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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:

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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. Information is summarized for the type of process, the reactants, the energy range where applicable, type of data (Th for theory, Ex for experiment and E/T for both) and the reference number in the Bulletin.

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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In addition to the regular publication of the Bulletin, free data consultation from the entire (1950-present) bibliographic database is available on the **IAEA** Atomic and Molecular Data Unit web site: http://www-amdis.iaea.org/AMBDAS

Vienna, August 2003 The Editors

New on the Atomic and Molecular Web Site

The Atomic and Molecular (A+M) Data Unit of the International Atomic Energy Agency is dedicated to continuing to improve the level of access to quality data for use in nuclear fusion energy research. To meet this goal, the Unit will, from time to time, add new features and capabilities to the Unit web page. The Unit web page is located at the URL: http://www-amdis.iaea.org/ Recent new developments will be summarized in each issue of the Bulletin. In this issue several new additions are briefly described.

GENIE
As new databases become available on-line at various locations, new data relevant to fusion research have the potential to be accessed. However, to make use of different databases it is necessary for the user to understand the protocol for each database. In some cases it is necessary to register on the database as well. In response to this situation the A+M Unit has worked with consultants Y. Ralchenko and D. Humbert to develop a prototype search engine, called GENIE. GENIE makes it possible for a user to enter one request for data, either radiative or collisional, and to have that request sent in proper format to several available databases. Results of the searches are then presented to the user. Currently this prototype is limited to a few databases and the requests are quite limited in nature. However, continued development is foreseen and this promises to be a useful tool.

Online computing
In some cases there are needs for data which are not available in any on-line database. In that case it is often possible that such data could be calculated from existing computer codes, so that at least an estimate of the data would be available. The A+M Unit has been working on making a method for providing access to some A+M codes. J. Peek brought a version of a code for electron impact excitation cross section calculations to the Unit. This code uses the atomic structure calculations of R.D. Cowan. These codes have now been made accessible through the A+M web page, so that it is possible to calculate approximate cross sections for arbitrary ions for most elements. Following the success of this method, the Unit is in the process of encouraging other institutions to pursue similar activities, so that it is hoped that a number of calculational tools will become available for a number of processes.

New data
Considerable new data are constantly being added to the on-line databases. Recently a large amount of data for plasma-surface interaction has been added. In addition, a large amount of data for radiated power from plasmas of interest to fusion were made available on the Unit web page.

AMBDAS
In the past the bibliographic data used in producing this Bulletin were accessible only through a Telnet connection. Recently Y. Ralchenko has worked with the Unit as a consultant and produced a web based interface for the bibliographic database. This allows users to search the entire bibliographic database using a number of criteria, such as author, process, reactants, etc.

The Unit is planning more additions and new features for the home page. Future developments will be summarized in future editions of the Bulletin.

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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: a bibliographic database for atomic and molecular data for fusion research, and numerical databases 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 simple to use 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. It contains all references published in the International Bulletin on Atomic and Molecular Data for Fusion, CIAMDA 80, CIAMDA 87, and CIAMDA 98. Entries may be retrieved by author, process, reactants, type of reference, year of publication, energy range and data source (theoretical or experimental). The interface is a web-based application, and only requires a web-browser for use, no registration is required.

ALADDIN, **A L**abelled **A**tomic **D**ata **IN**terface, is a database system developed in order 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. It was originally designed by R. Hulse at the Princeton Plasma Physics Laboratory. It is the system 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 now contains a new interface to ALADDIN. ALADDIN has recently been converted to an entirely web-driven system, which can be accessed from the Unit homepage at **http://www-amdis.iaea.org**. It is a simple to use interface that facilitates searching for recommended or evaluated atomic, molecular, plasma-surface interaction and material properties data. Options to plot selected data are also available. An ALADDIN entry consists on searchable (hierarchical) labels that characterize the process, reactants and any other important information; boolean labels which give information about the source, year, laboratory or data centre, and reference; comment lines and the numerical data. The data may be given by a parametrization through an analytic fit or the data itself. With the web interface the user may also obtain a figure with data and labels, text accompanying the data, and the Fortran source of the evaluation function.

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2.2 Atomic and Molecular Collisions

2.2.1 Photon Collisions

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$\mathbf{h}\nu + \mathbf{H}^{-1+}$	Photodetachment	2.15 μm	Ex	348
$\mathbf{h}\nu + \mathbf{H}^{-1+}$	Photodetachment		Th	271
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$\mathbf{h}\nu + \mathbf{H}$	Total Absor., Scat.	3.40 eV	E/T	338
$\mathbf{h}\nu + \mathbf{H}$	Total Absor., Scat.	1-20x10^{12} W/cm2	Th	311
$\mathbf{h}\nu + \mathbf{H}$	Elastic Scattering	1-20x10^{12} W/cm2	Th	311
$\mathbf{h}\nu + \mathbf{H}$	Photoionization	200.00-500.00 V/cm	Th	310
$\mathbf{h}\nu + \mathbf{H}$	Photoionization		Th	307
$\mathbf{h}\nu + \mathbf{H}$	Photoionization		Th	285
$\mathbf{h}\nu + \mathbf{H}$	Photoionization	1.71-13.78 eV	Th	283
$\mathbf{h}\nu + \mathbf{H}^*$	Photoionization	1.71-13.78 eV	Th	283
$\mathbf{h}\nu + \mathbf{H}$	Photoionization		Th	270
$\mathbf{h}\nu + \mathbf{H}$	Photoionization		Th	264
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$\mathbf{h}\nu + \mathbf{H}$	Photoionization	1.13-6.53 eV	Th	165
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$\mathbf{h}\nu + \mathbf{H}_2$	Photoionization	76.10-104.00 eV	Ex	293

hν + $\mathbf{H_2}$	Photoionization		Th	208
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hν + $\mathbf{H_2}^{1+}$	Photodissociation	1.58 eV	Ex	345
hν + $\mathbf{H_2}^{1+}$	Photodissociation		Ex	306
hν + $\mathbf{H_2}^{1+}$	Photodissociation	1.17 eV	E/T	177
hν + $\mathbf{H_2}^{1+}$	Photoexcitation	1.17 eV	E/T	177
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hν + $\mathbf{HD_2}$	Fluorescence	3.10-6.20 eV	Ex	245
hν + $\mathbf{HD_2}$	Photoexcitation	3.10-6.20 eV	Ex	245
hν + $\mathbf{HD_2}^{1+}$	Photodissociation	1.17 eV	E/T	177
hν + $\mathbf{HD_2}^{1+}$	Photoexcitation	1.17 eV	E/T	177
hν + $\mathbf{D_2}$	Photodissociation	0.65-8x10^{14} W/cm2	Ex	299
hν + $\mathbf{D_2}$	Photoionization	0.65-8x10^{14} W/cm2	Ex	299
hν + $\mathbf{D_2}$	Photoionization	76.10-104.00 eV	Ex	293
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hν + $\mathbf{D_2}^{1+}$	Photodissociation		Ex	306
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hν + $\mathbf{D_3}$	Fluorescence	3.10-6.20 eV	Ex	245
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hν + **He**	Photoionization	139.00 eV	E/T	337
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hν + **He**	Photoionization	75.00-200.00 eV	Th	321
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hν + He	Photoionization	65.00-72.00 eV	Th	130
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hν + Li^{-1+}	Photodetachment	56.00-70.00 eV	Ex	184
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hν + Li^{*}	Photoionization	59.00-73.00 eV	Th	295
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hν + Li	Photoionization	5.00-28.00 eV	Th	240
hν + Li	Photoionization	1.00 keV	Th	220
hν + Li	Photoionization	20.00-300.00 eV	Th	156
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hν + Be	Photoexcitation	88.00 eV	E/T	159
hν + Be	Photoionization	30.00-120.00 eV	Th	315
hν + Be	Photoionization	1.00-75.00 eV	Th	305
hν + Be^{*}	Photoionization	4.00-20.00 eV	Th	281
hν + Be	Photoionization	4.00-20.00 eV	Th	281
hν + Be	Photoionization	23.00-117.00 eV	Th	269
hν + Be	Photoionization	30.00-125.00 eV	Th	260
hν + Be^{*}	Photoionization	30.00-125.00 eV	Th	260
hν + Be	Photoionization	22.10 keV	Ex	236
hν + Be	Photoionization	160.00 eV	Th	206
hν + Be	Photoionization	88.00 eV	E/T	159
hν + Be	Photoionization	32.00-80.00 eV	Ex	126
hν + Be^{2+}	Photoionization	60.00-200.00 eV	Th	190
hν + B^{1+}	Elastic Scattering	30.00-120.00 eV	Th	315
hν + B^{1+}	Photoionization	30.00-120.00 eV	Th	315
hν + B_2O_3	Total Absor., Scat.	0.36-1.33 MeV	Ex	234
hν + C	Elastic Scattering	22.10 keV	Ex	235
hν + C	Photoexcitation	22.10 keV	Ex	236
hν + C	Photoexcitation	88.00 eV	E/T	159
hν + C	Photoexcitation	10.33-10.78 eV	Ex	114
hν + C	Photoionization	22.10 keV	Ex	236
hν + C	Photoionization	88.00 eV	E/T	159
hν + C^{1+}	Photon Collisions	15.00 eV	Th	200
hν + C^{1+}	Total Absor., Scat.	21.75-38.74 eV	Ex	258
hν + C^{1+}	Elastic Scattering	21.75-38.74 eV	Ex	258
hν + C^{1+}	Photoionization	1.80-2.30 Ry	E/T	334

hν + $\mathbf{C}^{1+}$	Photoionization	21.75-38.74 eV	Ex	258
hν + $\mathbf{C}^{1+}$	Photoionization	15.00 eV	Th	200
hν + $\mathbf{C}^{2+}$	Elastic Scattering	30.00-120.00 eV	Th	315
hν + $\mathbf{C}^{2+}$	Photoionization	30.00-120.00 eV	Th	315
hν + $\mathbf{C}^{3+}$	Photoexcitation	20.00-680.00 Ry	Th	109
hν + $\mathbf{C}^{4+}$	Photoionization	60.00-200.00 eV	Th	190
hν + **CO**	Photodissociation	334.00 eV	Th	294
hν + **CO**	Photodissociation	306.40-419.30 eV	Ex	160
hν + **CO**	Photoexcitation	286.50-288.50 eV	Ex	333
hν + **CO**	Photoionization	286.50-288.50 eV	Ex	333
hν + **CO**	Photoionization	334.00 eV	Th	294
hν + **CO**	Photoionization	2.00-20.00 keV	Th	257
hν + **CO**	Photoionization	306.40-419.30 eV	Ex	160
hν + $\mathbf{CO}^{1+}$	Photoionization	25.00-50.00 eV	Th	197
hν + $\mathbf{CO}^{1+}$	Photoionization	27.30-50.00 eV	Ex	183
hν + $\mathbf{CO}_2$	Photoexcitation	306.00-320.00 eV	Ex	224
hν + $\mathbf{CO}_2$	Photoionization	306.00-320.00 eV	Ex	224
hν + **N**	Photoexcitation		Th	105
hν + **N**	Photoionization	1.00 keV	Th	220
hν + $\mathbf{N}^{1+}$	Photoexcitation	1.77-3.26 eV	Ex	90
hν + $\mathbf{N}^{2+}$	Photoionization		Th	357
hν + $\mathbf{N}^{3+}$	Elastic Scattering	30.00-120.00 eV	Th	315
hν + $\mathbf{N}^{3+}$	Photoionization		Th	357
hν + $\mathbf{N}^{3+}$	Photoionization	30.00-120.00 eV	Th	315
hν + $\mathbf{N}^{4+}$	Photoexcitation	20.00-680.00 Ry	Th	109
hν + $\mathbf{N}_2$	Photodissociation	1.20x10^{15} W/cm2	Ex	246
hν + $\mathbf{N}_2$	Photodissociation	306.40-419.30 eV	Ex	160
hν + $\mathbf{N}_2$	Photoionization	306.40-419.30 eV	Ex	160
hν + $\mathbf{N}_2$	Photoionization	410.00-450.00 eV	Th	125
hν + **NO**	Photodissociation	16.90-19.60 eV	Ex	151
hν + **NO**	Photodissociation	16.27 eV	Ex	148
hν + **NO**	Photoexcitation	399.00-401.00 eV	Ex	169
hν + **NO**	Photoexcitation	16.90-19.60 eV	Ex	151
hν + **NO**	Photoionization	25.00 eV	Th	298
hν + **NO**	Photoionization	16.90-19.60 eV	Ex	151
hν + **NO**	Photoionization	2.33-2.74 eV	Ex	129
hν + **O**	Photoexcitation		Th	105
hν + **O**	Photoionization	13.00-60.00 eV	Th	320
hν + **O**	Photoionization	50.00 eV	E/T	138
hν + $\mathbf{O}^{1+}$	Photon Collisions	15.00 eV	Th	200
hν + $\mathbf{O}^{1+}$	Photoexcitation		Th	105
hν + $\mathbf{O}^{1+}$	Photoionization	30.00-35.00 eV	Ex	349
hν + $\mathbf{O}^{1+}$	Photoionization	15.00 eV	Th	200
hν + $\mathbf{O}^{2+}$	Photoionization	39.00 eV	Th	147
hν + $\mathbf{O}^{3+}$	Photoionization		Th	357
hν + $\mathbf{O}^{4+}$	Elastic Scattering	30.00-120.00 eV	Th	315
hν + $\mathbf{O}^{4+}$	Photoionization		Th	357
hν + $\mathbf{O}^{4+}$	Photoionization	30.00-120.00 eV	Th	315
hν + $\mathbf{O}^{5+}$	Photoexcitation	20.00-680.00 Ry	Th	109
hν + $\mathbf{O}^{6+}$	Photoionization	60.00-200.00 eV	Th	190
hν + $\mathbf{O}_2$	Total Absor., Scat.	14.60-16.20 eV	Ex	142
hν + $\mathbf{O}_2$	Photodissociation	1.20x10^{15} W/cm2	Ex	246
hν + $\mathbf{O}_2{}^*$	Photodissociation	22.70-24.80 eV	E/T	241
hν + $\mathbf{O}_2$	Photodissociation	20.50-25.00 eV	E/T	218
hν + $\mathbf{O}_2$	Photodissociation	14.60-16.20 eV	Ex	142
hν + $\mathbf{O}_2$	Photodissociation	10.97-11.81 eV	Ex	121
hν + $\mathbf{O}_2$	Fluorescence	20.50-25.00 eV	E/T	218

hν + O_2	Fluorescence	14.60-16.20 eV	Ex	142
hν + O_2	Photoexcitation	20.50-25.00 eV	E/T	218
hν + O_2	Photoexcitation	14.60-16.20 eV	Ex	142
hν + O_2	Photoionization	70.00-531.00 eV	E/T	263
hν + O_2	Photoionization	50.00 eV	Th	124
hν + O_3	Photoionization	12.00-21.00 eV	Ex	123
hν + F^{-1+}	Photodetachment	1.39-6.81 eV	Ex	181
hν + F^{1+}	Photoexcitation		Th	105
hν + F^{2+}	Photoexcitation		Th	105
hν + F^{5+}	Elastic Scattering	30.00-120.00 eV	Th	315
hν + F^{5+}	Photoionization	30.00-120.00 eV	Th	315
hν + F^{6+}	Photoexcitation	20.00-680.00 Ry	Th	109
hν + Ne	Photoexcitation	0.67-1.60 Ry	Th	342
hν + Ne	Photoexcitation	0.85-1.20 keV	E/T	336
hν + Ne	Photoexcitation	0.10-60.00 a.u.	Th	238
hν + Ne	Photoexcitation	7.00-300.00 eV	Th	171
hν + Ne	Photoionization	0.85-1.20 keV	E/T	336
hν + Ne	Photoionization	0.60-60.00 keV	Th	335
hν + Ne	Photoionization		Th	270
hν + Ne	Photoionization	0.10-60.00 a.u.	Th	238
hν + Ne	Photoionization	1.00 keV	Th	220
hν + Ne	Photoionization	7.00-300.00 eV	Th	171
hν + Ne	Photoionization	60.00-330.00 eV	Th	163
hν + Ne^{1+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ne^{1+}	Photoexcitation	3.54 eV	Ex	102
hν + Ne^{2+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ne^{2+}	Photoexcitation		Th	105
hν + Ne^{3+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ne^{3+}	Photoexcitation		Th	105
hν + Ne^{4+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ne^{5+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ne^{6+}	Elastic Scattering	30.00-120.00 eV	Th	315
hν + Ne^{6+}	Photoexcitation	7.00-300.00 eV	Th	171
hν + Ne^{6+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ne^{6+}	Photoionization	30.00-120.00 eV	Th	315
hν + Ne^{6+}	Photoionization	7.00-300.00 eV	Th	171
hν + Ne^{7+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ne^{7+}	Photoexcitation	20.00-680.00 Ry	Th	109
hν + Ne^{8+}	Photoexcitation	7.00-300.00 eV	Th	171
hν + Ne^{8+}	Photoionization	7.00-300.00 eV	Th	171
hν + Na^{-1+}	Photodetachment	30.00-51.00 eV	Ex	196
hν + Na	Photoionization	5.00-28.00 eV	Th	240
hν + Na^*	Photoionization	1.24 MeV	E/T	239
hν + Na	Photoionization	1.24 MeV	E/T	239
hν + Na	Photoionization	20.00-300.00 eV	Th	156
hν + Na	Photoionization	40.00-140.00 eV	Th	134
hν + Na^{1+}	Photon Collisions	15.00 eV	Th	200
hν + Na^{1+}	Photoionization	15.00 eV	Th	200
hν + Na^{2+}	Photoexcitation		Th	132
hν + Na^{3+}	Photoexcitation		Th	105
hν + Na^{4+}	Photoexcitation		Th	105
hν + Na^{8+}	Photoexcitation	20.00-680.00 Ry	Th	109
hν + NaH	Photodissociation	4.17 eV	Th	302
hν + Mg	Total Absor., Scat.	8.55-16.53 eV	E/T	288
hν + Mg	Elastic Scattering	88.00 keV	Ex	232
hν + Mg	Photoexcitation	4.35 eV	Ex	318
hν + Mg	Photoexcitation	22.10 keV	Ex	236

hν + **Mg**	Photoexcitation	88.00 eV	E/T	159
hν + **Mg**	Photoionization	0.28-0.30 a.u.	Th	344
hν + **Mg**	Photoionization	4.35 eV	Ex	318
hν + **Mg**	Photoionization	1.55 eV	Ex	286
hν + **Mg**	Photoionization	22.10 keV	Ex	236
hν + **Mg**	Photoionization	4.35 eV	Ex	209
hν + **Mg**	Photoionization	160.00 eV	Th	206
hν + **Mg**	Photoionization	88.00 eV	E/T	159
hν + **Mg**	Photoionization	5.00-15.00 eV	Th	144
hν + **Mg***	Photoionization	5.00-15.00 eV	Th	144
hν + **Mg**	Photoionization	100.00-300.00 eV	Th	93
hν + **Mg**$^{1+}$	Photon Collisions	15.00 eV	Th	200
hν + **Mg**$^{1+}$	Photoexcitation	9.92 eV	Th	120
hν + **Mg**$^{1+}$	Photoionization	15.00 eV	Th	200
hν + **Mg**$^{2+}$	Photon Collisions	15.00 eV	Th	200
hν + **Mg**$^{2+}$	Photoionization	5.80-5.90 Ry	Th	352
hν + **Mg**$^{2+}$	Photoionization	15.00 eV	Th	200
hν + **Mg**$^{3+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Mg**$^{4+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Mg**$^{4+}$	Photoexcitation		Th	105
hν + **Mg**$^{5+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Mg**$^{5+}$	Photoexcitation		Th	105
hν + **Mg**$^{6+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Mg**$^{7+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Mg**$^{8+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Mg**$^{9+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Mg**$^{9+}$	Photoexcitation	20.00-680.00 Ry	Th	109
hν + **Al**	Photoexcitation	22.10 keV	Ex	236
hν + **Al**	Photoexcitation	88.00 eV	E/T	159
hν + **Al**	Photoexcitation	2.07-6.20 eV	E/T	108
hν + **Al**	Photoionization	22.10 keV	Ex	236
hν + **Al**	Photoionization	59.50 keV	Ex	229
hν + **Al**	Photoionization	88.00 eV	E/T	159
hν + **Al**$^{1+}$	Photon Collisions	15.00 eV	Th	200
hν + **Al**$^{1+}$	Photoexcitation	2.07-6.20 eV	E/T	108
hν + **Al**$^{1+}$	Photoionization	15.00 eV	Th	200
hν + **Al**$^{2+}$	Photon Collisions	15.00 eV	Th	200
hν + **Al**$^{2+}$	Photoionization	15.00 eV	Th	200
hν + **Al**$^{3+}$	Photon Collisions	15.00 eV	Th	200
hν + **Al**$^{3+}$	Photoionization	15.00 eV	Th	200
hν + **Al**$^{4+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Al**$^{5+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Al**$^{5+}$	Photoexcitation		Th	105
hν + **Al**$^{6+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Al**$^{6+}$	Photoexcitation		Th	105
hν + **Al**$^{6+}$	Photoionization	140.00 Ry	Th	279
hν + **Al**$^{7+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Al**$^{8+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Al**$^{9+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Al**$^{10+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Al**$^{10+}$	Photoexcitation	20.00-680.00 Ry	Th	109
hν + **Si**$^{-1+}$	Photodetachment	1.39-6.81 eV	Ex	181
hν + **Si**	Total Absor., Scat.	8.00-25.00 keV	Ex	230
hν + **Si**	Photoionization	8.00-25.00 keV	Ex	230
hν + **Si**$^{4+}$	Photon Collisions	15.00 eV	Th	200
hν + **Si**$^{4+}$	Photoionization	15.00 eV	Th	200
hν + **Si**$^{5+}$	Photoexcitation	0.92-8.27 keV	Th	119

hν + $\mathbf{Si^{6+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{Si^{6+}}$	Photoexcitation		Th	105
hν + $\mathbf{Si^{7+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{Si^{7+}}$	Photoexcitation		Th	105
hν + $\mathbf{Si^{8+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{Si^{8+}}$	Photoexcitation	12.40-49.59 eV	Th	111
hν + $\mathbf{Si^{9+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{Si^{10+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{Si^{11+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{Si^{11+}}$	Photoexcitation	20.00-680.00 Ry	Th	109
hν + $\mathbf{P^{3+}}$	Photoexcitation		Th	355
hν + $\mathbf{P^{7+}}$	Photoexcitation		Th	105
hν + $\mathbf{P^{8+}}$	Photoexcitation		Th	105
hν + $\mathbf{S^{-1+}}$	Photodetachment	2.02-2.02 eV	Ex	291
hν + **S**	Elastic Scattering	22.10 keV	Ex	235
hν + **S**	Photoexcitation	22.10 keV	Ex	236
hν + **S**	Photoexcitation	88.00 eV	E/T	159
hν + **S**	Photoionization	22.10 keV	Ex	236
hν + **S**	Photoionization	88.00 eV	E/T	159
hν + $\mathbf{S^{1+}}$	Photoionization	20.00-200.00 eV	Ex	303
hν + $\mathbf{S^{7+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{S^{8+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{S^{8+}}$	Photoexcitation		Th	105
hν + $\mathbf{S^{9+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{S^{9+}}$	Photoexcitation		Th	105
hν + $\mathbf{S^{10+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{S^{11+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{S^{12+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{S^{13+}}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + $\mathbf{S^{13+}}$	Photoexcitation	20.00-680.00 Ry	Th	109
hν + $\mathbf{SO_2{}^{1+}}$	Photoionization	37.00-120.00 eV	Ex	122
hν + $\mathbf{SO_2{}^{2+}}$	Photoionization	37.00-120.00 eV	Ex	122
hν + **Cl**	Photoexcitation	27.00 eV	Th	182
hν + **Cl**	Photoionization	202.00-212.00 eV	Th	131
hν + $\mathbf{Cl^{9+}}$	Photoexcitation		Th	105
hν + $\mathbf{Cl^{10+}}$	Photoexcitation		Th	105
hν + **Ar**	Photon Collisions	15.00 eV	Th	200
hν + **Ar**	Elastic Scattering	0.05-1.00 keV	Ex	250
hν + **Ar**	Photoexcitation	0.67-1.60 Ry	Th	342
hν + **Ar**	Photoexcitation	35.00-37.00 eV	Th	341
hν + **Ar**	Photoexcitation	3.46-6.54 keV	Ex	340
hν + **Ar**	Photoexcitation	321.00-330.00 eV	Ex	327
hν + **Ar**	Photoexcitation	7x10^{17} W/cm2	Ex	251
hν + **Ar**	Photoexcitation	245.00 eV	Ex	128
hν + **Ar**	Photoionization	35.00-37.00 eV	Th	341
hν + **Ar**	Photoionization	3.46-6.54 keV	Ex	340
hν + **Ar**	Photoionization	0.60-60.00 keV	Th	335
hν + **Ar**	Photoionization	360.00 eV	Th	329
hν + **Ar**	Photoionization	440.00 eV	Th	328
hν + **Ar**	Photoionization	321.00-330.00 eV	Ex	327
hν + **Ar**	Photoionization	1.55 eV	Ex	289
hν + **Ar**	Photoionization	7.70 eV	Ex	274
hν + **Ar**	Photoionization		Th	270
hν + **Ar**	Photoionization	246.90-249.00 eV	E/T	265
hν + **Ar**	Photoionization	117.00-743.00 eV	Ex	256
hν + **Ar**	Photoionization	0.05-1.00 keV	Ex	250
hν + **Ar**	Photoionization	35.00-45.00 eV	Ex	248

hν + Ar	Photoionization	15.00 eV	Th	200
hν + Ar	Photoionization	6 10^{13} W/cm2	Th	198
hν + Ar	Photoionization	4.70 W/cm2	Ex	187
hν + Ar	Photoionization	245.00 eV	Ex	128
hν + Ar^{2+}	Photoexcitation	4.13 eV	Ex	94
hν + Ar^{3+}	Photoexcitation	4.13 eV	Ex	94
hν + Ar^{7+}	Photoionization	47.50-67.50 eV	Th	203
hν + Ar^{9+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ar^{10+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ar^{10+}	Photoexcitation		Th	105
hν + Ar^{11+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ar^{12+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ar^{12+}	Photoexcitation	8.00 Ry	Th	92
hν + Ar^{13+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ar^{14+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ar^{15+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ar^{15+}	Photoexcitation	20.00-680.00 Ry	Th	109
hν + K^{-1+}	Photodetachment	3.00-4.40 eV	E/T	287
hν + K	Photoionization	20.00-300.00 eV	Th	156
hν + K^{1+}	Photon Collisions	15.00 eV	Th	200
hν + K^{1+}	Photoionization	0.60-60.00 keV	Th	335
hν + K^{1+}	Photoionization	15.00 eV	Th	200
hν + K^{11+}	Photoexcitation		Th	105
hν + Ca	Elastic Scattering	1.60 μm	Ex	254
hν + Ca	Photoionization	1.60 μm	Ex	254
hν + Ca	Photoionization	10^7-10^8 W/cm2	E/T	207
hν + Ca	Photoionization	160.00 eV	Th	206
hν + Ca^{1+}	Photoionization	32.80-33.50 eV	E/T	242
hν + Ca^{2+}	Photon Collisions	15.00 eV	Th	200
hν + Ca^{2+}	Photoionization	15.00 eV	Th	200
hν + Ca^{2+}	Photoionization	50.00-70.00 eV	Ex	164
hν + Ca^{11+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ca^{12+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ca^{12+}	Photoexcitation		Th	105
hν + Ca^{13+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ca^{14+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ca^{15+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ca^{16+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ca^{17+}	Photoexcitation	0.92-8.27 keV	Th	119
hν + Ca^{17+}	Photoexcitation	20.00-680.00 Ry	Th	109
hν + Ca^{19+}	Photoionization	0.00-100.00 GeV	Th	360
hν + Sc	Photoexcitation	27.00-45.00 eV	E/T	221
hν + Sc	Photoionization	351.00-410.00 eV	Ex	192
hν + Ti	Photoexcitation	22.10 keV	Ex	236
hν + Ti	Photoexcitation	88.00 eV	E/T	159
hν + Ti	Photoionization	22.10 keV	Ex	236
hν + Ti	Photoionization	59.50 keV	Ex	229
hν + Ti	Photoionization	88.00 eV	E/T	159
hν + Ti^{1+}	Photoexcitation	6.49 eV	Ex	112
hν + Ti^{2+}	Total Absor., Scat.	17.00-27.00 eV	Ex	219
hν + Ti^{11+}	Photoexcitation		Th	99
hν + Ti^{19+}	Photoexcitation	20.00-680.00 Ry	Th	109
hν + Cr	Photoionization	706.00 eV	Ex	280
hν + Cr^{21+}	Photoexcitation	20.00-680.00 Ry	Th	109
hν + Mn	Photon Collisions	15.00 eV	Th	200
hν + Mn	Photoionization	15.00 eV	Th	200
hν + Mn^{1+}	Photon Collisions	15.00 eV	Th	200

