Exp
He^{2+} + KCl	Reflection	0.5 MeV/u	Exp
Li^{2+} + KCl	Reflection	0.5 MeV/u	Exp
B^{3+} + KCl	Reflection	0.5 MeV/u	Exp
H^+ + KCl	Secondary Electron Emission	0.5 MeV/u	Exp
He^{2+} + KCl	Secondary Electron Emission	0.5 MeV/u	Exp
Li^{2+} + KCl	Secondary Electron Emission	0.5 MeV/u	Exp
B^{3+} + KCl	Secondary Electron Emission	0.5 MeV/u	Exp

1116. A. M. Borisov, E. S. Mashkova, A. S. Nemov
Angular and temperature dependences of ion-induced electron emission of polycrystalline graphite.
Vacuum 73, 65 (2004)

Ar^+ + C	Secondary Electron Emission	30 keV	Exp
N_2^+ + C	Secondary Electron Emission	30 keV	Exp

1117. S. Ninomiya, N. Imanishi
Material dependence of electronic sputtering induced by MeV-energy heavy ions.
Vacuum 73, 79 (2004)

Si^+ + Al	Sputtering	0.5-5.0 MeV	Exp
Si^+ + Si	Sputtering	0.5-5.0 MeV	Exp
Si^+ + Al_2O_3	Sputtering	0.5-5.0 MeV	Exp
Si^+ + SiO_2	Sputtering	0.5-5.0 MeV	Exp
Si^+ + GaAs	Sputtering	0.5-5.0 MeV	Exp
Si^+ + InSb	Sputtering	0.5-5.0 MeV	Exp
Si^+ + GaP	Sputtering	0.5-5.0 MeV	Exp
Si^+ + GaSb	Sputtering	0.5-5.0 MeV	Exp

1118. W. Soszka, N.-T.H. Kim-Ngan, A. Kozlowski
Quasi-single scattering of low-energy Ne^+ ions from the Fe_3O_4 surfaces.
Vacuum 74, 253 (2004)

Ne^+ + Fe_2O_3	Sputtering	4-8 keV	Exp

1119. T. Nakano, T. Fujimoto, S. Baba
Measurement of surface roughness and ion-induced secondary electron emission coefficient of MgO films prepared by high-pressure sputter deposition.
Vacuum 74, 595 (2004)

Ar^+ + MgO	Secondary Electron Emission	1 keV	Exp

1120. A. Sindona, R. A. Baragiola, G. Falcone, A. Oliva, P. Riccardi
Many-body shake-up in Auger neutralization of slow Ar^+ ions at Al surfaces.
Phys. Rev. A 71, 052903 (2005)

Ar^+ + Al	Secondary Electron Emission	130-430 eV	E/T

1121. J. P. Allain, J. N. Brooks, D. A. Alman, L. E. Gonzalez
Model development and analysis of temperature-dependent lithium sputtering and sputtered Li^+ transport for tokamak plasma-facing applications.
J. Nucl. Mater. 337-339, 94 (2005)

Li^+ + Li	Reflection	$10 - 10^3$ eV	Th
H^+ + Li	Sputtering	$10 - 10^3$ eV	Th
D^+ + Li	Sputtering	$10 - 10^3$ eV	Th

1122. R. Bastasz, J. A. Whaley
Recoil energy distribution of hydrogen isotopes adsorbed on tungsten.
J. Nucl. Mater. 337-339, 544 (2005)

H + W	Reflection	3 keV	Th
D + W	Reflection	3 keV	Th

1123. M. Warrier, R. Schneider, E. Salonen, K. Nordlund
Multi-scale modeling of hydrogen isotope transport in porous graphite.
J. Nucl. Mater. 337-339, 580 (2005)

H + C	Trapping, Detrapping	Undef.	Th
D + C	Trapping, Detrapping	Undef.	Th

1124. Y. Oya, Y. Onishi, H. Kodama, K. Okuno, S. Tanaka
Dynamic hydrogen isotope behavior and its chemical states in SiC by XPS and TDS technique.
J. Nucl. Mater. 337-339, 595 (2005)

$H_2{}^+$ + SiC	Trapping, Detrapping	1 keV	Exp
$D_2{}^+$ + SiC	Trapping, Detrapping	1 keV	Exp

1125. R. A. Causey, C. L. Kunz, D. F. Cowgill
Deuterium retention and release from molybdenum exposed to a Penning discharge.
J. Nucl. Mater. 337-339, 600 (2005)

$\mathbf{H_2^+ + Mo}$	Trapping, Detrapping	1.2 keV	Exp
$\mathbf{D_2^+ + Mo}$	Trapping, Detrapping	1.2 keV	Exp

1126. V. Kh. Alimov, J. Roth, M. Mayer
Depth distribution of deuterium in single- and polycrystalline tungsten up to depths of several micrometers.
J. Nucl. Mater. 337-339, 619 (2005)

$\mathbf{H^+ + W}$	Trapping, Detrapping	200 eV	Exp
$\mathbf{D^+ + W}$	Trapping, Detrapping	200 eV	Exp

1127. M. Poon, R. G. Macaulay-Newcombe, J. W. Davis, A. A. Haasz
Effects of background gas impurities during D^+ irradiation on D trapping in single crystal tungsten.
J. Nucl. Mater. 337-339, 629 (2005)

$\mathbf{H^+ + W}$	Trapping, Detrapping	500 eV	Exp
$\mathbf{D^+ + W}$	Trapping, Detrapping	500 eV	Exp

1128. H. Kodama, M. Oyaidzu, A. Yoshikawa, H. Kimura, Y. Oya, M. Matsuyama, A. Sagara, N. Noda, K. Okuno
Helium irradiation effects on retention behavior of deuterium implanted into boron coating film by PCVD.
J. Nucl. Mater. 337-339, 649 (2005)

$\mathbf{H_2^+ + B}$	Trapping, Detrapping	1 keV	Exp
$\mathbf{D_2^+ + B}$	Trapping, Detrapping	1 keV	Exp

1129. R. G. Macaulay-Newcombe, A. A. Haasz, J. W. Davis
Low-energy tritium ion erosion of graphite.
J. Nucl. Mater. 337-339, 857 (2005)

$\mathbf{H^+ + C}$	Chemical Reactions	150-1500 eV	Exp
$\mathbf{T^+ + C}$	Chemical Reactions	150-1500 eV	Exp
$\mathbf{H^+ + C}$	Sputtering	150-1500 eV	Exp
$\mathbf{T^+ + C}$	Sputtering	150-1500 eV	Exp

1130. R. P. Doerner, M. J. Baldwin, S. I. Krasheninnikov, K. Schmid
High temperature erosion of beryllium.
J. Nucl. Mater. 337-339, 877 (2005)

$\mathbf{H^+ + Li}$	Surface Interactions	Undef.	Exp
$\mathbf{H^+ + Be}$	Surface Interactions	Undef.	Exp
$\mathbf{D^+ + Li}$	Surface Interactions	Undef.	Exp
$\mathbf{D^+ + Be}$	Surface Interactions	Undef.	Exp
$\mathbf{H^+ + Li}$	Sputtering	Undef.	Exp
$\mathbf{H^+ + Be}$	Sputtering	Undef.	Exp
$\mathbf{D^+ + Li}$	Sputtering	Undef.	Exp
$\mathbf{D^+ + Be}$	Sputtering	Undef.	Exp

1131. A. E. Gorodetsky, R. Kh. Zalavutdinov, A. P. Zakharov, S. P. Vnukov, I. G. Varshavskaya, A. N. Makhankov, I. V. Mazul, G. Federici
Increased recombination of CH_3 radicals on stainless steel.
J. Nucl. Mater. 337-339, 892 (2005)

CH_3 + Fe	Adsorption, Desorption	Undef.	Exp
CH_3 + SS	Adsorption, Desorption	Undef.	Exp

1132. F. W. Meyer, H. F. Krause, L. I. Vergara
Measurements of chemical erosion of ATJ graphite by low energy $D_2{}^+$ impact.
J. Nucl. Mater. 337-339, 922 (2005)

$H_2{}^+$ + C	Sputtering	30-125 eV/amu	Exp
$D_2{}^+$ + C	Sputtering	30-125 eV/amu	Exp

1133. D. Nishijima, T. Sugimoto, H. Iwakiri, M. Y. Ye, N. Ohno, N. Yoshida, S. Takamura
Characteristic changes of deuterium retention on tungsten surfaces due to low-energy helium plasma pre-exposure.
J. Nucl. Mater. 337-339, 927 (2005)

$H_2{}^+$ + W	Trapping, Detrapping	80 eV	Exp
$D_2{}^+$ + W	Trapping, Detrapping	80 eV	Exp

1134. Y. Nobuta, Y. Yamauchi, Y. Hirohata, T. Hino, N. Ashikawa, K. Nishimura, A. Sagara, S. Masuzaki, T. Ozaki, N. Noda, A. Komori, O. Motojima, LHD Experimental Group
Energy and fluence dependences of helium retention in stainless steel.
J. Nucl. Mater. 337-339, 932 (2005)

He^+ + Fe	Trapping, Detrapping	200-1400 eV	Exp
He^+ + SS	Trapping, Detrapping	200-1400 eV	Exp

1135. H. Yamaoka, Y. Matsumoto, M. Nishiura, K. Nishimura, M. Sasao, M. Wada
Angular resolved energy distributions of low energy light ions reflected from a polycrystalline Mo surface.
J. Nucl. Mater. 337-339, 942 (2005)

H + Mo	Reflection	1-3 keV	Exp
H^+ + Mo	Reflection	1-3 keV	Exp
He + Mo	Reflection	1-3 keV	Exp
He^+ + Mo	Reflection	1-3 keV	Exp
O + Mo	Reflection	1-3 keV	Exp
O^+ + Mo	Reflection	1-3 keV	Exp
H_2 + Mo	Reflection	1-3 keV	Exp
$H_2{}^+$ + Mo	Reflection	1-3 keV	Exp
H_3 + Mo	Reflection	1-3 keV	Exp
$H_3{}^+$ + Mo	Reflection	1-3 keV	Exp

1136. I. Bizyukov, K. Krieger, N. Azarenkov, S. Levchuk, Ch. Linsmeier
Formation of D inventories and structural modifications by deuterium bombardment of tungsten thin films.
J. Nucl. Mater. 337-339, 965 (2005)

$H_3{}^+$ + W	Sputtering	9 keV	Exp
$D_3{}^+$ + W	Sputtering	9 keV	Exp
$H_3{}^+$ + W	Trapping, Detrapping	9 keV	Exp
$D_3{}^+$ + W	Trapping, Detrapping	9 keV	Exp

1137. J. Roth, A. Kirschner, W. Bohmeyer, S. Brezinsek, A. Cambe, E. Casarotto, R. Doerner, E. Gauthier, G. Federici, S. Higashijima, J. Hogan, A. Kallenbach, H. Kubo, J. M. Layet, T. Nakano, V. Philipps, A. Pospieszczyk, R. Preuss, R. Pugno, R. Ruggieri, B. Schweer, G. Sergienko, M. Stamp
Flux dependence of carbon erosion and implication for ITER.
J. Nucl. Mater. 337-339, 970 (2005)

H + C	Sputtering	30 keV	Exp
H^+ + C	Sputtering	30 keV	Exp
D + C	Sputtering	30 keV	Exp
D^+ + C	Sputtering	30 keV	Exp

1138. T. Ono, Y. Aoki, T. Kawamura, T. Kenmotsu, Y. Yamamura
An extended formula for the energy spectrum of sputtered atoms from a material irradiated by light ions.
J. Nucl. Mater. 337-339, 975 (2005)

H^+ + Fe	Sputtering	0.05-1.0 keV	Exp
He^+ + Fe	Sputtering	0.05-1.0 keV	Exp
D^+ + Fe	Sputtering	0.05-1.0 keV	Exp
T^+ + Fe	Sputtering	0.05-1.0 keV	Exp

1139. M. Balden, E. de Juan Pardo, I. Quintana, B. Cieciwa, J. Roth
Deuterium-induced chemical erosion of carbon-metal layers.
J. Nucl. Mater. 337-339, 980 (2005)

$H_3{}^+$ + C	Sputtering	90 eV	Exp
$D_3{}^+$ + C	Sputtering	90 eV	Exp

1140. P. Starke, U. Fantz, M. Balden
Investigations of chemical erosion of carbon materials in hydrogen and deuterium low pressure plasmas.
J. Nucl. Mater. 337-339, 1005 (2005)

H^+ + C	Sputtering	15-30 eV	Exp
$H_2{}^+$ + C	Sputtering	15-30 eV	Exp
$H_3{}^+$ + C	Sputtering	15-30 eV	Exp

1141. M. D. Coventry, D. N. Ruzic
Incident-mass dependence of temperature-enhanced ion-induced sputtering in liquid metals.
J. Nucl. Mater. 337-339, 1015 (2005)

Ne^+ + Sn	Sputtering	0.5-1.0 keV	Exp
Ar^+ + Sn	Sputtering	0.5-1.0 keV	Exp

1142. E. Vietzke, V. Philipps
Investigation of the high temperature erosion of nickel under 5 keV neon irradiation.
J. Nucl. Mater. 337-339, 1024 (2005)

Ne^+ + Ni	Sputtering	5 keV	Exp

1143. A. O. Caride, G. L. Klimchitskaya, V. M. Mostepanenko, S. I. Zanette
Dependences of the van der Waals atom-wall interaction on atomic and material properties.
Phys. Rev. A 71, 042901 (2005)

He + Au	Surface Interactions	Undef.	Th
He + SiO_2	Surface Interactions	Undef.	Th
He^* + Au	Surface Interactions	Undef.	Th
He^* + SiO_2	Surface Interactions	Undef.	Th
Na + Au	Surface Interactions	Undef.	Th
Na + SiO_2	Surface Interactions	Undef.	Th

1144. J. Rosen, K. Larsson, J. M. Schneider
Ab initio molecular dynamics study of hydrogen removal by ion-surface interactions.
J. Phys. Condens. Matter 17, L137 (2005)

$\mathbf{Al^+ + (OH)_3/Al}$	Chemical Reactions	0-3.5 eV	Th
$\mathbf{Al^+ + (OH)_3/Al}$	Desorption	0-3.5 eV	Th

1145. C. Hopf, W. Jacob
Bombardment of graphite with hydrogen isotopes: A model for the energy dependence of the chemical sputtering yield.
J. Nucl. Mater. 342, 141 (2005)

$\mathbf{H^+ + C}$	Reflection	10-10,000 eV	Th
$\mathbf{D^+ + C}$	Reflection	10-10,000 eV	Th
$\mathbf{T^+ + C}$	Reflection	10-10,000 eV	Th
$\mathbf{H^+ + C}$	Sputtering	10-10,000 eV	Th
$\mathbf{D^+ + C}$	Sputtering	10-10,000 eV	Th
$\mathbf{T^+ + C}$	Sputtering	10-10,000 eV	Th

1146. A. W. Molvik, M. K. Covo, F. M. Bieniosek, R. H. Cohen, A. Faltens, A. Friedman, S. M. Lund, L. Prost, P. A. Seidl
Experimental studies of electrons in a heavy-ion beam.
Nucl. Instrum. Methods Phys. Res. A 544, 194 (2005)

$\mathbf{K^+ + Fe}$	Desorption	1 MeV	Exp
$\mathbf{K^+ + SS}$	Desorption	1 MeV	Exp
$\mathbf{K^+ + Fe}$	Secondary Electron Emission	1 MeV	Exp
$\mathbf{K^+ + SS}$	Secondary Electron Emission	1 MeV	Exp

1147. P. H. Stoltz, S. A. Veitzer, R. H. Cohen, A. W. Molvik, J.-L. Vay
Energy loss, range, and electron yield comparisons of the CRANGE ion-material interaction code.
Nucl. Instrum. Methods Phys. Res. A 544, 502 (2005)

$\mathbf{H^+ + Au}$	Secondary Electron Emission	1-200 MeV/amu	Th

1148. G. V. Kornich, G. Betz, V. Zaporojtchenko, A. I. Bazhin, F. Faupel
Molecular dynamics simulations of low energy ion sputtering of copper nanodimensional clusters on graphite substrates.
Nucl. Instrum. Methods Phys. Res. B 227, 261 (2005)