hν + **Mn**$^{1+}$	Photoionization	15.00 eV	Th	200
hν + **Mn**$^{6+}$	Photoexcitation		Th	107
hν + **Fe**	Total Absor., Scat.	10.00-230.00 eV	Ex	146
hν + **Fe**	Photoexcitation	22.10 keV	Ex	236
hν + **Fe**	Photoexcitation	88.00 eV	E/T	159
hν + **Fe**	Photoionization	127.00 eV	Ex	268
hν + **Fe**	Photoionization	22.10 keV	Ex	236
hν + **Fe**	Photoionization	59.50 keV	Ex	229
hν + **Fe**	Photoionization	6.00 Ry	Ex	186
hν + **Fe**	Photoionization	88.00 eV	E/T	159
hν + **Fe**$^{1+}$	Photoexcitation		Th	358
hν + **Fe**$^{1+}$	Photoexcitation	10.83 eV	Ex	118
hν + **Fe**$^{1+}$	Photoexcitation	3.54-7.75 eV	Ex	101
hν + **Fe**$^{1+}$	Photoexcitation	10.00 eV	Ex	97
hν + **Fe**$^{1+}$	Photoionization	6.00 Ry	Ex	186
hν + **Fe**$^{2+}$	Photoionization	0.03-8.16 keV	Th	145
hν + **Fe**$^{3+}$	Photoionization	0.03-8.16 keV	Th	145
hν + **Fe**$^{4+}$	Photoionization	0.03-8.16 keV	Th	145
hν + **Fe**$^{5+}$	Photoionization	0.03-8.16 keV	Th	145
hν + **Fe**$^{6+}$	Photoionization	0.03-8.16 keV	Th	145
hν + **Fe**$^{7+}$	Photoexcitation		Th	107
hν + **Fe**$^{7+}$	Photoionization	0.03-8.16 keV	Th	145
hν + **Fe**$^{16+}$	Photoionization	100.00 eV	Th	277
hν + **Fe**$^{17+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Fe**$^{17+}$	Photoionization	100.00 eV	Th	277
hν + **Fe**$^{18+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Fe**$^{19+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Fe**$^{20+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Fe**$^{20+}$	Photoexcitation	8.00 Ry	Th	92
hν + **Fe**$^{21+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Fe**$^{22+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Fe**$^{22+}$	Photoexcitation		Th	95
hν + **Fe**$^{22+}$	Photoionization	138.00-800.00 Ry	Th	155
hν + **Fe**$^{23+}$	Photoexcitation	0.92-8.27 keV	Th	119
hν + **Fe**$^{23+}$	Photoionization	138.00-800.00 Ry	Th	155
hν + **Fe**$^{42+}$	Photoexcitation		Th	107
hν + **Co**	Elastic Scattering	15.00-22.00 keV	Ex	354
hν + **Co**	Photoionization	127.00 eV	Ex	268
hν + **Co**$^{8+}$	Photoexcitation		Th	107
hν + **Co**$^{16+}$	Photoexcitation	0-7x10^{-5} a.u.	Th	110
hν + **Co**$^{16+}$	Photoexcitation		Th	100
hν + **Ni**	Elastic Scattering	15.00-22.00 keV	Ex	354
hν + **Ni**	Photoionization	59.50 keV	Ex	229
hν + **Ni**$^{9+}$	Photoexcitation		Th	107
hν + **Ni**$^{25+}$	Photoexcitation	20.00-680.00 Ry	Th	109
hν + **Cu**	Elastic Scattering	15.00-22.00 keV	Ex	354
hν + **Cu**	Photoexcitation		Th	356
hν + **Cu**	Photoexcitation	22.10 keV	Ex	236
hν + **Cu**	Photoexcitation	88.00 eV	E/T	159
hν + **Cu**	Photoionization	22.10 keV	Ex	236
hν + **Cu**	Photoionization	59.50 keV	Ex	229
hν + **Cu**	Photoionization	88.00 eV	E/T	159
hν + **Cu**$^{10+}$	Photoexcitation		Th	107
hν + **Zn**	Elastic Scattering	15.00-22.00 keV	Ex	354
hν + **Zn**	Elastic Scattering	88.00 keV	Ex	232
hν + **Zn**	Photoexcitation	22.10 keV	Ex	236
hν + **Zn**	Photoexcitation	88.00 eV	E/T	159

hν + **Zn**	Photoionization	22.10 keV	Ex	236
hν + **Zn**	Photoionization	59.50 keV	Ex	229
hν + **Zn**	Photoionization	88.00 eV	E/T	159
hν + $\mathbf{Zn}^{11+}$	Photoexcitation		Th	107
hν + **Ga**	Photoionization	3.07 eV	Ex	173
hν + $\mathbf{Ga}^{12+}$	Photoexcitation		Th	107
hν + **Ge**	Total Absor., Scat.	8.00-25.00 keV	Ex	230
hν + **Ge**	Elastic Scattering	22.10 keV	Ex	235
hν + **Ge**	Photoionization	8.00-25.00 keV	Ex	230
hν + $\mathbf{Ge}^{13+}$	Photoexcitation		Th	107
hν + **As**	Elastic Scattering	22.10 keV	Ex	235
hν + **As**	Photoexcitation	22.10 keV	Ex	236
hν + **As**	Photoionization	22.10 keV	Ex	236
hν + $\mathbf{As}^{14+}$	Photoexcitation		Th	107
hν + **Se**	Elastic Scattering	22.10 keV	Ex	235
hν + **Se**	Photoexcitation	22.10 keV	Ex	236
hν + **Se**	Photoexcitation	88.00 eV	E/T	159
hν + **Se**	Photoionization	22.10 keV	Ex	236
hν + **Se**	Photoionization	88.00 eV	E/T	159
hν + $\mathbf{Se}^{15+}$	Photoexcitation		Th	107
hν + $\mathbf{Br}^{16+}$	Photoexcitation		Th	107
hν + **Kr**	Photoexcitation	0.67-1.60 Ry	Th	342
hν + **Kr**	Photoionization		Th	270
hν + **Kr**	Photoionization	117.00-743.00 eV	Ex	256
hν + **Kr**	Photoionization	90.00-190.00 eV	Ex	168
hν + **Kr**	Photoionization		E/T	162
hν + **Kr**	Photoionization	0.01-10.00 keV	Th	154
hν + $\mathbf{Kr}^{1+}$	Photoexcitation	2.14-2.76 eV	Ex	98
hν + $\mathbf{Kr}^{17+}$	Photoexcitation		Th	107
hν + **Rb**	Elastic Scattering	22.10 keV	Ex	235
hν + **Rb**	Photoexcitation		Th	356
hν + $\mathbf{Rb}^{1+}$	Total Absor., Scat.	100.00-140.00 eV	Ex	191
hν + $\mathbf{Rb}^{2+}$	Total Absor., Scat.	110.00-150.00 eV	E/T	205
hν + $\mathbf{Rb}^{18+}$	Photoexcitation		Th	107
hν + **Sr**	Photoionization	34.00-42.00 eV	Ex	199
hν + **Sr**	Photoionization	25.14-25.26 eV	Ex	166
hν + $\mathbf{Sr}^{19+}$	Photoexcitation		Th	107
hν + **Y**	Photoexcitation	22.10 keV	Ex	236
hν + **Y**	Photoexcitation	88.00 eV	E/T	159
hν + **Y**	Photoionization	22.10 keV	Ex	236
hν + **Y**	Photoionization	88.00 eV	E/T	159
hν + $\mathbf{Y}^{20+}$	Photoexcitation		Th	107
hν + **Zr**	Photoexcitation	22.10 keV	Ex	236
hν + **Zr**	Photoionization	6.00 keV	Ex	353
hν + **Zr**	Photoionization	22.10 keV	Ex	236
hν + **Zr**	Photoionization	59.50 keV	Ex	229
hν + $\mathbf{Zr}^{21+}$	Photoexcitation		Th	107
hν + **Nb**	Elastic Scattering	15.00-22.00 keV	Ex	354
hν + **Nb**	Photoionization	6.00 keV	Ex	353
hν + **Nb**	Photoionization	59.50 keV	Ex	229
hν + $\mathbf{Nb}^{22+}$	Photoexcitation		Th	107
hν + **Mo**	Elastic Scattering	15.00-22.00 keV	Ex	354
hν + **Mo**	Elastic Scattering	88.00 keV	Ex	232
hν + **Mo**	Photoexcitation	88.00 eV	E/T	159
hν + **Mo**	Photoionization	6.00 keV	Ex	353
hν + **Mo**	Photoionization	59.50 keV	Ex	229
hν + **Mo**	Photoionization	88.00 eV	E/T	159

hν + **Mo**$^{23+}$	Photoexcitation		Th	107
hν + **Tc**$^{24+}$	Photoexcitation		Th	107
hν + **Ru**$^{25+}$	Photoexcitation		Th	107
hν + **Rh**	Photoionization	59.50 keV	Ex	229
hν + **Rh**$^{26+}$	Photoexcitation		Th	107
hν + **Pd**	Elastic Scattering	15.00-22.00 keV	Ex	354
hν + **Pd**	Photoionization	6.00 keV	Ex	353
hν + **Pd**$^{27+}$	Photoexcitation		Th	107
hν + **Ag**	Elastic Scattering	15.00-22.00 keV	Ex	354
hν + **Ag**	Elastic Scattering	22.10 keV	Ex	235
hν + **Ag**	Photoexcitation		Th	356
hν + **Ag**	Photoexcitation	22.10 keV	Ex	236
hν + **Ag**	Photoexcitation	22.10 keV	Ex	236
hν + **Ag**	Photoexcitation	88.00 eV	E/T	159
hν + **Ag**	Photoionization	6.00 keV	Ex	353
hν + **Ag**	Photoionization	22.10 keV	Ex	236
hν + **Ag**	Photoionization	22.10 keV	Ex	236
hν + **Ag**	Photoionization	59.50 keV	Ex	229
hν + **Ag**	Photoionization	88.00 eV	E/T	159
hν + **Ag**$^{28+}$	Photoexcitation		Th	107
hν + **Cd**	Elastic Scattering	15.00-22.00 keV	Ex	354
hν + **Cd**	Photoexcitation		Th	356
hν + **Cd**	Photoionization	6.00 keV	Ex	353
hν + **Cd**$^{29+}$	Photoexcitation		Th	107
hν + **In**	Elastic Scattering	15.00-22.00 keV	Ex	354
hν + **In**	Photoexcitation	22.10 keV	Ex	236
hν + **In**	Photoexcitation	88.00 eV	E/T	159
hν + **In**	Photoionization	6.00 keV	Ex	353
hν + **In**	Photoionization	22.10 keV	Ex	236
hν + **In**	Photoionization	88.00 eV	E/T	159
hν + **In**$^{1+}$	Total Absor., Scat.	18.00-33.00 eV	Ex	178
hν + **In**$^{30+}$	Photoexcitation		Th	107
hν + **Sn**$^{-1+}$	Photodetachment	2.41-2.71 eV	Ex	309
hν + **Sn**	Elastic Scattering	15.00-22.00 keV	Ex	354
hν + **Sn**	Elastic Scattering	88.00 keV	Ex	232
hν + **Sn**	Photoexcitation	22.10 keV	Ex	236
hν + **Sn**	Photoexcitation	88.00 eV	E/T	159
hν + **Sn**	Photoexcitation	0.49-2.48 eV	Ex	140
hν + **Sn**	Photoionization	6.00 keV	Ex	353
hν + **Sn**	Photoionization	22.10 keV	Ex	236
hν + **Sn**	Photoionization	59.50 keV	Ex	229
hν + **Sn**	Photoionization	88.00 eV	E/T	159
hν + **Sn**$^{1+}$	Total Absor., Scat.	23.00-33.00 eV	Ex	152
hν + **Sn**$^{2+}$	Total Absor., Scat.	23.00-33.00 eV	Ex	152
hν + **Sn**$^{31+}$	Photoexcitation		Th	107
hν + **Sb**	Photoionization	6.00 keV	Ex	353
hν + **Sb**$^{32+}$	Photoexcitation		Th	107
hν + **Te**	Elastic Scattering	22.10 keV	Ex	235
hν + **Te**	Photoexcitation	22.10 keV	Ex	236
hν + **Te**	Photoexcitation	88.00 eV	E/T	159
hν + **Te**	Photoionization	6.00 keV	Ex	353
hν + **Te**	Photoionization	22.10 keV	Ex	236
hν + **Te**	Photoionization	88.00 eV	E/T	159
hν + **Te**$^{33+}$	Photoexcitation		Th	107
hν + **I**	Total Absor., Scat.	60.00-130.00 eV	Th	319
hν + **I**	Photoionization	6.00 keV	Ex	353
hν + **I**$^{1+}$	Total Absor., Scat.	60.00-130.00 eV	Th	319

hν + I^{1+}	Photoionization	40.00-150.00 eV	Th	317
hν + I^{2+}	Photon Collisions	15.00 eV	Th	200
hν + I^{2+}	Total Absor., Scat.	60.00-130.00 eV	Th	319
hν + I^{2+}	Photoionization	40.00-150.00 eV	Th	317
hν + I^{2+}	Photoionization	15.00 eV	Th	200
hν + I^{3+}	Total Absor., Scat.	60.00-130.00 eV	Th	319
hν + I^{34+}	Photoexcitation		Th	107
hν + Xe	Photon Collisions	15.00 eV	Th	200
hν + Xe	Elastic Scattering	20.00-900.00 eV	Ex	253
hν + Xe	Fluorescence	2.03-3.10 eV	Ex	267
hν + Xe	Photoexcitation	0.67-1.60 Ry	Th	342
hν + Xe	Photoexcitation	672.00 eV	E/T	185
hν + Xe	Photoionization	90.00-160.00 eV	Th	361
hν + Xe	Photoionization	15.00-200.00 eV	Ex	292
hν + Xe	Photoionization	2 10^{18} W/cm2	Ex	290
hν + Xe	Photoionization		Th	270
hν + Xe	Photoionization	2.03-3.10 eV	Ex	267
hν + Xe	Photoionization	80.00-200.00 eV	Ex	266
hν + Xe	Photoionization	117.00-743.00 eV	Ex	256
hν + Xe	Photoionization	20.00-900.00 eV	Ex	253
hν + Xe	Photoionization	93.80 eV	Ex	252
hν + Xe	Photoionization	94.52 eV	Th	225
hν + Xe	Photoionization	700.00-800.00 eV	Ex	212
hν + Xe	Photoionization	400.00 eV	E/T	204
hν + Xe	Photoionization	15.00 eV	Th	200
hν + Xe	Photoionization	672.00 eV	E/T	185
hν + Xe	Photoionization	10.00-400.00 eV	Th	179
hν + Xe*	Photoionization	10.00-400.00 eV	Th	179
hν + Xe	Photoionization	0.01-10.00 keV	Th	154
hν + Xe	Photoionization	4.66 eV	Th	150
hν + Xe	Photoionization	1.55-5.00 eV	Th	149
hν + Xe^{1+}	Photon Collisions	15.00 eV	Th	200
hν + Xe^{1+}	Photoionization	15.00 eV	Th	200
hν + Xe^{1+}	Photoionization	80.00-140.00 eV	Ex	158
hν + Xe^{1+}	Photoionization	50.00-130.00 eV	Ex	135
hν + Xe^{2+}	Photon Collisions	15.00 eV	Th	200
hν + Xe^{2+}	Photoionization	15.00 eV	Th	200
hν + Xe^{2+}	Photoionization	50.00-130.00 eV	Ex	135
hν + Xe^{35+}	Photoexcitation		Th	107
hν + Cs	Total Absor., Scat.		Ex	244
hν + Cs	Photoexcitation		Th	356
hν + Cs	Photoexcitation	2.93-3.90 eV	Ex	325
hν + Cs	Photoionization	6.00 keV	Ex	353
hν + Cs	Photoionization	2.93-3.90 eV	Ex	325
hν + Cs	Photoionization	1.46 eV	E/T	170
hν + Cs^{1+}	Photoionization	90.00-160.00 eV	Th	361
hν + Cs^{36+}	Photoexcitation		Th	107
hν + Ba	Photon Collisions	15.00 eV	Th	200
hν + Ba	Elastic Scattering	22.10 keV	Ex	235
hν + Ba	Elastic Scattering	88.00 keV	Ex	232
hν + Ba	Photoionization	15.00 eV	Th	200
hν + Ba^{1+}	Photon Collisions	15.00 eV	Th	200
hν + Ba^{1+}	Photoionization	15.00 eV	Th	200
hν + Ba^{2+}	Photon Collisions	15.00 eV	Th	200
hν + Ba^{2+}	Photoionization	90.00-160.00 eV	Th	361
hν + Ba^{2+}	Photoionization	15.00 eV	Th	200
hν + Ba^{37+}	Photoexcitation		Th	107

hν + **La**	Elastic Scattering	11.18-11.31 eV	E/T	273
hν + $\mathbf{La}^{1+}$	Photoexcitation	2.13-4.12 eV	Ex	115
hν + $\mathbf{La}^{38+}$	Photoexcitation		Th	107
hν + $\mathbf{Pr}^{1+}$	Photoexcitation	2.00-6.00 eV	Ex	351
hν + $\mathbf{Nd}^{2+}$	Photoexcitation	1.75-3.78 eV	E/T	106
hν + $\mathbf{Nd}^{2+}$	Photoexcitation	1.80-4.00 eV	Th	91
hν + **Sm**	Elastic Scattering	22.10 keV	Ex	235
hν + **Eu**	Total Absor., Scat.	110.00-160.00 eV	Th	276
hν + **Eu**	Photoionization	53.00 eV	E/T	297
hν + $\mathbf{Eu}^{1+}$	Total Absor., Scat.	110.00-160.00 eV	Th	276
hν + $\mathbf{Eu}^{1+}$	Photoexcitation	16.53-34.44 eV	Ex	116
hν + **Gd**	Elastic Scattering	88.00 keV	Ex	232
hν + **Gd**	Fluorescence	4.00-10.00 keV	Ex	228
hν + **Gd**	Photoexcitation	22.10 keV	Ex	236
hν + **Gd**	Photoexcitation	88.00 eV	E/T	159
hν + **Gd**	Photoionization	22.10 keV	Ex	236
hν + **Gd**	Photoionization	88.00 eV	E/T	159
hν + $\mathbf{GdO}^{-1+}$	Photodetachment	3.50 eV	Ex	312
hν + **Tb**	Fluorescence	4.00-10.00 keV	Ex	228
hν + **Dy**	Fluorescence	4.00-10.00 keV	Ex	228
hν + **Dy**	Photoexcitation	22.10 keV	Ex	236
hν + **Dy**	Photoexcitation	88.00 eV	E/T	159
hν + **Dy**	Photoionization	22.10 keV	Ex	236
hν + **Dy**	Photoionization	88.00 eV	E/T	159
hν + **Ho**	Elastic Scattering	22.10 keV	Ex	235
hν + **Ho**	Elastic Scattering	88.00 keV	Ex	232
hν + **Ho**	Fluorescence	4.00-10.00 keV	Ex	228
hν + **Ho**	Photoexcitation	22.10 keV	Ex	236
hν + **Ho**	Photoionization	22.10 keV	Ex	236
hν + $\mathbf{Ho}^{2+}$	Photoexcitation	1.35-5.39 eV	Ex	104
hν + **Er**	Fluorescence	4.00-10.00 keV	Ex	228
hν + **Tm**	Elastic Scattering	22.10 keV	Ex	235
hν + **Tm**	Photoexcitation	22.10 keV	Ex	236
hν + **Tm**	Photoexcitation	5.96 keV	Ex	216
hν + **Tm**	Photoexcitation	88.00 eV	E/T	159
hν + **Tm**	Photoionization	22.10 keV	Ex	236
hν + **Tm**	Photoionization	5.96 keV	Ex	216
hν + **Tm**	Photoionization	88.00 eV	E/T	159
hν + **Yb**	Total Absor., Scat.		Th	323
hν + **Yb**	Elastic Scattering	22.10 keV	Ex	235
hν + **Yb**	Elastic Scattering	88.00 keV	Ex	232
hν + **Yb**	Fluorescence	4.00-10.00 keV	Ex	228
hν + **Yb**	Fluorescence	3.11 eV	Ex	210
hν + **Yb**	Photoexcitation	5.96 keV	Ex	216
hν + **Yb**	Photoionization	5.96 keV	Ex	216
hν + **Yb**	Photoionization	59.50 keV	Ex	136
hν + **Lu**	Photoexcitation	5.96 keV	Ex	216
hν + **Lu**	Photoionization	5.96 keV	Ex	216
hν + **Lu**	Photoionization	59.50 keV	Ex	136
hν + **Hf**	Photoionization	59.50 keV	Ex	136
hν + $\mathbf{Hf}^{39+}$	Photoexcitation		Th	107
hν + **Ta**	Elastic Scattering	88.00 keV	Ex	232
hν + **Ta**	Fluorescence	59.50 keV	E/T	137
hν + **Ta**	Photoexcitation	5.96 keV	Ex	216
hν + **Ta**	Photoionization	59.50 keV	Ex	229
hν + **Ta**	Photoionization	5.96 keV	Ex	216
hν + **Ta**	Photoionization	59.50 keV	Ex	136

$h\nu$ + $\mathbf{Ta^{40+}}$	Photoexcitation		Th	107
$h\nu$ + **W**	Elastic Scattering	88.00 keV	Ex	232
$h\nu$ + **W**	Fluorescence	59.50 keV	E/T	137
$h\nu$ + **W**	Photoexcitation	5.96 keV	Ex	216
$h\nu$ + **W**	Photoionization	59.50 keV	Ex	229
$h\nu$ + **W**	Photoionization	5.96 keV	Ex	216
$h\nu$ + **W**	Photoionization	59.50 keV	Ex	136
$h\nu$ + $\mathbf{W^{41+}}$	Photoexcitation		Th	107
$h\nu$ + **Re**	Fluorescence	59.50 keV	E/T	137
$h\nu$ + **Re**	Photoexcitation	5.96 keV	Ex	216
$h\nu$ + **Re**	Photoionization	59.50 keV	Ex	229
$h\nu$ + **Re**	Photoionization	5.96 keV	Ex	216
$h\nu$ + **Re**	Photoionization	59.50 keV	Ex	136
$h\nu$ + $\mathbf{Os^{43+}}$	Photoexcitation		Th	107
$h\nu$ + $\mathbf{Ir^{44+}}$	Photoexcitation		Th	107
$h\nu$ + **Pt**	Elastic Scattering	88.00 keV	Ex	232
$h\nu$ + **Pt**	Photoionization	59.50 keV	Ex	229
$h\nu$ + **Pt**	Photoionization	59.50 keV	Ex	136
$h\nu$ + $\mathbf{Pt^{45+}}$	Photoexcitation		Th	107
$h\nu$ + **Au**	Elastic Scattering	88.00 keV	Ex	232
$h\nu$ + **Au**	Fluorescence	12.20-16.70 keV	Ex	343
$h\nu$ + **Au**	Photoexcitation		Th	356
$h\nu$ + **Au**	Photoexcitation	5.96 keV	Ex	216
$h\nu$ + **Au**	Photoionization	12.20-16.70 keV	Ex	343
$h\nu$ + **Au**	Photoionization	59.50 keV	Ex	229
$h\nu$ + **Au**	Photoionization	21.00-26.00 keV	Ex	227
$h\nu$ + **Au**	Photoionization	5.96 keV	Ex	216
$h\nu$ + $\mathbf{Au^{46+}}$	Photoexcitation		Th	107
$h\nu$ + **Hg**	Elastic Scattering	22.10 keV	Ex	235
$h\nu$ + **Hg**	Photoexcitation		Th	356
$h\nu$ + **Hg**	Photoexcitation	5.96 keV	Ex	216
$h\nu$ + **Hg**	Photoionization	5.96 keV	Ex	216
$h\nu$ + $\mathbf{Hg^{47+}}$	Photoexcitation		Th	107
$h\nu$ + **Tl**	Elastic Scattering	22.10 keV	Ex	235
$h\nu$ + **Tl**	Elastic Scattering	88.00 keV	Ex	232
$h\nu$ + **Tl**	Photoexcitation	5.96 keV	Ex	216
$h\nu$ + **Tl**	Photoionization	59.50 keV	Ex	231
$h\nu$ + **Tl**	Photoionization	5.96 keV	Ex	216
$h\nu$ + **Pb**	Elastic Scattering	88.00 keV	Ex	232
$h\nu$ + **Pb**	Fluorescence	12.20-16.70 keV	Ex	343
$h\nu$ + **Pb**	Photoexcitation	5.96 keV	Ex	216
$h\nu$ + **Pb**	Photoionization	12.20-16.70 keV	Ex	343
$h\nu$ + **Pb**	Photoionization	59.50 keV	Ex	231
$h\nu$ + **Pb**	Photoionization	59.50 keV	Ex	229
$h\nu$ + **Pb**	Photoionization	21.00-26.00 keV	Ex	227
$h\nu$ + **Pb**	Photoionization	5.96 keV	Ex	216
$h\nu$ + $\mathbf{Bi_2O_3}$	Total Absor., Scat.	0.36-1.33 MeV	Ex	234
$h\nu$ + **Th**	Elastic Scattering	88.00 keV	Ex	232
$h\nu$ + **Th**	Photoexcitation	5.96 keV	Ex	216
$h\nu$ + **Th**	Photoionization	5.96 keV	Ex	216
$h\nu$ + **Th**	Photoionization	17.80-46.90 keV	Ex	175
$h\nu$ + $\mathbf{Th^{1+}}$	Photoexcitation	0.95-4.13 eV	Ex	103
$h\nu$ + $\mathbf{Th^{2+}}$	Photoexcitation	1.25-9.54 eV	Ex	117
$h\nu$ + $\mathbf{CH_3OH}$	Photodissociation	285.00-560.00 eV	Ex	222
$h\nu$ + $\mathbf{CH_3OH}$	Photoionization	285.00-560.00 eV	Ex	222
$h\nu$ + **perturbation**	Photon Collisions	0.10-10.00 keV	E/T	226
$h\nu$ + **HBr**	Total Absor., Scat.	69.00-79.00 eV	Ex	313

hν + **HBr**	Photoionization	69.00-79.00 eV	Ex	313
hν + **O Seq**	Photoexcitation		Th	105
hν + $\mathbf{CS_2}$	Photoexcitation	250.00 eV	Ex	133
hν + $\mathbf{CS_2}$	Photoionization	250.00 eV	Ex	133
hν + $\mathbf{C_{60}}$	Photoionization	0.30-1.70 a.u.	Th	296
hν + $\mathbf{C_{60}}$	Photoionization	5.00-45.00 eV	Th	275
hν + $\mathbf{C_{60}}$	Photoionization	7.00-50.00 eV	Th	193
hν + **U**	Elastic Scattering	88.00 keV	Ex	232
hν + **U**	Photoexcitation	5.96 keV	Ex	216
hν + **U**	Photoionization	5.96 keV	Ex	216
hν + **U**	Photoionization	17.80-46.90 keV	Ex	175
hν + $\mathbf{U^{1+}}$	Photoexcitation	1.85-3.54 eV	E/T	202
hν + $\mathbf{SF_6}$	Photodissociation	20.00-205.00 eV	Ex	211
hν + $\mathbf{SF_6}$	Photoionization	20.00-205.00 eV	Ex	211
hν + $\mathbf{Bi^{-1+}}$	Photodetachment	7.60-7.60 keV	Ex	272
hν + **Bi**	Elastic Scattering	88.00 keV	Ex	232
hν + **Bi**	Photoexcitation	5.96 keV	Ex	216
hν + **Bi**	Photoexcitation	88.00 eV	E/T	159
hν + **Bi**	Photoionization	59.50 keV	Ex	231
hν + **Bi**	Photoionization	5.96 keV	Ex	216
hν + **Bi**	Photoionization	88.00 eV	E/T	159
hν + $\mathbf{Bi^{1+}}$	Photoexcitation	3.10-11.27 eV	Th	113
hν + **Pu**	Photoionization	0.01-10.00 keV	Th	154
hν + $\mathbf{C_2H_6}$	Photodissociation	11.00-40.00 eV	Ex	201
hν + $\mathbf{C_2H_6}$	Photoionization	11.00-40.00 eV	Ex	201
hν + $\mathbf{S_2}$	Total Absor., Scat.	0.00-6.00 K	Th	167
hν + **He Seq**	Photodetachment		Th	261
hν + **He Seq**	Photoionization		Th	261
hν + $\mathbf{C_{20}}$	Photoionization	7.00-50.00 eV	Th	193
hν + **TiO**	Photoexcitation		Th	96
hν + $\mathbf{Na_9}^{1+}$	Photoionization	5.00 eV	Ex	172
hν + $\mathbf{Na_2}$	Total Absor., Scat.	1.00-3.00 K	Th	249
hν + $\mathbf{Na_2}$	Fluorescence	2.41 eV	Ex	143
hν + $\mathbf{C_6H_6}$	Photodissociation	8x10^{13} W/cm2	Ex	247
hν + $\mathbf{C_6H_6}$	Photoionization	8x10^{13} W/cm2	Ex	247
hν + **N Seq.**	Photoexcitation		Th	105
hν + **Ag Seq.**	Photoexcitation		Th	356
hν + **Au Seq.**	Photoexcitation		Th	356
hν + **Hg Seq.**	Photoexcitation		Th	356
hν + **Cd Seq.**	Photoexcitation		Th	356
hν + $\mathbf{C_{60}}$**(Be)**	Photoionization	160.00 eV	Th	206
hν + $\mathbf{C_{60}}$**(Mg)**	Photoionization	160.00 eV	Th	206
hν + $\mathbf{C_{60}}$**(Ca)**	Photoionization	160.00 eV	Th	206
hν + **H** + **Kr**	Photoionization	75.00-127.00 eV	Ex	259
hν + **H** + **Xe**	Photoionization	75.00-127.00 eV	Ex	259
nhν + $\mathbf{H^{-1+}}$	Photoionization	4.00-180.00 eV	Th	161
nhν + **H**	Photoionization	200.00-500.00 V/cm	Th	310
nhν + **H**	Photoionization		Th	264
nhν + $\mathbf{He^{-1+}}$	Photoionization	4.00-180.00 eV	Th	161
nhν + **He**	Photoionization	1.00-50.00 keV	Th	127
nhν + **Ne**	Photoexcitation	7.00-300.00 eV	Th	171
nhν + **Ne**	Photoionization	7.00-300.00 eV	Th	171
nhν + $\mathbf{Ne^{6+}}$	Photoexcitation	7.00-300.00 eV	Th	171
nhν + $\mathbf{Ne^{6+}}$	Photoionization	7.00-300.00 eV	Th	171
nhν + $\mathbf{Ne^{8+}}$	Photoexcitation	7.00-300.00 eV	Th	171
nhν + $\mathbf{Ne^{8+}}$	Photoionization	7.00-300.00 eV	Th	171
nhν + **Ar**	Photoionization		Th	198

nhν + $\mathbf{Ar^{7+}}$	Photoionization	47.50-67.50 eV	Th	203
2hν + $\mathbf{H^{-1+}}$	Photon Collisions		Th	271
2hν + $\mathbf{H^{-1+}}$	Photodetachment		Th	271
2hν + **H**	Photoionization	13.78-619.90 eV	Th	176
2hν + $\mathbf{H_2}$	Photodissociation	13.10-13.10 eV	Th	331
2hν + $\mathbf{H_2}$	Photoionization		Th	208
2hν + **He**	Photoionization	12.75-150.00 eV	Th	174
2hν + $\mathbf{He^{1+}}$	Photodissociation	40.60-42.00 eV	Th	332
2hν + **Ne**	Photoexcitation	0.10-60.00 a.u.	Th	238
2hν + **Ne**	Photoionization	0.10-60.00 a.u.	Th	238
2hν + **Ne**	Photoionization	60.00-330.00 eV	Th	163
2hν + **Ar**	Photoionization	4.70 W/cm2	Ex	187
3hν + $\mathbf{H_2}$	Photoionization		Th	208
3hν + **Ca**	Photoionization	10^7-10^8 W/cm2	E/T	207
4hν + $\mathbf{H_2}$	Photoionization		Th	208