$\mathbf{Ar^+ + C}$	Reflection	200 eV	Th
$\mathbf{Ar^+ + Cu}$	Reflection	200 eV	Th
$\mathbf{Ar^+ + C}$	Sputtering	200 eV	Th
$\mathbf{Ar^+ + Cu}$	Sputtering	200 eV	Th

1149. D. Ohsawa, H. Kawauchi, M. Hirabayashi, Y. Okada, T. Honma, A. Higashi, S. Amano, Y. Hashimoto, F. Soga, Y. Sato
An apparatus for measuring the energy and angular distribution of secondary electrons emitted from water vapor by fast heavy-ion impact.
Nucl. Instrum. Methods Phys. Res. B 227, 431 (2005)

$\mathbf{He^{2+} + H_2O}$	Reflection	6 MeV/u	Exp

1150. S. Zimmermann, H. M. Urbassek
Sputtering of Au(111) by 64 keV/atom Au clusters.
Nucl. Instrum. Methods Phys. Res. B 228, 75 (2005)

Au^+ + Au	Sputtering	64 keV	Th

1151. A. Duvenbeck, M. Lindenblatt, A. Wucher
Self sputtering yields of silver under bombardment with polyatomic projectiles.
Nucl. Instrum. Methods Phys. Res. B 228, 170 (2005)

Ag^+ + Ag	Sputtering	2 keV	Th

1152. P. Traeskelin, K. Nordlund, J. Keinonen
He, Ne, Ar-bombardment of carbon first wall structures.
Nucl. Instrum. Methods Phys. Res. B 228, 319 (2005)

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

1153. R. Smith, D. Ramasawmy, S. D. Kenny
A molecular dynamics model for the Coulomb explosion.
Nucl. Instrum. Methods Phys. Res. B 228, 330 (2005)

Ar^+ + NaCl	Sputtering	1 keV	Th

1154. M. Dapor
Monte Carlo simulation of electron depth distribution and backscattering for carbon films deposited on aluminium as a function of incidence angle and primary energy.
Nucl. Instrum. Methods Phys. Res. B 228, 337 (2005)

e + C	Reflection	$10 - 10^4$ eV	Th

1155. T. Kenmotsu, Y. Yamamura, T. Muramoto, N. Hirotani
Simulation studies on sputtering in rough surface.
Nucl. Instrum. Methods Phys. Res. B 228, 369 (2005)

H^+ + Mo	Sputtering	2 keV	Th
D^+ + Mo	Sputtering	2 keV	Th

1156. M. Ullrich, A. Burenkov, H. Ryssel
Ion sputtering at grazing incidence for SIMS-analysis.
Nucl. Instrum. Methods Phys. Res. B 228, 373 (2005)

O^+ + Si	Sputtering	5-15 keV	Th
Cs^+ + Si	Sputtering	5-15 keV	Th

1157. P.A.W. van der Heide
Secondary ion emission from Ti, V, Cu, Ag and Au surfaces under KeV Cs^+ irradiation.
Nucl. Instrum. Methods Phys. Res. B 229, 35 (2005)

Cs^+ + Ti	Sputtering	1 keV	Exp
Cs^+ + V	Sputtering	1 keV	Exp
Cs^+ + Cu	Sputtering	1 keV	Exp
Cs^+ + Ag	Sputtering	1 keV	Exp
Cs^+ + Au	Sputtering	1 keV	Exp

1158. M. P. Seah
An accurate semi-empirical equation for sputtering yields, II: for neon, argon and xenon ions.
Nucl. Instrum. Methods Phys. Res. B 229, 348 (2005)

$\mathbf{Ne^+ + PERT}$	Sputtering	$250 - 10^4$ eV	Th
$\mathbf{Ar^+ + PERT}$	Sputtering	$250 - 10^4$ eV	Th
$\mathbf{Xe^+ + PERT}$	Sputtering	$250 - 10^4$ eV	Th

1159. M. A. Reis, P. C. Chaves, J. C. Soares
Particle induced X-ray emission – relative yield ion energy dependence, an IBA chemical speciation method.
Nucl. Instrum. Methods Phys. Res. B 229, 413 (2005)

$\mathbf{H^+ + W}$	Surface Interactions	1.7-5 MeV	Exp
$\mathbf{He^{2+} + W}$	Surface Interactions	1.7-5 MeV	Exp

1160. J. I. Juaristi
Energy loss of ions interacting with metal surfaces.
Nucl. Instrum. Methods Phys. Res. B 230, 148 (2005)

$\mathbf{H^+ + Al}$	Reflection	710 keV	Th

1161. Y.-H. Song, Y.-N. Wang, Z. L. Miskovic
Theoretical study of swift molecular ions specularly reflected from solid surfaces under glancing angle of incidence.
Nucl. Instrum. Methods Phys. Res. B 230, 158 (2005)

$\mathbf{N_2{}^+ + C}$	Reflection	Undef.	Th
$\mathbf{N_2{}^+ + C}$	Neutraliz., Ioniz., Dissoc.	Undef.	Th

1162. A. Hidouche, A. C. Chami, Y. Boudouma, M. Boudjema, C. Benazeth
Specular reflection model study of the image effect in He^+/a:Si scattering at low energy.
Nucl. Instrum. Methods Phys. Res. B 230, 178 (2005)

$\mathbf{He^+ + Si}$	Reflection	4 keV	E/T

1163. A. Sindona, R. A. Baragiola, S. Maletta, G. Falcone, A. Oliva, P. Riccardi
Broadening effects in Auger neutralization of 130-430 eV Ar^+ ions at Al surfaces.
Nucl. Instrum. Methods Phys. Res. B 230, 298 (2005)

$\mathbf{Ar^+ + Al}$	Secondary Electron Emission	130-430 eV	Exp
$\mathbf{Ar^+ + Al}$	Neutraliz., Ioniz., Dissoc.	130-430 eV	Exp

1164. S. Wethekam, G. Adamov, H. Winter
Neutralization of keV Ne^+ and Ar^+ ions during grazing scattering from an Al(111) surface.
Nucl. Instrum. Methods Phys. Res. B 230, 305 (2005)

$\mathbf{Ne + Al}$	Reflection	1.5-7.5 keV	Exp
$\mathbf{Ne^+ + Al}$	Reflection	1.5-7.5 keV	Exp
$\mathbf{Ar^+ + Al}$	Reflection	1.5-7.5 keV	Exp

1165. A. R. Canario, Yu. Bandourine, O. Grizzi, J. Lugo, L. Guillemot, V. A. Esaulov
He^+ scattering on a $TiO_2(110)$ surface.
Nucl. Instrum. Methods Phys. Res. B 230, 311 (2005)

$He^+ + TiO_2$	Reflection	1-4 keV	Exp
$He^+ + TiO_2$	Neutraliz., Ioniz., Dissoc.	1-4 keV	Exp

1166. N. Nieuwjaer, C. Benazeth, P. Benoit-Cattin, P. Cafarelli, M. Richard-Viard
Charge transfer in grazing scattering on clean and oxygen covered Cu(110) surfaces: Velocity effects.
Nucl. Instrum. Methods Phys. Res. B 230, 317 (2005)

$Li^+ + Cu$	Reflection	4 keV	Exp
$Na^+ + Cu$	Reflection	4 keV	Exp

1167. J. Sjakste, A. G. Borisov, J. P. Gauyacq
Resonant charge transfer in back-scattering of H-atoms from the Cs adsorbates on the Cs/Cu(111) surface.
Nucl. Instrum. Methods Phys. Res. B 230, 323 (2005)

H + Cu	Neutraliz., Ioniz., Dissoc.	2.5 eV	Th
H + Cs	Neutraliz., Ioniz., Dissoc.	2.5 eV	Th

1168. J. A. Scheer, M. Wieser, P. Wurz, P. Bochsler, E. Hertzberg, S. A. Fuselier, F. A. Koeck, R. J. Nemanich, M. Schleberger
High negative ion yield from light molecule scattering.
Nucl. Instrum. Methods Phys. Res. B 230, 330 (2005)

$H_2{}^+ + C$	Reflection	0.19-2.4 keV	Exp
$O_2{}^+ + C$	Reflection	0.19-2.4 keV	Exp

1169. L. Pasquali, S. Nannarone
Metastable He deexcitation at semiconductor interfaces.
Nucl. Instrum. Methods Phys. Res. B 230, 340 (2005)

He + Si	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp
He + Er	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp
He + Yb	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp
He + GaAs	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp
$He + CaF_2$	Neutraliz., Ioniz., Dissoc.	300 deg K	Exp

1170. M. Unipan, D.F.A. Winters, A. Robin, R. Morgenstern, R. Hoekstra
Surface spin polarization in Fe(110) and Ni(110).
Nucl. Instrum. Methods Phys. Res. B 230, 356 (2005)

$He^+ + Fe$	Reflection	6-20 keV	Exp
$He^+ + Ni$	Reflection	6-20 keV	Exp
$He^{2+} + Fe$	Reflection	6-20 keV	Exp
$He^{2+} + Ni$	Reflection	6-20 keV	Exp
$He^+ + Fe$	Neutraliz., Ioniz., Dissoc.	6-20 keV	Exp
$He^+ + Ni$	Neutraliz., Ioniz., Dissoc.	6-20 keV	Exp
$He^{2+} + Fe$	Neutraliz., Ioniz., Dissoc.	6-20 keV	Exp
$He^{2+} + Ni$	Neutraliz., Ioniz., Dissoc.	6-20 keV	Exp

1171. P. Rousseau, M. Gugiu, H. Khemliche, P. Roncin
Neutralization of noble gas ions on ionic insulators: Auger neutralization or double-electron capture.
Nucl. Instrum. Methods Phys. Res. B 230, 361 (2005)

$He^+ + LiF$	Reflection	0.5-1.0 keV	Exp
$F^+ + LiF$	Reflection	0.5-1.0 keV	Exp

Ne^+ + LiF	Reflection	0.5-1.0 keV	Exp
Ar^+ + NaCl	Reflection	0.5-1.0 keV	Exp
Kr^+ + NaCl	Reflection	0.5-1.0 keV	Exp
He^+ + LiF	Neutraliz., Ioniz., Dissoc.	0.5-1.0 keV	Exp
F^+ + LiF	Neutraliz., Ioniz., Dissoc.	0.5-1.0 keV	Exp
Ne^+ + LiF	Neutraliz., Ioniz., Dissoc.	0.5-1.0 keV	Exp
Ar^+ + NaCl	Neutraliz., Ioniz., Dissoc.	0.5-1.0 keV	Exp
Kr^+ + NaCl	Neutraliz., Ioniz., Dissoc.	0.5-1.0 keV	Exp

1172. T. Tsujioka, S. Tanaka, A. Nakamoto, K. Nakajima, M. Suzuki, K. Kimura
Neutralization rate for slow Ar^+ ions in front of KCl(001).
Nucl. Instrum. Methods Phys. Res. B 230, 369 (2005)

Ar + KCl	Reflection	5 keV	Exp
Ar^+ + KCl	Reflection	5 keV	Exp
Ar^{2+} + KCl	Reflection	5 keV	Exp
Ar + KCl	Neutraliz., Ioniz., Dissoc.	5 keV	Exp
Ar^+ + KCl	Neutraliz., Ioniz., Dissoc.	5 keV	Exp
Ar^{2+} + KCl	Neutraliz., Ioniz., Dissoc.	5 keV	Exp

1173. K. Morita, H. Gridneva
Effect of Auger neutralization on yields of He ions backscattered and alkali ions sputtered from the surface of alkali halides by keV He ion impact.
Nucl. Instrum. Methods Phys. Res. B 230, 373 (2005)

He^+ + LiF	Reflection	3 keV	Exp
He^+ + LiF	Sputtering	3 keV	Exp

1174. L. I. Vergara, F. W. Meyer, H. F. Krause
Path dependence of the charge state distributions of low-energy F^{q+} ions backscattered from RbI (100).
Nucl. Instrum. Methods Phys. Res. B 230, 379 (2005)

F^{2+} + RbI	Reflection	4.2 keV	Exp
F^{7+} + RbI	Reflection	4.2 keV	Exp

1175. M. Draxler, S. N. Markin, M. Kolibal, S. Prusa, T. Sikola, P. Bauer
High resolution time-of-flight low energy ion scattering.
Nucl. Instrum. Methods Phys. Res. B 230, 398 (2005)

He^+ + Cu	Reflection	3 keV	Exp

1176. H. Rothard, G. Lanzano, E. De Filippo, C. Volant
Fermi shuttle acceleration in atomic collisions: The case of ion induced electron emission.
Nucl. Instrum. Methods Phys. Res. B 230, 419 (2005)

C^+ + Au	Secondary Electron Emission	14-95 MeV/amu	Exp
Ar^+ + Au	Secondary Electron Emission	14-95 MeV/amu	Exp
Ni^+ + C	Secondary Electron Emission	14-95 MeV/amu	Exp
Ni^+ + Al	Secondary Electron Emission	14-95 MeV/amu	Exp
Ni^+ + Ni	Secondary Electron Emission	14-95 MeV/amu	Exp
Ni^+ + Ag	Secondary Electron Emission	14-95 MeV/amu	Exp
Ni^+ + Au	Secondary Electron Emission	14-95 MeV/amu	Exp
Au^+ + Au	Secondary Electron Emission	14-95 MeV/amu	Exp
Pb^+ + Au	Secondary Electron Emission	14-95 MeV/amu	Exp

1177. M. Commisso, A. Bonanno, Oliva,A., M. Camarca, F. Xu, P. Riccardi, R. A. Baragiola
Plasmon excitation and electron promotion in the interaction of slow Na^+ ions with Al surfaces.
Nucl. Instrum. Methods Phys. Res. B 230, 438 (2005)

Na^+ + Al	Secondary Electron Emission	800 eV	Exp

1178. A. M. Borisov, E. S. Mashkova, A. S. Nemov, E. S. Parilis
Ion-induced electron emission – monitoring the structure transitions in graphite.
Nucl. Instrum. Methods Phys. Res. B 230, 443 (2005)

Ar^+ + C	Secondary Electron Emission	30 keV	Exp

1179. P. Riccardi, P. Barone, A. Bonanno, Oliva,A., P. Vetro, M. Ishimoto, R. A. Baragiola
Kinetic electron emission in the interactions of slow ions with MgO surfaces.
Nucl. Instrum. Methods Phys. Res. B 230, 455 (2005)

He^+ + MgO	Secondary Electron Emission	0-3000 eV	Exp
Ne^+ + MgO	Secondary Electron Emission	0-3000 eV	Exp
Na^+ + MgO	Secondary Electron Emission	0-3000 eV	Exp
Ar^+ + MgO	Secondary Electron Emission	0-3000 eV	Exp

1180. N. Pauly, A. Dubus, M. Roesler, H. Rothard, A. Clouvas, C. Potiriadis
Electron emission induced by H^+ and H^0 incident on thin carbon foils: Influence of charge changing processes.
Nucl. Instrum. Methods Phys. Res. B 230, 460 (2005)

H + C	Secondary Electron Emission	25-5000 keV	Th
H^+ + C	Secondary Electron Emission	25-5000 keV	Th

1181. C. Potiriadis, A. Clouvas, H. Rothard, N. Pauly, A. Dubus, M. Roesler
Influence of the target thickness on the backward and forward electron emission characteristics induced by protons incident on thin carbon foils.
Nucl. Instrum. Methods Phys. Res. B 230, 466 (2005)

H^+ + C	Secondary Electron Emission	2-7 MeV	Exp

1182. S. Ninomiya, C. Imada, M. Nagai, Y. Nakata, T. Aoki, J. Matsuo, N. Imanishi
Total sputtering yields of solids under MeV-energy Si ion bombardment.
Nucl. Instrum. Methods Phys. Res. B 230, 483 (2005)