2.2.2 Electron Collisions

e + $\mathbf{H^{-1+}}$	Angular Scattering	5.60 keV	Th	418
e + $\mathbf{H^{-1+}}$	Ionization	5.60 keV	Th	418
e + **H**	Bremsstrahlung	180.00-300.00 keV	Th	477
e + **H**	Elastic Scattering	10^9-10^{11}	Th	597
e + **H**	Elastic Scattering	100.00-500.00 eV	Th	572
e + $\mathbf{H^*}$	Elastic Scattering	100.00-500.00 eV	Th	572
e + **H**	Elastic Scattering	1.00-7.00 Ry	Th	551
e + **H**	Elastic Scattering	200.00 eV	Th	506
e + **H**	Angular Scattering	0-∞ eV	Th	613
e + **H**	Angular Scattering	54.40 eV	Th	609
e + **H**	Angular Scattering	40.80 eV	Th	606
e + **H**	Angular Scattering	1.00-7.00 Ry	Th	551
e + **H**	Angular Scattering	17.60-30.00 eV	Th	539
e + **H**	Angular Scattering	100.00-250.00 eV	Th	520
e + **H**	Angular Scattering	200.00 eV	Th	506
e + **H**	Angular Scattering	17.60-250.00 eV	Th	481
e + **H**	Angular Scattering	100.00 eV	Th	405
e + **H**	Recombination	500.00 eV	Th	601
e + **H**	Recombination	0.10-1.00 K	Th	515
e + **H**	Excitation	20.00 eV	Th	624
e + **H**	Excitation	0-∞ eV	Th	613
e + **H**	Excitation	10^9-10^{11}	Th	597
e + **H**	Excitation	5.00 keV	Th	560
e + **H**	Excitation	20.00-30.00 eV	Ex	556
e + **H**	Excitation	200.00 eV	Th	506
e + **H**	Excitation	0.01-1.00 keV	E/T	426
e + **H**	Ionization	0.40-10.00 keV	Th	652
e + **H**	Ionization	20.00-40.80 eV	Th	618
e + **H**	Ionization	0.30-31.00 eV	E/T	616
e + **H**	Ionization	54.40 eV	Th	609
e + **H**	Ionization	40.80 eV	Th	606
e + **H**	Ionization	30.00 eV	E/T	580
e + **H**	Ionization	16.00-18.00 eV	Th	564
e + **H**	Ionization	15.60-54.40 eV	Th	552
e + **H**	Ionization	17.60-30.00 eV	Th	539
e + **H**	Ionization	100.00-250.00 eV	Th	520
e + **H**	Ionization	0.10-1.00 K	Th	515
e + **H**	Ionization	17.60-250.00 eV	Th	481

$\mathbf{e + H}$	Ionization	27.20 eV	E/T	478
$\mathbf{e + H}$	Ionization	54.40-250.00 eV	Th	465
$\mathbf{e + H^{1+}}$	Recombination	0.10-30.00 eV	Th	683
$\mathbf{e + H_2}$	Attachment	5.00 eV	Th	680
$\mathbf{e + H_2}$	Attachment	3.75-5.00 eV	Ex	394
$\mathbf{e + H_2}$	Dissociation		Th	682
$\mathbf{e + H_2}$	Dissociation	5.00 eV	Th	680
$\mathbf{e + H_2}$	Dissociation	100.00 eV	Th	679
$\mathbf{e + H_2}$	Dissociation	0.10-10.00 eV	Th	678
$\mathbf{e + H_2}$	Dissociation	200.00 eV	Th	634
$\mathbf{e + H_2}$	Dissociation	7.50-14.50 eV	Th	416
$\mathbf{e + H_2}$	Dissociation	3.75-5.00 eV	Ex	394
$\mathbf{e + H_2}^*$	De-excitation	1.00-10.00 eV	Th	608
$\mathbf{e + H_2}$	De-excitation	1.00-10.00 eV	Th	608
$\mathbf{e + H_2}^*$	Elastic Scattering	1.00-10.00 eV	Th	608
$\mathbf{e + H_2}$	Elastic Scattering	1.00-10.00 eV	Th	608
$\mathbf{e + H_2}$	Elastic Scattering		Th	500
$\mathbf{e + H_2}$	Elastic Scattering	0.50-20.00 eV	Th	468
$\mathbf{e + H_2}^*$	Angular Scattering	1.00-10.00 eV	Th	608
$\mathbf{e + H_2}$	Angular Scattering	1.00-10.00 eV	Th	608
$\mathbf{e + H_2}$	Angular Scattering	1.50-100.00 eV	Th	568
$\mathbf{e + H_2}$	Angular Scattering		Th	500
$\mathbf{e + H_2}$	Angular Scattering	0.50-20.00 eV	Th	468
$\mathbf{e + H_2}$	Angular Scattering	7.50-14.50 eV	Th	416
$\mathbf{e + H_2}$	Total Scattering		Th	500
$\mathbf{e + H_2}$	Excitation	0.10-30.00 eV	Th	683
$\mathbf{e + H_2}$	Excitation	100.00 eV	Th	679
$\mathbf{e + H_2}$	Excitation	0.10-10.00 eV	Th	678
$\mathbf{e + H_2}$	Excitation	200.00 eV	Th	634
$\mathbf{e + H_2}^*$	Excitation	1.00-10.00 eV	Th	608
$\mathbf{e + H_2}$	Excitation	1.00-10.00 eV	Th	608
$\mathbf{e + H_2}$	Excitation	1.50-100.00 eV	Th	568
$\mathbf{e + H_2}$	Excitation	15.00-40.00 eV	Th	540
$\mathbf{e + H_2}$	Excitation	7.50-14.50 eV	Th	416
$\mathbf{e + H_2}$	Excitation	400.00 eV	Ex	396
$\mathbf{e + H_2}$	Ionization	100.00 eV	Th	679
$\mathbf{e + H_2}$	Ionization	0.10-10.00 eV	Th	678
$\mathbf{e + H_2}$	Ionization		Th	517
$\mathbf{e + H_2}$	Ionization	600.00 eV	Ex	511
$\mathbf{e + H_2}$	Ionization	400.00 eV	Ex	396
$\mathbf{e + H_2}$	Ionization	20.00 eV	E/T	383
$\mathbf{e + H_2}^{1+}$	Dissociation		Th	682
$\mathbf{e + H_2}^{1+}$	Dissociation		Th	682
$\mathbf{e + H_2}^{1+}$	Dissociation	12.00 eV	Th	681
$\mathbf{e + H_2}^{1+}$	Dissociation	0.10-10.00 eV	Th	678
$\mathbf{e + H_2}^{1+}$	Dissociation	1.00-16.00 eV	Ex	612
$\mathbf{e + H_2}^{1+}$	Dissociation	0.10-8.00 eV	Th	582
$\mathbf{e + H_2}^{1+}$	Angular Scattering	2.00 keV	Th	622
$\mathbf{e + H_2}^{1+}$	Recombination		Th	682
$\mathbf{e + H_2}^{1+}$	Recombination	12.00 eV	Th	681
$\mathbf{e + H_2}^{1+}$	Recombination	0.10-10.00 eV	Th	678
$\mathbf{e + H_2}^{1+}$	Recombination	1.00-16.00 eV	Ex	612
$\mathbf{e + H_2}^{1+}$	Recombination	0.10-8.00 eV	Th	582
$\mathbf{e + H_2}^{1+}$	Excitation	0.10-10.00 eV	Th	678
$\mathbf{e + H_2}^{1+}$	Ionization	2.00 keV	Th	622
$\mathbf{e + H_3}^{1+}$	Dissociation		Th	682
$\mathbf{e + H_3}^{1+}$	Dissociation	230.00-290.00 K	Ex	466

e + H_3^{1+}	Elastic Scattering	1.00-22.00 eV	Th	483
e + H_3^{1+}	Recombination	6.00 meV	Ex	627
e + H_3^{1+}	Recombination	230.00-290.00 K	Ex	466
e + H_3^{1+}	Excitation	1.00-22.00 eV	Th	483
e + HD^{1+}	Dissociation	12.00 eV	Th	681
e + HD^{1+}	Dissociation	1.00-16.00 eV	Ex	612
e + HD^{1+}	Dissociation	0.10-8.00 eV	Th	582
e + HD^{1+}	Recombination	12.00 eV	Th	681
e + HD^{1+}	Recombination	1.00-16.00 eV	Ex	612
e + HD^{1+}	Recombination	0.10-8.00 eV	Th	582
e + H_2O	Dissociation	300.00 eV	E/T	381
e + H_2O	Angular Scattering	1.00-7.80 eV	Th	430
e + H_2O	Excitation	1.00-7.80 eV	Th	430
e + H_2O	Ionization	0.02-2.00 keV	Th	587
e + H_2O	Ionization	0.01-1.00 keV	Th	571
e + H_2O	Ionization	0.01-10.00 keV	Th	385
e + H_2O	Ionization	20.00 eV	E/T	383
e + H_3O^{1+}	Dissociation	0.01-2.50 keV	Ex	516
e + H_3O^{1+}	Elastic Scattering	1.00-22.00 eV	Th	483
e + H_3O^{1+}	Recombination	0.01-2.50 keV	Ex	516
e + H_3O^{1+}	Excitation	0.01-2.50 keV	Ex	516
e + H_3O^{1+}	Excitation	1.00-22.00 eV	Th	483
e + HD_2O^{1+}	Dissociation	0.01-2.50 keV	Ex	516
e + HD_2O^{1+}	Recombination	0.01-2.50 keV	Ex	516
e + HD_2O^{1+}	Excitation	0.01-2.50 keV	Ex	516
e + D	Recombination	0.10-1.00 K	Th	515
e + D	Ionization	0.10-1.00 K	Th	515
e + D_2	Ionization	20.00 eV	E/T	383
e + D_2^{1+}	Dissociation	12.00 eV	Th	681
e + D_2^{1+}	Recombination	12.00 eV	Th	681
e + DT	Dissociation	200.00 eV	Th	634
e + DT	Excitation	200.00 eV	Th	634
e + D_2O	Ionization	20.00 eV	E/T	383
e + D_3O^{1+}	Dissociation	0.01-2.50 keV	Ex	516
e + D_3O^{1+}	Recombination	0.01-2.50 keV	Ex	516
e + D_3O^{1+}	Excitation	0.01-2.50 keV	Ex	516
e + T_2	Dissociation	200.00 eV	Th	634
e + T_2	Excitation	200.00 eV	Th	634
e + He	Bremsstrahlung	5.00-40.00 K	Th	555
e + He	Elastic Scattering	1.00-20.00 eV	Ex	372
e + He	Angular Scattering	64.60 eV	Th	603
e + He	Angular Scattering	200.00 eV	Th	510
e + He	Angular Scattering	601.00 eV	Ex	509
e + He	Angular Scattering	2.00 keV	Th	472
e + He	Angular Scattering	1.10 keV	Ex	422
e + He	Angular Scattering	5.60 keV	Th	418
e + He	Angular Scattering	1.00-20.00 eV	Ex	372
e + He	Recombination	500.00 eV	Th	601
e + He	Recombination	0.10-1.00 K	Th	515
e + He	Excitation	5.00 keV	Th	560
e + He	Excitation	0.05-1.40 keV	E/T	549
e + He^*	Excitation	1.00-40.00 Threshold	E/T	531
e + He	Excitation	1.00-40.00 Threshold	E/T	531
e + He	Excitation	200.00 eV	Th	510
e + He	Excitation	100.00-400.00 eV	Ex	493
e + He	Excitation	0.65-0.78 a.u.	Th	462
e + He	Excitation	0.60-1.58 keV	Th	460

e + He	Excitation	2.50 eV	Th	455
e + He	Excitation	2.00-8.00 a.u.	Th	446
e + He	Excitation	3.00-8.50 a.u.	E/T	410
e + He	Excitation	55.00-60.00 eV	E/T	408
e + He	Ionization	2.00 keV	Ex	626
e + He	Ionization	1.00 keV	Ex	605
e + He	Ionization	64.60 eV	Th	603
e + He	Ionization	2.00 keV	Ex	592
e + He	Ionization	10.00 Threshold	Th	559
e + He	Ionization	0.02-1.00 keV	Th	521
e + He	Ionization	0.10-1.00 K	Th	515
e + He	Ionization	600.00 eV	Ex	511
e + He	Ionization	200.00 eV	Th	510
e + He	Ionization	601.00 eV	Ex	509
e + He	Ionization	100.00-400.00 eV	Ex	493
e + He	Ionization	2.00 keV	Th	472
e + He	Ionization	0.1-5 keV; 0.30-2.00 MeV	Th	463
e + He	Ionization	0.60-1.58 keV	Th	460
e + He	Ionization	2.00-8.00 a.u.	Th	446
e + He	Ionization	0.50-10.00 keV	E/T	445
e + He	Ionization	1.10 keV	Ex	422
e + He	Ionization	5.60 keV	Th	418
e + He	Ionization	100.00-400.00 eV	Th	414
e + He	Ionization	25.00 eV	Th	395
e + $\mathbf{He}^{1+}$	Recombination	0.10-1.00 K	Th	515
e + $\mathbf{He}^{1+}$	Excitation	0.01-5.00 keV	Th	586
e + $\mathbf{He}^{1+}$	Excitation	40.00-42.00 eV	E/T	467
e + $\mathbf{He}^{1+}$	Excitation	50.00-175.00 eV	Th	458
e + $\mathbf{He}^{1+}$	Ionization	5.00-500.00 eV	Th	665
e + $\mathbf{He}^{1+}$	Ionization	0.40-10.00 keV	Th	652
e + $\mathbf{He}^{1+}$	Ionization	0.10-1.00 K	Th	515
e + $\mathbf{He}^{1+}$	Ionization	50.00-175.00 eV	Th	458
e + $\mathbf{He}^{1+}$	Ionization	50.00-900.00 eV	Th	371
e + $\mathbf{He}^{2+}$	Recombination	0.10-1.00 K	Th	515
e + $\mathbf{He}^{2+}$	Ionization	0.10-1.00 K	Th	515
e + Li	Recombination	0.10-1.00 K	Th	515
e + Li	Excitation	25.00 eV	Th	561
e + Li	Excitation	5.00 keV	Th	560
e + Li	Ionization	0.10-1.00 K	Th	515
e + $\mathbf{Li}^{1+}$	Angular Scattering	5.60 keV	Th	418
e + $\mathbf{Li}^{1+}$	Recombination	100.00 K	E/T	563
e + $\mathbf{Li}^{1+}$	Recombination	0.10-1.00 K	Th	515
e + $\mathbf{Li}^{1+}$	Ionization	10.00 Threshold	Th	559
e + $\mathbf{Li}^{1+}$	Ionization	0.10-1.00 K	Th	515
e + $\mathbf{Li}^{1+}$	Ionization	0.50-10.00 keV	E/T	445
e + $\mathbf{Li}^{1+}$	Ionization	5.60 keV	Th	418
e + $\mathbf{Li}^{2+}$	Recombination	0.10-1.00 K	Th	515
e + $\mathbf{Li}^{2+}$	Ionization	5.00-500.00 eV	Th	665
e + $\mathbf{Li}^{2+}$	Ionization	0.40-10.00 keV	Th	652
e + $\mathbf{Li}^{2+}$	Ionization	0.10-1.00 K	Th	515
e + $\mathbf{Li}^{3+}$	Recombination	0.10-1.00 K	Th	515
e + $\mathbf{Li}^{3+}$	Ionization	0.10-1.00 K	Th	515
e + Be	Excitation	5.00 keV	Th	560
e + $\mathbf{Be}^{2+}$	Ionization	0.50-10.00 keV	E/T	445
e + $\mathbf{Be}^{2+}$	Ionization	0.50-10.00 keV	E/T	445
e + $\mathbf{Be}^{3+}$	Ionization	0.40-10.00 keV	Th	652
e + B	Ionization	0.01-4.00 keV	E/T	577

e + B^{3+}	Ionization	10.00 Threshold	Th	559
e + B^{3+}	Ionization	0.50-10.00 keV	E/T	445
e + B^{4+}	Ionization	0.40-10.00 keV	Th	652
e + BO^{-1+}	Dissociation	40.00 eV	Ex	378
e + BO^{-1+}	Detachment	40.00 eV	Ex	378
e + BO^{-1+}	Ionization	40.00 eV	Ex	378
e + C	Angular Scattering	25.00-40.00 eV	Th	373
e + C	Excitation	25.00-40.00 eV	Th	373
e + C^{1+}	Ionization	0.05-10.00 keV	Ex	648
e + C^{2+}	Excitation	12.00-21.00 eV	Ex	647
e + C^{3+}	Recombination	100.00 K	Th	590
e + C^{3+}	Recombination	8.00 eV	Ex	366
e + C^{3+}	Excitation	6.00-13.00 eV	Ex	646
e + C^{3+}	Ionization	0.05-1.00 keV	Th	671
e + C^{4+*}	De-excitation	0.50-1.10 MeV/amu	E/T	604
e + C^{4+}	De-excitation	0.50-1.10 MeV/amu	E/T	604
e + C^{4+*}	Angular Scattering	0.50-1.10 MeV/amu	E/T	604
e + C^{4+}	Angular Scattering	0.50-1.10 MeV/amu	E/T	604
e + C^{4+}	Ionization	0.40-7.00 keV	Th	630
e + C^{4+}	Ionization	10.00 Threshold	Th	559
e + C^{4+}	Ionization	0.50-10.00 keV	E/T	445
e + C^{5+}	Ionization	0.40-10.00 keV	Th	652
e + C^{6+}	Elastic Scattering	0.55-3.00 keV	Th	662
e + CH	Elastic Scattering	0.01-2.00 keV	Th	448
e + CH	Elastic Scattering	10.00 eV	Th	421
e + CH	Excitation	0.01-2.00 keV	Th	448
e + CH	Excitation	10.00 eV	Th	421
e + CH	Ionization	0.01-2.00 keV	Th	448
e + CH_2	Elastic Scattering	0.01-2.00 keV	Th	448
e + CH_2	Excitation	0.01-2.00 keV	Th	448
e + CH_2	Ionization	0.01-2.00 keV	Th	448
e + CH_3	Elastic Scattering	0.01-2.00 keV	Th	448
e + CH_3	Excitation	0.01-2.00 keV	Th	448
e + CH_3	Ionization	0.01-2.00 keV	Th	448
e + CH_4	Dissociation		Th	517
e + CH_4	Elastic Scattering	0.50-20.00 eV	Th	468
e + CH_4	Elastic Scattering	0.01-2.00 keV	Th	448
e + CH_4	Angular Scattering	0.50-20.00 eV	Th	468
e + CH_4	Excitation	15.00 eV	E/T	453
e + CH_4	Excitation	0.01-2.00 keV	Th	448
e + CH_4	Ionization	0.01-1.00 keV	Th	571
e + CH_4	Ionization		Th	517
e + CH_4	Ionization	0.01-2.00 keV	Th	448
e + ${CH_4}^{1+}$	Dissociation	0.10-30.00 eV	Th	683
e + ${CH_4}^{1+}$	Recombination	0.10-30.00 eV	Th	683
e + CO	Dissociation	2.00 keV	Ex	456
e + CO	Elastic Scattering	0.50-2.00 keV	Th	533
e + CO	Angular Scattering	0.50-2.00 keV	Th	533
e + CO	Angular Scattering	10.00-15.00 eV	Ex	432
e + CO	Angular Scattering	297.00-900.00 eV	Th	403
e + CO	Excitation	10.00-15.00 eV	Ex	432
e + CO	Excitation	297.00-900.00 eV	Th	403
e + CO	Ionization	2.00 keV	Ex	456
e + CO_2	Elastic Scattering	1.00 eV	Th	566
e + CO_2	Elastic Scattering	1.00 eV	Th	565
e + CO_2	Elastic Scattering	1.50-30.00 eV	Ex	404
e + CO_2	Elastic Scattering	0.01-100.00 eV	Th	399

e + CO_2	Angular Scattering	1.50-30.00 eV	Ex	404
e + CO_2	Angular Scattering	0.01-100.00 eV	Th	399
e + CO_2	Excitation	8.00 eV	Th	593
e + CO_2	Excitation	1.00 eV	Th	566
e + CO_2	Excitation	20.00-200.00 eV	Ex	498
e + CO_2	Excitation	1.50-30.00 eV	Ex	404
e + CO_2	Ionization	0.01-1.00 keV	Th	571
e + ${CO_2}^{1+}$	Dissociation	2.50 keV	Ex	402
e + ${CO_2}^{1+}$	Ionization	5.00 keV	Th	512
e + ${CO_2}^{1+}$	Ionization	2.50 keV	Ex	402
e + ${C_2H_2}^{1+}$	Dissociation	50.00 eV	Ex	578
e + C_2HCl_3	Ionization	220.00 eV	Ex	419
e + C_2HCl_5	Ionization	220.00 eV	Ex	419
e + $C_2H_2Cl_2$	Ionization	220.00 eV	Ex	419
e + $C_2H_2Cl_4$	Ionization	220.00 eV	Ex	419
e + $C_2H_3Cl_3$	Ionization	220.00 eV	Ex	419
e + $C_2H_4Cl_2$	Ionization	220.00 eV	Ex	419
e + C_2H_5Cl	Ionization	220.00 eV	Ex	419
e + C_3H_7Cl	Ionization	220.00 eV	Ex	419
e + C_4H_9Cl	Ionization	220.00 eV	Ex	419
e + CN^{-1+}	Dissociation	40.00 eV	Ex	378
e + CN^{-1+}	Detachment	60.00 eV	Ex	638
e + CN^{-1+}	Detachment	40.00 eV	Ex	378
e + CN^{-1+}	Ionization	40.00 eV	Ex	378
e + $C_2H_3F_2$	Excitation	4.20 eV	Ex	497
e + C_2Cl_2	Ionization	220.00 eV	Ex	419
e + C_2Cl_4	Ionization	220.00 eV	Ex	419
e + C_2Cl_6	Ionization	220.00 eV	Ex	419
e + C_2Cl_6	Ionization	220.00 eV	Ex	419
e + CF_2	Elastic Scattering	0.10-10.00 eV	Th	482
e + CF_2	Excitation	0.10-10.00 eV	Th	482
e + N^{2+}	Recombination	1.00-20.00 kK	Th	365
e + N^{3+}	Excitation	12.00-21.00 eV	Ex	647
e + N^{4+}	Recombination	1.60 eV	E/T	573
e + N^{5+}	Ionization	0.40-7.00 keV	Th	630
e + N^{5+}	Ionization	10.00 Threshold	Th	559
e + N^{5+}	Ionization	0.50-10.00 keV	E/T	445
e + N^{6+}	Ionization	0.40-10.00 keV	Th	652
e + N_2	Dissociation	80.00-150.00 eV	Ex	444
e + N_2	Elastic Scattering	0.50-2.00 keV	Th	533
e + N_2	Angular Scattering	0.50-2.00 keV	Th	533
e + N_2	Angular Scattering	15.00-50.00 eV	E/T	390
e + ${N_2}^*$	Angular Scattering	15.00-50.00 eV	E/T	390
e + N_2	Excitation	80.00-150.00 eV	Ex	444
e + N_2	Excitation	15.00-50.00 eV	E/T	390
e + ${N_2}^*$	Excitation	15.00-50.00 eV	E/T	390
e + N_2	Ionization	0.01-1.00 keV	Th	571
e + ${N_2}^{1+}$	Dissociation	2.50 keV	Ex	417
e + ${N_2}^{1+}$	Ionization	5.00 keV	Th	512
e + ${N_2}^{1+}$	Ionization	2.50 keV	Ex	417
e + NH	Elastic Scattering	0.01-2.00 keV	Th	448
e + NH	Excitation	0.01-2.00 keV	Th	448
e + NH	Ionization	0.01-2.00 keV	Th	448
e + NH_2	Elastic Scattering	0.01-2.00 keV	Th	448
e + NH_2	Excitation	0.01-2.00 keV	Th	448
e + NH_2	Ionization	0.01-2.00 keV	Th	448
e + NH_3	Elastic Scattering	0.01-2.00 keV	Th	448

e + NH_3	Excitation	0.01-2.00 keV	Th	448
e + NH_3	Ionization	0.01-2.00 keV	Th	448
e + NH_3	Ionization	1.00 keV	Ex	380
e + NO	Excitation	10.00-740.00 eV	Ex	602
e + NO^{1+}	Attachment	8.00-18.00 eV	Ex	547
e + NO^{1+}	Recombination	8.00-18.00 eV	Ex	547
e + N_2O	Elastic Scattering	20.00-800.00 eV	E/T	620
e + N_2O	Angular Scattering	20.00-800.00 eV	E/T	620
e + N_2O	Total Scattering	20.00-800.00 eV	E/T	620
e + NO_2	Elastic Scattering	1.00-20.00 eV	Th	450
e + NO_2	Ionization	200.00 eV	Ex	384
e + O	Elastic Scattering	2.00-30.00 eV	Th	393
e + O^*	Elastic Scattering	2.00-30.00 eV	Th	393
e + O	Angular Scattering	30.00-100.00 eV	E/T	411
e + O	Fluorescence	0.01-1.00 keV	Ex	412
e + O	Excitation	10.00-100.00 eV	Th	489
e + O	Excitation	0.01-1.00 keV	Ex	412
e + O	Excitation	30.00-100.00 eV	E/T	411
e + O	Excitation	2.00-30.00 eV	Th	393
e + O^*	Excitation	2.00-30.00 eV	Th	393
e + O^{1+}	Ionization	0.05-10.00 keV	Ex	648
e + O^{2+}	Excitation	1.80-5.35 eV	Ex	369
e + O^{2+}	Ionization	0.05-10.00 keV	Ex	648
e + O^{3+}	Ionization	0.05-10.00 keV	Ex	648
e + O^{4+}	Excitation	12.00-21.00 eV	Ex	647
e + O^{4+}	Ionization	0.05-10.00 keV	Ex	648
e + O^{5+}	Recombination		Ex	673
e + O^{5+}	Recombination	2.00-12.00 eV	E/T	617
e + O^{5+}	Ionization	400.00-750.00 eV	Ex	677
e + O^{6+*}	De-excitation	0.50-1.10 MeV/amu	E/T	604
e + O^{6+}	De-excitation	0.50-1.10 MeV/amu	E/T	604
e + O^{6+*}	Angular Scattering	0.50-1.10 MeV/amu	E/T	604
e + O^{6+}	Angular Scattering	0.50-1.10 MeV/amu	E/T	604
e + O^{6+}	Recombination	10.00 eV	E/T	575
e + O^{6+}	Ionization	0.40-7.00 keV	Th	630
e + O^{7+}	Excitation	0.58-1.16 keV	Th	486
e + O^{7+}	Ionization	0.40-10.00 keV	Th	652
e + O_2	Elastic Scattering	0.30-1.00 keV	Th	534
e + O_2	Angular Scattering	100.00 eV	Ex	543
e + O_2	Angular Scattering	0.30-1.00 keV	Th	534
e + O_2	Angular Scattering	20.00-100.00 eV	Ex	420
e + O_2	Excitation	9.00-20.00 eV	Ex	459
e + O_2	Excitation	20.00-100.00 eV	Ex	420
e + O_2	Ionization	100.00 eV	Ex	543
e + O_2	Ionization	20.00-100.00 eV	Ex	420
e + ${O_2}^{1+}$	Dissociation	0.00-3.00 eV	Ex	376
e + ${O_2}^{1+}$	Recombination	0.00-3.00 eV	Ex	376
e + ${O_2}^{1+}$	Excitation	0.00-3.00 eV	Ex	376
e + O_3	Dissociation	0.35-5.00 keV	E/T	505
e + O_3	Elastic Scattering	0.35-5.00 keV	E/T	505
e + O_3	Angular Scattering	0.35-5.00 keV	E/T	505
e + O_3	Excitation	0.35-5.00 keV	E/T	505
e + O_3	Ionization	0.35-5.00 keV	E/T	505
e + F^{4+}	Elastic Scattering	0.55-3.00 keV	Th	662
e + F^{6+}	Recombination	15.00 eV	Ex	653
e + F^{7+}	De-excitation	0.80-4.00 keV	Ex	628
e + F^{7+*}	De-excitation	0.50-1.10 MeV/amu	E/T	604