Si^+ + Cu	Sputtering	0.5-5.0 MeV	Exp
Si^+ + SiO_2	Sputtering	0.5-5.0 MeV	Exp

1183. Y. Nakata, S. Ninomiya, C. Imada, M. Nagai, T. Aoki, J. Matsuo, N. Imanishi
Secondary neutral and ionized particle measurements under MeV-energy ion bombardment.
Nucl. Instrum. Methods Phys. Res. B 230, 489 (2005)

Si^+ + InSb	Sputtering	3 MeV	Exp

1184. N. Matsunami, O. Fukuoka, T. Shimura, M. Sataka, S. Okayasu
A multi-exciton model for the electronic sputtering of oxides.
Nucl. Instrum. Methods Phys. Res. B 230, 507 (2005)

Ar^+ + SiO_2	Sputtering	60-200 MeV	E/T
Ar^+ + $MgAl_2O_4$	Sputtering	60-200 MeV	E/T
Ni^+ + SiO_2	Sputtering	60-200 MeV	E/T
Ni^+ + $MgAl_2O_4$	Sputtering	60-200 MeV	E/T
Xe^+ + SiO_2	Sputtering	60-200 MeV	E/T
Xe^+ + $MgAl_2O_4$	Sputtering	60-200 MeV	E/T

1185. A. A. Dzhurakhalov, S. E. Rahmatov, I. D. Yadgarov
Low-energy ion scattering and sputtering at grazing ion bombardment of clean and oxygen covered Ag(110) surface.
Nucl. Instrum. Methods Phys. Res. B 230, 560 (2005)

$\mathbf{N^+ + Ag}$	Reflection	2 keV	Exp
$\mathbf{Ne^+ + Ag}$	Reflection	2 keV	Exp
$\mathbf{N^+ + Ag}$	Sputtering	2 keV	Exp
$\mathbf{Ne^+ + Ag}$	Sputtering	2 keV	Exp

1186. P.-G. Fournier, A. Nourtier, V. I. Shulga, M. Ait El Fquih
Angular distribution of sputtered particles and surface morphology: The case of beryllium under a krypton beam at various incidences.
Nucl. Instrum. Methods Phys. Res. B 230, 577 (2005)

$\mathbf{Kr^+ + Be}$	Sputtering	5 keV	Exp

1187. N. N. Andrianova, A. M. Borisov, E. S. Mashkova, A. S. Nemov, V. I. Shulga
The effect of microrelief evolution on the angular dependence of polycrystalline Cu sputtering yield.
Nucl. Instrum. Methods Phys. Res. B 230, 583 (2005)

$\mathbf{Ar^+ + Cu}$	Sputtering	30 keV	Exp

1188. M. Unipan, A. Robin, D.F.A. Winters, R. Morgenstern, R. Hoekstra
Transfer of spin polarization in ion-surface scattering.
Nucl. Instrum. Methods Phys. Res. B 232, 1 (2005)

$\mathbf{He^+ + Ni}$	Reflection	0.1-20 keV	Exp
$\mathbf{He^{2+} + Ni}$	Reflection	0.1-20 keV	Exp
$\mathbf{He^+ + Ni}$	Neutraliz., Ioniz., Dissoc.	0.1-20 keV	Exp
$\mathbf{He^{2+} + Ni}$	Neutraliz., Ioniz., Dissoc.	0.1-20 keV	Exp

1189. T. Bernhard, H. Winter
Effect of ion beam irradiation on studies of surface magnetism via capture of spin-polarized electrons from a thin Co film on Cu(001).
Nucl. Instrum. Methods Phys. Res. B 232, 16 (2005)

$\mathbf{He^+ + Co}$	Reflection	25 keV	Exp
$\mathbf{He^+ + Co}$	Neutraliz., Ioniz., Dissoc.	25 keV	Exp

1190. I. K. Gainullin, E. Yu. Usman, I. F. Urazgil'din
Electron exchange between hydrogen ion and thin disk: Quantum-size effect observation.
Nucl. Instrum. Methods Phys. Res. B 232, 22 (2005)

$\mathbf{H^- + Al}$	Reflection	Undef.	Th
$\mathbf{H^- + Al}$	Neutraliz., Ioniz., Dissoc.	Undef.	Th

1191. T. Kravchuk, V. A. Esaulov, A. Hoffman, R. C. Monreal
He^+ **scattering on clean and oxygen covered Al(111).**
Nucl. Instrum. Methods Phys. Res. B 232, 27 (2005)

$\mathbf{He + Al}$	Reflection	0.5-4.0 keV	Exp
$\mathbf{He + Ag}$	Reflection	0.5-4.0 keV	Exp
$\mathbf{He^+ + Al}$	Reflection	0.5-4.0 keV	Exp
$\mathbf{He^+ + Ag}$	Reflection	0.5-4.0 keV	Exp
$\mathbf{He + Al}$	Neutraliz., Ioniz., Dissoc.	0.5-4.0 keV	Exp
$\mathbf{He + Ag}$	Neutraliz., Ioniz., Dissoc.	0.5-4.0 keV	Exp
$\mathbf{He^+ + Al}$	Neutraliz., Ioniz., Dissoc.	0.5-4.0 keV	Exp
$\mathbf{He^+ + Ag}$	Neutraliz., Ioniz., Dissoc.	0.5-4.0 keV	Exp

1192. V. H. Ponce, L. F. de Ferrariis, O. Grizzi, M. L. Martiarena, E. A. Sanchez
Forward electron emission in grazing ion-surface collisions.
Nucl. Instrum. Methods Phys. Res. B 232, 37 (2005)

H^+ + Al	Secondary Electron Emission	75-100 keV	Exp
H^+ + Si	Secondary Electron Emission	75-100 keV	Exp
H^+ + LiF	Secondary Electron Emission	75-100 keV	Exp

1193. S. Lederer, H. Winter, HP. Winter
Electron emission for grazing impact of keV He atoms on an Al(111) surface.
Nucl. Instrum. Methods Phys. Res. B 232, 47 (2005)

He + Al	Secondary Electron Emission	12 keV	Exp

1194. I. Aldazabal, M. S. Gravielle, J. E. Miraglia, A. Arnau, V. H. Ponce
Role of projectile charge state in convoy electron emission by fast protons colliding with LiF(001).
Nucl. Instrum. Methods Phys. Res. B 232, 53 (2005)

H^+ + LiF	Secondary Electron Emission	Undef.	Th

1195. T. Ikari, N. Uchino, S. Nishioka, H. Fujiwaki, K. Yamada, A. Watanabe, M. Naitoh, S. Nishigaki
Influences of the incident He* velocity on metastable de-excitation processes at a Cs-covered Si(100) surface.
Nucl. Instrum. Methods Phys. Res. B 232, 88 (2005)

He + Si	Secondary Electron Emission	0-100 eV	Exp
He + Cs	Secondary Electron Emission	0-100 eV	Exp
He + Si	Neutraliz., Ioniz., Dissoc.	0-100 eV	Exp
He + Cs	Neutraliz., Ioniz., Dissoc.	0-100 eV	Exp

1196. S.-I. Kitazawa, S. Yamamoto, M. Asano, Y. Saitoh, S. Ishiyama
Radiation-induced luminescence from sol-gel anatase TiO_2 by 10 keV O^+ irradiation.
Nucl. Instrum. Methods Phys. Res. B 232, 94 (2005)

O^+ + TiO_2	Surface Interactions	10 keV	Exp

1197. R. Souda
TOF-SIMS analysis of ion-water interactions.
Nucl. Instrum. Methods Phys. Res. B 232, 125 (2005)

H^+ + H_2O	Sputtering	1.5 keV	Exp
He^+ + H_2O	Sputtering	1.5 keV	Exp
Ar^+ + H_2O	Sputtering	1.5 keV	Exp

1198. S. Sarkar, P. Chakraborty
Instantaneous surface work function dependence of $MCs_n{}^+$ molecular ion emission under varying Cs environments.
Nucl. Instrum. Methods Phys. Res. B 232, 153 (2005)

Cs^+ + Al	Sputtering	1-5 keV	Exp

1199. S. Tsurubuchi, T. Nimura
Survival coefficient of $Ga(5s^2S_{1/2})$ sputtered from a GaAs surface.
Nucl. Instrum. Methods Phys. Res. B 232, 159 (2005)

Ar^+ + GaAs	Neutraliz., Ioniz., Dissoc.	10-70 keV	Exp
Ar^+ + GaAs	Sputtering	10-70 keV	Exp

1200. M. Akiyoshi, H. Sakamoto, R. Haraguchi, K. Moritani, I. Takagi, H. Moriyama
TOF measurement of electron volt energy hydrogen atoms reflected by stainless-steel surface.
Nucl. Instrum. Methods Phys. Res. B 232, 173 (2005)

H + Fe	Reflection	12,000 deg K	Exp
H + SS	Reflection	12,000 deg K	Exp

1201. N. Okabayashi, K. Komaki, Y. Yamazaki
Potential sputtering and kinetic sputtering from a water adsorbed Si(100) surface with slow highly charged ions.
Nucl. Instrum. Methods Phys. Res. B 232, 244 (2005)

Ar^{4+} + Si	Sputtering	1.2-3.2 keV	Exp
Ar^{4+} + H_2O	Sputtering	1.2-3.2 keV	Exp
Ar^{5+} + Si	Sputtering	1.2-3.2 keV	Exp
Ar^{5+} + H_2O	Sputtering	1.2-3.2 keV	Exp
Ar^{6+} + Si	Sputtering	1.2-3.2 keV	Exp
Ar^{6+} + H_2O	Sputtering	1.2-3.2 keV	Exp
Ar^{7+} + Si	Sputtering	1.2-3.2 keV	Exp
Ar^{7+} + H_2O	Sputtering	1.2-3.2 keV	Exp
Ar^{8+} + Si	Sputtering	1.2-3.2 keV	Exp
Ar^{8+} + H_2O	Sputtering	1.2-3.2 keV	Exp

1202. M. Tona, K. Nagata, S. Takahashi, N. Nakamura, N. Yoshiyasu, M. Sakurai, C. Yamada, S. Ohtani
Secondary ion emission from solid surfaces irradiated with highly charged ions.
Nucl. Instrum. Methods Phys. Res. B 232, 249 (2005)

Xe^{29+} + C	Sputtering	10^5 eV	Exp
Xe^{44+} + C	Sputtering	10^5 eV	Exp

1203. K. Motohashi, S. Tsurubuchi, A. Koukitu
Momentum-imaging spectroscopy of secondary ions from GaN and SiC surfaces collided with highly charged ions at grazing angle.
Nucl. Instrum. Methods Phys. Res. B 232, 254 (2005)

Ar^{3+} + SiC	Sputtering	7.5-35 keV	Exp
Ar^{3+} + GaN	Sputtering	7.5-35 keV	Exp
Ar^{8+} + SiC	Sputtering	7.5-35 keV	Exp
Ar^{8+} + GaN	Sputtering	7.5-35 keV	Exp
Ar^{11+} + SiC	Sputtering	7.5-35 keV	Exp
Ar^{11+} + GaN	Sputtering	7.5-35 keV	Exp
Ar^{14+} + SiC	Sputtering	7.5-35 keV	Exp
Ar^{14+} + GaN	Sputtering	7.5-35 keV	Exp

1204. M. Draxler, P. Zeppenfeld, R. Beikler, E. Taglauer, P. Bauer
Ion and neutral scattering spectra in LEIS.
Nucl. Instrum. Methods Phys. Res. B 232, 266 (2005)

He^+ + Au	Reflection	1 keV	Exp

1205. I. Takagi, N. Matsubara, M. Akiyoshi, K. Moritani, T. Sasaki, H. Moriyama
Deuterium trapping near vanadium surface bombarded with hydrogen ions.
Nucl. Instrum. Methods Phys. Res. B 232, 327 (2005)

$\mathbf{H^{+} + V}$	Trapping, Detrapping	300 deg K	Exp
$\mathbf{D^{+} + V}$	Trapping, Detrapping	300 deg K	Exp

1206. G. Lanzano, E. De Filippo, H. Rothard, C. Volant, A. Anzalone, N. Arena, M. Geraci, F. Giustolisi, A. Pagano
Fast electron production in collisions of swift heavy ions (20 MeV/u ¡ E ¡ 100 MeV/u) with foils of solids.
Nucl. Instrum. Methods Phys. Res. B 233, 31 (2005)

$\mathbf{Ni^{19+} + C}$	Secondary Electron Emission	45 MeV/u	Exp
$\mathbf{Ni^{19+} + Al}$	Secondary Electron Emission	45 MeV/u	Exp
$\mathbf{Ni^{19+} + Ni}$	Secondary Electron Emission	45 MeV/u	Exp
$\mathbf{Ni^{19+} + Ag}$	Secondary Electron Emission	45 MeV/u	Exp
$\mathbf{Ni^{19+} + Au}$	Secondary Electron Emission	45 MeV/u	Exp
$\mathbf{Ni^{19+} + Bi}$	Secondary Electron Emission	45 MeV/u	Exp

1207. F. Aumayr, HP. Winter
Inelastic interactions of slow ions and atoms with surfaces.
Nucl. Instrum. Methods Phys. Res. B 233, 111 (2005)

$\mathbf{H + Al}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{H + LiF}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ne^{+} + Au}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ne^{2+} + Au}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ne^{3+} + Au}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ne^{4+} + Au}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ne^{5+} + Au}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ne^{6+} + Au}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ne^{7+} + Au}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ne^{8+} + Au}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ne^{9+} + Au}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ar^{+} + LiF}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ar^{4+} + LiF}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ar^{8+} + LiF}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ar^{11+} + LiF}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Ar^{14+} + LiF}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Xe^{9+} + Al_2O_3}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Xe^{14+} + Al_2O_3}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Xe^{19+} + Al_2O_3}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Xe^{25+} + Al_2O_3}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{Xe^{28+} + Al_2O_3}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{H_2{}^{+} + C}$	Secondary Electron Emission	2-4000 keV	Th
$\mathbf{H + Al}$	Sputtering	2-4000 keV	Th
$\mathbf{H + LiF}$	Sputtering	2-4000 keV	Th
$\mathbf{Ne^{+} + Au}$	Sputtering	2-4000 keV	Th
$\mathbf{Ne^{2+} + Au}$	Sputtering	2-4000 keV	Th
$\mathbf{Ne^{3+} + Au}$	Sputtering	2-4000 keV	Th
$\mathbf{Ne^{4+} + Au}$	Sputtering	2-4000 keV	Th
$\mathbf{Ne^{5+} + Au}$	Sputtering	2-4000 keV	Th
$\mathbf{Ne^{6+} + Au}$	Sputtering	2-4000 keV	Th
$\mathbf{Ne^{7+} + Au}$	Sputtering	2-4000 keV	Th
$\mathbf{Ne^{8+} + Au}$	Sputtering	2-4000 keV	Th
$\mathbf{Ne^{9+} + Au}$	Sputtering	2-4000 keV	Th
$\mathbf{Ar^{+} + LiF}$	Sputtering	2-4000 keV	Th
$\mathbf{Ar^{4+} + LiF}$	Sputtering	2-4000 keV	Th
$\mathbf{Ar^{8+} + LiF}$	Sputtering	2-4000 keV	Th
$\mathbf{Ar^{11+} + LiF}$	Sputtering	2-4000 keV	Th

Ar^{14+} + LiF	Sputtering	2-4000 keV	Th
Xe^{9+} + Al_2O_3	Sputtering	2-4000 keV	Th
Xe^{14+} + Al_2O_3	Sputtering	2-4000 keV	Th
Xe^{19+} + Al_2O_3	Sputtering	2-4000 keV	Th
Xe^{25+} + Al_2O_3	Sputtering	2-4000 keV	Th
Xe^{28+} + Al_2O_3	Sputtering	2-4000 keV	Th
$H_2{}^+$ + C	Sputtering	2-4000 keV	Th

1208. X. W. Zhou, H.N.G. Wadley, S. Sainathan
Low energy sputtering of nickel by normally incident xenon ions.
Nucl. Instrum. Methods Phys. Res. B 234, 441 (2005)

Xe^+ + Ni	Sputtering	50-1000 eV	E/T

1209. C. Lemell, X.-M. Tong, K. Toekesi, L. Wirtz, J. Burgdorfer
Electron emission from surfaces induced by HCI and lasers.
Nucl. Instrum. Methods Phys. Res. B 235, 425 (2005)