e + F^{7+}	De-excitation	0.50-1.10 MeV/amu	E/T	604
e + F^{7+*}	Angular Scattering	0.50-1.10 MeV/amu	E/T	604
e + F^{7+}	Angular Scattering	0.50-1.10 MeV/amu	E/T	604
e + F^{8+}	Ionization	0.40-10.00 keV	Th	652
e + F^{9+}	Elastic Scattering	0.55-3.00 keV	Th	662
e + $F_2{}^{-1+}$	Dissociation	27.00 eV	Ex	544
e + $F_2{}^{-1+}$	Detachment	27.00 eV	Ex	544
e + Ne	Bremsstrahlung	5.00-40.00 K	Th	555
e + Ne	Elastic Scattering	0.50-10.00 keV	Th	635
e + Ne	Elastic Scattering	0.01-3.00 keV	Th	535
e + Ne^{*}	Elastic Scattering	0.01-3.00 keV	Th	535
e + Ne	Angular Scattering	20.00-100.00 eV	Ex	623
e + Ne	Angular Scattering	2.70 keV	Th	570
e + Ne	Total Scattering	0.01-3.00 keV	Th	535
e + Ne^{*}	Total Scattering	0.01-3.00 keV	Th	535
e + Ne	Excitation	0.50-10.00 keV	Th	635
e + Ne	Excitation	20.00-100.00 eV	Ex	623
e + Ne	Excitation	10.00-180.00 eV	Ex	619
e + Ne	Excitation	225.00 eV	Th	591
e + Ne	Excitation	450.00 eV	Ex	558
e + Ne^{*}	Excitation	450.00 eV	Ex	558
e + Ne	Excitation	8.00-16.00 eV	Th	538
e + Ne	Ionization	0.50-10.00 keV	Th	635
e + Ne	Ionization	1.00 keV	Ex	605
e + Ne	Ionization	2.70 keV	Th	570
e + Ne	Ionization	0.01-3.00 keV	Th	535
e + Ne^{*}	Ionization	0.01-3.00 keV	Th	535
e + Ne	Ionization	0.02-1.00 keV	Th	521
e + Ne	Ionization	1.00 keV	Ex	484
e + Ne	Ionization	0.1-5 keV; 0.30-2.00 MeV	Th	463
e + Ne^{1+}	Excitation	60.00 eV	Th	441
e + Ne^{2+}	Excitation	0.00-1.00 K	Th	494
e + Ne^{5+}	Excitation	15.00 Ry	Th	442
e + Ne^{7+}	Recombination		Ex	673
e + Ne^{7+}	Recombination	18.00 eV	Ex	557
e + Ne^{7+}	Ionization	10.00-80.00 a.u.	Th	401
e + Ne^{8+}	Ionization	0.40-7.00 keV	Th	630
e + Ne^{9+}	Ionization	0.40-10.00 keV	Th	652
e + Ne^{10+}	Recombination	0.06-37.00 keV	Th	661
e + Ne^{10+}	Recombination	0.00-10.00 eV	Th	469
e + Na	Angular Scattering	64.00-151.00 eV	Ex	567
e + Na	Excitation	0.05-1.00 keV	Th	633
e + Na	Excitation	5.00 keV	Th	560
e + Na	Ionization	0.05-1.00 keV	Th	633
e + Na	Ionization	64.00-151.00 eV	Ex	567
e + Na^{9+}	Ionization	10.00 Threshold	Th	559
e + Mg^{*}	Attachment	0.20-2.00 eV	Ex	530
e + Mg	Attachment	0.20-2.00 eV	Ex	530
e + Mg	Elastic Scattering	10.00-100.00 eV	Th	641
e + Mg	Angular Scattering	10.00-100.00 eV	Th	641
e + Mg	Angular Scattering	0.40-1.50 keV	E/T	514
e + Mg	Angular Scattering	0.40-1.50 keV	Th	488
e + Mg	Excitation	5.00 keV	Th	560
e + Mg	Excitation	1.00 keV	Th	541
e + Mg	Excitation	20.00-40.00 eV	Ex	406
e + Mg	Ionization	0.40-1.50 keV	E/T	514
e + Mg	Ionization	0.40-1.50 keV	Th	488

e + Mg^{1+}	Recombination	100.00 K	Th	590
e + Mg^{1+}	Excitation	0.01-5.00 keV	Th	586
e + Al	Elastic Scattering	0.00-1.00 GeV	Th	519
e + Al	Ionization	0.01-4.00 keV	E/T	577
e + Al^{3+}	Ionization	5.50 keV	E/T	438
e + Al^{4+}	Ionization	5.50 keV	E/T	438
e + Al^{5+}	Ionization	5.50 keV	E/T	438
e + Al^{6+}	Ionization	5.50 keV	E/T	438
e + Al^{7+}	Ionization	5.50 keV	E/T	438
e + Al^{12+}	Excitation	0.01-10.00 K	Th	632
e + Si	Angular Scattering	25.00-40.00 eV	Th	373
e + Si	Excitation	25.00-40.00 eV	Th	373
e + Si^{11+}	Recombination	35.00 eV	Ex	655
e + S	Angular Scattering	0.25-3.50 Ry	Th	428
e + S	Excitation	0.50-5.00 Ry	Th	490
e + S	Excitation	0.25-3.50 Ry	Th	428
e + SH	Elastic Scattering	10.00 eV	Th	496
e + SH	Excitation	10.00 eV	Th	496
e + Cl^{5+}	Excitation	14.00-180.00 eV	E/T	615
e + Cl^{5+}	Ionization	14.00-180.00 eV	E/T	615
e + Cl^{6+}	Excitation	14.00-180.00 eV	E/T	615
e + Cl^{6+}	Ionization	14.00-180.00 eV	E/T	615
e + Cl^{14+}	Recombination	35.00 eV	Ex	655
e + Cl^{14+}	Recombination	170.00 eV	Ex	643
e + Cl^{17+}	Recombination	0.00-0.01 eV	Ex	675
e + Cl_2O	Elastic Scattering	100.00 eV	Th	415
e + Cl_2O	Excitation	100.00 eV	Th	415
e + Cl_2O	Ionization	8.00-20.00 eV	E/T	499
e + Ar	Bremsstrahlung	5.00-40.00 K	Th	581
e + Ar	Bremsstrahlung	5.00-40.00 K	Th	555
e + Ar	Bremsstrahlung	5.00-50.00 keV	E/T	479
e + Ar	Elastic Scattering	0.50-10.00 keV	Th	635
e + Ar	Elastic Scattering	3.00-160.00 eV	Th	464
e + Ar	Angular Scattering	64.60 eV	Th	603
e + Ar	Angular Scattering	113.50 eV	E/T	574
e + Ar	Angular Scattering	601.00 eV	Ex	509
e + Ar	Angular Scattering	561.40 eV	Ex	476
e + Ar^*	Angular Scattering	11.50-14.00 eV	Th	470
e + Ar	Angular Scattering	11.50-14.00 eV	Th	470
e + Ar	Angular Scattering	3.00-160.00 eV	Th	464
e + Ar	Excitation	0.50-10.00 keV	Th	635
e + Ar	Excitation	120.00 eV	Th	600
e + Ar^*	Excitation	120.00 eV	Th	600
e + Ar	Excitation	225.00 eV	Th	591
e + Ar	Excitation	8.00-16.00 eV	Th	538
e + Ar^*	Excitation	11.50-14.00 eV	Th	470
e + Ar	Excitation	11.50-14.00 eV	Th	470
e + Ar	Ionization	0.50-10.00 keV	Th	635
e + Ar	Ionization	1.00 keV	Ex	605
e + Ar	Ionization	64.60 eV	Th	603
e + Ar	Ionization	113.50 eV	E/T	574
e + Ar	Ionization	0.02-1.00 keV	Th	521
e + Ar	Ionization	601.00 eV	Ex	509
e + Ar	Ionization	2.00-113.50 eV	Th	495
e + Ar	Ionization	1.00 keV	Ex	484
e + Ar	Ionization	561.40 eV	Ex	476
e + Ar	Ionization	37.00-129.00 eV	Ex	457

e + $\mathbf{Ar}^{2+}$	Elastic Scattering	16.00 eV	Ex	669
e + $\mathbf{Ar}^{2+}$	Elastic Scattering	16.00 eV	Ex	644
e + $\mathbf{Ar}^{2+}$	Angular Scattering	16.00 eV	Ex	669
e + $\mathbf{Ar}^{3+}$	Elastic Scattering	16.00 eV	Ex	644
e + $\mathbf{Ar}^{7+}$	Elastic Scattering	100.00 eV	Ex	668
e + $\mathbf{Ar}^{7+}$	Elastic Scattering	100.00 eV	Ex	645
e + $\mathbf{Ar}^{7+}$	Angular Scattering	100.00 eV	Ex	668
e + $\mathbf{Ar}^{8+}$	Elastic Scattering	100.00 eV	Ex	668
e + $\mathbf{Ar}^{8+}$	Angular Scattering	100.00 eV	Ex	668
e + $\mathbf{Ar}^{11+}$	De-excitation	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{11+}$	Line Broadening	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{11+}$	Excitation	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{12+}$	De-excitation	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{12+}$	Line Broadening	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{12+}$	Excitation	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{13+}$	De-excitation	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{13+}$	Line Broadening	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{13+}$	Excitation	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{14+}$	De-excitation	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{14+}$	Line Broadening	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{14+}$	Excitation	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{15+}$	De-excitation	2.24-4.10 keV	E/T	435
e + $\mathbf{Ar}^{15+}$	De-excitation	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{15+}$	Line Broadening	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{15+}$	Recombination	2.24-4.10 keV	E/T	435
e + $\mathbf{Ar}^{15+}$	Excitation	2.24-4.10 keV	E/T	435
e + $\mathbf{Ar}^{15+}$	Excitation	0.20-3.00 keV	E/T	391
e + $\mathbf{Ar}^{16+}$	Ionization	30.00 keV	Ex	650
e + $\mathbf{Ar}^{17+}$	Ionization	30.00 keV	Ex	650
e + **K**	Elastic Scattering	4.00-80.00 eV	E/T	389
e + $\mathbf{K}^{*}$	Elastic Scattering	4.00-80.00 eV	E/T	389
e + **K**	Angular Scattering	4.00-80.00 eV	E/T	389
e + $\mathbf{K}^{*}$	Angular Scattering	4.00-80.00 eV	E/T	389
e + **K**	Excitation	5.00 keV	Th	560
e + **Ca**	Excitation	5.00 keV	Th	560
e + $\mathbf{Ca}^{14+}$	Excitation	50.00-300.00 Ry	Th	640
e + **Sc**	Ionization	50.00 keV	E/T	522
e + **Sc**	Ionization	1-7 E/E_1s	E/T	427
e + $\mathbf{Sc}^{3+}$	Recombination	170.00 eV	Ex	643
e + $\mathbf{Sc}^{3+}$	Recombination	45.00 eV	E/T	610
e + $\mathbf{Sc}^{18+}$	Recombination	50.00 eV	Ex	670
e + **Ti**	Ionization	50.00 keV	E/T	522
e + $\mathbf{Ti}^{2+}$	Excitation	9.00-10.00 eV	Ex	598
e + $\mathbf{Ti}^{4+}$	Recombination	0.00-1.00 eV	Ex	657
e + $\mathbf{Ti}^{11+}$	Ionization	300.00-800.00 eV	Th	503
e + $\mathbf{Ti}^{19+}$	Recombination		Ex	672
e + **V**	Ionization	50.00 keV	E/T	522
e + **V**	Ionization	1-7 E/E_1s	E/T	427
e + **Cr**	Ionization	50.00 keV	E/T	522
e + **Cr**	Ionization	1-7 E/E_1s	E/T	427
e + $\mathbf{Cr}^{13+}$	Ionization	0.40-1.10 keV	Th	594
e + $\mathbf{Cr}^{14+}$	Excitation	1.00-4.00 keV	Ex	545
e + $\mathbf{Cr}^{21+}$	Recombination	20.00 keV	Th	409
e + $\mathbf{Cr}^{21+}$	Ionization	20.00 keV	Th	409
e + $\mathbf{Cr}^{22+}$	Recombination	20.00 keV	Th	409
e + **Mn**	Excitation	12.00-200.00 eV	Ex	525
e + **Mn**	Ionization	12.00-200.00 eV	Ex	525

e + **Mn**	Ionization	50.00 keV	E/T	522
e + **Mn**	Ionization	6.50-40.00 keV	Ex	507
e + $\mathbf{Mn}^{15+}$	Excitation	1.00-4.00 keV	Ex	545
e + **Fe**	Ionization	50.00 keV	E/T	522
e + **Fe**	Ionization	6.50-40.00 keV	Ex	507
e + $\mathbf{Fe}^{1+}$	Excitation	0.00-10.00 K	Th	642
e + $\mathbf{Fe}^{2+}$	Excitation	$2x10^3$-$2x10^6$ K	Th	492
e + $\mathbf{Fe}^{14+}$	Excitation	0.10-10.00 K	Th	471
e + $\mathbf{Fe}^{16+}$	Excitation	1.00-4.00 keV	Ex	545
e + $\mathbf{Fe}^{16+}$	Excitation	450.00 Ry	Th	367
e + $\mathbf{Fe}^{17+}$	Recombination	120.00 eV	Ex	666
e + $\mathbf{Fe}^{17+}$	Recombination	0.10-135.00 eV	Th	621
e + $\mathbf{Fe}^{17+}$	Recombination	100.00 eV	Th	562
e + $\mathbf{Fe}^{17+}$	Recombination	100.00 eV	Th	562
e + $\mathbf{Fe}^{18+}$	Recombination	120.00 eV	Ex	666
e + $\mathbf{Fe}^{18+}$	Recombination	0.00-1.00 keV	E/T	370
e + $\mathbf{Fe}^{18+}$	Excitation	1.00 Ry	Th	443
e + $\mathbf{Fe}^{18+}$	Excitation	300.00 Ry	Th	364
e + $\mathbf{Fe}^{19+}$	Recombination	120.00 eV	Ex	666
e + $\mathbf{Fe}^{19+}$	Excitation	0.10-100.00 K	Th	407
e + $\mathbf{Fe}^{19+}$	Excitation	290.00 Ry	Th	363
e + $\mathbf{Fe}^{20+}$	Recombination	120.00 eV	Ex	666
e + $\mathbf{Fe}^{20+}$	Excitation	$8x10^4$-$8x10^7$ K	Th	452
e + $\mathbf{Fe}^{20+}$	Excitation	3.00 keV	E/T	368
e + $\mathbf{Fe}^{21+}$	Recombination	120.00 eV	Ex	666
e + $\mathbf{Fe}^{21+}$	Excitation	0.10-10.00 K	Th	636
e + $\mathbf{Fe}^{21+}$	Excitation	30.00 Ry	Th	447
e + $\mathbf{Fe}^{21+}$	Excitation	3.00 keV	E/T	368
e + $\mathbf{Fe}^{22+}$	Excitation	0.05-1.00 Ry	Th	537
e + $\mathbf{Fe}^{22+}$	Excitation	138.00-800.00 Ry	Th	425
e + $\mathbf{Fe}^{22+}$	Excitation	3.00 keV	E/T	368
e + $\mathbf{Fe}^{23+}$	Excitation	138.00-800.00 Ry	Th	425
e + $\mathbf{Fe}^{23+}$	Excitation	3.00 keV	E/T	368
e + $\mathbf{Fe}^{24+}$	Recombination	4.50-8.00 keV	Ex	449
e + $\mathbf{Fe}^{24+}$	Excitation	$10^{5.5}$-10^9 K	Th	423
e + $\mathbf{Fe}^{24+}$	Ionization	0.50-2.00 keV	Th	596
e + $\mathbf{Fe}^{24+}$	Ionization	10.00 Threshold	Th	559
e + $\mathbf{Fe}^{25+}$	Excitation	0.70-3.00 keV	Ex	656
e + $\mathbf{Fe}^{25+}$	Excitation	10^6-$10^{8.5}$ K	Th	475
e + $\mathbf{Fe}^{25+}$	Ionization	10.00-50.00 keV	E/T	436
e + **Co**	Ionization	50.00 keV	E/T	522
e + $\mathbf{Co}^{17+}$	Excitation	1.00-4.00 keV	Ex	545
e + **Ni**	Ionization	50.00 keV	E/T	522
e + **Ni**	Ionization	1-7 E/E_1s	E/T	427
e + $\mathbf{Ni}^{2+}$	Excitation	5.00-60.00 K	Th	362
e + $\mathbf{Ni}^{4+}$	Excitation	0.00-10.00 K	Th	642
e + $\mathbf{Ni}^{10+}$	Ionization	0.20-5.00 keV	Ex	664
e + $\mathbf{Ni}^{11+}$	Ionization	0.20-5.00 keV	Ex	664
e + $\mathbf{Ni}^{12+}$	Ionization	0.20-5.00 keV	Ex	651
e + $\mathbf{Ni}^{13+}$	Ionization	0.20-5.00 keV	Ex	664
e + $\mathbf{Ni}^{14+}$	Ionization	0.20-5.00 keV	Ex	651
e + $\mathbf{Ni}^{15+}$	Ionization	0.20-5.00 keV	Ex	664
e + $\mathbf{Ni}^{18+}$	Excitation	1.00-4.00 keV	Ex	545
e + $\mathbf{Ni}^{25+}$	Recombination		Ex	672
e + **Cu**	Ionization	50.00 keV	E/T	522
e + **Cu**	Ionization	1-7 E/E_1s	E/T	427
e + $\mathbf{Cu}^{19+}$	Excitation	140.00 eV	Th	637

e + Cu^{19+}	Excitation	1.00-4.00 keV	Ex	545
e + Zn	Elastic Scattering	10.00-40.00 eV	Th	536
e + Zn	Angular Scattering	10.00-40.00 eV	Th	536
e + Zn	Excitation	17.00-23.00 eV	Ex	434
e + Zn	Ionization	17.00-23.00 eV	Ex	434
e + Zn^{1+}	Excitation	0.01-5.00 keV	Th	586
e + Zn^{1+}	Excitation	5.00-200.00 eV	Ex	524
e + Zn^{21+}	Excitation	1.00-4.00 keV	Ex	545
e + Zn^{27+}	Recombination	100.00 K	Th	590
e + Zn^{27+}	Recombination	E inf $\hbar$W_c	Th	491
e + Ga	Ionization	0.01-4.00 keV	E/T	577
e + Ga	Ionization	12.00-34.00 keV	Ex	504
e + Ga^{1+}	Ionization	0.01-2.00 keV	Ex	649
e + Ga^{1+}	Ionization	5.50 keV	Th	542
e + Ga^{2+}	Ionization	5.50 keV	Th	542
e + Ga^{3+}	Ionization	0.01-2.00 keV	Ex	649
e + Ga^{3+}	Ionization	5.50 keV	Th	542
e + Ga^{4+}	Ionization	5.50 keV	Th	542
e + Ga^{5+}	Ionization	5.50 keV	Th	542
e + Ga^{6+}	Ionization	5.50 keV	Th	542
e + Ga^{7+}	Ionization	5.50 keV	Th	542
e + Ga^{8+}	Ionization	5.50 keV	Th	542
e + Ga^{9+}	Ionization	5.50 keV	Th	542
e + Ge	Angular Scattering	25.00-40.00 eV	Th	373
e + Ge	Excitation	5.00-65.00 keV	E/T	375
e + Ge	Excitation	25.00-40.00 eV	Th	373
e + Ge	Ionization	12.00-34.00 keV	Ex	504
e + Ge	Ionization	5.00-65.00 keV	E/T	375
e + Ge^{1+}	Ionization	2.00-40.00 keV	Th	487
e + Se	Ionization	13.00-40.00 keV	Ex	546
e + Br^{35+}	Excitation	1.00-4.00 keV	Ex	545
e + Kr	Bremsstrahlung	5.00-40.00 K	Th	555
e + Kr	Bremsstrahlung	5.00-50.00 keV	E/T	479
e + Kr	Elastic Scattering	0.50-10.00 keV	Th	635
e + Kr	Excitation	0.50-10.00 keV	Th	635
e + Kr^{*}	Excitation	50.00 eV	Th	611
e + Kr	Excitation	50.00 eV	Th	611
e + Kr	Excitation	225.00 eV	Th	591
e + Kr	Excitation	10.00-50.00 eV	E/T	579
e + Kr	Excitation	8.00-16.00 eV	Th	538
e + Kr	Ionization	0.50-10.00 keV	Th	635
e + Kr	Ionization	1.00 keV	Ex	605
e + Kr	Ionization	0.02-1.00 keV	Th	521
e + Kr	Ionization	1.00 keV	Ex	484
e + Kr	Ionization	0.1-5 keV; 0.30-2.00 MeV	Th	463
e + Kr^{12+}	Ionization	5.50 keV	Ex	400
e + Kr^{13+}	Ionization	5.50 keV	Ex	400
e + Kr^{14+}	Ionization	5.00 keV	Ex	424
e + Kr^{14+}	Ionization	5.50 keV	Ex	400
e + Kr^{15+}	Ionization	5.00 keV	Ex	424
e + Kr^{15+}	Ionization	5.50 keV	Ex	400
e + Kr^{16+}	Ionization	5.00 keV	Ex	424
e + Kr^{16+}	Ionization	5.50 keV	Ex	400
e + Kr^{17+}	Ionization	5.00 keV	Ex	424
e + Kr^{17+}	Ionization	5.50 keV	Ex	400
e + Kr^{18+}	Ionization	5.50 keV	Ex	400
e + Kr^{32+}	Recombination	8.00-10.00 keV	Ex	654

e + Kr^{33+}	Recombination	3.00-14.00 eV	Ex	667
e + Kr^{33+}	Recombination	8.00-10.00 keV	Ex	654
e + Kr^{34+}	Recombination	8.00-10.00 keV	Ex	654
e + Kr^{34+}	Recombination	4.50-14.00 eV	E/T	589
e + Kr^{36+}	Excitation	1.00-4.00 keV	Ex	545
e + Rb	Elastic Scattering	0.00-3.00 eV	Th	554
e + Rb	Elastic Scattering	0.01-0.50 meV	Th	461
e + Rb	Angular Scattering	0.00-3.00 eV	Th	554
e + Rb	Total Scattering	0.00-3.00 eV	Th	554
e + Rb	Excitation	5.00 keV	Th	560
e + Rb^{*}	Ionization	40.00-300.00 eV	Ex	625
e + Rb	Ionization	40.00-300.00 eV	Ex	625
e + Sr	Excitation	5.00 keV	Th	560
e + Sr	Excitation	2.00-200.00 eV	Ex	528
e + Y	Ionization	13.00-40.00 keV	Ex	546
e + Zr	Ionization	12.00-34.00 keV	Ex	504
e + Ag	Bremsstrahlung	180.00-300.00 keV	Th	477
e + Ag	Ionization	300.00 keV	Th	599
e + Ag	Ionization	50.00 keV	E/T	522
e + Ag^{45+}	Ionization	10.00 Threshold	Th	559
e + Cd	Elastic Scattering	16.00 eV	Ex	485
e + Cd	Angular Scattering	150.00 eV	Th	607
e + Cd	Excitation	16.00 eV	Ex	485
e + Cd	Ionization	150.00 eV	Th	607
e + Cd	Ionization	16.00 eV	Ex	485
e + Cd^{1+}	Excitation	5.00-50.00 eV	Th	527
e + In	Ionization	4.00-50.00 keV	E/T	614
e + In	Ionization	0.01-4.00 keV	E/T	577
e + Sn	Angular Scattering	25.00-40.00 eV	Th	373
e + Sn	Excitation	5.00-65.00 keV	E/T	375
e + Sn	Excitation	25.00-40.00 eV	Th	373
e + Sn	Ionization	4.00-50.00 keV	E/T	614
e + Sn	Ionization	5.00-65.00 keV	E/T	375
e + Xe	Bremsstrahlung	5.00-40.00 K	Th	555
e + Xe	Bremsstrahlung	5.00-50.00 keV	E/T	479
e + Xe	Elastic Scattering	10.00 eV	Th	550
e + Xe	Angular Scattering	10.00 eV	Th	550
e + Xe	Angular Scattering	1.04 keV	Ex	480
e + Xe	Excitation	8.00-16.00 eV	Th	538
e + Xe	Excitation	10.00-250.00 eV	E/T	532
e + Xe	Excitation	1.04 keV	Ex	480
e + Xe	Excitation	5.00-6.00 keV	Ex	439
e + Xe	Excitation	10.00-100.00 eV	Ex	398
e + Xe	Ionization	1.00 keV	Ex	605
e + Xe	Ionization	150.00-350.00 eV	Ex	583
e + Xe	Ionization	0.02-1.00 keV	Th	521
e + Xe	Ionization	1.00 keV	Ex	484
e + Xe	Ionization	0.1-5 keV; 0.30-2.00 MeV	Th	463
e + Xe	Ionization	5.00-6.00 keV	Ex	439
e + Xe^{2+}	Elastic Scattering	16.00 eV	Ex	669
e + Xe^{2+}	Angular Scattering	16.00 eV	Ex	669
e + Cs	Elastic Scattering	0.00-3.00 eV	Th	554
e + Cs	Elastic Scattering	0.01-0.50 meV	Th	461
e + Cs	Angular Scattering	0.00-3.00 eV	Th	554
e + Cs	Total Scattering	0.00-3.00 eV	Th	554
e + Cs	Excitation	5.00 keV	Th	560
e + Cs^{1+}	Elastic Scattering	10.00 eV	Th	550