N^{6+} + Fe	Secondary Electron Emission	0-500 eV	Th

1210. N. Okabayashi, K. Komaki, Y. Yamazaki
Energy- and angular-distributions of F^+ ions emitted from a F-terminated Si(100) surface with slow highly charged ions.
Nucl. Instrum. Methods Phys. Res. B 235, 438 (2005)

Ar^{5+} + F	Sputtering	3.9 keV	Exp
Ar^{5+} + Si	Sputtering	3.9 keV	Exp

1211. N. V. Novikov, Ya. A. Teplova, Yu. A. Fainberg, V. S. Kulikauskas
Reflection of nitrogen ions from copper surface: Experiment and calculations.
Nucl. Instrum. Methods Phys. Res. B 235, 448 (2005)

N^+ + Cu	Reflection	300 keV	E/T

1212. S. Takahashi, M. Tona, K. Nagata, N. Yoshiyasu, N. Nakamura, M. Sakurai, C. Yamada, S. Ohtani
Observation of surface modification and secondary particle emission in HCI-surface interaction.
Nucl. Instrum. Methods Phys. Res. B 235, 456 (2005)

Xe^{29+} + Si	Sputtering	150 keV	Exp
Xe^{44+} + Si	Sputtering	150 keV	Exp
Xe^{50+} + Si	Sputtering	150 keV	Exp

1213. P. Rajasekar, A. Lennart, N. F. Materer
Ion-bombardment induced light emission from Si(100) surfaces under continuous germane exposures.
Nucl. Instrum. Methods Phys. Res. B 237, 485 (2005)

Ar^+ + Si	Sputtering	1-5 keV	Exp
Ar^+ + GeH_2	Sputtering	1-5 keV	Exp

1214. Y. Metulevich, S. Lederer, H. Winter
Near-threshold emission of electrons during grazing scattering of keV Ne atoms from an Al(111) surface.
Phys. Rev. B 71, 033405 (2005)

Ne^+ + Al	Reflection	2-30 keV	Exp
Ne^+ + Al	Secondary Electron Emission	2-30 keV	Exp

1215. J. Cazaux, Y. Bozhko, N. Hilleret
Electron-induced secondary electron emission yield from condensed rare gases: Ne, Ar, Kr, and Xe.
Phys. Rev. B 71, 035419 (2005)

e + Ne	Secondary Electron Emission	0.05-3.0 keV	Exp
e + Ar	Secondary Electron Emission	0.05-3.0 keV	Exp
e + Kr	Secondary Electron Emission	0.05-3.0 keV	Exp
e + Xe	Secondary Electron Emission	0.05-3.0 keV	Exp

1216. W.S.M. Werner
Trajectory reversal approach for electron backscattering from solid surfaces.
Phys. Rev. B 71, 115415 (2005)

e + Be	Reflection	$50 - 10^4$ eV	Th
e + Al	Reflection	$50 - 10^4$ eV	Th
e + Cu	Reflection	$50 - 10^4$ eV	Th
e + Au	Reflection	$50 - 10^4$ eV	Th
e + PERT	Reflection	$50 - 10^4$ eV	Th

1217. A. R. Canario, A. G. Borisov, J. P. Gauyacq, V. A. Esaulov
Nonadiabatic effects in atom-surface charge transfer.
Phys. Rev. B 71, 121401 (2005)

Li^+ + Ag	Reflection	100-2000 eV	E/T

1218. S. Bouneau, S. Della-Negra, D. Jacquet, Y. Le Beyec, M. Pautrat, M. H. Shapiro, T. A. Tombrello
Measurement of energy and angular distributions of secondary ions in the sputtering of gold by swift Au_n clusters: Study of emission mechanisms.
Phys. Rev. B 71, 174110 (2005)

Au^+ + Au	Sputtering	200 keV	Exp

1219. A. Hellman, B. Razaznejad, B. I. Lundqvist
Trends in sticking and adsorption of diatomic molecules on the Al(111) surface.
Phys. Rev. B 71, 205424 (2005)

CO + Al	Adsorption, Desorption	0-1.2 eV	Exp
N_2 + Al	Adsorption, Desorption	0-1.2 eV	Exp
NO + Al	Adsorption, Desorption	0-1.2 eV	Exp
O_2 + Al	Adsorption, Desorption	0-1.2 eV	Exp
F_2 + Al	Adsorption, Desorption	0-1.2 eV	Exp

1220. T. Bernhard, H. Winter
Monitoring growth of ultrathin films via ion-induced electron emission.
Phys. Rev. B 71, 24140 (2005)

H^+ + Co	Reflection	25 keV	Exp
H^+ + Cu	Reflection	25 keV	Exp
He^+ + Co	Reflection	25 keV	Exp
He^+ + Cu	Reflection	25 keV	Exp
N^+ + Co	Reflection	25 keV	Exp
N^+ + Cu	Reflection	25 keV	Exp

H^+ + Co	Secondary Electron Emission	25 keV	Exp
H^+ + Cu	Secondary Electron Emission	25 keV	Exp
He^+ + Co	Secondary Electron Emission	25 keV	Exp
He^+ + Cu	Secondary Electron Emission	25 keV	Exp
N^+ + Co	Secondary Electron Emission	25 keV	Exp
N^+ + Cu	Secondary Electron Emission	25 keV	Exp

1221. X. Chen, Z. Sroubek, J. A. Yarmoff
Ionization of Al recoiled and sputtered from Al(100).
Phys. Rev. B 71, 245412 (2005)

Xe^+ + Al	Sputtering	2-5 keV	E/T

1222. D. Valdes, E. C. Goldberg, J. M. Blanco, R. C. Monreal
Linear combination of atomic orbitals calculation of the Auger neutralization rate of He^+ on Al(111), (100), and (110) surfaces.
Phys. Rev. B 71, 245417 (2005)

He^+ + Al	Reflection	100-1000 eV	Th
He^+ + Al	Neutraliz., Ioniz., Dissoc.	100-1000 eV	Th

1223. C. Diaz, M. F. Somers, G. J. Kroes, H. F. Busnengo, A. Salin, F. Martin
Quantum and classical dynamics of H_2 scattering from Pd(111) at off-normal incidence.
Phys. Rev. B 72, 035401 (2005)

H_2 + Pd	Reflection	140-230 MeV	Th
H_2 + Pd	Neutraliz., Ioniz., Dissoc.	140-230 MeV	Th

1224. J. Herring-Captain, G. A. Grieves, A. Alexandrov, M. T. Sieger, H. Chen, T. M. Orlando
Low-energy (5-250 eV) electron-stimulated desorption of H^+, $H_2{}^+$, and $H^+(H_2O)_n$ from low-temperature water ice surfaces.
Phys. Rev. B 72, 035431 (2005)

e + H_2O	Sputtering	5-250 eV	E/T

1225. J. O. Lugo, E. C. Goldberg, E. A. Sanchez, O. Grizzi
Charge exchange in 3-30 keV H^+ scattering off clean and $AlF_3 - covered$ Al(111) surfaces I. Experimental study.
Phys. Rev. B 72, 035432 (2005)

H^+ + Al	Reflection	3-30 keV	Exp
H^+ + AlF_3	Reflection	3-30 keV	Exp

1226. J. O. Lugo, E. C. Goldberg, E. A. Sanchez, O. Grizzi
Charge exchange in 3-30 keV H^+ scattering off clean and $AlF_3 - covered$ Al(111) surfaces II. Theoretical study.
Phys. Rev. B 72, 035433 (2005)

H^+ + Al	Reflection	3-30 keV	Th
H^+ + AlF_3	Reflection	3-30 keV	Th

1227. N. Bajales, S. Montoro, E. C. Goldberg, R. A. Baragiola, J. Ferron
Identification of mechanisms of ion induced electron emission by factor analysis.
Surf. Sci. 579, 97 (2005)

Li^+ + Al	Secondary Electron Emission	1-5 keV	E/T
Ar^+ + Al	Secondary Electron Emission	1-5 keV	E/T

1228. M. Portail, J. B. Faure, T. Angot, J. M. Layet
Electronic modifications and surface reactivity of an ion bombarded graphite surface.
Surf. Sci. 581, 24 (2005)

$\mathbf{Ar^+ + C}$	Chemical Reactions	0.3-5.0 keV	Exp
$\mathbf{H_2{}^+ + C}$	Chemical Reactions	0.3-5.0 keV	Exp
$\mathbf{D_2{}^+ + C}$	Chemical Reactions	0.3-5.0 keV	Exp

1229. A. Lafosse, D. Caceres, M. Bertin, A. Hoffman, R. Azria
Role of electronic band structure and resonances on electron-scattering. The case of the hydrogenated polycrystalline diamond.
Surf. Sci. 587, 134 (2005)

e + H	Reflection	3-17 eV	Exp
e + C	Reflection	3-17 eV	Exp
e + D	Reflection	3-17 eV	Exp

1230. R. A. Vidal, B. D. Teolis, R. A. Baragiola
Angular dependence of the sputtering yield of water ice by 100 keV proton bombardment.
Surf. Sci. 588, 1 (2005)

$\mathbf{H^+ + H_2O}$	Sputtering	100 keV	Exp

1231. M. Kurahashi, Y. Yamauchi
Effects of adsorbate-induced states on the metastable He atom scattering from water- and benzene-adsorbed Cu(100).
Surf. Sci. 590, 21 (2005)

He + Cu	Neutraliz., Ioniz., Dissoc.	Undef.	Exp
$\mathbf{He + H_2O}$	Neutraliz., Ioniz., Dissoc.	Undef.	Exp
$\mathbf{He + C_6H_6}$	Neutraliz., Ioniz., Dissoc.	Undef.	Exp

1232. M. S. Gravielle, J. E. Miraglia
Interference effects in electron capture from insulator surfaces.
Phys. Rev. A 71, 032901 (2005)

$\mathbf{H^+ + LiF}$	Reflection	100 keV	Th
$\mathbf{H^+ + LiF}$	Neutraliz., Ioniz., Dissoc.	100 keV	Th

3.4 Plasma Theory, Models

1233. H. Paul, A. Schinner
Judging the reliability of stopping power tables and programs for protons and alpha particles using statistical methods.
Nucl. Instrum. Methods Phys. Res. B 227, 461 (2005)

$\mathbf{H^+ + A + LiF}$	Plasma Theory, Models	$10^{-6} - 10^3$ MeV/u	E/T
$\mathbf{He^{2+} + A + LiF}$	Plasma Theory, Models	$10^{-6} - 10^3$ MeV/u	E/T

3.5 Data Collection, Bibliographic and Progress Report

1234. Y. Itikawa
Vibrational excitation of polyatomic molecules by electron collisions.
J. Phys. B 37, R1 (2004)

e + H_2O + LiF	Data Collection, Bibliography	0.1-15 eV	E/T
e + CH_4 + LiF	Data Collection, Bibliography	0.1-15 eV	E/T
e + CO_2 + LiF	Data Collection, Bibliography	0.1-15 eV	E/T
e + C_2H_6 + LiF	Data Collection, Bibliography	0.1-15 eV	E/T

1235. F. L. Schoier, F.F.S. van der Tak, E. F. van Dishoeck, J. H. Black
An atomic and molecular database for analysis of submillimetre line observations.
Astron. Astrophys. 432, 369 (2005)

CO + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T
SO_2 + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T
CS + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T
HCO^+ + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T
HCN + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T
HNC + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T
SiO + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T
N_2H^+ + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T
SiS + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T
HCS^+ + H_2 + LiF	Data Collection, Bibliography	Undef.	E/T

1236. R. P. Bauman, R. L. Porter, G. J. Ferland, K. B. MacAdam
J-resolved He I emission predictions in the low-density limit.
Astrophys. J., Part 1 628, 541 (2005)

e + He^+ + LiF	Data Collection, Bibliography	Undef.	Th

1237. H. Paul, A. Schinner
Judging the reliability of stopping power tables and programs for protons and alpha particles using statistical methods.
Nucl. Instrum. Methods Phys. Res. B 227, 461 (2005)

H^+ + A + LiF	Data Collection, Bibliography	$10^{-6} - 10^{3}$ MeV/u	E/T
He^{2+} + A + LiF	Data Collection, Bibliography	$10^{-6} - 10^{3}$ MeV/u	E/T

3.6 Fusion Research of General Interest

1238. T. Andersen
Atomic negative ions: Structure, dynamics and collisions.
Phys. Rep. 394, 157 (2004)

3.7 Particle Beam-Matter Interactions

1239. G. A. Bocan, J. E. Miraglia
Excitation of two interacting electrons as a plasmon-decay mechanism in proton-aluminum collisions.
Phys. Rev. A 69, 012901 (2004)

H^+ + Al + LiF	Part. Beam-Matter Interaction	225 keV/u	Th

1240. A. F. Lifschitz, N. R. Arista
Effective charge and the mean charge of swift ions in solids.
Phys. Rev. A 69, 012902 (2004)

H^+ + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th
He^{2+} + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th
Li^{3+} + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th
Cl^{17+} + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th
Br^{35+} + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th
I^{53+} + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th
U^{92+} + C + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th
A + LiF	Part. Beam-Matter Interaction	1-10 MeV/u	Th

1241. V. P. Shevelko, O. Rosmej, H. Tawara, I. Yu. Tolstikhina
The target-density effect in electron-capture processes.
J. Phys. B 37, 201 (2004)

C^{6+} + Cs + LiF	Part. Beam-Matter Interaction	$1-10^5$ keV/u	Th
O^{7+} + He + LiF	Part. Beam-Matter Interaction	$1-10^5$ keV/u	Th
Ni^{28+} + SiO_2 + LiF	Part. Beam-Matter Interaction	$1-10^5$ keV/u	Th

1242. Y. Susuki, K.-I. Nishioka, M. Maehara, J. Hyoi, T. Ikeda, K. Katsura
Effect of exit surface on neutral fraction in mega-electron-volt hydrogen beams transmitted through aluminum epitaxial foils under a planar channeling condition.
Phys. Rev. A 69, 032710 (2004)

H^+ + Al + LiF	Part. Beam-Matter Interaction	0.3-0.6 MeV	Exp

1243. L. Weissman, D. A. Davieas, P. A. Lofy, D. J. Morrissey
Stopping energetic heavy ions in one-bar helium: Narrow incident momentum distributions.
Nucl. Instrum. Methods Phys. Res. A 522, 213 (2004)

Ar^+ + He + LiF	Part. Beam-Matter Interaction	100-150 MeV/amu	Exp
Ca^+ + He + LiF	Part. Beam-Matter Interaction	100-150 MeV/amu	Exp
Ge^+ + He + LiF	Part. Beam-Matter Interaction	100-150 MeV/amu	Exp
Kr^+ + He + LiF	Part. Beam-Matter Interaction	100-150 MeV/amu	Exp
Xe^+ + He + LiF	Part. Beam-Matter Interaction	100-150 MeV/amu	Exp

1244. P. K. Diwan, S. Kumar
Electronic stopping power of elemental and complex targets for heavy ions from $_3Li$ to $_{29}Cu$ at low energies: An extended approach.
Nucl. Instrum. Methods Phys. Res. B 215, 27 (2004)

Li^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Li^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Li^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Li^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Li^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Li^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Li^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
B^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
B^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
B^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T

B^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
B^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
B^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
B^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
C^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
C^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
C^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
C^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
C^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
C^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
C^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
N^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
N^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
N^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
N^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
N^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
N^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
N^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
O^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
O^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
O^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
O^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
O^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
O^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
O^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
F^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
F^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
F^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
F^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
F^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
F^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
F^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Mg^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Mg^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Mg^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Mg^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Mg^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Mg^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Mg^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Al^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Al^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Al^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Al^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Al^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Al^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Al^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Cl^+ + C + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Cl^+ + Al + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Cl^+ + Si + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Cl^+ + Ni + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Cl^+ + Ag + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Cl^+ + Ta + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T
Cl^+ + Au + LiF	Part. Beam-Matter Interaction	0.2-1.0 MeV/u	E/T

1245. T.D.M. Weijers, B. C. Duck, D. J. O'Connor
The development of a stopping power predictor for ions with energies of 0.1-1.0 MeV/u in elemental targets.