e + Cs^{1+}	Angular Scattering	10.00 eV	Th	550
e + Ba^{*}	De-excitation	7.00-16.00 eV	Ex	440
e + Ba	De-excitation	7.00-16.00 eV	Ex	440
e + Ba	Elastic Scattering	10.00-100.00 eV	Th	641
e + Ba	Angular Scattering	10.00-100.00 eV	Th	641
e + Ba	Excitation	100.00 eV	Th	595
e + Ba^{*}	Excitation	100.00 eV	Th	595
e + Ba	Excitation	5.00 keV	Th	560
e + Ba	Excitation	8.00-200.00 eV	Ex	523
e + Ba	Ionization	100.00 eV	Th	595
e + Ba^{*}	Ionization	100.00 eV	Th	595
e + Ba	Ionization	8.00-200.00 eV	Ex	523
e + Ba^{2+}	Elastic Scattering	10.00 eV	Th	550
e + Ba^{2+}	Angular Scattering	10.00 eV	Th	550
e + La	Excitation	7.00-200.00 eV	Ex	526
e + La	Ionization	7.00-200.00 eV	Ex	526
e + Ce	Ionization	4.00-900.00 eV	Ex	518
e + Nd	Ionization	4.00-900.00 eV	Ex	518
e + Sm	Ionization	4.00-900.00 eV	Ex	518
e + Sm^{1+}	Ionization	0.01-1.00 keV	Ex	663
e + Sm^{1+}	Ionization	0.01-1.00 keV	E/T	576
e + Sm^{2+}	Ionization	0.01-1.00 keV	Ex	663
e + Sm^{2+}	Ionization	0.01-1.00 keV	E/T	576
e + Sm^{3+}	Ionization	0.01-1.00 keV	Ex	663
e + Sm^{3+}	Ionization	0.01-1.00 keV	E/T	576
e + Sm^{4+}	Ionization	0.01-1.00 keV	E/T	576
e + Sm^{5+}	Ionization	0.01-1.00 keV	E/T	576
e + Sm^{6+}	Ionization	0.01-1.00 keV	E/T	576
e + Sm^{7+}	Ionization	0.01-1.00 keV	E/T	576
e + Sm^{8+}	Ionization	0.01-1.00 keV	E/T	576
e + Sm^{9+}	Ionization	0.01-1.00 keV	E/T	576
e + Sm^{10+}	Ionization	0.01-1.00 keV	E/T	576
e + Sm^{11+}	Ionization	0.01-1.00 keV	E/T	576
e + Sm^{12+}	Ionization	0.20-1.02 keV	E/T	584
e + Sm^{12+}	Ionization	0.01-1.00 keV	E/T	576
e + Eu	Excitation	3.00-200.00 eV	Ex	529
e + Gd	Ionization	4.00-900.00 eV	Ex	518
e + Gd^{36+}	Excitation	75.00-400.00 Ry	Th	508
e + Dy	Ionization	4.00-900.00 eV	Ex	518
e + Er	Ionization	4.00-900.00 eV	Ex	518
e + Yb	Excitation	60.00 eV	E/T	397
e + Yb	Ionization	4.00-900.00 eV	Ex	518
e + WO	Ionization	0.01-1.00 keV	Th	374
e + WO_2	Ionization	0.01-1.00 keV	Th	374
e + WO_3	Ionization	0.01-1.00 keV	Th	374
e + Re	Ionization	4.00-50.00 keV	E/T	614
e + Au	Bremsstrahlung	5.00-50.00 keV	E/T	479
e + Au	Bremsstrahlung	180.00-300.00 keV	Th	477
e + Au	Elastic Scattering	0.00-1.00 GeV	Th	519
e + Au^{25+}	Recombination	0.00-1.00 eV	Ex	658
e + Au^{48+}	Ionization	2.00-40.00 keV	Th	487
e + Au^{75+}	Recombination	8.00-60.00 eV	Th	660
e + Au^{76+}	Recombination	8.00-60.00 eV	Th	660
e + Au^{76+}	Recombination	3.00-100.00 eV	Ex	659
e + Au^{76+}	Recombination	170.00 eV	Ex	643
e + Hg	Excitation	5.00 keV	Th	560
e + Hg	Excitation	5.50 eV	Ex	513

e + Tl	Excitation	5.00 keV	Th	560
e + $\mathbf{Pb}^{53+}$	Recombination	0.06 eV	Th	676
e + $\mathbf{Pb}^{79+}$	Recombination	3.00-100.00 eV	Ex	659
e + Fr	Elastic Scattering	0.00-3.00 eV	Th	554
e + Fr	Elastic Scattering	0.01-0.50 meV	Th	461
e + Fr	Angular Scattering	0.00-3.00 eV	Th	554
e + Fr	Total Scattering	0.00-3.00 eV	Th	554
e + $\mathbf{Ra}^{1+}$	Line Broadening	5.00-50.00 K	Th	631
e + perturbation	Electron Collisions		E/T	629
e + $\mathbf{CS}_2$	Dissociation	10.00 eV	Ex	548
e + $\mathbf{CS}_2{}^*$	Dissociation	10.00 eV	Ex	548
e + $\mathbf{CF}_4$	Elastic Scattering	1.50-30.00 eV	E/T	585
e + $\mathbf{CF}_4$	Ionization	0.01-1.00 keV	Th	571
e + $\mathbf{CF}_4$	Ionization	1.00 keV	E/T	454
e + $\mathbf{CF}_4$	Ionization	500.00 eV	Th	379
e + $\mathbf{CCl}_4$	Ionization	220.00 eV	Ex	419
e + $\mathbf{NF}_3$	Elastic Scattering	60.00 eV	Th	502
e + $\mathbf{NF}_3$	Angular Scattering	60.00 eV	Th	502
e + $\mathbf{U}^{88+}$	Recombination	170.00 eV	Ex	643
e + $\mathbf{U}^{89+}$	Recombination	3.00-100.00 eV	Ex	659
e + $\mathbf{U}^{89+}$	Recombination	170.00 eV	Ex	643
e + $\mathbf{U}^{92+}$	Recombination	0.06-37.00 keV	Th	661
e + $\mathbf{SF}_6$	Attachment	127.00 meV	Ex	569
e + $\mathbf{SF}_6$	Ionization	0.02-1.00 keV	Ex	392
e + $\mathbf{C}_2\mathbf{H}_4{}^{1+}$	Dissociation	0.10-30.00 eV	Th	683
e + $\mathbf{C}_2\mathbf{H}_4{}^{1+}$	Recombination	0.10-30.00 eV	Th	683
e + OCS	Dissociation	10.00-400.00 eV	Ex	437
e + $\mathbf{Bi}^{80+}$	Recombination	3.00-100.00 eV	Ex	659
e + $\mathbf{Bi}^{82+}$	Recombination	3.00-100.00 eV	Ex	659
e + $\mathbf{Bi}^{83+}$	Recombination	0.00-100.00 eV	Ex	674
e + $\mathbf{Bi}^{83+}$	Recombination	3.00-100.00 eV	Ex	659
e + $\mathbf{Bi}^{83+}$	Recombination	0.00-10.00 eV	Th	469
e + $\mathbf{HF}^{1+}$	Dissociation	0.00-1.00 eV	Ex	553
e + $\mathbf{HF}^{1+}$	Recombination	0.00-1.00 eV	Ex	553
e + O Al	Ionization	0.01-1.00 keV	Th	374
e + $\mathbf{C}_2\mathbf{H}_6{}^{1+}$	Dissociation	0.10-30.00 eV	Th	683
e + $\mathbf{C}_2\mathbf{H}_6{}^{1+}$	Recombination	0.10-30.00 eV	Th	683
e + OH	Elastic Scattering	0.01-2.00 keV	Th	448
e + OH	Excitation	0.01-2.00 keV	Th	448
e + OH	Ionization	0.01-2.00 keV	Th	448
e + $\mathbf{CHF}_3$	Dissociation	120.00 eV	Ex	473
e + $\mathbf{CHF}_3$	Elastic Scattering	1.50-30.00 eV	E/T	585
e + $\mathbf{CHF}_3$	Fluorescence	120.00 eV	Ex	473
e + $\mathbf{CHF}_3$	Ionization	500.00 eV	Th	379
e + $\mathbf{CH}_3\mathbf{I}$	Excitation	0.80 eV	Ex	474
e + $\mathbf{CH}_3\mathbf{Cl}$	Ionization	220.00 eV	Ex	419
e + $\mathbf{C}_3\mathbf{H}_6$	Elastic Scattering	1.00-15.00 eV	Th	501
e + $\mathbf{Na}_{20}$	Attachment	3.00 eV	Th	588
e + $\mathbf{Na}_{40}$	Attachment	3.00 eV	Th	588
e + $\mathbf{C}_3\mathbf{H}_8{}^{1+}$	Dissociation	0.10-30.00 eV	Th	683
e + $\mathbf{C}_3\mathbf{H}_8{}^{1+}$	Recombination	0.10-30.00 eV	Th	683
e + $\mathbf{SiF}_4$	Angular Scattering	1.00 keV	Ex	387
e + $\mathbf{SiF}_4$	Excitation	1.00 keV	Ex	387
e + $\mathbf{Na}_{58}$	Attachment	3.00 eV	Th	588
e + $\mathbf{C}_6\mathbf{H}_6$	Elastic Scattering	1.10-100.00 eV	Ex	388
e + $\mathbf{C}_6\mathbf{H}_6$	Angular Scattering	1.10-100.00 eV	Ex	388
e + $\mathbf{C}_6\mathbf{H}_6$	Ionization	20.00 eV	E/T	383

e + C_6D_6	Ionization	20.00 eV	E/T	383
e + C_2	Dissociation	70.00-250.00 eV	Ex	386
e + C_2	Ionization	70.00-250.00 eV	Ex	386
e + CH_2F_2	Elastic Scattering	1.50-30.00 eV	E/T	585
e + CH_2F_2	Ionization	500.00 eV	Th	379
e + HI	Attachment	1.00 eV	Th	639
e + HI	Attachment	0.00-4.00 eV	E/T	433
e + HI	Dissociation	1.00 eV	Th	639
e + HI	Dissociation	0.00-4.00 eV	E/T	433
e + C_2H^{1+}	Dissociation	50.00 eV	Ex	578
e + CH_3F	Elastic Scattering	1.50-30.00 eV	E/T	585
e + CH_3F	Ionization	500.00 eV	Th	379
e + $CFCl_3$	Attachment	0.00-4.00 eV	E/T	433
e + $CFCl_3$	Dissociation	0.00-4.00 eV	E/T	433
e + CF_3Cl	Attachment	3.00 eV	Th	429
e + CF_3Cl	Dissociation	3.00 eV	Th	429
e + CF_3Cl	Excitation	3.00 eV	Th	429
e + C_3	Dissociation	70.00-250.00 eV	Ex	386
e + C_3	Ionization	70.00-250.00 eV	Ex	386
e + Fe^{24+}	Excitation	$10^{5.5}$-10^{9} K	Th	423
e + Al_2O	Ionization	0.01-1.00 keV	Th	374
e + LiH^{1+}	Excitation	52.00-65.00 eV	Th	431
e + H_2S_2	Elastic Scattering	5.00 eV	Th	413
e + H_2S_2	Angular Scattering	5.00 eV	Th	413
e + Si_2H_6	Elastic Scattering	1.00-370.00 eV	Ex	451
e + Si_2H_6	Excitation	1.00-370.00 eV	Ex	451
e + Si_2H_6	Ionization	1.00-370.00 eV	Ex	451
e + ND_3	Ionization	1.00 keV	Ex	380
e + C_2F_4	Elastic Scattering	50.00 eV	Th	382
e + C_2F_4	Excitation	50.00 eV	Th	382
e + $C_2Cl_3F_3$	Attachment	0.00-4.00 eV	E/T	433
e + $C_2Cl_3F_3$	Dissociation	0.00-4.00 eV	E/T	433
e + C_6F_6	Elastic Scattering	1.10-100.00 eV	Ex	388
e + C_6F_6	Angular Scattering	1.10-100.00 eV	Ex	388
e + ${C_4}^{-1+}$	Ionization	40.00 eV	Ex	377

2.2.3 Heavy Particle Collisions

hν + CH_3I	Heavy Particle Coll.		Ex	747
hν + CH_3I	Excitation		Ex	747
hν + CH_3I	Ionization		Ex	747
H + H	Heavy Particle Coll.	0.00-1.00 MeV	Th	889
H + H	Heavy Particle Coll.		Ex	839
H + H	Association	0.05-10.00 eV	E/T	1027
H + H	Elastic Scattering		Th	926
H^* + H^*	Elastic Scattering		Th	926
H + H	Elastic Scattering		Th	867
H + H	Elastic Scattering		Ex	839
H + H	Charge Transfer	0.00-1.00 MeV	Th	889
H^* + H^*	Energy Transfer		Th	926
H + H	Energy Transfer		Th	926
H^* + H^*	Interaction Potentials		Th	900
H + H	Interaction Potentials		Th	900
H + H	Interaction Potentials		Th	760
H + H	Total Scattering	0.00-1.00 MeV	Th	889

H + H	Total Scattering	0.00-1.00 MeV	Th	889
$\mathbf{H}^{*}$ + $\mathbf{H}^{*}$	Fluorescence		Th	926
H + H	Fluorescence		Th	926
H + H	Ionization	0.05-10.00 eV	E/T	1027
H + H	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{H} + \mathbf{H}_2$	Heavy Particle Coll.	0.00-1.00 MeV	Th	889
$\mathbf{H} + \mathbf{H}_2$	Charge Transfer	0.00-1.00 MeV	Th	889
$\mathbf{H} + \mathbf{H}_2$	Charge Transfer	0.01-25.00 keV	Th	706
$\mathbf{H} + \mathbf{H}_2$	Interchange reaction	1.50 eV	Th	780
$\mathbf{H} + \mathbf{H}_2$	Interchange reaction	1.39-2.20 eV	Th	709
$\mathbf{H} + \mathbf{H}_2$	Interchange reaction	1.64 eV	Ex	708
$\mathbf{H} + \mathbf{H}_2$	Interchange reaction	0.50 eV	Ex	707
$\mathbf{H} + \mathbf{H}_2$	Interchange reaction	1.60 eV	Th	702
$\mathbf{H} + \mathbf{H}_2$	Interchange reaction	0.50-1.90 eV	Th	697
$\mathbf{H} + \mathbf{H}_2$	Interchange reaction	0.60-1.30 eV	Th	696
$\mathbf{H} + \mathbf{H}_2$	Energy Transfer	2.00-7.00 km/s	Ex	759
$\mathbf{H}^{*} + \mathbf{H}_2$	Energy Transfer	2.00-7.00 km/s	Ex	759
$\mathbf{H} + \mathbf{H}_2$	Total Scattering	0.00-1.00 MeV	Th	889
$\mathbf{H} + \mathbf{H}_2$	Total Scattering	0.00-1.00 MeV	Th	889
$\mathbf{H} + \mathbf{H}_2$	Excitation	2.00-7.00 km/s	Ex	759
$\mathbf{H}^{*} + \mathbf{H}_2$	Excitation	2.00-7.00 km/s	Ex	759
H + HD	Interchange reaction	0.50 eV	Ex	707
$\mathbf{H} + \mathbf{D}_2$	Interchange reaction	1.39-2.20 eV	Th	709
$\mathbf{H} + \mathbf{D}_2$	Interchange reaction	1.64 eV	Ex	708
$\mathbf{H} + \mathbf{D}_2$	Interchange reaction	1.60 eV	Th	702
$\mathbf{H} + \mathbf{D}_2$	Interchange reaction	0.50-1.90 eV	Th	697
$\mathbf{H} + \mathbf{D}_2$	Interchange reaction	0.60-1.30 eV	Th	696
H + He	Interaction Potentials		Th	718
H + He	Excitation	50.00 eV	Th	877
H + Li	Interaction Potentials		Th	718
H + CO	Excitation	0.01-3.00 K	Th	686
H + N	Heavy Particle Coll.	0.00-1.00 MeV	Th	889
H + N	Charge Transfer	0.00-1.00 MeV	Th	889
H + N	Total Scattering	0.00-1.00 MeV	Th	889
H + N	Total Scattering	0.00-1.00 MeV	Th	889
$\mathbf{H} + \mathbf{N}_2$	Heavy Particle Coll.	0.00-1.00 MeV	Th	889
$\mathbf{H}^{*} + \mathbf{N}_2$	De-excitation	1.84 eV	Ex	929
$\mathbf{H} + \mathbf{N}_2$	De-excitation	1.84 eV	Ex	929
$\mathbf{H} + \mathbf{N}_2$	Charge Transfer	0.00-1.00 MeV	Th	889
$\mathbf{H} + \mathbf{N}_2$	Total Scattering	0.00-1.00 MeV	Th	889
$\mathbf{H} + \mathbf{N}_2$	Total Scattering	0.00-1.00 MeV	Th	889
$\mathbf{H}^{*} + \mathbf{N}_2$	Excitation	1.84 eV	Ex	929
$\mathbf{H} + \mathbf{N}_2$	Excitation	1.84 eV	Ex	929
$\mathbf{H}^{*} + \mathbf{O}_2$	De-excitation	1.84 eV	Ex	929
$\mathbf{H} + \mathbf{O}_2$	De-excitation	1.84 eV	Ex	929
$\mathbf{H} + \mathbf{O}_2$	Interchange reaction	9.04 keV	Th	695
$\mathbf{H}^{*} + \mathbf{O}_2$	Excitation	1.84 eV	Ex	929
$\mathbf{H} + \mathbf{O}_2$	Excitation	1.84 eV	Ex	929
$\mathbf{H} + \mathbf{F}^{-1+}$	Association	2.00 eV	Th	767
$\mathbf{H} + \mathbf{F}^{-1+}$	Interaction Potentials	2.00 eV	Th	767
$\mathbf{H} + \mathbf{F}^{-1+}$	Detachment	2.00 eV	Th	767
H + Na	Line Broadening	10.00 m/s	Th	753
H + Na	Excitation	50.00 eV	Th	877
H + SiO	Excitation	0.20-9.60 K	Th	703
$\mathbf{H} + \mathbf{Cl}^{-1+}$	Association	2.00 eV	Th	767
$\mathbf{H} + \mathbf{Cl}^{-1+}$	Interaction Potentials	2.00 eV	Th	767
$\mathbf{H} + \mathbf{Cl}^{-1+}$	Detachment	2.00 eV	Th	767

H + Ar	Association	10.00-100.00 eV	Ex	808
H + Ar	Ionization	10.00-100.00 eV	Ex	808
H + Br^{-1+}	Association	2.00 eV	Th	767
H + Br^{-1+}	Interaction Potentials	2.00 eV	Th	767
H + Br^{-1+}	Detachment	2.00 eV	Th	767
H + Kr	Association	10.00-100.00 eV	Ex	808
H + Kr	Ionization	10.00-100.00 eV	Ex	808
H^* + Rb	Interaction Potentials		Th	871
H + Rb	Interaction Potentials		Th	871
H + Xe	Association	10.00-100.00 eV	Ex	808
H + Xe	Ionization	10.00-100.00 eV	Ex	808
H^{1+} + H^{-1+}	Association	0.10-1.00 K	Th	814
H^{1+} + H^{-1+}	Charge Transfer	0.10-30.00 eV	Th	1028
H^{1+} + H^{-1+}	Charge Transfer		Th	1025
H^{1+} + H^{-1+}	Charge Transfer	0.10-1.00 K	Th	814
H^{1+} + H^{-1+}	Recombination	0.10-1.00 K	Th	814
H^{1+} + H^{-1+}	Excitation	0.10-30.00 eV	Th	1028
H^{1+} + H	Heavy Particle Coll.	0.00-1.00 MeV	Th	889
H^{1+} + H^*	Line Broadening	4.00-10.00 K	E/T	692
H^{1+} + H	Line Broadening	4.00-10.00 K	E/T	692
H^{1+} + H	Elastic Scattering	0.01-1.00 eV	Ex	930
H^{1+} + H	Charge Transfer	100.00 eV	Th	1023
H^{1+} + H^*	Charge Transfer	10.00-100.00 keV	Th	994
H^{1+} + H	Charge Transfer	10.00-100.00 keV	Th	994
H^{1+} + H	Charge Transfer	5.00 MeV	Th	984
H^{1+} + H	Charge Transfer		Th	983
H^{1+} + H	Charge Transfer	0.00-2.50 MeV	Th	935
H^{1+} + H	Charge Transfer	0.01-1.00 eV	Ex	930
H^{1+} + H	Charge Transfer	0.00-1.00 MeV	Th	889
H^{1+} + H	Charge Transfer	5.00 MeV	Th	715
H^{1+} + H	Charge Transfer	0.01-25.00 keV	Th	706
H^{1+} + H	Total Scattering	5.00 MeV	Th	984
H^{1+} + H	Total Scattering	0.89-2.00 a.u.	Th	891
H^{1+} + H	Total Scattering	0.00-1.00 MeV	Th	889
H^{1+} + H	Total Scattering	0.00-1.00 MeV	Th	889
H^{1+} + H	Total Scattering	1.00 GeV/amu	Th	751
H^{1+} + H	Total Scattering	48.00-114.00 keV	Th	717
H^{1+} + H^*	Excitation	0.00-10.00 keV	Th	934
H^{1+} + H	Excitation	0.00-10.00 keV	Th	934
H^{1+} + H	Ionization		Th	983
H^{1+} + H	Ionization	500.00 keV	Th	980
H^{1+} + H	Ionization	50.00-100.00 keV	E/T	932
H^{1+} + H	Ionization	1.00-25.00 keV	Th	914
H^{1+} + H	Ionization	0.89-2.00 a.u.	Th	891
H^{1+} + H	Ionization	0.00-1.00 MeV	Th	807
H^{1+} + H	Ionization	1.00 GeV/amu	Th	751
H^{1+} + H	Ionization	48.00-114.00 keV	Th	717
H^{1+} + H	Ionization	5.00 MeV	Th	715
H^{1+} + H_2	Heavy Particle Coll.	0.00-1.00 MeV	Th	889
H^{1+} + H_2	Dissociation	0.00-10.00 keV	E/T	1026
H^{1+} + H_2	Dissociation	10.00 eV	Th	1024
H^{1+} + H_2	Dissociation	0.10-10.00 eV	Th	1022
H^{1+} + H_2	Dissociation	0.03-3.90 MeV	E/T	1021
H^{1+} + H_2	Dissociation	0.19-50.00 keV/amu	Ex	862
H^{1+} + H_2	Charge Transfer	0.00-10.00 keV	E/T	1026
H^{1+} + H_2	Charge Transfer	0.10-10.00 eV	Th	1022
H^{1+} + H_2	Charge Transfer	0.20-20.00 keV	Ex	991

$\mathbf{H}^{1+} + \mathbf{H}_2$	Charge Transfer		Th	983
$\mathbf{H}^{1+} + \mathbf{H}_2$	Charge Transfer	0.00-1.00 MeV	Th	889
$\mathbf{H}^{1+} + \mathbf{H}_2$	Charge Transfer	0.01-25.00 keV	Th	706
$\mathbf{H}^{1+} + \mathbf{H}_2$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{H}_2$	Interchange reaction	10.00 eV	Th	1024
$\mathbf{H}^{1+} + \mathbf{H}_2$	Total Scattering	0.00-1.00 MeV	Th	889
$\mathbf{H}^{1+} + \mathbf{H}_2$	Total Scattering	0.00-1.00 MeV	Th	889
$\mathbf{H}^{1+} + \mathbf{H}_2$	Excitation	10.00 eV	Th	1024
$\mathbf{H}^{1+} + \mathbf{H}_2$	Excitation	0.10-10.00 eV	Th	1022
$\mathbf{H}^{1+} + \mathbf{H}_2$	Excitation	0.20-20.00 keV	Ex	991
$\mathbf{H}^{1+} + \mathbf{H}_2$	Ionization		Th	983
$\mathbf{H}^{1+} + \mathbf{H}_2$	Ionization	50.00-100.00 keV	E/T	932
$\mathbf{H}^{1+} + \mathbf{H}_2$	Ionization	4.00-24.00 a.u.	Ex	712
$\mathbf{H}^{1+} + \mathbf{H}_2{}^{1+}$	Dissociation	0.10-10.00 eV	Th	1022
$\mathbf{H}^{1+} + \mathbf{H}_2{}^{1+}$	Charge Transfer	0.10-10.00 eV	Th	1022
$\mathbf{H}^{1+} + \mathbf{H}_2{}^{1+}$	Excitation	0.10-10.00 eV	Th	1022
$\mathbf{H}^{1+} + \mathbf{HD}$	Ionization	4.00-24.00 a.u.	Ex	712
$\mathbf{H}^{1+} + \mathbf{HT}$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{HT}$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{HT}$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{H}_2\mathbf{O}$	Dissociation	20.00-50.00 keV	Ex	928
$\mathbf{H}^{1+} + \mathbf{H}_2\mathbf{O}$	Ionization	20.00-50.00 keV	Ex	928
$\mathbf{H}^{1+} + \mathbf{D}^{-1+}$	Association	0.10-1.00 K	Th	814
$\mathbf{H}^{1+} + \mathbf{D}^{-1+}$	Charge Transfer	0.10-1.00 K	Th	814
$\mathbf{H}^{1+} + \mathbf{D}^{-1+}$	Recombination	0.10-1.00 K	Th	814
$\mathbf{H}^{1+} + \mathbf{D}$	Elastic Scattering	0.01-1.00 eV	Ex	930
$\mathbf{H}^{1+} + \mathbf{D}$	Charge Transfer	0.01-1.00 eV	Ex	930
$\mathbf{H}^{1+} + \mathbf{D}_2$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{D}_2$	Dissociation	0.03-3.90 MeV	E/T	1021
$\mathbf{H}^{1+} + \mathbf{D}_2$	Dissociation	0.19-50.00 keV/amu	Ex	862
$\mathbf{H}^{1+} + \mathbf{D}_2$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{D}_2$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{DT}$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{DT}$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{DT}$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{T}_2$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{T}_2$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{T}_2$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{H}^{1+} + \mathbf{He}$	Elastic Scattering	0.10-10.00 MeV	Th	820
$\mathbf{H}^{1+} + \mathbf{He}$	Elastic Scattering	2.50-4.50 MeV	Ex	818
$\mathbf{H}^{1+} + \mathbf{He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T	913
$\mathbf{H}^{1+} + \mathbf{He}$	Charge Transfer	$2\text{x}10^6$-$1.3\text{x}10^8$ cm/s	Th	728
$\mathbf{H}^{1+} + \mathbf{He}^*$	Charge Transfer	$2\text{x}10^6$-$1.3\text{x}10^8$ cm/s	Th	728
$\mathbf{H}^{1+} + \mathbf{He}$	Excitation	1.50-6.00 MeV/amu	Th	960
$\mathbf{H}^{1+} + \mathbf{He}$	Excitation	0.05-1.40 keV	E/T	857
$\mathbf{H}^{1+} + \mathbf{He}$	Excitation	1.00-80.00 a.u.	Th	805
$\mathbf{H}^{1+} + \mathbf{He}$	Excitation	100.00-150.00 keV	E/T	795
$\mathbf{H}^{1+} + \mathbf{He}$	Excitation	2.00 MeV	Th	775
$\mathbf{H}^{1+} + \mathbf{He}$	Excitation	100.00 keV	Th	770
$\mathbf{H}^{1+} + \mathbf{He}$	Excitation	2.00-8.00 a.u.	Th	758
$\mathbf{H}^{1+} + \mathbf{He}$	Excitation	$2\text{x}10^6$-$1.3\text{x}10^8$ cm/s	Th	728
$\mathbf{H}^{1+} + \mathbf{He}^*$	Excitation	$2\text{x}10^6$-$1.3\text{x}10^8$ cm/s	Th	728
$\mathbf{H}^{1+} + \mathbf{He}$	Excitation	3.00-8.50 a.u.	E/T	727
$\mathbf{H}^{1+} + \mathbf{He}$	Ionization	0.01-1.00 keV	Th	838
$\mathbf{H}^{1+} + \mathbf{He}$	Ionization	2.00 MeV	Ex	810
$\mathbf{H}^{1+} + \mathbf{He}$	Ionization	1.00-80.00 a.u.	Th	805
$\mathbf{H}^{1+} + \mathbf{He}$	Ionization	70.00-100.00 keV	E/T	799

$\mathbf{H^{1+} + He}$	Ionization	0.20-4.00 MeV	E/T	797
$\mathbf{H^{1+} + He}$	Ionization	100.00-150.00 keV	E/T	795
$\mathbf{H^{1+} + He}$	Ionization	2.00 MeV	Th	775
$\mathbf{H^{1+} + He}$	Ionization	0.30-2.00 MeV	Th	771
$\mathbf{H^{1+} + He}$	Ionization	100.00 keV	Th	770
$\mathbf{H^{1+} + He}$	Ionization	2.00-8.00 a.u.	Th	758
$\mathbf{H^{1+} + Li^{-1+}}$	Association	0.10-1.00 K	Th	814
$\mathbf{H^{1+} + Li^{-1+}}$	Charge Transfer	0.10-1.00 K	Th	814
$\mathbf{H^{1+} + Li^{-1+}}$	Recombination	0.10-1.00 K	Th	814
$\mathbf{H^{1+} + Li}$	Total Scattering	0.20-95.00 MeV	Th	854
$\mathbf{H^{1+} + Li}$	Excitation	0.70-2.27 MeV	Ex	831
$\mathbf{H^{1+} + Li}$	Ionization	0.20-95.00 MeV	Th	854
$\mathbf{H^{1+} + Li}$	Ionization	0.70-2.27 MeV	Ex	831
$\mathbf{H^{1+} + Li^{2+}}$	Charge Transfer	31.00-151.00 a.u.	Th	798
$\mathbf{H^{1+} + Be}$	Elastic Scattering	0.01-10.00 GeV	Th	834
$\mathbf{H^{1+} + Be^{3+}}$	Charge Transfer	31.00-151.00 a.u.	Th	798
$\mathbf{H^{1+} + B}$	Elastic Scattering	0.50-3.30 MeV	Ex	824
$\mathbf{H^{1+} + C}$	Elastic Scattering	0.01-10.00 GeV	Th	834
$\mathbf{H^{1+} + C}$	Elastic Scattering	0.50-2.50 MeV	Ex	832
$\mathbf{H^{1+} + C}$	Total Scattering	0.50-2.50 MeV	Ex	832
$\mathbf{H^{1+} + C}$	Ionization	16.00-70.00 MeV	Ex	821
$\mathbf{H^{1+} + CH_4}$	Dissociation	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + CH_4}$	Charge Transfer	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + CH_4}$	Interchange reaction	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + CO}$	Charge Transfer	1.00-14.00 keV	Ex	796
$\mathbf{H^{1+} + N}$	Elastic Scattering	0.50-2.50 MeV	Ex	832
$\mathbf{H^{1+} + N}$	Total Scattering	0.50-2.50 MeV	Ex	832
$\mathbf{H^{1+} + N_2}$	Dissociation	0.06-7.00 MeV	Ex	942
$\mathbf{H^{1+} + N_2}$	Dissociation	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + N_2}$	Charge Transfer	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + N_2}$	Fluorescence	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + N_2}$	Excitation	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + N_2}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{H^{1+} + N_2}$	Ionization	0.06-7.00 MeV	Ex	942
$\mathbf{H^{1+} + N_2O}$	Dissociation	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + N_2O}$	Charge Transfer	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + N_2O}$	Fluorescence	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + N_2O}$	Excitation	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + O}$	Elastic Scattering	0.50-2.50 MeV	Ex	832
$\mathbf{H^{1+} + O}$	Total Scattering	0.50-2.50 MeV	Ex	832
$\mathbf{H^{1+} + O_2}$	Dissociation	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + O_2}$	Charge Transfer	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + O_2}$	Fluorescence	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + O_2}$	Excitation	3.00-10.00 keV	Ex	905
$\mathbf{H^{1+} + F}$	Elastic Scattering	0.70-2.80 MeV	Ex	817
$\mathbf{H^{1+} + Ne}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{H^{1+} + Ne}$	Ionization	2.00 MeV	Ex	810
$\mathbf{H^{1+} + Ne}$	Ionization	0.30-2.00 MeV	Th	771
$\mathbf{H^{1+} + Na}$	Charge Transfer	0.01-1.00 keV/amu	Th	859
$\mathbf{H^{1+} + Na^{*}}$	Charge Transfer	0.01-1.00 keV/amu	Th	859
$\mathbf{H^{1+} + Mg}$	Charge Transfer	1.00-500.00 keV	E/T	764
$\mathbf{H^{1+} + Al}$	Elastic Scattering	0.01-10.00 GeV	Th	834
$\mathbf{H^{1+} + Al}$	Elastic Scattering	0.50-2.50 MeV	Ex	832
$\mathbf{H^{1+} + Al}$	Elastic Scattering	0.80-3.00 MeV	Ex	819
$\mathbf{H^{1+} + Al}$	Total Scattering	0.50-2.50 MeV	Ex	832
$\mathbf{H^{1+} + Al}$	Ionization		Th	825
$\mathbf{H^{1+} + Si}$	Elastic Scattering	0.50-2.50 MeV	Ex	832

H^{1+} + **Si**	Total Scattering	0.50-2.50 MeV	Ex	832
H^{1+} + **Ar**	Excitation	0.01-1.00 MeV/amu	Ex	690
H^{1+} + **Ar**	Ionization	2.00 MeV	Ex	810
H^{1+} + **Ar**	Ionization	75.00 keV	E/T	766
H^{1+} + **Ar**	Ionization	1.00 MeV	Th	735
H^{1+} + **K**	Charge Transfer	0.01-1.00 keV/amu	Th	859
H^{1+} + **K***	Charge Transfer	0.01-1.00 keV/amu	Th	859
H^{1+} + **Ti**	Ionization	0.30-3.50 MeV	Th	828
H^{1+} + **Ti**	Ionization		Th	825
H^{1+} + **Fe**	Elastic Scattering	0.01-10.00 GeV	Th	834
H^{1+} + **Cu**	Ionization		Th	825
H^{1+} + **Kr**	Ionization	2.00 MeV	Ex	810
H^{1+} + **Kr**	Ionization	0.30-2.00 MeV	Th	771
H^{1+} + **Rb**	Ionization	0.30-3.50 MeV	Th	828
H^{1+} + **Ag**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Ag**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Cd**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Cd**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **In**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **In**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Sn**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Sn**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Sn**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Sn**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Sb**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Sb**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Te**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Te**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **I**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **I**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Xe**	Ionization	2.00 MeV	Ex	810
H^{1+} + **Xe**	Ionization	0.30-2.00 MeV	Th	771
H^{1+} + **Cs**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Cs**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Ba**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Ba**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **La**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **La**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Ce**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Ce**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Pr**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Pr**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Nd**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Nd**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Eu**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Eu**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Gd**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Gd**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Gd**	Ionization	0.30-3.50 MeV	Th	828
H^{1+} + **Tb**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Tb**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Tb**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Tb**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Dy**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Dy**	Ionization	0.50-3.50 MeV	Th	830
H^{1+} + **Ho**	Excitation	0.50-3.50 MeV	Th	830
H^{1+} + **Ho**	Ionization	0.50-3.50 MeV	Th	830

$\mathbf{H^{1+} + Er}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Er}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Tm}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Tm}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Yb}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Yb}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Lu}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Lu}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Hf}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Hf}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Ta}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Ta}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + W}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + W}$	Excitation	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + W}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + W}$	Ionization	0.30-3.50 MeV	Th	828
$\mathbf{H^{1+} + W}$	Ionization	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + Ir}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Ir}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Pt}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Pt}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Au}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Au}$	Excitation	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + Au}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Au}$	Ionization	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + Au}$	Ionization		Th	825
$\mathbf{H^{1+} + Au}$	Ionization	16.00-70.00 MeV	Ex	821
$\mathbf{H^{1+} + Hg}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Hg}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Tl}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Tl}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Pb}$	Elastic Scattering	0.01-10.00 GeV	Th	834
$\mathbf{H^{1+} + Pb}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Pb}$	Excitation	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + Pb}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Pb}$	Ionization	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + Th}$	Excitation	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + Th}$	Ionization	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + perturbation}$	Excitation	1.00 MeV	E/T	826
$\mathbf{H^{1+} + perturbation}$	Ionization	1.00 MeV	E/T	826
$\mathbf{H^{1+} + perturbation}$	Ionization	16.00-70.00 MeV	Ex	821
$\mathbf{H^{1+} + C_{60}}$	Dissociation	1.00-3.50 a.u.	Ex	863
$\mathbf{H^{1+} + C_{60}}$	Energy Transfer	0.10-5.00 a.u.	Th	778
$\mathbf{H^{1+} + C_{60}}$	Ionization	1.00-3.50 a.u.	Ex	863
$\mathbf{H^{1+} + U}$	Elastic Scattering	0.01-10.00 GeV	Th	834
$\mathbf{H^{1+} + U}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + U}$	Excitation	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + U}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + U}$	Ionization	0.30-3.50 MeV	Th	828
$\mathbf{H^{1+} + U}$	Ionization	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + C_2H_4}$	Dissociation	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + C_2H_4}$	Charge Transfer	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + C_2H_4}$	Interchange reaction	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + Bi}$	Excitation	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Bi}$	Excitation	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + Bi}$	Ionization	0.50-3.50 MeV	Th	830
$\mathbf{H^{1+} + Bi}$	Ionization	0.30-3.50 MeV	Th	828

$\mathbf{H^{1+} + Bi}$	Ionization	0.30-0.70 MeV	Ex	827
$\mathbf{H^{1+} + C_2H_6}$	Dissociation	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + C_2H_6}$	Charge Transfer	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + C_2H_6}$	Interchange reaction	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + Na_{20}}$	Charge Transfer	0.04-0.16 a.u.	Th	898
$\mathbf{H^{1+} + Na_{20}}$	Excitation	0.04-0.16 a.u.	Th	898
$\mathbf{H^{1+} + Na_{21}{}^{1+}}$	Charge Transfer	0.04-0.16 a.u.	Th	898
$\mathbf{H^{1+} + Na_{21}{}^{1+}}$	Excitation	0.04-0.16 a.u.	Th	898
$\mathbf{H^{1+} + C_3H_8}$	Dissociation	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + C_3H_8}$	Charge Transfer	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + C_3H_8}$	Interchange reaction	0.10-30.00 eV	Th	1028
$\mathbf{H^{1+} + Na_{19}{}^{-1+}}$	Charge Transfer	0.04-0.16 a.u.	Th	898
$\mathbf{H^{1+} + Na_{19}{}^{-1+}}$	Excitation	0.04-0.16 a.u.	Th	898
$\mathbf{H_2 + H_2}$	De-excitation	1.20 eV	Th	710
$\mathbf{H_2 + H_2}$	Interchange reaction	5.00 eV	Th	701
$\mathbf{H_2 + H_2O}$	Interchange reaction	5.00-20.00 K	Th	684
$\mathbf{H_2 + D^{1+}}$	Association	0.10-1.00 K	Th	814
$\mathbf{H_2 + D^{1+}}$	Charge Transfer	0.10-1.00 K	Th	814
$\mathbf{H_2 + D^{1+}}$	Recombination	0.10-1.00 K	Th	814
$\mathbf{H_2 + Li}$	Line Broadening		Th	899
$\mathbf{H_2 + Li}$	Elastic Scattering		Th	899
$\mathbf{H_2 + N}$	Elastic Scattering	0.10-10.00 K	Th	876
$\mathbf{H_2 + N}$	Interaction Potentials	0.10-10.00 K	Th	876
$\mathbf{H_2 + Na}$	Line Broadening		Th	899
$\mathbf{H_2 + Na}$	Elastic Scattering		Th	899
$\mathbf{H_2 + K}$	Line Broadening		Th	899
$\mathbf{H_2 + K}$	Elastic Scattering		Th	899
$\mathbf{H_2 + Rb}$	Line Broadening		Th	899
$\mathbf{H_2 + Rb}$	Elastic Scattering		Th	899
$\mathbf{H_2 + Cs}$	Line Broadening		Th	899
$\mathbf{H_2 + Cs}$	Elastic Scattering		Th	899
$\mathbf{H_2 + Fr}$	Line Broadening		Th	899
$\mathbf{H_2 + Fr}$	Elastic Scattering		Th	899
$\mathbf{H_2 + OH}$	Interchange reaction	0.50 eV	Th	704
$\mathbf{H_2{}^{1+} + H^{-1+}}$	Association	0.05-10.00 eV	E/T	1027
$\mathbf{H_2{}^{1+} + H^{-1+}}$	Association	0.10-1.00 K	Th	814
$\mathbf{H_2{}^{1+} + H^{-1+}}$	Charge Transfer	0.10-1.00 K	Th	814
$\mathbf{H_2{}^{1+} + H^{-1+}}$	Recombination	0.10-1.00 K	Th	814
$\mathbf{H_2{}^{1+} + H^{-1+}}$	Ionization	0.05-10.00 eV	E/T	1027
$\mathbf{H_2{}^{1+} + H}$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{H_2{}^{1+} + H}$	Dissociation	20.00-100.00 keV	Ex	884
$\mathbf{H_2{}^{1+} + H}$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{H_2{}^{1+} + H}$	Charge Transfer	20.00-100.00 keV	Ex	884
$\mathbf{H_2{}^{1+} + H}$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{H_2{}^{1+} + H}$	Ionization	20.00-100.00 keV	Ex	884
$\mathbf{H_2{}^{1+} + H_2}$	Interchange reaction		Th	1025
$\mathbf{H_2{}^{1+} + H_2}$	Excitation	0.10-10.00 eV	Th	1022
$\mathbf{H_2{}^{1+} + D^{-1+}}$	Association	0.05-10.00 eV	E/T	1027
$\mathbf{H_2{}^{1+} + D^{-1+}}$	Ionization	0.05-10.00 eV	E/T	1027
$\mathbf{H_2{}^{1+} + D}$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{H_2{}^{1+} + D}$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{H_2{}^{1+} + D}$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{H_2{}^{1+} + He}$	Excitation	0.05-1.40 keV	E/T	857
$\mathbf{H_2{}^{1+} + He}$	Ionization	75.00 keV	E/T	911
$\mathbf{H_2{}^{1+} + He}$	Ionization	75.00 keV	Ex	842
$\mathbf{H_2{}^{1+} + He^{2+}}$	Charge Transfer	6.10-21.20 keV/amu	Ex	773
$\mathbf{H_2{}^{1+} + N_2}$	Dissociation	3.00-10.00 keV	Ex	905

$\mathbf{H_2}^{1+}$ + $\mathbf{N_2}$	Charge Transfer	3.00-10.00 keV	Ex	905
$\mathbf{H_2}^{1+}$ + $\mathbf{N_2}$	Fluorescence	3.00-10.00 keV	Ex	905
$\mathbf{H_2}^{1+}$ + $\mathbf{N_2}$	Excitation	3.00-10.00 keV	Ex	905
$\mathbf{H_2}^{1+}$ + $\mathbf{N_2}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{H_2}^{1+}$ + $\mathbf{N_2}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{H_2}^{1+}$ + $\mathbf{N_2O}$	Dissociation	3.00-10.00 keV	Ex	905
$\mathbf{H_2}^{1+}$ + $\mathbf{N_2O}$	Charge Transfer	3.00-10.00 keV	Ex	905
$\mathbf{H_2}^{1+}$ + $\mathbf{N_2O}$	Fluorescence	3.00-10.00 keV	Ex	905
$\mathbf{H_2}^{1+}$ + $\mathbf{N_2O}$	Excitation	3.00-10.00 keV	Ex	905
$\mathbf{H_2}^{1+}$ + $\mathbf{O_2}$	Dissociation	3.00-10.00 keV	Ex	905
$\mathbf{H_2}^{1+}$ + $\mathbf{O_2}$	Charge Transfer	3.00-10.00 keV	Ex	905
$\mathbf{H_2}^{1+}$ + $\mathbf{O_2}$	Fluorescence	3.00-10.00 keV	Ex	905
$\mathbf{H_2}^{1+}$ + $\mathbf{O_2}$	Excitation	3.00-10.00 keV	Ex	905
$\mathbf{H_2}^{1+}$ + $\mathbf{Ne}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{H_2}^{1+}$ + $\mathbf{Ar}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{H_2}^{1+}$ + $\mathbf{Ar}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{H_2}^{1+}$ + $\mathbf{Ar}^{2+}$	Charge Transfer	6.10-21.20 keV/amu	Ex	773
$\mathbf{H_3}^{1+}$ + $\mathbf{He}$	Excitation	0.05-1.40 keV	E/T	857
$\mathbf{H_3}^{1+}$ + $\mathbf{N_2}$	Dissociation	3.00-10.00 keV	Ex	905
$\mathbf{H_3}^{1+}$ + $\mathbf{N_2}$	Charge Transfer	3.00-10.00 keV	Ex	905
$\mathbf{H_3}^{1+}$ + $\mathbf{N_2}$	Fluorescence	3.00-10.00 keV	Ex	905
$\mathbf{H_3}^{1+}$ + $\mathbf{N_2}$	Excitation	3.00-10.00 keV	Ex	905
$\mathbf{H_3}^{1+}$ + $\mathbf{N_2O}$	Dissociation	3.00-10.00 keV	Ex	905
$\mathbf{H_3}^{1+}$ + $\mathbf{N_2O}$	Charge Transfer	3.00-10.00 keV	Ex	905
$\mathbf{H_3}^{1+}$ + $\mathbf{N_2O}$	Fluorescence	3.00-10.00 keV	Ex	905
$\mathbf{H_3}^{1+}$ + $\mathbf{N_2O}$	Excitation	3.00-10.00 keV	Ex	905
$\mathbf{H_3}^{1+}$ + $\mathbf{O_2}$	Dissociation	3.00-10.00 keV	Ex	905
$\mathbf{H_3}^{1+}$ + $\mathbf{O_2}$	Charge Transfer	3.00-10.00 keV	Ex	905
$\mathbf{H_3}^{1+}$ + $\mathbf{O_2}$	Fluorescence	3.00-10.00 keV	Ex	905
$\mathbf{H_3}^{1+}$ + $\mathbf{O_2}$	Excitation	3.00-10.00 keV	Ex	905
$\mathbf{HD}^{1+}$ + $\mathbf{H}$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{HD}^{1+}$ + $\mathbf{H}$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{HD}^{1+}$ + $\mathbf{H}$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{HD}^{1+}$ + $\mathbf{D}$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{HD}^{1+}$ + $\mathbf{D}$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{HD}^{1+}$ + $\mathbf{D}$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{D}$ + $\mathbf{H_2}$	Interchange reaction	1.60 eV	Th	702
$\mathbf{D}$ + $\mathbf{D}$	Heavy Particle Coll.		Ex	839
$\mathbf{D}$ + $\mathbf{D}$	Association	0.05-10.00 eV	E/T	1027
$\mathbf{D}$ + $\mathbf{D}$	Elastic Scattering		Ex	839
$\mathbf{D}$ + $\mathbf{D}$	Ionization	0.05-10.00 eV	E/T	1027
$\mathbf{D}^{1+}$ + $\mathbf{H}^{-1+}$	Association	0.10-1.00 K	Th	814
$\mathbf{D}^{1+}$ + $\mathbf{H}^{-1+}$	Charge Transfer	0.10-1.00 K	Th	814
$\mathbf{D}^{1+}$ + $\mathbf{H}^{-1+}$	Recombination	0.10-1.00 K	Th	814
$\mathbf{D}^{1+}$ + $\mathbf{H_2}$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{H_2}$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{H_2}$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{HT}$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{HT}$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{HT}$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{D}^{-1+}$	Association	0.10-1.00 K	Th	814
$\mathbf{D}^{1+}$ + $\mathbf{D}^{-1+}$	Charge Transfer	0.10-1.00 K	Th	814
$\mathbf{D}^{1+}$ + $\mathbf{D}^{-1+}$	Recombination	0.10-1.00 K	Th	814
$\mathbf{D}^{1+}$ + $\mathbf{D_2}$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{D_2}$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{D_2}$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{DT}$	Dissociation	0.00-10.00 keV	E/T	1026

$\mathbf{D}^{1+}$ + **DT**	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + **DT**	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{T}_2$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{T}_2$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{T}_2$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{D}^{1+}$ + $\mathbf{Li}^{-1+}$	Association	0.10-1.00 K	Th	814
$\mathbf{D}^{1+}$ + $\mathbf{Li}^{-1+}$	Charge Transfer	0.10-1.00 K	Th	814
$\mathbf{D}^{1+}$ + $\mathbf{Li}^{-1+}$	Recombination	0.10-1.00 K	Th	814
$\mathbf{D}^{1+}$ + $\mathbf{O}^{-1+}$	Association	0.05-10.00 eV	E/T	1027
$\mathbf{D}^{1+}$ + $\mathbf{O}^{-1+}$	Ionization	0.05-10.00 eV	E/T	1027
$\mathbf{D}_2$ + **OH**	Interchange reaction	0.50 eV	Th	704
$\mathbf{D_2}^{1+}$ + $\mathbf{H}^{-1+}$	Association	0.05-10.00 eV	E/T	1027
$\mathbf{D_2}^{1+}$ + $\mathbf{H}^{-1+}$	Ionization	0.05-10.00 eV	E/T	1027
$\mathbf{D_2}^{1+}$ + **H**	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{D_2}^{1+}$ + **H**	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{D_2}^{1+}$ + **H**	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{D_2}^{1+}$ + $\mathbf{D}^{-1+}$	Association	0.05-10.00 eV	E/T	1027
$\mathbf{D_2}^{1+}$ + $\mathbf{D}^{-1+}$	Ionization	0.05-10.00 eV	E/T	1027
$\mathbf{D_2}^{1+}$ + **D**	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{D_2}^{1+}$ + **D**	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{D_2}^{1+}$ + **D**	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + $\mathbf{H}_2$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + $\mathbf{H}_2$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + $\mathbf{H}_2$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + **HT**	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + **HT**	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + **HT**	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + $\mathbf{D}_2$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + $\mathbf{D}_2$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + $\mathbf{D}_2$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + **DT**	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + **DT**	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + **DT**	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + $\mathbf{T}_2$	Dissociation	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + $\mathbf{T}_2$	Charge Transfer	0.00-10.00 keV	E/T	1026
$\mathbf{T}^{1+}$ + $\mathbf{T}_2$	Interchange reaction	0.00-10.00 keV	E/T	1026
$\mathbf{H_{27}}^{1+}$ + **He**	Dissociation	60.00 keV/amu	Ex	850
He + $\mathbf{H}^{-1+}$	Interaction Potentials	123.98 eV	Th	800
He + $\mathbf{H}_2$	Energy Transfer	10^{-5} a.u.	Th	860
He + **He**	Association	300.00 K	Ex	719
He + **He**	De-excitation	300.00 K	Ex	719
He + $\mathbf{He}^*$	Elastic Scattering	0.02 eV	Th	919
$\mathbf{He}^*$ + $\mathbf{He}^*$	Elastic Scattering	1.00-500.00 mK	Th	873
He + **He**	Elastic Scattering	1.00-500.00 mK	Th	873
He + **He**	Elastic Scattering		Th	867
He + **He**	Energy Transfer	300.00 K	Ex	719
He + $\mathbf{He}^*$	Interaction Potentials	0.02 eV	Th	919
$\mathbf{He}^*$ + $\mathbf{He}^*$	Interaction Potentials	1.00-500.00 mK	Th	873
He + **He**	Interaction Potentials	1.00-500.00 mK	Th	873
He + $\mathbf{He}^*$	Interaction Potentials		Th	836
He + **He**	Interaction Potentials		Th	836
He + **He**	Interaction Potentials	123.98 eV	Th	800
He + $\mathbf{He}^*$	Excitation	0.02 eV	Th	919
$\mathbf{He}^*$ + $\mathbf{He}^*$	Excitation	1.00-500.00 mK	Th	873
He + **He**	Excitation	1.00-500.00 mK	Th	873
He + **He**	Excitation	300.00 K	Ex	719
He + **Li**	Interaction Potentials	123.98 eV	Th	800

He + **Li**	Interaction Potentials		Th	718
He + **CO**	Excitation	0.00-0.07 eV	Th	687
He + $\mathbf{O_2}$	Elastic Scattering	0.00-10.00 K	Th	924
He + $\mathbf{O_2}$	Elastic Scattering	0.00-5.00 K	Th	910
He + $\mathbf{O_2}$	Excitation	0.00-10.00 K	Th	924
He + $\mathbf{O_2}$	Excitation	0.00-5.00 K	Th	910
He + **Na**	Interaction Potentials	123.98 eV	Th	800
He + $\mathbf{Si_2}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex	865
He + $\mathbf{Si_2}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex	865
He + $\mathbf{Si_2}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex	865
He + $\mathbf{Si_3}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex	865
He + $\mathbf{Si_3}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex	865
He + $\mathbf{Si_3}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex	865
He + $\mathbf{Si_4}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex	865
He + $\mathbf{Si_4}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex	865
He + $\mathbf{Si_4}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex	865
He + $\mathbf{C_2}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex	865
He + $\mathbf{C_2}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex	865
He + $\mathbf{C_2}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex	865
He + $\mathbf{C_3}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex	865
He + $\mathbf{C_3}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex	865
He + $\mathbf{C_3}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex	865
He + **He** + **He**	Association	0.00-10.00 mK	Th	907
He + **He** + **He**	Association		Th	791
He + **He** + **He**	Interaction Potentials	0.00-10.00 mK	Th	907
He + **He** + **He**	Interaction Potentials		Th	791
He + $\mathbf{C_4}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex	865
He + $\mathbf{C_4}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex	865
He + $\mathbf{C_4}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{He}^{1+}$ + $\mathbf{H}^{-1+}$	Association	0.05-10.00 eV	E/T	1027
$\mathbf{He}^{1+}$ + $\mathbf{H}^{-1+}$	Ionization	0.05-10.00 eV	E/T	1027
$\mathbf{He}^{1+}$ + **H**	Ionization	0.50-3.50 MeV	Ex	841
$\mathbf{He}^{1+}$ + $\mathbf{H_2}$	Charge Transfer	0.25-0.50 a.u.	Ex	904
$\mathbf{He}^{1+}$ + $\mathbf{H_2}$	Total Scattering	0.25-0.50 a.u.	Ex	904
$\mathbf{He}^{1+}$ + $\mathbf{H_2}$	Ionization	0.25-0.50 a.u.	Ex	904
$\mathbf{He}^{1+}$ + $\mathbf{H_2}$	Ionization	0.50-3.50 MeV	Ex	841
$\mathbf{He}^{1+}$ + $\mathbf{D}^{-1+}$	Association	0.05-10.00 eV	E/T	1027
$\mathbf{He}^{1+}$ + $\mathbf{D}^{-1+}$	Ionization	0.05-10.00 eV	E/T	1027
$\mathbf{He}^{1+}$ + $\mathbf{D_2}$	Charge Transfer	0.25-0.50 a.u.	Ex	904
$\mathbf{He}^{1+}$ + $\mathbf{D_2}$	Total Scattering	0.25-0.50 a.u.	Ex	904
$\mathbf{He}^{1+}$ + $\mathbf{D_2}$	Ionization	0.25-0.50 a.u.	Ex	904
$\mathbf{He}^{1+}$ + **C**	Elastic Scattering	2.00-4.80 MeV	Ex	829
$\mathbf{He}^{1+}$ + **C**	Total Scattering	2.00-4.80 MeV	Ex	829
$\mathbf{He}^{1+}$ + **N**	Elastic Scattering	7.50-9.80 MeV	Ex	833
$\mathbf{He}^{1+}$ + **N**	Total Scattering	7.50-9.80 MeV	Ex	833
$\mathbf{He}^{1+}$ + $\mathbf{N_2}$	Dissociation	0.06-7.00 MeV	Ex	942
$\mathbf{He}^{1+}$ + $\mathbf{N_2}$	Dissociation	1.50-3.00 keV	Ex	765
$\mathbf{He}^{1+}$ + $\mathbf{N_2}$	Charge Transfer	1.50-3.00 keV	Ex	765
$\mathbf{He}^{1+}$ + $\mathbf{N_2}$	Charge Transfer	0.10 eV	Ex	700
$\mathbf{He}^{1+}$ + $\mathbf{N_2}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{He}^{1+}$ + $\mathbf{N_2}$	Ionization	0.05-100.00 GeV/amu	Ex	989
$\mathbf{He}^{1+}$ + $\mathbf{N_2}$	Ionization	0.06-7.00 MeV	Ex	942
$\mathbf{He}^{1+}$ + $\mathbf{O_2}$	Dissociation	1.50-3.00 keV	Ex	765
$\mathbf{He}^{1+}$ + $\mathbf{O_2}$	Charge Transfer	1.50-3.00 keV	Ex	765
$\mathbf{He}^{1+}$ + **Ne**	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{He}^{1+}$ + **Ne**	Ionization	0.00-10.00 MeV	E/T	916
$\mathbf{He}^{1+}$ + **Ne**	Ionization	1.00-4.00 MeV	E/T	776

He^{1+} + **Ne**	Ionization	1.00-4.00 MeV	E/T	776
He^{1+} + **Ar**	De-excitation	6.60 keV	Ex	978
He^{1+*} + **Ar**	De-excitation	6.60 keV	Ex	978
He^{1+} + **Ar**	Excitation	1.50-5.00 keV	E/T	745
He^{1+} + **Ar**	Excitation	0.01-1.00 MeV/amu	Ex	690
He^{1+} + **Ar**	Ionization	1.50-5.00 keV	E/T	745
He^{1+} + **Ni**	Elastic Scattering	3.90-14.30 MeV	E/T	693
He^{1+} + **Ni**	Total Scattering	3.90-14.30 MeV	E/T	693
He^{1+} + **Rb**	Charge Transfer	0.01-10.00 keV/amu	Th	885
He^{1+} + **Rb**	Excitation	0.01-10.00 keV/amu	Th	885
He^{1+} + **Xe**	De-excitation	6.60 keV	Ex	978
He^{1+*} + **Xe**	De-excitation	6.60 keV	Ex	978
He^{1+} + **Ta**	Ionization	20.00-80.00 MeV/amu	E/T	883
He^{1+} + **Pb**	Ionization	20.00-80.00 MeV/amu	E/T	883
He^{1+} + **Th**	Ionization	20.00-80.00 MeV/amu	E/T	883
He^{2+} + **H***	Charge Transfer	10.00-100.00 keV	Th	994
He^{2+} + **H**	Charge Transfer	10.00-100.00 keV	Th	994
He^{2+} + **H**	Charge Transfer		Th	983
He^{2+} + **H**	Charge Transfer	0.00-2.50 MeV	Th	935
He^{2+} + **H**	Ionization		Th	983
He^{2+} + **H**	Ionization	64.00-225.00 keV/amu	Th	888
He^{2+} + **H**	Ionization	0.50-3.00 a.u.	Th	768
He^{2+} + **H**	Ionization	12.00 a.u.	Th	750
He^{2+} + **H**	Ionization	10.00 a.u.	Th	721
He^{2+} + $\mathbf{H_2}$	Charge Transfer		Th	983
He^{2+} + $\mathbf{H_2}$	Charge Transfer	0.81 a.u.	E/T	813
He^{2+} + $\mathbf{H_2}$	Charge Transfer	25.00 keV/amu	Ex	792
He^{2+} + $\mathbf{H_2}$	Total Scattering	25.00 keV/amu	Ex	792
He^{2+} + $\mathbf{H_2}$	Ionization		Th	983
He^{2+} + $\mathbf{H_2}$	Ionization	0.81 a.u.	E/T	813
He^{2+} + $\mathbf{H_2}$	Ionization	25.00 keV/amu	Ex	792
He^{2+} + **He**	Charge Transfer	0.10-10.00 MeV	Th	941
He^{2+} + **He**	Charge Transfer	0.05-1.00 MeV/amu	E/T	913
He^{2+} + **He**	Charge Transfer	1.36-400.00 eV/amu	Th	861
He^{2+} + **He**	Charge Transfer	0.81 a.u.	E/T	813
He^{2+} + **He**	Charge Transfer	25.00 keV/amu	Ex	792
He^{2+} + **He**	Charge Transfer	100.00-300.00 keV	E/T	756
He^{2+} + **He**	Total Scattering	25.00 keV/amu	Ex	792
He^{2+} + **He**	Excitation	1.36-400.00 eV/amu	Th	861
He^{2+} + **He**	Ionization	0.81 a.u.	E/T	813
He^{2+} + **He**	Ionization	25.00 keV/amu	Ex	792
He^{2+} + **He**	Ionization	100.00-300.00 keV	E/T	756
He^{2+} + **He**$^{1+}$	Charge Transfer	1.80-14.80 keV	E/T	752
He^{2+} + **Li**	Total Scattering	0.20-95.00 MeV	Th	854
He^{2+} + **Li**	Ionization	0.20-95.00 MeV	Th	854
He^{2+} + **B**$^{2+}$	Ionization	10.00-256.00 keV	Ex	1010
He^{2+} + **B**$^{2+}$	Ionization	10.00-256.00 keV	Ex	1010
He^{2+} + **CO**	Dissociation	4.00-11.00 keV/amu	Ex	946
He^{2+} + **CO**	Dissociation	0.20-1.20 keV/amu	Ex	741
He^{2+} + **CO**	Charge Transfer	4.00-11.00 keV/amu	Ex	946
He^{2+} + **CO**	Charge Transfer	0.30-1.30 eV/amu	Ex	944
He^{2+} + **CO**	Charge Transfer	1.00 keV/amu	Ex	943
He^{2+} + **CO**	Charge Transfer	1.00-14.00 keV	Ex	796
He^{2+} + **CO**	Charge Transfer	14.00-70.00 keV	Ex	774
He^{2+} + **CO**	Charge Transfer	0.20-1.20 keV/amu	Ex	741
He^{2+} + **CO**	Ionization	14.00-70.00 keV	Ex	774
He^{2+} + **N**$^{4+}$	Charge Transfer	8.00-200.00 keV	Ex	950