He + He + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
He + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
He + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
He + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
He + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Be + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Be + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + He + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Be + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Ne + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Na + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + K + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Ca + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Sc + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Cr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Mn + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Fe + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Cu + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Ge + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Br + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
C + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ne + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Ne + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Na + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Cu + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Ge + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Br + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Al + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + Be + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th

Si + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + Na + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + P + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + Mn + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Si + Fe + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ar + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ar + Be + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ar + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ar + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ar + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ar + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ti + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Fe + He + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Fe + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Fe + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Fe + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Fe + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Fe + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Fe + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ni + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ni + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ni + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ni + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ni + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ni + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ni + Ne + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ni + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ni + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ni + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th

Cu + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + Fe + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + Ni + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + Cu + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Cu + Br + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ge + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ge + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ge + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ge + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ge + P + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ge + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Kr + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Kr + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Zr + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Zr + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Mo + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Mo + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Pd + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Ne + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Ni + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Cu + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Ge + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Br + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ag + U + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Sn + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Sn + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Sn + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Sn + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Xe + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Xe + Xe + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Gd + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Gd + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Gd + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Gd + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Lu + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ta + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ta + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ta + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Ta + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
W + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
W + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Pt + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Pt + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th

Au + Li + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + B + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + C + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + N + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + O + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + F + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + Na + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + Mg + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + Al + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + Si + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + S + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + Cl + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + Cu + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + Br + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Au + Kr + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
Pb + Ti + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
U + Ar + LiF	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
$\mathbf{H_2}$ **+ He + LiF**	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
$\mathbf{H_2}$ **+ S + LiF**	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
$\mathbf{H_2}$ **+ Cl + LiF**	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
$\mathbf{N_2}$ **+ He + LiF**	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
$\mathbf{N_2}$ **+ S + LiF**	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
$\mathbf{N_2}$ **+ Cl + LiF**	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
$\mathbf{N_2}$ **+ Ar + LiF**	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th
$\mathbf{A^+}$ **+ A + LiF**	Part. Beam-Matter Interaction	0.1-1.0 MeV/u	Th

1246. Y. Zhang, W. J. Weber, H. J. Whitlow
Electronic stopping powers for heavy ions in silicon.
Nucl. Instrum. Methods Phys. Res. B 215, 48 (2004)

$\mathbf{Be^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{B^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{C^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{N^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{O^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{F^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{Mg^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{Al^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{Si^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{Cr^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{Mn^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{Fe^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{Co^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp
$\mathbf{Cu^+}$ **+ Si + LiF**	Part. Beam-Matter Interaction	100-700 keV/u	Exp

1247. V. Cobut, L. Cirioni, J. P. Patau
Accurate transport simulation of electron tracks in the energy range 1 keV-4 MeV.
Nucl. Instrum. Methods Phys. Res. B 215, 57 (2004)

e + Al + LiF	Part. Beam-Matter Interaction	1-4000 keV	Th
e + Si + LiF	Part. Beam-Matter Interaction	1-4000 keV	Th

1248. W. N. Lennard, H. Xia, J. K. Kim
Revisiting the stopping powers of Si and SiO_2 for ^4He ions: 0.5-2.0 MeV.
Nucl. Instrum. Methods Phys. Res. B 215, 297 (2004)

$\mathbf{He^+ + Si + LiF}$	Part. Beam-Matter Interaction	0.5-2.0 MeV	Th
$\mathbf{He^+ + SiO_2 + LiF}$	Part. Beam-Matter Interaction	0.5-2.0 MeV	Th

1249. U. Greife, S. Bishop, L. Buchmann, M. L. Chatterjee, A. A. Chen, J. M. D'Auria, S. Engel, D. Gigliotti, D. Hunter, D. A. Hutcheon, A. Hussein, C. C. Jewett, A. M. Laird, M. Lamey, W. Liu, A. Olin, D. Ottewell, J. Rogers, C. Wrede
Energy loss around the stopping power maximum of Ne, Mg and Na ions in hydrogen gas.
Nucl. Instrum. Methods Phys. Res. B 217, 1 (2004)

$\mathbf{Ne^+ + H_2 + LiF}$	Part. Beam-Matter Interaction	200-1150 keV/u	E/T
$\mathbf{Na^+ + H_2 + LiF}$	Part. Beam-Matter Interaction	200-1150 keV/u	E/T
$\mathbf{Mg^+ + H_2 + LiF}$	Part. Beam-Matter Interaction	200-1150 keV/u	E/T

1250. P. Hu, J. Zhang, Q. Jin, L. Shi, Z. Zhou
Proton elastic scattering cross sections of titanium from 1.0 to 3.0 MeV at the laboratory angle of 1151 deg**.**
Nucl. Instrum. Methods Phys. Res. B 217, 551 (2004)

$\mathbf{H^+ + Ti + LiF}$	Part. Beam-Matter Interaction	1-3 MeV	Exp

1251. M. Tosaki, D. Ohsawa, Y. Isozumi
Experimental energy straggling of protons in inhomogeneous materials.
Nucl. Instrum. Methods Phys. Res. B 219-220, 241 (2004)

$\mathbf{H^+ + C + LiF}$	Part. Beam-Matter Interaction	5.5 MeV	Exp

1252. L. L. Araujo, M. Behar, P. L. Grande, J. F. Dias
Random energy loss and straggling study of ^9Be ions in silicon.
Nucl. Instrum. Methods Phys. Res. B 219-220, 246 (2004)

$\mathbf{Be^+ + Si + LiF}$	Part. Beam-Matter Interaction	500-7000 keV	Exp

1253. J. Y. Hsu, Y. C. Yu, J. H. Liang, K. M. Chen, H. Niu
Energy loss of He, Li and B isotopes with MeV energies in Au.
Nucl. Instrum. Methods Phys. Res. B 219-220, 251 (2004)

$\mathbf{He^+ + Au + LiF}$	Part. Beam-Matter Interaction	1-6 MeV	Exp
$\mathbf{Li^+ + Au + LiF}$	Part. Beam-Matter Interaction	1-6 MeV	Exp
$\mathbf{B^+ + Au + LiF}$	Part. Beam-Matter Interaction	1-6 MeV	Exp

1254. Y. Zhang, W. J. Weber
Studies of electronic stopping powers using time of flight spectrometry.
Nucl. Instrum. Methods Phys. Res. B 219-220, 256 (2004)

$\mathbf{He^+ + C + LiF}$	Part. Beam-Matter Interaction	2-10 MeV	Exp
$\mathbf{He^+ + Si + LiF}$	Part. Beam-Matter Interaction	2-10 MeV	Exp
$\mathbf{O^+ + C + LiF}$	Part. Beam-Matter Interaction	2-10 MeV	Exp
$\mathbf{O^+ + Si + LiF}$	Part. Beam-Matter Interaction	2-10 MeV	Exp
$\mathbf{Al^+ + C + LiF}$	Part. Beam-Matter Interaction	2-10 MeV	Exp
$\mathbf{Al^+ + Si + LiF}$	Part. Beam-Matter Interaction	2-10 MeV	Exp

1255. H. Timmers, K. Strenstroem, M. Graczyk, H. J. Whitlow
Energy loss measurements for mass-14 ions using a patterned stopping medium on a PIN diode.
Nucl. Instrum. Methods Phys. Res. B 219-220, 263 (2004)

C^+ + Au + LiF	Part. Beam-Matter Interaction	6-10 MeV	Exp
N^+ + Au + LiF	Part. Beam-Matter Interaction	6-10 MeV	Exp

1256. C. Pascual-Izarra, M. Bianconi, N. P. Barradas, A. Climent-Font, G. Garcia, J. Gonzalo, C. N. Afonso
Continuous stopping power curves of Al_2O_3 for 0.2-2.5 MeV He ions.
Nucl. Instrum. Methods Phys. Res. B 219-220, 268 (2004)

He^+ + Al_2O_3 + LiF	Part. Beam-Matter Interaction	0.2-2.5 MeV	Exp

1257. M. Nigam, J. L. Duggan, M. El Bouanani, C. Yang, G. V. Ravi Prasad, E. D. Sosa, S. Matteson, F. D. McDaniel
Stopping power of thin GaAs films for Si and P ions.
Nucl. Instrum. Methods Phys. Res. B 219-220, 273 (2004)

Si^+ + GaAs + LiF	Part. Beam-Matter Interaction	3 MeV	Exp
P^+ + GaAs + LiF	Part. Beam-Matter Interaction	3 MeV	Exp

1258. M. D. Barriga-Carrasco, R. Garcia-Molina
Simulation of the energy spectra of original versus recombined $H_2{}^+$ molecular ions transmitted through thin foils.
Phys. Rev. A 70, 032901 (2004)

$H_2{}^+$ + C + LiF	Part. Beam-Matter Interaction	0.025-19.193 MeV	Th

1259. L. L. Araujo, P. L. Grande, M. Behar, J. F. Dias, A. F. Lifschitz, N. R. Arista, G. Schiwietz
Electronic energy loss of channeled ions: The giant Barkas effect.
Phys. Rev. A 70, 032903 (2004)

Be + Si + LiF	Part. Beam-Matter Interaction	0.100-1 MeV/u	Exp
B + Si + LiF	Part. Beam-Matter Interaction	0.100-1 MeV/u	Exp

1260. S. V. Stepanov, V. M. Byakov
Energy loss rate and thermalization of subionizing positrons and electrons.
Nucl. Instrum. Methods Phys. Res. B 221, 235 (2004)

e + H_2O + LiF	Part. Beam-Matter Interaction	0.01-100 eV	Th
e + D_2O + LiF	Part. Beam-Matter Interaction	0.01-100 eV	Th

1261. J. E. Valdes, C. Parra, J. Diaz-Valdes, C. D. Denton, C. Agurto, F. Ortega, N. R. Arista, P. Vargas
Experimental energy loss of slow H^+ and $H_2{}^+$ in channeling conditions.
Phys. Rev. A 68, 064901 (2003)

H^+ + Au + LiF	Part. Beam-Matter Interaction	1-7.5 keV/u	Exp
$H_2{}^+$ + Au + LiF	Part. Beam-Matter Interaction	1-7.5 keV/u	Exp

1262. G. H. Lantschner, J. C. Eckardt, A. F. Lifschitz, N. R. Arista, L. L. Araujo, P. F. Duarte, J.H.R. dos Santos, M. Behar, J. F. Dias, P. L. Grande, C. C. Montanari, J. E. Miraglia
Energy loss of helium ions in zinc.
Phys. Rev. A 69, 062903 (2004)

He^+ + Zn + LiF	Part. Beam-Matter Interaction	37.5-1750 keV/u	Exp

1263. M. M. Li, D. J. O'Connor, H. Timmers
A study of the charge state approach to the stopping power of MeV B, N and O ions in carbon.
Nucl. Instrum. Methods Phys. Res. B 222, 11 (2004)

B^+ + C + LiF	Part. Beam-Matter Interaction	5-70 MeV	Th
N^+ + C + LiF	Part. Beam-Matter Interaction	5-70 MeV	Th
O^+ + C + LiF	Part. Beam-Matter Interaction	5-70 MeV	Th

1264. Z. Tan, Y. Xia, M. Zhao, X. Liu, F.-X. Li, B. Huang, Y. Ji
Electron stopping power and mean free path in organic compounds over the energy range of 20-10,000 eV.
Nucl. Instrum. Methods Phys. Res. B 222, 27 (2004)

e + H_2O + LiF	Part. Beam-Matter Interaction	0-10 keV	Exp

1265. S. A. Cruz
Pressure effects on the stopping and range of heavy ions.
Nucl. Instrum. Methods Phys. Res. B 222, 411 (2004)

He^+ + H_2O + LiF	Part. Beam-Matter Interaction	10-400 keV	Th
He^+ + CH_4 + LiF	Part. Beam-Matter Interaction	10-400 keV	Th
Li^+ + H_2O + LiF	Part. Beam-Matter Interaction	10-400 keV	Th
Li^+ + CH_4 + LiF	Part. Beam-Matter Interaction	10-400 keV	Th

1266. U. Haellsten, O. Solin
A method for calculating the energy distribution and yield of electrons ejected by protons in nitrogen gas targets.
Nucl. Instrum. Methods Phys. Res. B 222, 421 (2004)

H^+ + N_2 + LiF	Part. Beam-Matter Interaction	4.3 MeV	Th

1267. J. M. Corstens, W. Knulst, O. J. Luiten, M. J. van der Wiel
An efficient method for calculating plural scattering of relativistic electrons in thin foils and multilayers.
Nucl. Instrum. Methods Phys. Res. B 222, 437 (2004)

e + C + LiF	Part. Beam-Matter Interaction	10 MeV	Th
e + Al + LiF	Part. Beam-Matter Interaction	10 MeV	Th

1268. C. Pascual-Izarra, G. Garcia
An efficient method for stopping force determination.
Nucl. Instrum. Methods Phys. Res. B 225, 383 (2004)

He^+ + Al_2O_3 + LiF	Part. Beam-Matter Interaction	$50 - 10^4$ keV	E/T

1269. Y. Sato, T. Miyoshi, T. Murakami, K. Noda, V. P. Shevelko, H. Tawara
Penetration of 4.3 and 6.0 MeV/u highly charged, heavy ions through carbon foils.
Nucl. Instrum. Methods Phys. Res. B 225, 439 (2004)

C^{2+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp
Ne^{4+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp
Mg^{5+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp
Si^{5+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp
Ar^{8+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp
Ca^{6+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp
Fe^{9+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp
Cu^{10+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp
Kr^{13+} + C + LiF	Part. Beam-Matter Interaction	4.3-6.0 MeV/u	Exp

1270. S. Damache, S. Ouichaoui, A. Belhout, A. Medouni, I. Toumert
Stopping of 236 keV-3.019 MeV protons in mylar and polypropylene films.
Nucl. Instrum. Methods Phys. Res. B 225, 449 (2004)

$\mathbf{H^+ + C + LiF}$	Part. Beam-Matter Interaction	352-3000 keV	Exp
$\mathbf{H^+ + O + LiF}$	Part. Beam-Matter Interaction	352-3000 keV	Exp

1271. K.-M. Wang, B.-R. Shi, N. Cue, D.-Y. Shen, F. Chen, X.-L. Wang, F. Lu
Depth profiles of MeV heavy ions implanted into Si and lithium triborate.
Nucl. Instrum. Methods Phys. Res. B 225, 503 (2004)

$\mathbf{Ni^+ + Si + LiF}$	Part. Beam-Matter Interaction	1-2 MeV	E/T
$\mathbf{Ni^+ + LiB_3O_5 + LiF}$	Part. Beam-Matter Interaction	1-2 MeV	E/T
$\mathbf{Cu^+ + Si + LiF}$	Part. Beam-Matter Interaction	1-2 MeV	E/T
$\mathbf{Cu^+ + LiB_3O_5 + LiF}$	Part. Beam-Matter Interaction	1-2 MeV	E/T

1272. M. J. Berger, J. W. Motz
X-rays from thick tungsten targets irradiated by 500-50 keV electrons.
Nucl. Instrum. Methods Phys. Res. B 226, 327 (2004)

e + W + LiF	Part. Beam-Matter Interaction	50-500 keV	Th

1273. H. Paul, A. Schinner
Does the result of a stopping power measurement depend on the method used?
Phys. Scr. 69, C41 (2004)

$\mathbf{N^+ + Be + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + C + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Al + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Si + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Ti + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Fe + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Ni + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Cu + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Ge + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Mo + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Ag + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Sn + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Gd + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + W + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Au + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{N^+ + Pb + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp
$\mathbf{Mg^+ + Au + LiF}$	Part. Beam-Matter Interaction	$10^{-3} - 10$ MeV/u	Exp

1274. Y. Zhang, W. J. Weber, C. M. Wang
Electronic stopping powers in silicon carbide.
Phys. Rev. B 69, 205201 (2004)

$\mathbf{He^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{Be^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{B^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{C^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{N^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{O^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{F^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{Mg^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{Al^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{Si^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{Cr^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{Mn^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T
$\mathbf{Fe^+ + SiC + LiF}$	Part. Beam-Matter Interaction	700-18,000 keV	E/T