$\mathbf{He^{2+} + N^{4+}}$	Charge Transfer	8.00-200.00 keV	E/T	782
$\mathbf{He^{2+} + N^{4+}}$	Total Scattering	8.00-200.00 keV	E/T	782
$\mathbf{He^{2+} + N_2}$	Charge Transfer	0.30-1.30 eV/amu	Ex	944
$\mathbf{He^{2+} + N_2}$	Charge Transfer	1.00 keV/amu	Ex	943
$\mathbf{He^{2+} + O^{5+}}$	Charge Transfer	8.00-200.00 keV	Ex	950
$\mathbf{He^{2+} + O_2}$	Dissociation	0.10-1.00 keV	Ex	920
$\mathbf{He^{2+} + O_2}$	Charge Transfer	0.30-1.30 eV/amu	Ex	944
$\mathbf{He^{2+} + O_2}$	Charge Transfer	1.00 keV/amu	Ex	943
$\mathbf{He^{2+} + O_2}$	Charge Transfer	0.10-1.00 keV	Ex	920
$\mathbf{He^{2+} + Ne}$	Charge Transfer	0.30-1.30 eV/amu	Ex	944
$\mathbf{He^{2+} + Ne}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{He^{2+} + Ba}$	Charge Transfer	20.00-40.00 keV	Ex	882
$\mathbf{He^{2+} + Ba}$	Excitation	20.00-40.00 keV	Ex	882
$\mathbf{He^{2+} + Pb}$	Ionization	20.00-80.00 MeV/amu	E/T	883
$\mathbf{He^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{He_2 + H^{-1+}}$	Interaction Potentials	123.98 eV	Th	800
$\mathbf{He_2 + Li}$	Interaction Potentials	123.98 eV	Th	800
$\mathbf{He_2 + Na}$	Interaction Potentials	123.98 eV	Th	800
$\mathbf{HeH^{1+} + He}$	Dissociation	5.00-400.00 keV	Ex	915
$\mathbf{HeH^{1+} + He}$	Excitation	5.00-400.00 keV	Ex	915
$\mathbf{Li + H}$	Interaction Potentials		Th	760
$\mathbf{Li^{*} + He}$	Interaction Potentials	720.00 K	E/T	809
$\mathbf{Li + He}$	Interaction Potentials	720.00 K	E/T	809
$\mathbf{Li + He}$	Interaction Potentials	0.50-0.99 eV	Th	725
$\mathbf{Li^{*} + He}$	Fluorescence	720.00 K	E/T	809
$\mathbf{Li + He}$	Fluorescence	720.00 K	E/T	809
$\mathbf{Li^{*} + Li}$	Energy Transfer		E/T	688
$\mathbf{Li + Li}$	Energy Transfer		E/T	688
$\mathbf{Li + Cd}$	Excitation	965.00 K	Ex	730
$\mathbf{Li^{1+} + H^{-1+}}$	Association	0.10-1.00 K	Th	814
$\mathbf{Li^{1+} + H^{-1+}}$	Charge Transfer	0.10-1.00 K	Th	814
$\mathbf{Li^{1+} + H^{-1+}}$	Recombination	0.10-1.00 K	Th	814
$\mathbf{Li^{1+} + H_2}$	Charge Transfer		Th	948
$\mathbf{Li^{1+} + D^{-1+}}$	Association	0.10-1.00 K	Th	814
$\mathbf{Li^{1+} + D^{-1+}}$	Charge Transfer	0.10-1.00 K	Th	814
$\mathbf{Li^{1+} + D^{-1+}}$	Recombination	0.10-1.00 K	Th	814
$\mathbf{Li^{1+} + He}$	Ionization	1.00-16.00 MeV	Th	1009
$\mathbf{Li^{1+} + B^{5+}}$	Charge Transfer	0.01-50.00 keV/amu	Th	1014
$\mathbf{Li^{1+} + B^{5+}}$	Excitation	0.01-50.00 keV/amu	Th	1014
$\mathbf{Li^{1+} + C^{6+}}$	Charge Transfer	0.01-50.00 keV/amu	Th	1014
$\mathbf{Li^{1+} + C^{6+}}$	Excitation	0.01-50.00 keV/amu	Th	1014
$\mathbf{Li^{1+} + N^{5+}}$	Charge Transfer	0.01-50.00 keV/amu	Th	1014
$\mathbf{Li^{1+} + N^{5+}}$	Excitation	0.01-50.00 keV/amu	Th	1014
$\mathbf{Li^{1+} + O^{6+}}$	Charge Transfer	0.01-50.00 keV/amu	Th	1014
$\mathbf{Li^{1+} + O^{6+}}$	Charge Transfer	0.01-50.00 keV/amu	Th	1014
$\mathbf{Li^{1+} + O^{6+}}$	Excitation	0.01-50.00 keV/amu	Th	1014
$\mathbf{Li^{1+} + Na}$	Charge Transfer	1.00 keV	E/T	789
$\mathbf{Li^{1+} + Na}$	Charge Transfer	0.10-0.40 a.u.	E/T	788
$\mathbf{Li^{1+} + Na}$	Total Scattering	1.00 keV	E/T	789
$\mathbf{Li^{2+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T	913
$\mathbf{Li^{2+} + He}$	Ionization	1.00-16.00 MeV	Th	1009
$\mathbf{Li^{2+} + Be^{1+}}$	Charge Transfer	0.01-50.00 keV/amu	Th	1014
$\mathbf{Li^{2+} + Be^{1+}}$	Excitation	0.01-50.00 keV/amu	Th	1014
$\mathbf{Li^{3+} + H^{*}}$	Charge Transfer	10.00-100.00 keV	Th	994
$\mathbf{Li^{3+} + H}$	Charge Transfer	10.00-100.00 keV	Th	994
$\mathbf{Li^{3+} + H}$	Charge Transfer		Th	983
$\mathbf{Li^{3+} + H}$	Ionization		Th	983

Li^{3+} + H_2	Charge Transfer		Th	983
Li^{3+} + H_2	Ionization		Th	983
Li^{3+} + He	Charge Transfer	0.05-1.00 MeV/amu	E/T	913
Li^{3+} + He	Charge Transfer	0.05-5.00 MeV/amu	Th	855
Li^{3+} + He	Excitation	1.50 MeV/amu	Th	982
Li^{3+} + He	Ionization	0.05-5.00 MeV/amu	Th	855
Be + Be	Interaction Potentials		Th	887
Be + Be	Interaction Potentials		Th	886
Be^{2+} + He	Charge Transfer	0.05-1.00 MeV/amu	E/T	913
Be^{4+} + H	Charge Transfer	31.00-151.00 a.u.	Th	798
Be^{4+} + H	Charge Transfer	15.00-30.00 a.u.	Th	739
Be^{4+} + He	Excitation	1.50 MeV/amu	Th	982
B + H	Interaction Potentials		Th	760
B + Cl	Interaction Potentials	0.40 a_0	Th	744
B^{1+} + He	Charge Transfer	0.03-20.00 keV/amu	Th	1008
B^{1+} + He	Excitation	0.03-20.00 keV/amu	Th	1008
B^{2+*} + H_2	Charge Transfer	4.00 MeV	Ex	892
B^{2+} + H_2	Charge Transfer	4.00 MeV	Ex	892
B^{2+*} + H_2	Excitation	4.00 MeV	Ex	892
B^{2+*} + H_2	Excitation	4.00 MeV	Ex	892
B^{2+} + H_2	Excitation	4.00 MeV	Ex	892
B^{2+} + He	Charge Transfer	0.03-20.00 keV/amu	Th	1008
B^{2+} + He	Charge Transfer	0.05-1.00 MeV/amu	E/T	913
B^{2+} + He	Excitation	0.03-20.00 keV/amu	Th	1008
B^{2+*} + B^{2+}	Excitation	4.00 MeV	Ex	892
B^{2+} + C_{60}	Dissociation	0.20-0.25 a.u.	E/T	849
B^{3+} + H_2	Charge Transfer	0.85-9.00 MeV	E/T	878
B^{3+} + H_2	Ionization	4.00-4.50 MeV	Ex	923
B^{3+} + He	Charge Transfer	0.03-20.00 keV/amu	Th	1008
B^{3+} + He	Charge Transfer	0.85-9.00 MeV	E/T	878
B^{3+} + He	Excitation	0.03-20.00 keV/amu	Th	1008
B^{3+} + N_2	Excitation	0.85-9.00 MeV	E/T	878
B^{3+} + C_{60}	Dissociation	0.20-0.25 a.u.	E/T	849
B^{4+} + He	Charge Transfer	0.03-20.00 keV/amu	Th	1008
B^{4+} + He	Excitation	0.03-20.00 keV/amu	Th	1008
B^{5+} + He	Charge Transfer	0.03-20.00 keV/amu	Th	1008
B^{5+} + He	Excitation	0.03-20.00 keV/amu	Th	1008
B^{5+} + He	Excitation	1.50 MeV/amu	Th	982
C^{*} + H_2	Interchange reaction	12.00 kcal/mol	Th	698
C + H_2	Interchange reaction	12.00 kcal/mol	Th	698
C + He	Ionization	0.10-0.15 MeV/amu	Th	755
C + He	Ionization	0.10-0.15 MeV/amu	Th	755
C + $OH_2{}^{1+}$	Interaction Potentials		Th	835
C^{1+} + H	Charge Transfer	10.00-200.00 keV/amu	E/T	763
C^{1+} + H	Ionization	10.00-200.00 keV/amu	E/T	763
C^{1+} + D^{-1+}	Association	0.05-10.00 eV	E/T	1027
C^{1+} + D^{-1+}	Ionization	0.05-10.00 eV	E/T	1027
C^{1+} + He	Ionization	150.00 keV/amu	Ex	958
C^{1+} + C	Ionization	16.00-70.00 MeV	Ex	821
C^{1+} + O^{-1+}	Association	0.05-10.00 eV	E/T	1027
C^{1+} + O^{-1+}	Ionization	0.05-10.00 eV	E/T	1027
C^{1+} + Ne	Ionization	0.02-2.00 keV	E/T	1017
C^{1+} + Ne	Ionization	0.02-2.00 keV	E/T	1017
C^{1+} + Ne	Ionization	150.00 keV/amu	Ex	958
C^{1+} + Xe	Ionization	150.00-233.00 keV/amu	Ex	933
C^{1+} + Au	Ionization	16.00-70.00 MeV	Ex	821
C^{1+} + perturbation	Ionization	16.00-70.00 MeV	Ex	821

C^{2+} + **H**	Charge Transfer	1.50-6.00 keV	Ex	1020
C^{2+} + **H**	Charge Transfer	0.50-20.00 keV	Th	1005
C^{2+} + **H**	Charge Transfer	10.00-200.00 keV/amu	E/T	763
C^{2+} + **H**	Ionization	10.00-200.00 keV/amu	E/T	763
C^{2+} + H_2	Charge Transfer	0.50-20.00 keV	Th	1005
C^{2+} + H_2	Charge Transfer	0.00-1.00 MeV/amu	Ex	998
C^{2+} + H_2	Charge Transfer	0.20-20.00 keV	Ex	991
C^{2+} + H_2	Charge Transfer	0.05-2.50 keV/amu	Th	947
C^{2+} + H_2	Charge Transfer	4.00 keV	Ex	938
C^{2+} + H_2	Excitation	0.20-20.00 keV	Ex	991
C^{2+} + **He**	Charge Transfer	0.00-1.00 MeV/amu	Ex	998
C^{2+} + **He**	Charge Transfer	4.00 keV	Ex	938
C^{2+} + **He**	Charge Transfer	0.05-1.00 MeV/amu	E/T	913
C^{2+} + **Li**	Charge Transfer	18.00-27.00 keV	Ex	1007
C^{2+} + **Li**	Excitation	18.00-27.00 keV	Ex	1007
C^{2+} + **Au**	Excitation	4.00-12.00 MeV	E/T	822
C^{2+} + **Au**	Ionization	4.00-12.00 MeV	E/T	822
C^{2+} + **Pb**	Excitation	4.00-12.00 MeV	E/T	822
C^{2+} + **Pb**	Ionization	4.00-12.00 MeV	E/T	822
C^{2+} + C_{60}	Dissociation	0.20-0.25 a.u.	E/T	849
C^{3+} + **H**	Charge Transfer	10.00-200.00 keV/amu	E/T	763
C^{3+} + **H**	Ionization	0.50-3.50 MeV	Ex	841
C^{3+} + **H**	Ionization	10.00-200.00 keV/amu	E/T	763
C^{3+} + H_2	Charge Transfer	0.00-1.00 MeV/amu	Ex	998
C^{3+} + H_2	Charge Transfer	0.05-2.50 keV/amu	Th	947
C^{3+} + H_2	Ionization	0.50-3.50 MeV	Ex	841
C^{3+} + **He**	Charge Transfer	0.00-1.00 MeV/amu	Ex	998
C^{3+} + **He**	Excitation	0.50-2.00 MeV/amu	Ex	995
C^{3+} + **He**	Ionization	0.50-2.00 MeV/amu	Ex	995
C^{3+} + He^{2+}	Charge Transfer	1.00-100.00 keV	Th	953
C^{3+} + He^{2+}	Excitation	1.00-100.00 keV	Th	953
C^{3+} + He^{2+}	Ionization	1.00-100.00 keV	Th	953
C^{3+} + **Ta**	Ionization	20.00-80.00 MeV/amu	E/T	883
C^{3+} + **Au**	Excitation	4.00-12.00 MeV	E/T	822
C^{3+} + **Au**	Ionization	4.00-12.00 MeV	E/T	822
C^{3+} + **Pb**	Excitation	4.00-12.00 MeV	E/T	822
C^{3+} + **Pb**	Ionization	20.00-80.00 MeV/amu	E/T	883
C^{3+} + **Pb**	Ionization	4.00-12.00 MeV	E/T	822
C^{3+} + **Th**	Ionization	20.00-80.00 MeV/amu	E/T	883
C^{3+} + **perturbation**	Ionization	3.00 MeV	Th	977
C^{3+} + C_{60}	Dissociation	0.20-0.25 a.u.	E/T	849
C^{4+} + **H**	Charge Transfer	10.00-200.00 keV/amu	E/T	763
C^{4+} + **H**	Ionization	10.00-200.00 keV/amu	E/T	763
C^{4+*} + H_2	De-excitation	0.50-1.10 MeV/amu	E/T	903
C^{4+} + H_2	De-excitation	0.50-1.10 MeV/amu	E/T	903
C^{4+} + H_2	Charge Transfer	0.05-60.00 keV/amu	Th	1006
C^{4+} + H_2	Charge Transfer	0.00-1.00 MeV/amu	Ex	998
C^{4+} + H_2	Charge Transfer	0.05-2.50 keV/amu	Th	947
C^{4+*} + H_2	Total Scattering	0.50-1.10 MeV/amu	E/T	903
C^{4+} + H_2	Total Scattering	0.50-1.10 MeV/amu	E/T	903
C^{4+} + **He**	Charge Transfer	270.00-470.00 eV	Ex	999
C^{4+} + **He**	Charge Transfer	0.00-1.00 MeV/amu	Ex	998
C^{4+} + **He**	Excitation	1.50-6.00 MeV/amu	Th	960
C^{4+} + **Ne**	Charge Transfer	0.02-2.00 MeV/amu	Th	856
C^{4+} + **Ne**	Ionization	0.02-2.00 MeV/amu	Th	856
C^{4+} + **Au**	Excitation	4.00-12.00 MeV	E/T	822
C^{4+} + **Au**	Ionization	4.00-12.00 MeV	E/T	822

$\mathbf{C^{4+} + Pb}$	Excitation	4.00-12.00 MeV	E/T	822
$\mathbf{C^{4+} + Pb}$	Ionization	4.00-12.00 MeV	E/T	822
$\mathbf{C^{5+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T	763
$\mathbf{C^{5+} + H}$	Ionization	10.00-200.00 keV/amu	E/T	763
$\mathbf{C^{5+} + H_2}$	Ionization	6.70-21.80 MeV	Ex	996
$\mathbf{C^{5+} + He}$	Charge Transfer	0.50-50.00 keV/amu	Ex	967
$\mathbf{C^{5+} + He}$	Excitation	1.50-6.00 MeV/amu	Th	960
$\mathbf{C^{5+} + He}$	Ionization	0.05-100.00 GeV/amu	Ex	989
$\mathbf{C^{6+} + H}$	Charge Transfer		Th	983
$\mathbf{C^{6+} + H}$	Ionization		Th	983
$\mathbf{C^{6+} + H}$	Ionization	2.50 MeV/amu	Ex	956
$\mathbf{C^{6+} + H_2}$	Dissociation	0.00-1.00 MeV/amu	Th	936
$\mathbf{C^{6+} + H_2}$	Charge Transfer		Th	983
$\mathbf{C^{6+} + H_2}$	Charge Transfer	0.00-1.00 MeV/amu	Th	936
$\mathbf{C^{6+} + H_2}$	Ionization		Th	983
$\mathbf{C^{6+} + HD}$	Dissociation	0.00-1.00 MeV/amu	Th	936
$\mathbf{C^{6+} + HD}$	Charge Transfer	0.00-1.00 MeV/amu	Th	936
$\mathbf{C^{6+} + H_2O}$	Charge Transfer		Th	990
$\mathbf{C^{6+} + He}$	Total Scattering	100.00 MeV/amu	Th	802
$\mathbf{C^{6+} + He^*}$	Total Scattering	100.00 MeV/amu	Th	802
$\mathbf{C^{6+} + He}$	Excitation	1.50 MeV/amu	Th	982
$\mathbf{C^{6+} + He}$	Excitation	1.50-6.00 MeV/amu	Th	960
$\mathbf{C^{6+} + He}$	Ionization	0.00-1.00 GeV/amu	Th	987
$\mathbf{C^{6+} + He}$	Ionization		Th	963
$\mathbf{C^{6+} + He}$	Ionization	100.00 MeV/amu	Ex	961
$\mathbf{C^{6+} + He}$	Ionization	100.00 MeV/amu	Th	802
$\mathbf{C^{6+} + He^*}$	Ionization	100.00 MeV/amu	Th	802
$\mathbf{C^{6+} + He}$	Ionization	3.60-100.00 MeV/amu	Th	779
$\mathbf{C^{6+} + He}$	Ionization	100.00 MeV/amu	E/T	772
$\mathbf{C^{6+} + He}$	Ionization	100.00 MeV/amu	Th	762
$\mathbf{C^{6+} + Rb}$	Charge Transfer		Ex	1019
$\mathbf{C^{6+} + Pb}$	Ionization	20.00-80.00 MeV/amu	E/T	883
$\mathbf{CO + H_2}$	Energy Transfer	6.00-100.00 K	Th	731
$\mathbf{CO + H_2}$	Excitation	6.00-100.00 K	Th	731
$\mathbf{N^{1+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T	763
$\mathbf{N^{1+} + H}$	Ionization	10.00-200.00 keV/amu	E/T	763
$\mathbf{N^{1+} + O^{-1+}}$	Association	0.05-10.00 eV	E/T	1027
$\mathbf{N^{1+} + O^{-1+}}$	Ionization	0.05-10.00 eV	E/T	1027
$\mathbf{N^{2+} + H}$	Charge Transfer	1.50-6.00 keV	Ex	1020
$\mathbf{N^{2+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T	763
$\mathbf{N^{2+} + H}$	Charge Transfer	0.80-6.00 keV	Ex	711
$\mathbf{N^{2+} + H}$	Ionization	10.00-200.00 keV/amu	E/T	763
$\mathbf{N^{2+} + H_2}$	Charge Transfer	4.00 keV	Ex	938
$\mathbf{N^{2+} + He}$	Charge Transfer	4.00 keV	Ex	938
$\mathbf{N^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{N^{3+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T	763
$\mathbf{N^{3+} + H}$	Ionization	10.00-200.00 keV/amu	E/T	763
$\mathbf{N^{3+} + Li}$	Charge Transfer	18.00-27.00 keV	Ex	1007
$\mathbf{N^{3+} + Li}$	Excitation	18.00-27.00 keV	Ex	1007
$\mathbf{N^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{N^{4+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T	763
$\mathbf{N^{4+} + H}$	Ionization	10.00-200.00 keV/amu	E/T	763
$\mathbf{N^{4+} + H_2O}$	Charge Transfer		Th	990
$\mathbf{N^{4+} + He}$	Charge Transfer	1.00-50.00 keV	Th	875
$\mathbf{N^{4+} + He^{2+}}$	Charge Transfer	1.00-100.00 keV	Th	953
$\mathbf{N^{4+} + He^{2+}}$	Excitation	1.00-100.00 keV	Th	953
$\mathbf{N^{4+} + He^{2+}}$	Ionization	1.00-100.00 keV	Th	953

$\mathbf{N^{4+} + Li}$	Charge Transfer	18.00-27.00 keV	Ex	1007
$\mathbf{N^{4+} + Li}$	Excitation	18.00-27.00 keV	Ex	1007
$\mathbf{N^{5+} + H}$	Charge Transfer	0.00-0.05 eV/amu	Th	1013
$\mathbf{N^{5+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T	763
$\mathbf{N^{5+} + H}$	Ionization	10.00-200.00 keV/amu	E/T	763
$\mathbf{N^{5+} + H_2}$	Charge Transfer	0.05-60.00 keV/amu	Th	1006
$\mathbf{N^{5+} + H_2}$	Charge Transfer		Th	948
$\mathbf{N^{6+} + H_2}$	Ionization	6.70-21.80 MeV	Ex	996
$\mathbf{N^{7+} + H_2O}$	Charge Transfer		Th	990
$\mathbf{N^{7+} + He}$	Excitation	1.50 MeV/amu	Th	982
$\mathbf{N^{7+} + Li}$	Total Scattering	0.20-95.00 MeV	Th	854
$\mathbf{N^{7+} + Li}$	Excitation	10.00-95.00 MeV/amu	Ex	970
$\mathbf{N^{7+} + Li}$	Ionization	10.00-95.00 MeV/amu	Ex	970
$\mathbf{N^{7+} + Li}$	Ionization	0.20-95.00 MeV	Th	854
$\mathbf{N^{7+} + Ne}$	Charge Transfer	105.00 keV	Ex	858
$\mathbf{N^{7+} + Ne}$	Ionization	105.00 keV	Ex	858
$\mathbf{N^{7+} + Ar}$	Charge Transfer	70.00 keV	Ex	939
$\mathbf{N^{7+} + Ti}$	Ionization	50.00-500.00 MeV	Th	979
$\mathbf{N_2 + N}$	Elastic Scattering	0.10-10.00 K	Th	876
$\mathbf{N_2 + N}$	Interaction Potentials	0.10-10.00 K	Th	876
$\mathbf{N_2 + NO}$	Line Broadening	163.00-299.00 K	Th	847
$\mathbf{{N_2}^{1+} + N_2}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{{N_2}^{1+} + Ne}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{{N_2}^{1+} + Ar}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{NO^{1+} + He}$	Elastic Scattering	300.00 K	Th	844
$\mathbf{NO^{1+} + He}$	Excitation	300.00 K	Th	844
$\mathbf{O + H_2}$	Interchange reaction	0.50 eV	Th	705
$\mathbf{O + O}$	Interaction Potentials	22.70-24.80 eV	E/T	837
$\mathbf{O + O^{1+}}$	Interaction Potentials	22.70-24.80 eV	E/T	837
$\mathbf{O + {OH_2}^{1+}}$	Interaction Potentials		Th	835
$\mathbf{O^{1+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T	763
$\mathbf{O^{1+} + H}$	Charge Transfer	5.00-500.00 keV/amu	Th	732
$\mathbf{O^{1+} + H}$	Ionization	10.00-200.00 keV/amu	E/T	763
$\mathbf{O^{1+} + H_2}$	Charge Transfer	0.20-4.50 keV	E/T	754
$\mathbf{O^{1+} + H_2O}$	Charge Transfer	0.50-5.00 keV	Ex	723
$\mathbf{O^{1+} + D^{-1+}}$	Association	0.05-10.00 eV	E/T	1027
$\mathbf{O^{1+} + D^{-1+}}$	Ionization	0.05-10.00 eV	E/T	1027
$\mathbf{O^{1+} + CH_4}$	Charge Transfer	0.20-4.50 keV	E/T	754
$\mathbf{O^{1+} + CO}$	Charge Transfer	0.20-4.50 keV	E/T	754
$\mathbf{O^{1+} + CO}$	Charge Transfer	0.50-5.00 keV	Ex	723
$\mathbf{O^{1+} + CO_2}$	Charge Transfer	0.20-4.50 keV	E/T	754
$\mathbf{O^{1+} + C_2H_2}$	Charge Transfer	0.20-4.50 keV	E/T	754
$\mathbf{O^{1+} + O^{-1+}}$	Association	0.05-10.00 eV	E/T	1027
$\mathbf{O^{1+} + O^{-1+}}$	Ionization	0.05-10.00 eV	E/T	1027
$\mathbf{O^{1+} + C_2H_6}$	Charge Transfer	0.20-4.50 keV	E/T	754
$\mathbf{O^{1+} + C_3H_8}$	Charge Transfer	0.20-4.50 keV	E/T	754
$\mathbf{O^{2+} + H}$	Charge Transfer	1.50-6.00 keV	Ex	1020
$\mathbf{O^{2+} + H}$	Charge Transfer	0.50-20.00 keV	Th	1005
$\mathbf{O^{2+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T	763
$\mathbf{O^{2+} + H}$	Ionization	10.00-200.00 keV/amu	E/T	763
$\mathbf{O^{2+} + H_2}$	Charge Transfer	0.50-20.00 keV	Th	1005
$\mathbf{O^{2+} + H_2}$	Charge Transfer	4.00 keV	Ex	938
$\mathbf{O^{2+} + H_2}$	Charge Transfer	188.00-304.00 eV/amu	Ex	846
$\mathbf{O^{2+} + He}$	Charge Transfer	4.00 keV	Ex	965
$\mathbf{O^{2+} + He}$	Charge Transfer	4.00 keV	Ex	938
$\mathbf{O^{2+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T	913
$\mathbf{O^{2+} + CO}$	Charge Transfer	188.00-304.00 eV/amu	Ex	846