Co^+ + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T
Ni^+ + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T
Cu^+ + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T
I^+ + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T
Au^+ + SiC + LiF	Part. Beam-Matter Interaction	700-18,000 keV	E/T

1275. R. Cabrera-Trujillo, J. R. Sabin, Y. Oehrn, E. Deumens
Stopping of swift antiprotons by hydrogen atoms and the Barkas correction.
Phys. Rev. A 71, 012901 (2005)

H^+ + H + LiF	Part. Beam-Matter Interaction	1-1000 keV	Th

1276. K. Zhao, Z. Wu
Regionally specific hyperfine polarization of Rb atoms in the vicinity (10^{-5} cm) of surfaces.
Phys. Rev. A 71, 012902 (2005)

Rb + Si + LiF	Part. Beam-Matter Interaction	Undef.	Exp

1277. V. Kh. Alimov, J. Roth, M. Mayer
Depth distribution of deuterium in single- and polycrystalline tungsten up to depths of several micrometers.
J. Nucl. Mater. 337-339, 619 (2005)

H^+ + W + LiF	Part. Beam-Matter Interaction	200 eV	Exp
D^+ + W + LiF	Part. Beam-Matter Interaction	200 eV	Exp

1278. C. Hopf, W. Jacob
Bombardment of graphite with hydrogen isotopes: A model for the energy dependence of the chemical sputtering yield.
J. Nucl. Mater. 342, 141 (2005)

H^+ + C + LiF	Part. Beam-Matter Interaction	10-10,000 eV	Th
D^+ + C + LiF	Part. Beam-Matter Interaction	10-10,000 eV	Th
T^+ + C + LiF	Part. Beam-Matter Interaction	10-10,000 eV	Th

1279. Y. Oguri, J. Hasegawa, J. Kaneko, M. Ogawa, K. Horioka
Stopping of low-energy highly charged ions in dense plasmas.
Nucl. Instrum. Methods Phys. Res. A 544, 76 (2005)

Nb^{5+} + H^+ + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{5+} + e + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{10+} + H^+ + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{10+} + e + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{15+} + H^+ + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{15+} + e + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{20+} + H^+ + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{20+} + e + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{25+} + H^+ + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{25+} + e + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{30+} + H^+ + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{30+} + e + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{35+} + H^+ + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{35+} + e + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{40+} + H^+ + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T
Nb^{40+} + e + LiF	Part. Beam-Matter Interaction	10-50 keV/amu	E/T

1280. P. H. Stoltz, S. A. Veitzer, R. H. Cohen, A. W. Molvik, J.-L. Vay
Energy loss, range, and electron yield comparisons of the CRANGE ion-material interaction code.
Nucl. Instrum. Methods Phys. Res. A 544, 502 (2005)

$\mathbf{He^{+} + Ar + LiF}$	Part. Beam-Matter Interaction	1-200 MeV/amu	Th
$\mathbf{K^{+} + Fe + LiF}$	Part. Beam-Matter Interaction	1-200 MeV/amu	Th
$\mathbf{K^{+} + SS + LiF}$	Part. Beam-Matter Interaction	1-200 MeV/amu	Th

1281. A. N. Perumal, V. Horvat, R. L. Watson, Y. Peng, K. S. Fruchey
Cross sections for charge change in argon and equilibrium charge states of 3.5 MeV/amu uranium ions passing through argon and carbon targets.
Nucl. Instrum. Methods Phys. Res. B 227, 251 (2005)

$\mathbf{U^{28+} + C + LiF}$	Part. Beam-Matter Interaction	3.5 MeV/amu	Exp
$\mathbf{U^{28+} + Ar + LiF}$	Part. Beam-Matter Interaction	3.5 MeV/amu	Exp

1282. G. V. Kornich, G. Betz, V. Zaporojtchenko, A. I. Bazhin, F. Faupel
Molecular dynamics simulations of low energy ion sputtering of copper nano-dimensional clusters on graphite substrates.
Nucl. Instrum. Methods Phys. Res. B 227, 261 (2005)

$\mathbf{Ar^{+} + C + LiF}$	Part. Beam-Matter Interaction	200 eV	Th
$\mathbf{Ar^{+} + Cu + LiF}$	Part. Beam-Matter Interaction	200 eV	Th

1283. H. B. Nersisyan, A. K. Das
Proton and antiproton energy losses in a solid target: An exact trial potential approach.
Nucl. Instrum. Methods Phys. Res. B 227, 455 (2005)

$\mathbf{H^{+} + Al + LiF}$	Part. Beam-Matter Interaction	1-1000 keV	Th

1284. H. Paul, A. Schinner
Judging the reliability of stopping power tables and programs for protons and alpha particles using statistical methods.
Nucl. Instrum. Methods Phys. Res. B 227, 461 (2005)

$\mathbf{H^{+} + A + LiF}$	Part. Beam-Matter Interaction	$10^{-6} - 10^{3}$ MeV/u	E/T
$\mathbf{He^{2+} + A + LiF}$	Part. Beam-Matter Interaction	$10^{-6} - 10^{3}$ MeV/u	E/T

1285. N. K. Skobelev, R. Kalpakchieva, R. A. Astabatyan, J. Vincour, A. A. Kulko, S. P. Lobastov, S. M. Lukyanov, E. R. Markaryan, V. A. Maslov, Yu. E. Penionzhkevich, Yu. G. Sobolev, V. Yu. Ugryumov
Exit charge-state distributions of 242.8 MeV and 264.5 MeV ^{48}Ca ions incident on carbon and gold foils.
Nucl. Instrum. Methods Phys. Res. B 227, 471 (2005)

$\mathbf{Ca^{+} + C + LiF}$	Part. Beam-Matter Interaction	242-264 MeV	Exp

1286. Y. Zhang, W. J. Weber, A. Razpet, G. Possnert
Electronic stopping powers for He, Be and F ions in Au.
Nucl. Instrum. Methods Phys. Res. B 227, 479 (2005)

$\mathbf{He^{+} + Au + LiF}$	Part. Beam-Matter Interaction	0-600 keV/u	Exp
$\mathbf{Be^{+} + Au + LiF}$	Part. Beam-Matter Interaction	0-600 keV/u	Exp
$\mathbf{F^{+} + Au + LiF}$	Part. Beam-Matter Interaction	0-600 keV/u	Exp

1287. C. Anders, H. M. Urbassek
Cluster-size dependence of ranges of 100 eV/atom Au_n clusters.
Nucl. Instrum. Methods Phys. Res. B 228, 57 (2005)

$\mathbf{Au^+ + C + LiF}$	Part. Beam-Matter Interaction	100 eV	Th
$\mathbf{Au^+ + Ar + LiF}$	Part. Beam-Matter Interaction	100 eV	Th
$\mathbf{Au^+ + Au + LiF}$	Part. Beam-Matter Interaction	100 eV	Th

1288. W.-F. Tsai, J. H. Liang, J. J. Kai, G. L. Kulcinski
A study of high-temperature implantation of 72 keV copper ions into nickel.
Nucl. Instrum. Methods Phys. Res. B 228, 151 (2005)

$\mathbf{Cu^+ + Ni + LiF}$	Part. Beam-Matter Interaction	72 keV	E/T

1289. L. R. Corrales, A. Chartier, R. Devanathan
Excess kinetic energy dissipation in materials.
Nucl. Instrum. Methods Phys. Res. B 228, 274 (2005)

$\mathbf{Cu^+ + Cu + LiF}$	Part. Beam-Matter Interaction	1 keV	Th
$\mathbf{Cu^+ + Zr + LiF}$	Part. Beam-Matter Interaction	1 keV	Th
$\mathbf{Zr^+ + Cu + LiF}$	Part. Beam-Matter Interaction	1 keV	Th
$\mathbf{Zr^+ + Zr + LiF}$	Part. Beam-Matter Interaction	1 keV	Th

1290. M. Dapor
Monte Carlo simulation of electron depth distribution and backscattering for carbon films deposited on aluminium as a function of incidence angle and primary energy.
Nucl. Instrum. Methods Phys. Res. B 228, 337 (2005)

e + C + LiF	Part. Beam-Matter Interaction	$10 - 10^4$ eV	Th

1291. D. Emfietzoglou, G. Papamichael, I. Androulidakis, K. Karava, K. Kostarelos, A. Pathak, M. Moscovitch
A Monte-Carlo study of sub-keV electron transport in water: The influence of the condensed phase.
Nucl. Instrum. Methods Phys. Res. B 228, 341 (2005)

$\mathbf{e + H_2O + LiF}$	Part. Beam-Matter Interaction	0.1-1.0 keV	Th

1292. P. Sigmund, A. Sharma, A. Schinner, A. Fettouhi
Valence structure effects in the stopping of swift ions.
Nucl. Instrum. Methods Phys. Res. B 230, 1 (2005)

$\mathbf{H^+ + A + LiF}$	Part. Beam-Matter Interaction	0.5-1.0 MeV	Th
$\mathbf{He^+ + A + LiF}$	Part. Beam-Matter Interaction	0.5-1.0 MeV	Th
$\mathbf{Pb^+ + A + LiF}$	Part. Beam-Matter Interaction	0.5-1.0 MeV	Th

1293. M. Seliger, C. O. Reinhold, T. Minami, J. Burgdorfer
Non-unitary master equation for the internal state of ions traversing solids.
Nucl. Instrum. Methods Phys. Res. B 230, 7 (2005)

$\mathbf{Kr^{35+} + C + LiF}$	Part. Beam-Matter Interaction	Undef.	Th

1294. C. D. Denton, J. Diaz-Valdes, J. E. Valdes, P. Vargas, N. R. Arista
Recombination of $H_2{}^+$ molecules in channeling conditions.
Nucl. Instrum. Methods Phys. Res. B 230, 36 (2005)

$\mathbf{H_2{}^+ + Au + LiF}$	Part. Beam-Matter Interaction	12.5 keV	Exp

1295. R. Garcia-Molina, I. Abril, S. Heredia-Avalos, L. Lammich, H. Buhr, H. Kreckel, S. Krohn, D. Strasser, R. Wester, A. Wolf, D. Zajfman, D. Schwalm
Wake effects in the evolution of fast molecular ions through thin foils.
Nucl. Instrum. Methods Phys. Res. B 230, 41 (2005)

$\mathbf{H^+ + C + LiF}$	Part. Beam-Matter Interaction	Undef.	Th
$\mathbf{C^{4+} + C + LiF}$	Part. Beam-Matter Interaction	Undef.	Th
$\mathbf{H_2{}^+ + C + LiF}$	Part. Beam-Matter Interaction	Undef.	Th
$\mathbf{HD^+ + C + LiF}$	Part. Beam-Matter Interaction	Undef.	Th
$\mathbf{CH_2{}^+ + C + LiF}$	Part. Beam-Matter Interaction	Undef.	Th

1296. C. D. Archubi, C. D. Denton, J. C. Eckardt, G. H. Lantschner, N. R. Arista, J. E. Valdes, J. Ferron
Angular dispersion of protons passing through thin metallic films.
Nucl. Instrum. Methods Phys. Res. B 230, 53 (2005)

$\mathbf{H^+ + Al + LiF}$	Part. Beam-Matter Interaction	10 keV	Exp

1297. M. Tosaki, D. Ohsawa, Y. Isozumi
An experimental evaluation of spatial distribution for deeply penetrating protons in carbon material.
Nucl. Instrum. Methods Phys. Res. B 230, 59 (2005)

$\mathbf{H^+ + C + LiF}$	Part. Beam-Matter Interaction	5.5 MeV	Exp

1298. M. Imai, M. Sataka, K. Kawatsura, K. Takahiro, K. Komaki, H. Shibata, H. Sugai, K. Nishio
Charge state distribution and its equilibration of 2 MeV/u sulfur ions passing through carbon foils.
Nucl. Instrum. Methods Phys. Res. B 230, 63 (2005)

$\mathbf{S^{6+} + C + LiF}$	Part. Beam-Matter Interaction	2 MeV/u	Exp
$\mathbf{S^{10+} + C + LiF}$	Part. Beam-Matter Interaction	2 MeV/u	Exp
$\mathbf{S^{11+} + C + LiF}$	Part. Beam-Matter Interaction	2 MeV/u	Exp
$\mathbf{S^{13+} + C + LiF}$	Part. Beam-Matter Interaction	2 MeV/u	Exp

1299. D. Emfietzoglou, A. Pathak, M. Moscovitch
Modeling the energy and momentum dependent loss function of the valence shells of liquid water.
Nucl. Instrum. Methods Phys. Res. B 230, 77 (2005)

$\mathbf{H^+ + H_2O + LiF}$	Part. Beam-Matter Interaction	Undef.	Th

1300. C. Kondo, Y. Takabayashi, T. Muranaka, S. Masugi, T. Azuma, K. Komaki, A. Hatakeyama, Y. Yamazaki, E. Takada, T. Murakami
X-ray yields from high-energy heavy ions channeled through a crystal: Their crystal thickness and projectile dependences.
Nucl. Instrum. Methods Phys. Res. B 230, 85 (2005)

$\mathbf{Ar^{17+} + Si + LiF}$	Part. Beam-Matter Interaction	400 MeV/u	Exp
$\mathbf{Fe^{24+} + Si + LiF}$	Part. Beam-Matter Interaction	400 MeV/u	Exp
$\mathbf{Kr^{35+} + Si + LiF}$	Part. Beam-Matter Interaction	400 MeV/u	Exp

1301. S. Heredia-Avalos, J. C. Moreno-Marin, I. Abril, R. Garcia-Molina
Energy loss of H^+ and He^+ in the semiconductors GaAs, ZnSe, InP and SiC.
Nucl. Instrum. Methods Phys. Res. B 230, 118 (2005)

H^+ + SiC + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th
H^+ + ZnSe + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th
H^+ + GaAs + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th
H^+ + InP + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th
He^+ + SiC + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th
He^+ + ZnSe + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th
He^+ + GaAs + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th
He^+ + InP + LiF	Part. Beam-Matter Interaction	10-3000 keV/u	Th

1302. J. I. Juaristi
Energy loss of ions interacting with metal surfaces.
Nucl. Instrum. Methods Phys. Res. B 230, 148 (2005)

H^+ + Al + LiF	Part. Beam-Matter Interaction	710 keV	Th
A^+ + Al + LiF	Part. Beam-Matter Interaction	710 keV	Th

1303. A. Chiba, Y. Saitoh, S. Tajima
Measurement of carbon cluster charge state passing through thin foils using a luminance plate.
Nucl. Instrum. Methods Phys. Res. B 232, 32 (2005)

C^+ + C + LiF	Part. Beam-Matter Interaction	1 MeV	Exp

1304. P. Verma, P. H. Mokler, A. Brauning-Demian, H. Brauning, E. Berdermann, S. Chatterjee, A. Gumberidze, S. Hagmann, C. Kozhuharov, A. Orsic-Muthig, R. Reuschl, M. Schoeffler, U. Spillmann, Th. Stoehlker, Z. Stachura, S. Tashenov, M. A. Wahab
Charge exchange and X-ray emission in 70 MeV/u Bi-Au collisions.
Nucl. Instrum. Methods Phys. Res. B 235, 309 (2005)

Bi^{82+} + Au + LiF	Part. Beam-Matter Interaction	70 MeV/u	Exp

1305. J. Braziewicz, U. Majewska, M. Polasik, K. Slabkowska, I. Fijal, M. Jaskola, A. Korman, W. Kretschmer
Sulphur ion charge states inside solids from low-resolution K X-ray spectra.
Nucl. Instrum. Methods Phys. Res. B 235, 403 (2005)

S^+ + C + LiF	Part. Beam-Matter Interaction	9.6-32 MeV	Exp
S^+ + Al + LiF	Part. Beam-Matter Interaction	9.6-32 MeV	Exp
S^+ + Ti + LiF	Part. Beam-Matter Interaction	9.6-32 MeV	Exp
S^+ + Fe + LiF	Part. Beam-Matter Interaction	9.6-32 MeV	Exp

1306. V. U. Nazarov, J. M. Pitarke, C. S. Kim, Y. Takada
Time-dependent density-functional theory for the stopping power of an interacting electron gas for slow ions.
Phys. Rev. B 71, 121106 (2005)

A + C + LiF	Part. Beam-Matter Interaction	Undef.	Th
A + Al + LiF	Part. Beam-Matter Interaction	Undef.	Th
A + Au + LiF	Part. Beam-Matter Interaction	Undef.	Th

1307. B. Pawlowski, M. Petrascu, J. Czerbniak, D. Pantelica, M. Moneta
Experimental results for change of H and Li ions stopping in metal foils with temperature.
Vacuum 78, 439 (2005)

H^+ + Ni + LiF	Part. Beam-Matter Interaction	1.8-14 MeV	Exp
Li^+ + Ni + LiF	Part. Beam-Matter Interaction	1.8-14 MeV	Exp

1308. M. Moneta, B. Pawlowski
Ion stopping cross-section at ferro-paramagnetic phase transition.
Vacuum 78, 467 (2005)

$\mathbf{H^+ + Ni + LiF}$	Part. Beam-Matter Interaction	2 MeV/amu	E/T
$\mathbf{Li^+ + Ni + LiF}$	Part. Beam-Matter Interaction	2 MeV/amu	E/T

3.8 Interactions of Atomic Particles with Fields

1309. F. Robicheaux, J. D. Hanson
Three-body recombination for protons moving in a strong magnetic field.
Phys. Rev. A 69, 010701 (2004)

e + H + LiF	Atom Field Interaction	4-16 K	Th

1310. M. Pichler, W. C. Stwalley, R. Beuc, G. Pichler
Formation of ultracold Cs_2 molecules through the double-minimum Cs_2 3 $^1\Sigma_u{}^+$ state.
Phys. Rev. A 69, 013403 (2004)

Cs + Cs + LiF	Atom Field Interaction	100 μ k	Th

1311. S. X. Hu, L. A. Collins
Redistributing populations of Rydberg atoms with half-cycle pulses.
Phys. Rev. A 69, 041402 (2004)

H + LiF	Atom Field Interaction	Undef.	Th
$\mathbf{H^* + LiF}$	Atom Field Interaction	Undef.	Th

1312. C. Ticknor, C. A. Regal, D. S. Jin, J. L. Bohn
Multiplet structure of Feshbach resonances in nonzero partial waves.
Phys. Rev. A 69, 042712 (2004)

Rb + K + LiF	Atom Field Interaction	$10^{-9} - 10^{-5}$ K	Th
Rb + Rb + LiF	Atom Field Interaction	$10^{-9} - 10^{-5}$ K	Th

1313. C. Figueira de Morisson Faria, H. Schomerus, X. Liu, W. Becker
Electron-electron dynamics in laser-induced nonsequential double ionization.
Phys. Rev. A 69, 043405 (2004)

Ne + LiF	Atom Field Interaction	1.5 eV	Th

1314. D. Sugny, A. Keller, O. Atabek, D. Daems, S. Guerin, H. R. Jauslin
Time-dependent unitary perturbation theory for intense laser-driven molecular orientation.
Phys. Rev. A 69, 043407 (2004)

LiCl + LiF	Atom Field Interaction	Undef.	Th

1315. I. Bersons, R. Veilande
Analytical investigation of one-dimensional Rydberg atoms interacting with half-cycle pulses.
Phys. Rev. A 69, 043408 (2004)

Rb + LiF	Atom Field Interaction	Undef.	Th
$\mathbf{Rb^* + LiF}$	Atom Field Interaction	Undef.	Th

1316. T. Otobe, K. Yabana, J.-I. Iwata
First-principles calculations for the tunnel ionization rate of atoms and molecules.
Phys. Rev. A 69, 053404 (2004)

Ar + LiF	Atom Field Interaction	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T
Xe + LiF	Atom Field Interaction	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T
N_2 + LiF	Atom Field Interaction	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T
O_2 + LiF	Atom Field Interaction	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T
F_2 + LiF	Atom Field Interaction	$4x10^{13} - 1.3x10^{14}$ w/cm^2	E/T

1317. A. V. Turbiner, J. C. Lopez Vieyra
$H_2{}^+$ ion in a strong magnetic field: Lowest excited states.
Phys. Rev. A 69, 053413 (2004)

$H_2{}^+$ + LiF	Atom Field Interaction	$10^9 - 10^{13}$ G	E/T

1318. S. Bivona, R. Burlon, G. Ferrante, C. Leone
Collisions of helium with Rydberg atoms in the presence of static electric and magnetic fields.
Phys. Rev. A 70, 042715 (2004)

He + H + LiF	Atom Field Interaction	10^5 cm/s	Th
He + H* + LiF	Atom Field Interaction	10^5 cm/s	Th

1319. C. Figueira de Morisson Faria, X. Liu, A. Sanpera, M. Lewenstein
Classical and quantum-mechanical treatments of nonsequential double ionization with few-cycle laser pulses.
Phys. Rev. A 70, 043406 (2004)

Ne + LiF	Atom Field Interaction	1.55 eV	Th

1320. K. A. Mitchell, J. P. Handley, B. Tighe, A. Flower, J. B. Delos
Analysis of chaos-induced pulse trains in the ionization of hydrogen.
Phys. Rev. A 70, 043407 (2004)

H + LiF	Atom Field Interaction	Undef.	Th
H* + LiF	Atom Field Interaction	Undef.	Th

1321. I. Lesanovsky, J. Schmiedmayer, P. Schmelcher
Rydberg atoms in a magnetic guide.
Phys. Rev. A 70, 043409 (2004)

H + LiF	Atom Field Interaction	Undef.	Th
H* + LiF	Atom Field Interaction	Undef.	Th

1322. M. L. Du
Closed-orbit theory for photodetachment of H^- in a sef.
Phys. Rev. A 70, 055402 (2004)

H^- + LiF	Atom Field Interaction	Undef.	Th
hν + H^- + LiF	Atom Field Interaction	Undef.	Th

1323. T. Sako, G.H.F. Diercksen
Confined quantum systems: Dipole polarizability of the two-electron quantum dot, the hydrogen negative ion and the helium atom.
J. Phys. B 36, 3743 (2003)

$\mathbf{H^- + LiF}$	Atom Field Interaction	Undef.	Th
He + LiF	Atom Field Interaction	Undef.	Th

1324. V. A. Vorontsov, M. Born, I. F. Shaikhislamov, B. N. Chichkov, B. Wellegehausen
Charge-transfer pumping for XUV lasers.
J. Phys. B 36, 3865 (2003)

$\mathbf{C^{4+} + H + LiF}$	Atom Field Interaction	Undef.	Exp

1325. P. M. Koch, S. A. Zelazny, L. Sirko
Dependence on relative phase for bichromatically driven atoms.
J. Phys. B 36, 4755 (2003)

H + LiF	Atom Field Interaction	16-54 V/cm	Th
He + LiF	Atom Field Interaction	16-54 V/cm	Th

1326. M. Busch, R. Drozdowski, Th. Ludwig, G. von Oppen
Paul-trap resonance in $He^+ - He$ collisions.
J. Phys. B 36, 4849 (2003)

$\mathbf{He^+ + He + LiF}$	Atom Field Interaction	30-50 keV	Exp

1327. M. L. Keeler, H. Flores-Rueda, J. D. Wright, T. J. Morgan
Scaled-energy spectroscopy of argon atoms in an electric field.
J. Phys. B 37, 809 (2004)

Ar + LiF	Atom Field Interaction	33,466-33,677 cm^{-1}	E/T
$\mathbf{Ar^* + LiF}$	Atom Field Interaction	33,466-33,677 cm^{-1}	E/T

1328. K. M. Dunseath, M. Terao-Dunseath
Scattering of low-energy electrons by helium in a CO_2 laser field.
J. Phys. B 37, 1305 (2004)

$\mathbf{e + CO_2 + LiF}$	Atom Field Interaction	1-8 eV	Th

1329. 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 (2004)

Al + LiF	Atom Field Interaction	1 MHz	Exp
$\mathbf{Al^* + LiF}$	Atom Field Interaction	1 MHz	Exp

1330. A. De Michele, G. Carelli, A. Moretti, F. Strumia, D. Pereira
A new pulsed CO_2 laser yielding new FIR laser lines from CH_3OD pumped by the 10P and 10HP lines.
J. Phys. B 37, 1979 (2004)

$\mathbf{CH_3OH + LiF}$	Atom Field Interaction	10.4-11.2 μ m	Exp
$\mathbf{CH_3OD + LiF}$	Atom Field Interaction	10.4-11.2 μ m	Exp

1331. X. Guan, B. Li, K. T. Taylor
Corrigendum: Strong parallel magnetic field effects on the hydrogen molecular ion [J. Phys. B 36, 3569 (2003)].
J. Phys. B 37, 1985 (2004)

$\mathbf{H_2{}^+ + LiF}$	Atom Field Interaction	$10^4 - 10^6$ T	Th

1332. T. K. Kjeldsen, L. B. Madsen
Strong-field ionization of N_2: Length and velocity gauge strong-field approximation and tunnelling theory.
J. Phys. B 37, 2033 (2004)

N_2 + LiF	Atom Field Interaction	Undef.	Th

1333. A. Heinrich, M. Lewenstein, A. Sanpera
Nonsequential double ionization of helium in low-frequency laser fields.
J. Phys. B 37, 2087 (2004)

He + LiF	Atom Field Interaction	780 nm	Th

1334. C. Stubbins, K. Das, Y. Shiferaw
Low-lying energy levels of the hydrogen atom in a strong magnetic field.
J. Phys. B 37, 2201 (2004)

H + LiF	Atom Field Interaction	Undef.	Th

1335. R. D. Benguria, R. Brummelhuis, P. Duclos, S. Perez-Oyarzun
$H_2{}^+$ in a strong magnetic field described via a solvable model.
J. Phys. B 37, 2311 (2004)

$H_2{}^+$ + LiF	Atom Field Interaction	$10^{10} - 10^{14}$ gauss	Th

1336. A. Chattopadhyay, C. Sinha
Laser assisted excitation in electron-hydrogen-like ion collisions.
J. Phys. B 37, 3283 (2004)

e + He^+ Z= ?-? + LiF	Atom Field Interaction	2-30 excitation threshold units	Th
e + He^+ + LiF	Atom Field Interaction	2-30 excitation threshold units	Th

1337. C. Figl, J. Grosser, O. Hoffmann, F. Rebentrost
Repulsive K Ar potentials from differential optical collisions.
J. Phys. B 37, 3369 (2004)

K + Ar + LiF	Atom Field Interaction	220-720 cm^{-1}	Exp

1338. B. Paripas, G. Vitez, Gy. Vikor, K. Tokesi, A. Calo, R. Sandari, M. Huttula, S. Aksela, H. Aksela
Angular dependence of the PCI line shape for photoionized Ne K-LL and Ar L-MM Auger transitions.
J. Phys. B 37, 4507 (2004)

Ne + LiF	Atom Field Interaction	320-1200 eV	E/T
Ar + LiF	Atom Field Interaction	320-1200 eV	E/T

1339. T. J. Beams, G. Peach, I. B. Whittingham
Ultracold atomic collisions in tight harmonic traps: perturbation theory, ionization losses and application to metastable helium atoms.
J. Phys. B 37, 4561 (2004)

He + He + LiF	Atom Field Interaction	Undef.	Th
He^* + He^* + LiF	Atom Field Interaction	Undef.	Th

1340. A. Poszwa, A. Rutkowski
Hydrogen atom in a strong magnetic field. II. Relativistic corrections for low-lying excited states.
Phys. Rev. A 69, 023403 (2004)

H + LiF	Atom Field Interaction	Undef.	Th

1341. A. K. Langworthy, D. M. Pendergrast, J. N. Yukich
Zeeman transition strengths in photodetachment from O^- and S^-.
Phys. Rev. A 69, 025401 (2004)

O^- + LiF	Atom Field Interaction	11,700-16,700 cm^{-1}	E/T
S^- + LiF	Atom Field Interaction	11,700-16,700 cm^{-1}	E/T

1342. D. Fregenal, E. Horsdal-Pedersen, L. B. Madsen, M. Forre, J. P. Hansen, V. N. Ostrovsky
Multiphoton intrashell resonances in Rydberg atoms: Bloch-Siegert shifts and width.
Phys. Rev. A 69, 031401(R) (2004)

Li + LiF	Atom Field Interaction	0-370 MHz	Exp
Li^* + LiF	Atom Field Interaction	0-370 MHz	Exp

1343. P. Cacciani, J. Cosleou, F. Herlemont, M. Khelkhal, J. Lecointre
Nuclear spin conversion in the gaseous phase in the presence of a static electric field: Intramolecular magnetic interactions and the role of collisions.
Phys. Rev. A 69, 032704 (2004)

CH_3F + CH_3F + LiF	Atom Field Interaction	0-17,000 V/cm	E/T

1344. M. Erhard, H. Schmaljohann, J. Kronjaeger, K. Bongs, K. Sengstock
Measurement of a mixed-spin-channel Feshbach resonance in ^{87}Rb.
Phys. Rev. A 69, 032705 (2004)

Rb + Rb + LiF	Atom Field Interaction	300 K	Exp

1345. T. Niederhausen, B. Feuerstein, U. Thumm
Circular dichroism in laser-assisted proton-hydrogen collisions.
Phys. Rev. A 70, 023408 (2004)

H^+ + H + LiF	Atom Field Interaction	2 keV	Th

1346. Yu. E. Lozovik, S. Yu. Volkov
Hydrogen atom moving across a magnetic field.
Phys. Rev. A 70, 023410 (2004)

H + LiF	Atom Field Interaction	Undef.	Th

1347. O.-A. Al-Hujaj, P. Schmelcher
Beryllium in strong magnetic fields.
Phys. Rev. A 70, 023411 (2004)

Be + LiF	Atom Field Interaction	Undef.	Th

1348. A. B. Voitkiv, N. Gruen, J. Ullrich
Compton scattering by a bound electron in the presence of a low-frequency electromagnetic field.
J. Phys. B 37, 2641 (2004)

hν + H + LiF	Atom Field Interaction	20 keV	Th

1349. E. Costa i Bricha, C.L.S. Lewis, H. W. van der Hart
Multiphoton ionization of Ar^{7+} in two-colour laser fields using R-matrix Floquet theory.
J. Phys. B 37, 2755 (2004)

Ar^{7+} + LiF	Atom Field Interaction	52.5-54 eV	Th

1350. I. Maruyama, T. Sako, K. Yamanouchi
Time-dependent nuclear wavepacket dynamics of $H_2{}^+$ by quasi-stationary Floquet approach.
J. Phys. B 37, 3919 (2004)

$H_2{}^+$ + LiF	Atom Field Interaction	800-1200 nm	Th

1351. N. Milovanovic, M. S. Dimitrijevic, L. C. Popovic, Z. Simic
Importance of collisions with charged particles for stellar UV line shapes: Cd III.
Astron. Astrophys. 417, 375 (2004)

Cd^{2+} + LiF	Atom Field Interaction	5000-60,000 K	Th

1352. A. Lesage, R. Redon
Stark widths of faint Si II lines.
Astron. Astrophys. 418, 765 (2004)

Si^+ + LiF	Atom Field Interaction	11,000 K	Exp

1353. A. Sreckovic, S. Bukvic, S. Djenize, M. S. Dimitrijevic
Stark broadening parameters in singly and doubly ionized fluorine spectra.
Astron. Astrophys. 420, 769 (2004)

F^+ + LiF	Atom Field Interaction	30,400-33,600 K	Exp
F^{2+} + LiF	Atom Field Interaction	30,400-33,600 K	Exp

1354. N. Ben Nessib, M. S. Dimitrijevic, S. Sahal-Brechot
Stark broadening of the four times ionized silicon spectral lines.
Astron. Astrophys. 423, 397 (2004)

Si^{4+} + LiF	Atom Field Interaction	50,000-500,000 K	Th

1355. S. Djenize, S. Bukvic, A. Sreckovic
Stark broadening and transition probability ratios in the Mg I spectrum.
Astron. Astrophys. 425, 361 (2004)

Mg + LiF	Atom Field Interaction	520-285 nm	Exp

1356. M. S. Dimitrijevic, M. Dacic, Z. Cvetkovic, Z. Simic
Stark broadening of Ga I spectral lines.
Astron. Astrophys. 425, 1147 (2004)

Ga + LiF	Atom Field Interaction	250,000-2,000 $\AA$	Th

1357. C. Chin, V. Vuletic, A. J. Kerman, S. Chu, E. Tiesinga, P. J. Leo, C. J. Williams
Precision Feshbach spectroscopy of ultracold Cs_2.
Phys. Rev. A 70, 032701 (2004)

Cs + Cs + LiF	Atom Field Interaction	0-20 mT	E/T

1358. C. O. Reinhold, W. Zhao, J. C. Lancaster, F. B. Dunning, E. Persson, D. G. Arbo, S. Yoshida, J. Burgdorfer
Response of highly polarized Rydberg states to trains of half-cycle pulses.
Phys. Rev. A 70, 033402 (2004)

H + LiF	Atom Field Interaction	Half cycle pulse	E/T
H^* + LiF	Atom Field Interaction	Half cycle pulse	E/T
Na + LiF	Atom Field Interaction	Half cycle pulse	E/T
Na^* + LiF	Atom Field Interaction	Half cycle pulse	E/T

1359. X. Guan, Y. Zhang
Influence of an added parallel electric field on diamagnetic hydrogen oscillator strength spectra.
Phys. Rev. A 70, 033409 (2004)

H + LiF	Atom Field Interaction	10^8 V/m	Th

1360. O.-A. Al-Hujaj, P. Schmelcher
Lithium in strong magnetic fields.
Phys. Rev. A 70, 033411 (2004)

Li + LiF	Atom Field Interaction	0-10 γ a.u.	Th

1361. J. Chen, R. Ma, X. Li, H. Ren, H. Yang, Q. Gong
Coulomb explosion of propane in intense femtosecond laser fields.
J. Phys. B 37, 2501 (2004)

C_3H_8 + LiF	Atom Field Interaction	800 nm	Exp

1362. A. A. Khusivadze, I. I. Fabrikant, U. Thumm
Static electric-field effects in the photodetachment of Cs^- at the ^3P resonance region.
Phys. Rev. A 68, 063405 (2003)

Cs^- + LiF	Atom Field Interaction	0-0.04 eV	Th

1363. Y. Attaourti, S. Taj
Relativistic electronic dressing in laser-assisted ionization of atomic hydrogen by electron impact.
Phys. Rev. A 69, 063411 (2004)

e + H + LiF	Atom Field Interaction	575-1350 eV	Th

1364. T. Kirchner
Laser-field-induced modifications of electron-transfer processes in ion-atom collisions.
Phys. Rev. A 69, 063412 (2004)

He^{2+} + H + LiF	Atom Field Interaction	0.1-10 keV/u	Th

1365. K. I. Dimitriou, D. G. Arbo, S. Yoshida, E. Persson, J. Burgdorfer
Origin of the double-peak structure in the momentum distribution of ionization of hydrogen atoms driven by strong laser fields.
Phys. Rev. A 70, 061401 (2004)

H + LiF	Atom Field Interaction	0.05 a.u.	Th

1366. M. L. Bajema, R. R. Jones, T. F. Gallagher
Femtosecond laser control of the angular distribution of electrons due to autoionization.
Phys. Rev. A 70, 062722 (2004)

Ca + LiF	Atom Field Interaction	393 nm	Exp
Ca* + LiF	Atom Field Interaction	393 nm	Exp

1367. G. G. Paulus, F. Grasbon, H. Walther
Interference effects in above-threshold ionization.
Phys. Scr. 68, C118 (2003)

Ar + LiF	Atom Field Interaction	Undef.	E/T
Xe + LiF	Atom Field Interaction	Undef.	E/T
O_2 + LiF	Atom Field Interaction	Undef.	E/T

1368. T. Nakajima, G. Buica
Modification of the photoelectron angular distribution through laser-induced continuum structure.
Phys. Rev. A 71, 013413 (2005)

K + LiF	Atom Field Interaction	Few eV	Th

1369. M. A. Gearba, R. A. Komara, S. R. Lundeen, C. W. Fehrenbach, B. D. DePaola
Stark-induced x-ray emission from H-like and He-like Rydberg ions.
Phys. Rev. A 71, 013424 (2005)

Ne^{10+} + LiF	Atom Field Interaction	10-17 keV	Exp
Si^{13+} + LiF	Atom Field Interaction	10-17 keV	Exp
Si^{14+} + LiF	Atom Field Interaction	10-17 keV	Exp
Ar^{17+} + LiF	Atom Field Interaction	10-17 keV	Exp

1370. A. Godone, D. Calonico, F. Levi, S. Micalizio, C. Calosso
Stark-shift measurement of the $^2S_{1/2}$, F=3 -¿ F=4 hyperfine transition of ^{133}Cs.
Phys. Rev. A 71, 063401 (2005)

Cs + LiF	Atom Field Interaction	Undef.	Exp

1371. A. Grimpe, C. Figl, J. Grosser, O. Hoffmann, F. Rebentrost
Oscillatory differential cross sections for Li + He, Ne, H_2 and D_2 optical collisions.
J. Phys. B 38, 135 (2005)

Li + He + LiF	Atom Field Interaction	1750-3050 m/s	E/T
Li + Ne + LiF	Atom Field Interaction	1750-3050 m/s	E/T
Li + H_2 + LiF	Atom Field Interaction	1750-3050 m/s	E/T
Li + D_2 + LiF	Atom Field Interaction	1750-3050 m/s	E/T

1372. M. Ivkovic, N. Ben Nessib, N. Konjevic
Stark broadening of 3s $^3P^0 - 3p\ ^3D$ and 3p $^3D - 3d\ ^3F^0$ transitions along carbon isoelectronic sequences of ions revisited.
J. Phys. B 38, 715 (2005)

N^+ + LiF	Atom Field Interaction	1453-5681 $\AA$	E/T
O^{2+} + LiF	Atom Field Interaction	1453-5681 $\AA$	E/T
F^{3+} + LiF	Atom Field Interaction	1453-5681 $\AA$	E/T
Ne^{4+} + LiF	Atom Field Interaction	1453-5681 $\AA$	E/T

1373. E. A. Solov'ev
The advanced adiabatic approach and inelastic transitions via hidden crossings.
J. Phys. B 38, R153 (2005)

H_2O + LiF	Atom Field Interaction	1-15 keV/u	E/T

1374. V. N. Ostrovsky, J. B. Greenwood
High harmonic generation by halogen anions and noble gas atoms in a laser field.
J. Phys. B 38, 1867 (2005)

F^- + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th
Ne + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th
Cl^- + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th
Ar + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th
Br^- + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th
Kr + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th
I^- + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th
Xe + LiF	Atom Field Interaction	$5x10^{12} - 2x10^4$ W/cm^2	Th

1375. A. de Kertanguy, N. Feautrier, O. Motapon
Quantum unified theory applied to $Ly\beta$, $Ly\gamma$ and $Ly\delta$ electronic Stark broadening.
Astron. Astrophys. 432, 1131 (2005)

H + LiF	Atom Field Interaction	Undef.	Th

1376. W. F. Mahmoudi, N. Ben Nessib, M. S. Dmitrijevic
Modified semiempirical electron width calculations of singly-ionized oxygen spectral lines.
Astron. Astrophys. 434, 773 (2005)

O^+ + LiF	Atom Field Interaction	5000-80,000 K	Th

1377. P. S. Barklem, J. Aspelund-Johansson
The broadening of Fe II lines by neutral hydrogen collisions.
Astron. Astrophys. 435, 373 (2005)

Fe^+ + LiF	Atom Field Interaction	900 $\AA$	Th

1378. M. S. Dimitrijevic, T. Ryabchikova, L. C. Popovic, D. Shulyak, S. Khan
On the influence of Stark broadening on Cr I lines in stellar atmospheres.
Astron. Astrophys. 435, 1191 (2005)

Cr + LiF	Atom Field Interaction	2500-50,000 K	Th

1379. E. Vliegen, F. Merkt
On the electrostatic deceleration of argon atoms in high Rydberg states by time-dependent inhomogeneous electric fields.
J. Phys. B 38, 1623 (2005)

Ar + LiF	Atom Field Interaction	400 v/cm	E/T

1380. S. Gilb, V. Nestorov, S. R. Leone, J. C. Keske, L. Nugent-Glandorf, E. R. Grant
Kr (n=5-10,s,d,g) electronic wave packets: Electron time-of-flight resolution and the ac-Stark shift during wave-packet preparation.
Phys. Rev. A 71, 042709 (2005)

Kr + LiF	Atom Field Interaction	270 nm	Exp

1381. B. Manaut, S. Taj, Y. Attaourti
Mott scattering of polarized electrons in a strong laser field.
Phys. Rev. A 71, 043401 (2005)

e + A + LiF	Atom Field Interaction	1.01-5 γ	Th

1382. J. Z. Kaminski, F. Ehlotzky
Time-frequency analysis of x-ray generation by recombination in short laser pulses.
Phys. Rev. A 71, 043402 (2005)

e + H + LiF	Atom Field Interaction	1000 eV	Th

1383. F. F. Guimaraes, V. Kimberg, V. C. Felicissimo, F. Gel'mukhanov, A. Cesar, H. Agren
Phase-sensitive x-ray absorption driven by strong infrared fields.
Phys. Rev. A 71, 043407 (2005)

NO + LiF	Atom Field Interaction	530-536 eV	Th

1384. X. M. Tong, Z. X. Zhao, A. S. Alnaser, S. Voss, C. L. Cocke, C. D. Lin
Post ionization alignment of the fragmentation of molecules in an ultrashort intense laser field.
J. Phys. B 38, 333 (2005)

O_2 + LiF	Atom Field Interaction	1-5.6 10^{14} W/cm^2	Th

1385. A. DiChiara, S. Palaniyappan, A. F. Falkowski, E. L. Huskins, B. C. Walker
Cross-shell multielectron ionization of xenon by an ultrastrong field.
J. Phys. B 38, L183 (2005)

Xe + LiF	Atom Field Interaction	$10^{16} - 10^{18}$ W/cm^2	Exp

1386. V. N. Ostrovsky
Second-order effects for the hydrogen atom in perpendicular electric and magnetic fields and instability of classical electron trajectories.
J. Phys. B 38, 1483 (2005)

H + LiF	Atom Field Interaction	Undef.	Th
H^* + LiF	Atom Field Interaction	Undef.	Th

1387. M. Suresh, J. McKenna, B. Srigengan, I. D. Williams, E.M.L. English, S. L. Stebbings, W. A. Bryan, W. R. Newell, E. J. Divall, C. J. Hooker, A. J. Langley
Multiple ionization of ions and atoms by intense ultrafast laser pulses.
Nucl. Instrum. Methods Phys. Res. B 235, 216 (2005)

Ne + LiF	Atom Field Interaction	790 nm	Exp
Xe + LiF	Atom Field Interaction	790 nm	Exp
Xe^+ + LiF	Atom Field Interaction	790 nm	Exp

1388. H. Shimada, Y. Nakai, H. Oyama, K. Ando, T. Kambara, A. Hatakeyama, Y. Yamazaki
Recoil-ion momentum spectroscopy of multiply charged argon ions produced by intense (10^{16} W cm^{-2}) laser light.
Nucl. Instrum. Methods Phys. Res. B 235, 221 (2005)

Ar + LiF	Atom Field Interaction	775 nm	Exp

1389. Z. Simic, M. S. Dimitrijevic, N. Milovanovic, S. Sahal-Brechot
Stark broadening of Cd I spectral lines.
Astron. Astrophys. 441, 391 (2005)

Cd + LiF	Atom Field Interaction	Undef.	Th

1390. C. C. Chirila, R. M. Potvliege
Low-order above-threshold ionization in intense few-cycle laser pulses.
Phys. Rev. A 71, 021402 (2005)

H + LiF	Atom Field Interaction	10^{16} W/cm^2	Th

1391. E. Baldit, S. Saugout, C. Cornaggia
Coulomb explosion of N_2 using intense 10- and 40-fs laser pulses.
Phys. Rev. A 71, 021403 (2005)

N_2 + LiF	Atom Field Interaction	$10^{14} - 10^{16}$ W/cm^2	Exp

1392. V. E. Chernov, D. L. Dorofeev, I. Yu. Kretinin, B. A. Zon
Method of the reduced-added Green function in the calculation of atomic polarizabilities.
Phys. Rev. A 71, 022505 (2005)

He + LiF	Atom Field Interaction	Undef.	Th
Li + LiF	Atom Field Interaction	Undef.	Th
Be + LiF	Atom Field Interaction	Undef.	Th
C + LiF	Atom Field Interaction	Undef.	Th
N + LiF	Atom Field Interaction	Undef.	Th
O + LiF	Atom Field Interaction	Undef.	Th
F + LiF	Atom Field Interaction	Undef.	Th
Ne + LiF	Atom Field Interaction	Undef.	Th
Na + LiF	Atom Field Interaction	Undef.	Th
Mg + LiF	Atom Field Interaction	Undef.	Th
Al + LiF	Atom Field Interaction	Undef.	Th
Si + LiF	Atom Field Interaction	Undef.	Th
P + LiF	Atom Field Interaction	Undef.	Th
S + LiF	Atom Field Interaction	Undef.	Th
Ar + LiF	Atom Field Interaction	Undef.	Th
K + LiF	Atom Field Interaction	Undef.	Th
Ca + LiF	Atom Field Interaction	Undef.	Th
Ge + LiF	Atom Field Interaction	Undef.	Th
Kr + LiF	Atom Field Interaction	Undef.	Th
Tc + LiF	Atom Field Interaction	Undef.	Th

1393. C. Ticknor, J. L. Bohn
Influence of magnetic fields on cold collisions of polar molecules.
Phys. Rev. A 71, 022709 (2005)

OH + OH + LiF	Atom Field Interaction	1 mK	Th

1394. A. Penttila, S. Heinasmaki, M. Harkoma, S. Fritzsche, R. Sankari, S. Aksela, H. Aksela
Effects of electron correlation on the decay process following 3p photoionization in atomic manganese.
Phys. Rev. A 71, 022715 (2005)

Mn + LiF	Atom Field Interaction	120 eV	Exp

1395. E. Favilla, S. Barsanti, P. Bicchi
Rydberg levels population via energy pooling collisions in resonantly laser excited dense In vapour.
J. Phys. B 38, S37 (2005)

In + In + LiF	Atom Field Interaction	950 K	Exp

1396. J.-P. Connerade, S. D. Hogan, A. M. Abdulla
Experimental investigation of atoms in crossed electric and magnetic fields.
J. Phys. B 38, S141 (2005)

Ba + LiF	Atom Field Interaction	Undef.	Exp

1397. S. Kawai, C. Jaffe, T. Uzer
Ionization transition states of the hydrogen molecular ion in external electric fields.
J. Phys. B 38, S261 (2005)

H_2 + LiF	Atom Field Interaction	Undef.	Th

1398. S. Jovicevic, M. Ivkovic, R. Zikic, N. Konjevic
On the Stark broadening of Ne I lines and quasi-static versus ion impact approximation.
J. Phys. B 38, 1249 (2005)

H + LiF	Atom Field Interaction	33,000 K	Exp
He + LiF	Atom Field Interaction	33,000 K	Exp
Ne + LiF	Atom Field Interaction	33,000 K	Exp

1399. S.-M. Li, J. Berakdar, S.-T. Zhang, J. Chen
Laser-assisted (e,2e) reaction in one-electron atoms and ions.
J. Phys. B 38, 1291 (2005)

e + H + LiF	Atom Field Interaction	150-500 eV	Th

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Resonant enhancement of dielectronic recombination by a high-frequency microwave field.
Phys. Rev. A 71, 033415 (2005)

e + Ba^+ + LiF	Atom Field Interaction	0-31 V/cm	Exp

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