$\mathbf{O^{2+} + Ne}$	Charge Transfer	4.00 keV	Ex	965
$\mathbf{O^{2+} + Ar}$	Charge Transfer	4.00 keV	Ex	965
$\mathbf{O^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{O^{3+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T	763
$\mathbf{O^{3+} + H}$	Ionization	10.00-200.00 keV/amu	E/T	763
$\mathbf{O^{3+} + H_2}$	Charge Transfer	188.00-304.00 eV/amu	Ex	846
$\mathbf{O^{3+} + Li}$	Charge Transfer	18.00-27.00 keV	Ex	1007
$\mathbf{O^{3+} + Li}$	Excitation	18.00-27.00 keV	Ex	1007
$\mathbf{O^{3+} + CO}$	Charge Transfer	188.00-304.00 eV/amu	Ex	846
$\mathbf{O^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{O^{4+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T	763
$\mathbf{O^{4+} + H}$	Ionization	10.00-200.00 keV/amu	E/T	763
$\mathbf{O^{4+} + CO}$	Charge Transfer	6.80-8.50 keV	Ex	685
$\mathbf{O^{4+} + Ta}$	Ionization	20.00-80.00 MeV/amu	E/T	883
$\mathbf{O^{4+} + Pb}$	Ionization	20.00-80.00 MeV/amu	E/T	883
$\mathbf{O^{4+} + Th}$	Ionization	20.00-80.00 MeV/amu	E/T	883
$\mathbf{O^{5+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T	763
$\mathbf{O^{5+} + H}$	Ionization	10.00-200.00 keV/amu	E/T	763
$\mathbf{O^{5+} + H_2}$	Dissociation	0.50-105.00 keV	E/T	784
$\mathbf{O^{5+} + H_2}$	Charge Transfer	0.50-105.00 keV	E/T	784
$\mathbf{O^{5+} + H_2O}$	Charge Transfer		Th	990
$\mathbf{O^{5+} + CO}$	Charge Transfer	6.80-8.50 keV	Ex	685
$\mathbf{O^{5+}}$ + **perturbation**	Ionization	3.00 MeV	Th	977
$\mathbf{O^{6+*} + H_2}$	De-excitation	0.50-1.10 MeV/amu	E/T	903
$\mathbf{O^{6+} + H_2}$	De-excitation	0.50-1.10 MeV/amu	E/T	903
$\mathbf{O^{6+} + H_2}$	Charge Transfer	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+*} + H_2}$	Total Scattering	0.50-1.10 MeV/amu	E/T	903
$\mathbf{O^{6+} + H_2}$	Total Scattering	0.50-1.10 MeV/amu	E/T	903
$\mathbf{O^{6+} + H_2}$	Excitation	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + He}$	Charge Transfer	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + He}$	Excitation	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + N_2}$	Charge Transfer	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + N_2}$	Excitation	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + O_2}$	Charge Transfer	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + O_2}$	Excitation	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + Ne}$	Charge Transfer	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + Ne}$	Excitation	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + Ar}$	Charge Transfer	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + Ar}$	Excitation	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + Kr}$	Charge Transfer	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + Kr}$	Excitation	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + Xe}$	Charge Transfer	60.00-120.00 keV	Ex	968
$\mathbf{O^{6+} + Xe}$	Excitation	60.00-120.00 keV	Ex	968
$\mathbf{O^{7+} + H_2}$	Ionization	6.70-21.80 MeV	Ex	996
$\mathbf{O^{7+} + H_2O}$	Charge Transfer		Th	990
$\mathbf{O^{7+} + C}$	Ionization	24.00-60.00 MeV	E/T	971
$\mathbf{O^{7+} + CO}$	Dissociation	4.00-11.00 keV/amu	Ex	946
$\mathbf{O^{7+} + CO}$	Charge Transfer	4.00-11.00 keV/amu	Ex	946
$\mathbf{O^{7+} + CO}$	Charge Transfer	14.00-70.00 keV	Ex	774
$\mathbf{O^{7+} + CO}$	Ionization	14.00-70.00 keV	Ex	774
$\mathbf{O^{8+} + H_2O}$	Charge Transfer		Th	990
$\mathbf{O^{8+} + He}$	Excitation	1.50 MeV/amu	Th	982
$\mathbf{O^{8+} + Pb}$	Ionization	20.00-80.00 MeV/amu	E/T	883
$\mathbf{O_2 + NO}$	Line Broadening	163.00-299.00 K	Th	847
$\mathbf{O_2 + O}$	Elastic Scattering	0.10-10.00 K	Th	876
$\mathbf{O_2 + O}$	Interaction Potentials	0.10-10.00 K	Th	876
$\mathbf{O_2 + O_2}$	Elastic Scattering	1.00 K	Th	879

$\mathbf{O_2 + O_2}$	Interaction Potentials	1.00 K	Th	879
$\mathbf{O_2 + O_2}$	Excitation	1.00 K	Th	879
$\mathbf{F + H}$	Interaction Potentials		Th	760
$\mathbf{F + H_2}$	Association	0.00-0.30 eV	Th	794
$\mathbf{F + D_2}$	Association	0.00-0.30 eV	Th	794
$\mathbf{F^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{F^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{F^{7+*} + H_2}$	De-excitation	0.50-1.10 MeV/amu	E/T	903
$\mathbf{F^{7+} + H_2}$	De-excitation	0.50-1.10 MeV/amu	E/T	903
$\mathbf{F^{7+*} + H_2}$	Total Scattering	0.50-1.10 MeV/amu	E/T	903
$\mathbf{F^{7+} + H_2}$	Total Scattering	0.50-1.10 MeV/amu	E/T	903
$\mathbf{F^{7+} + He}$	Excitation	1.50-6.00 MeV/amu	Th	960
$\mathbf{F^{7+} + Ar}$	Charge Transfer	70.00 keV	Ex	939
$\mathbf{F^{8+} + H_2}$	Ionization	6.70-21.80 MeV	Ex	996
$\mathbf{F^{8+} + He}$	Excitation	1.50-6.00 MeV/amu	Th	960
$\mathbf{F^{8+} + C}$	Ionization	24.00-60.00 MeV	E/T	971
$\mathbf{F^{8+} + Ne}$	Charge Transfer	0.75-1.10 MeV/amu	Ex	1003
$\mathbf{F^{9+} + He}$	Excitation	1.50 MeV/amu	Th	982
$\mathbf{F^{9+} + He}$	Excitation	1.50-6.00 MeV/amu	Th	960
$\mathbf{F^{9+} + He}$	Ionization	0.35-1.50 MeV/amu	Ex	955
$\mathbf{F^{9+} + Ne}$	Ionization	1.00 MeV/amu	Th	981
$\mathbf{F^{9+} + Ne}$	Ionization	0.35-1.50 MeV/amu	Ex	955
$\mathbf{F^{9+} + Ar}$	Ionization	0.35-1.50 MeV/amu	Ex	955
$\mathbf{Ne + He}$	Ionization	0.10-0.15 MeV/amu	Th	755
$\mathbf{Ne + He}$	Ionization	0.10-0.15 MeV/amu	Th	755
$\mathbf{Ne + Ne}$	Energy Transfer	1.00-10.00 Torr	Ex	722
$\mathbf{Ne + Si_2{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + Si_2{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + Si_2{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + Si_3{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + Si_3{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + Si_3{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + Si_4{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + Si_4{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + Si_4{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + Ar}$	Association	0.01-1.00 keV	Th	757
$\mathbf{Ne^* + Ar}$	Association	0.01-1.00 keV	Th	757
$\mathbf{Ne + Ar}$	Ionization	0.01-1.00 keV	Th	757
$\mathbf{Ne^* + Ar}$	Ionization	0.01-1.00 keV	Th	757
$\mathbf{Ne + C_2{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + C_2{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + C_2{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + C_3{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + C_3{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + C_3{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + C_4{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + C_4{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne + C_4{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ne^{1+} + H^{-1+}}$	Detachment	200.00 keV	Th	952
$\mathbf{Ne^{1+} + N_2}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{Ne^{1+} + Ne}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{Ne^{1+} + Ar}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{Ne^{2+} + H^{-1+}}$	Detachment	200.00 keV	Th	952
$\mathbf{Ne^{2+} + Ne^{1+}}$	Charge Transfer	1.80-14.80 keV	E/T	752
$\mathbf{Ne^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{Ne^{3+} + H^{-1+}}$	Detachment	200.00 keV	Th	952
$\mathbf{Ne^{3+} + N_2}$	Charge Transfer	4.75-6.00 keV/amu	Ex	964

$\mathbf{Ne^{3+} + O_2}$	Charge Transfer	4.75-6.00 keV/amu	Ex	964
$\mathbf{Ne^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{Ne^{4+} + H^{-1+}}$	Detachment	200.00 keV	Th	952
$\mathbf{Ne^{4+} + N_2}$	Charge Transfer	4.75-6.00 keV/amu	Ex	964
$\mathbf{Ne^{4+} + O_2}$	Charge Transfer	4.75-6.00 keV/amu	Ex	964
$\mathbf{Ne^{5+} + Ta}$	Ionization	20.00-80.00 MeV/amu	E/T	883
$\mathbf{Ne^{5+} + Pb}$	Ionization	20.00-80.00 MeV/amu	E/T	883
$\mathbf{Ne^{5+} + Th}$	Ionization	20.00-80.00 MeV/amu	E/T	883
$\mathbf{Ne^{7+} + He}$	Charge Transfer	56.00-72.00 keV	E/T	785
$\mathbf{Ne^{8+} + He}$	Charge Transfer	80.00 keV	Ex	925
$\mathbf{Ne^{8+} + He}$	Charge Transfer	56.00-72.00 keV	E/T	785
$\mathbf{Ne^{8+} + He}$	Charge Transfer	80.00 keV	Ex	738
$\mathbf{Ne^{8+} + Ne}$	Charge Transfer	80.00 keV	Ex	738
$\mathbf{Ne^{8+} + Ar}$	Charge Transfer	80.00 keV	Ex	738
$\mathbf{Ne^{9+} + H_2O}$	Charge Transfer		Th	990
$\mathbf{Ne^{10+} + H}$	Charge Transfer	0.00-100.00 keV/amu	Th	737
$\mathbf{Ne^{10+} + He}$	Charge Transfer	50.00-150.00 keV	E/T	733
$\mathbf{Ne^{10+} + He}$	Ionization	0.05-100.00 GeV/amu	Ex	989
Na + H	Elastic Scattering	0.00-2.72 eV	Th	852
Na + He	Heavy Particle Coll.	0.05 eV	Th	804
Na + He	Line Broadening	0.05 eV	Th	804
Na + He	Excitation	0.05 eV	Th	804
Na + Ne	Heavy Particle Coll.	0.05 eV	Th	804
Na + Ne	Line Broadening	0.05 eV	Th	804
Na + Ne	Excitation	0.05 eV	Th	804
Na + Na	Association	663.00-723.00 K	Ex	720
Na + Na	Energy Transfer	0.30-2.20 K	Th	897
$\mathbf{Na^{*} + Na}$	Energy Transfer		E/T	688
Na + Na	Energy Transfer		E/T	688
Na + Ar	Heavy Particle Coll.	0.05 eV	Th	804
Na + Ar	Line Broadening	0.05 eV	Th	804
Na + Ar	Excitation	0.05 eV	Th	804
Na + K	Interaction Potentials		Th	749
Na + Kr	Heavy Particle Coll.	0.05 eV	Th	804
Na + Kr	Line Broadening	0.05 eV	Th	804
Na + Kr	Excitation	0.05 eV	Th	804
$\mathbf{Na^{*} + Rb}$	Energy Transfer		E/T	688
Na + Rb	Energy Transfer		E/T	688
Na + I	Charge Transfer	5.00-87.00 eV	E/T	783
Na + Xe	Heavy Particle Coll.	0.05 eV	Th	804
Na + Xe	Line Broadening	0.05 eV	Th	804
Na + Xe	Excitation	0.05 eV	Th	804
$\mathbf{Na^{1+} + Li^{*}}$	Charge Transfer	$7.5x10^4$-$1.85x10^5$ m/s	Ex	761
$\mathbf{Na^{1+} + Li}$	Charge Transfer	$7.5x10^4$-$1.85x10^5$ m/s	Ex	761
$\mathbf{Na^{1+} + Na^{*}}$	Charge Transfer	0.03 a.u.	Th	872
$\mathbf{Na^{1+} + Na}$	Charge Transfer	0.03 a.u.	Th	872
$\mathbf{Na^{1+} + Na^{*}}$	Ionization	0.03 a.u.	Th	872
$\mathbf{Na^{1+} + Na}$	Ionization	0.03 a.u.	Th	872
$\mathbf{Na^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{Na^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
Mg + Ne	Excitation		Th	922
Mg + Mg	Elastic Scattering		Th	906
Mg + Mg	Interaction Potentials		Th	906
Mg + Mg	Interaction Potentials		Th	887
Mg + Mg	Interaction Potentials		Th	886
$\mathbf{Mg^{2+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T	913
$\mathbf{Mg^{4+} + Mg^{9+}}$	Charge Transfer	0.00-3.00 MeV/amu	Ex	743

Al^{2+} + He	Charge Transfer	0.00-1.00 MeV/amu	Th	869
Si^{2+} + He	Charge Transfer	0.05-1.00 MeV/amu	E/T	913
Si^{3+} + He	Charge Transfer	1.58-250.00 eV/amu	Th	714
Si^{3+} + Rb	Charge Transfer	12.00 keV	Ex	880
Si^{4+} + He	Charge Transfer	0.01-10.00 keV/amu	Th	1001
Si^{4+} + He	Charge Transfer	0.00-60.00 keV	Th	840
Si^{4+} + He	Excitation	0.01-10.00 keV/amu	Th	1001
Si^{8+} + Yb	Charge Transfer	2.00-4.50 MeV/amu	Ex	974
Si^{8+} + Yb	Ionization	2.00-4.50 MeV/amu	Ex	974
Si^{8+} + C_6H_6	Dissociation		Ex	843
Si^{8+} + C_6H_6	Ionization		Ex	843
Si^{13+} + H_2	Charge Transfer	1.00-100.00 keV/amu	E/T	917
Si^{13+} + H_2	Charge Transfer	1.00-70.00 keV/amu	E/T	874
Si^{13+} + D_2	Charge Transfer	1.00-100.00 keV/amu	E/T	917
Si^{13+} + D_2	Charge Transfer	1.00-70.00 keV/amu	E/T	874
Si^{13+} + He	Charge Transfer	1.00-100.00 keV/amu	E/T	917
Si^{13+} + He	Charge Transfer	1.00-70.00 keV/amu	E/T	874
Si^{13+} + CH_4	Charge Transfer	1.00-100.00 keV/amu	E/T	917
Si^{13+} + CH_4	Charge Transfer	1.00-70.00 keV/amu	E/T	874
Si^{13+} + CO	Charge Transfer	1.00-100.00 keV/amu	E/T	917
Si^{13+} + CO	Charge Transfer	1.00-70.00 keV/amu	E/T	874
Si^{13+} + CO_2	Charge Transfer	1.00-100.00 keV/amu	E/T	917
Si^{13+} + CO_2	Charge Transfer	1.00-70.00 keV/amu	E/T	874
Si^{13+} + N_2	Charge Transfer	1.00-100.00 keV/amu	E/T	917
Si^{13+} + N_2	Charge Transfer	1.00-70.00 keV/amu	E/T	874
Si^{13+} + O_2	Charge Transfer	1.00-70.00 keV/amu	E/T	874
Si^{13+} + Ne	Charge Transfer	1.00-100.00 keV/amu	E/T	917
Si^{13+} + Ne	Charge Transfer	1.00-70.00 keV/amu	E/T	874
Si^{13+} + Ar	Charge Transfer	1.00-100.00 keV/amu	E/T	917
Si^{13+} + Ar	Charge Transfer	1.00-100.00 keV/amu	E/T	917
Si^{13+} + Ar	Charge Transfer	1.00-70.00 keV/amu	E/T	874
Si^{14+} + He	Excitation	120.00 MeV	Ex	975
Si^{14+} + N_2	Excitation	120.00 MeV	Ex	975
Si^{14+} + Ne	Excitation	120.00 MeV	Ex	975
Si^{14+} + Ar	Excitation	120.00 MeV	Ex	975
Si^{14+} + Xe	Excitation	120.00 MeV	Ex	975
S + C_{60}	Dissociation	2.00 MeV	Ex	866
S + C_{60}	Charge Transfer	2.00 MeV	Ex	866
S + C_{60}	Ionization	2.00 MeV	Ex	866
S^{1+} + C_{60}	Dissociation	2.00 MeV	Ex	866
S^{1+} + C_{60}	Charge Transfer	2.00 MeV	Ex	866
S^{1+} + C_{60}	Ionization	2.00 MeV	Ex	866
S^{2+} + C_{60}	Dissociation	2.00 MeV	Ex	866
S^{2+} + C_{60}	Dissociation	0.20-0.25 a.u.	E/T	849
S^{2+} + C_{60}	Charge Transfer	2.00 MeV	Ex	866
S^{2+} + C_{60}	Ionization	2.00 MeV	Ex	866
S^{3+} + C_{60}	Dissociation	0.20-0.25 a.u.	E/T	849
S^{4+} + H	Charge Transfer	0.00-10.00 MeV/amu	Th	726
S^{4+} + C_{60}	Dissociation	2.00 MeV	Ex	866
S^{4+} + C_{60}	Charge Transfer	2.00 MeV	Ex	866
S^{4+} + C_{60}	Ionization	2.00 MeV	Ex	866
S^{12+} + He	Excitation	64.00 MeV	E/T	909
S^{12+} + He	Ionization	64.00 MeV	E/T	909
S^{12+} + C	Excitation	64.00 MeV	E/T	909
S^{12+} + C	Ionization	64.00 MeV	E/T	909
S^{15+} + H_2	Charge Transfer	1.00-100.00 keV/amu	E/T	917
S^{15+} + H_2	Charge Transfer	1.00-70.00 keV/amu	E/T	874

$\mathbf{S^{15+} + D_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{S^{15+} + D_2}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{S^{15+} + He}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{S^{15+} + He}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{S^{15+} + CH_4}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{S^{15+} + CH_4}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{S^{15+} + CO}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{S^{15+} + CO}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{S^{15+} + CO_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{S^{15+} + CO_2}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{S^{15+} + N_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{S^{15+} + N_2}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{S^{15+} + O_2}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{S^{15+} + Ne}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{S^{15+} + Ne}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{S^{15+} + Al}$	Ionization	33.00 TeV	Th	729
$\mathbf{S^{15+} + Ar}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{S^{15+} + Ar}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{S^{15+} + Ar}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{Cl + H_2}$	Interchange reaction	0.10-0.40 eV	Th	699
$\mathbf{Cl^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{Cl^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{Ar + H_2}$	Energy Transfer		Th	895
$\mathbf{Ar + H_2}$	Interaction Potentials		Th	895
$\mathbf{Ar + H_2}$	Excitation		Th	895
$\mathbf{Ar + Si_2{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + Si_2{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + Si_2{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + Si_3{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + Si_3{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + Si_3{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + Si_4{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + Si_4{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + Si_4{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + C_2{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + C_2{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + C_2{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + C_3{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + C_3{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + C_3{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + C_4{}^{-1+}}$	Dissociation	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + C_4{}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar + C_4{}^{-1+}}$	Ionization	0.10-1.20 a.u.	Ex	865
$\mathbf{Ar^{1+} + H^{-1+}}$	Detachment	200.00 keV	Th	952
$\mathbf{Ar^{1+} + N_2}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{Ar^{1+} + Ne}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{Ar^{1+} + Ne}$	Ionization	1.50-5.00 keV	Ex	716
$\mathbf{Ar^{1+} + Ar}$	Excitation	0.01-1.00 MeV/amu	Ex	690
$\mathbf{Ar^{1+} + Ar}$	Ionization	1.50-5.00 keV	Ex	716
$\mathbf{Ar^{1+} + Kr}$	Ionization	1.50-5.00 keV	Ex	716
$\mathbf{Ar^{1+} + Xe}$	Ionization	1.50-5.00 keV	Ex	716
$\mathbf{Ar^{2+} + H^{-1+}}$	Detachment	200.00 keV	Th	952
$\mathbf{Ar^{2+} + Ar^{1+}}$	Charge Transfer	1.80-14.80 keV	E/T	752
$\mathbf{Ar^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{Ar^{3+} + H^{-1+}}$	Detachment	200.00 keV	Th	952
$\mathbf{Ar^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T	849
$\mathbf{Ar^{4+} + H^{-1+}}$	Detachment	200.00 keV	Th	952

$\mathbf{Ar}^{4+}$ + $\mathbf{Ar}^{4+}$	Charge Transfer	10.00-60.00 keV	Ex	748
$\mathbf{Ar}^{4+}$ + $\mathbf{Ar}^{4+}$	Ionization	10.00-60.00 keV	Ex	748
$\mathbf{Ar}^{5+}$ + $\mathbf{H}^{-1+}$	Detachment	200.00 keV	Th	952
$\mathbf{Ar}^{6+}$ + $\mathbf{H}^{-1+}$	Detachment	200.00 keV	Th	952
$\mathbf{Ar}^{6+}$ + $\mathbf{He}^{1+}$	Charge Transfer	1.90 keV	Ex	988
$\mathbf{Ar}^{6+}$ + $\mathbf{He}^{1+}$	Excitation	1.90 keV	Ex	988
$\mathbf{Ar}^{6+}$ + $\mathbf{N}_2$	Charge Transfer		Th	949
$\mathbf{Ar}^{7+}$ + $\mathbf{H}^{-1+}$	Detachment	200.00 keV	Th	952
$\mathbf{Ar}^{7+}$ + $\mathbf{N}_2$	Charge Transfer		Th	949
$\mathbf{Ar}^{8+}$ + $\mathbf{H}^{-1+}$	Detachment	200.00 keV	Th	952
$\mathbf{Ar}^{8+}$ + $\mathbf{H}_2$	Charge Transfer	10.00 keV/q	E/T	848
$\mathbf{Ar}^{8+*}$ + $\mathbf{H}_2$	Charge Transfer	10.00 keV/q	E/T	848
$\mathbf{Ar}^{8+}$ + $\mathbf{CO}_2$	Dissociation	120.00 keV	Ex	937
$\mathbf{Ar}^{8+}$ + $\mathbf{CO}_2$	Charge Transfer	120.00 keV	Ex	937
$\mathbf{Ar}^{8+}$ + $\mathbf{CO}_2$	Ionization	120.00 keV	Ex	937
$\mathbf{Ar}^{8+}$ + $\mathbf{N}_2$	Charge Transfer		Th	949
$\mathbf{Ar}^{8+}$ + $\mathbf{N}_2\mathbf{O}$	Dissociation	120.00 keV	Ex	937
$\mathbf{Ar}^{8+}$ + $\mathbf{N}_2\mathbf{O}$	Charge Transfer	120.00 keV	Ex	937
$\mathbf{Ar}^{8+}$ + $\mathbf{N}_2\mathbf{O}$	Ionization	120.00 keV	Ex	937
$\mathbf{Ar}^{8+}$ + $\mathbf{Ar}$	Charge Transfer	80.00-240.00 keV	Ex	969
$\mathbf{Ar}^{8+}$ + $\mathbf{Cs}$	Interaction Potentials	0.40-4.00 keV/amu	E/T	896
$\mathbf{Ar}^{8+}$ + $\mathbf{Cs}$	Excitation	0.40-4.00 keV/amu	E/T	896
$\mathbf{Ar}^{8+}$ + $\mathbf{CS}_2$	Dissociation	120.00 keV	Ex	868
$\mathbf{Ar}^{8+}$ + $\mathbf{C}_{60}$	Dissociation	56.00 keV	Ex	864
$\mathbf{Ar}^{9+}$ + $\mathbf{N}_2$	Charge Transfer		Th	949
$\mathbf{Ar}^{9+}$ + $\mathbf{Ar}$	Charge Transfer	80.00-240.00 keV	Ex	969
$\mathbf{Ar}^{10+}$ + $\mathbf{N}_2$	Charge Transfer		Th	949
$\mathbf{Ar}^{10+}$ + $\mathbf{Ar}$	Charge Transfer	80.00-240.00 keV	Ex	969
$\mathbf{Ar}^{11+}$ + $\mathbf{Ar}$	Charge Transfer	80.00-240.00 keV	Ex	969
$\mathbf{Ar}^{11+}$ + $\mathbf{Ar}$	Charge Transfer	80.00-240.00 keV	Ex	969
$\mathbf{Ar}^{12+}$ + $\mathbf{Ar}$	Charge Transfer	80.00-240.00 keV	Ex	969
$\mathbf{Ar}^{14+}$ + $\mathbf{H}^{-1+}$	Detachment	1.00-2.00 MeV/amu	Ex	951
$\mathbf{Ar}^{17+}$ + $\mathbf{H}$	Fluorescence	0.80-11.00 eV/amu	E/T	927
$\mathbf{Ar}^{17+}$ + $\mathbf{H}_2$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{Ar}^{17+}$ + $\mathbf{H}_2$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{Ar}^{17+}$ + $\mathbf{D}_2$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{Ar}^{17+}$ + $\mathbf{D}_2$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{Ar}^{17+}$ + $\mathbf{He}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{Ar}^{17+}$ + $\mathbf{He}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{Ar}^{17+}$ + $\mathbf{C}$	Charge Transfer	390.00 MeV/amu	Th	992
$\mathbf{Ar}^{17+}$ + $\mathbf{CH}_4$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{Ar}^{17+}$ + $\mathbf{CH}_4$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{Ar}^{17+}$ + $\mathbf{CO}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{Ar}^{17+}$ + $\mathbf{CO}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{Ar}^{17+}$ + $\mathbf{CO}_2$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{Ar}^{17+}$ + $\mathbf{CO}_2$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{Ar}^{17+}$ + $\mathbf{N}_2$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{Ar}^{17+}$ + $\mathbf{N}_2$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{Ar}^{17+}$ + $\mathbf{O}_2$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{Ar}^{17+}$ + $\mathbf{Ne}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{Ar}^{17+}$ + $\mathbf{Ne}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{Ar}^{17+}$ + $\mathbf{Ar}$	Charge Transfer	1.00-100.00 keV/amu	E/T	917
$\mathbf{Ar}^{17+}$ + $\mathbf{Ar}$	Charge Transfer	1.00-70.00 keV/amu	E/T	874
$\mathbf{Ar}^{17+}$ + $\mathbf{Ar}$	Fluorescence	0.80-11.00 eV/amu	E/T	927
$\mathbf{Ar}^{17+}$ + **Ar Seq.**	Fluorescence	0.80-11.00 eV/amu	E/T	927
$\mathbf{Ar}^{18+}$ + $\mathbf{H}$	Charge Transfer	0.00-100.00 keV/amu	Th	737
$\mathbf{Ar}^{18+}$ + $\mathbf{Li}$	Total Scattering	0.20-95.00 MeV	Th	854

Ar^{18+} + Li	Excitation	10.00-95.00 MeV/amu	Ex	970
Ar^{18+} + Li	Ionization	10.00-95.00 MeV/amu	Ex	970
Ar^{18+} + Li	Ionization	0.20-95.00 MeV	Th	854
Ar^{18+} + C	Charge Transfer	0.00-1.00 GeV/amu	Th	912
K + H	Elastic Scattering	0.00-2.72 eV	Th	852
K + O_2	Charge Transfer	5.00-87.00 eV	E/T	783
K^* + Na	Energy Transfer		E/T	688
K + Na	Energy Transfer		E/T	688
K + K	Line Broadening	0.02 eV	Th	803
K^* + K	Energy Transfer		E/T	688
K + K	Energy Transfer		E/T	688
K + Rb	Line Broadening	0.02 eV	Th	803
K^* + Rb	Energy Transfer		E/T	688
K + Rb	Energy Transfer		E/T	688
K + $SnCl_4$	Charge Transfer	5.00-87.00 eV	E/T	783
K + CCl_4	Charge Transfer	5.00-87.00 eV	E/T	783
K + CF_3Br	Charge Transfer	5.00-87.00 eV	E/T	783
K^{3+} + C	Excitation	12.80 MeV	Ex	736
K^{3+} + C	Ionization	12.80 MeV	Ex	736
Ca + He	Excitation	2.61-2.78 eV	Th	724
Ca^* + He	Excitation	2.61-2.78 eV	Th	724
Ca + Ca	Interaction Potentials		Th	886
Ca^{18+} + He	Excitation	8.00-40.00 MeV/amu	E/T	976
Ca^{18+} + N_2	Excitation	8.00-40.00 MeV/amu	E/T	976
Ca^{18+} + O_2	Excitation	8.00-40.00 MeV/amu	E/T	976
Ca^{18+} + Ne	Excitation	8.00-40.00 MeV/amu	E/T	976
Ca^{19+} + H_2	Charge Transfer	100.00-400.00 MeV	Th	954
Ca^{19+} + H_2	Excitation	100.00-400.00 MeV	Th	954
Ti^{1+} + O	Interaction Potentials	2.00-5.00 a_0	Th	769
Ti^{1+} + O^{1+}	Interaction Potentials	2.00-5.00 a_0	Th	769
Fe^{1+} + Cu	Ionization	0.10-1.50 MeV/amu	Ex	972
Fe^{26+} + H	Charge Transfer	0.00-100.00 keV/amu	Th	737
Co^{1+} + Cu	Ionization	0.10-1.50 MeV/amu	Ex	972
Co^{3+} + N_2	Charge Transfer	5.60 eV	Ex	793
Co^{3+} + Ar	Charge Transfer	5.60 eV	Ex	793
Ni^{1+} + Cu	Ionization	0.10-1.50 MeV/amu	Ex	972
Ni^{19+} + C	Ionization	45.00 MeV/amu	Ex	845
Ni^{19+} + Al	Ionization	45.00 MeV/amu	Ex	845
Ni^{19+} + Au	Ionization	45.00 MeV/amu	Ex	845
Ni^{26+} + He	Ionization	0.05-100.00 GeV/amu	Ex	989
Ni^{28+} + C	Ionization	45.00 MeV/amu	Ex	845
Ni^{28+} + C	Ionization	45.00 MeV/amu	E/T	740
Ni^{28+} + Al	Ionization	45.00 MeV/amu	Ex	845
Ni^{28+} + Ni	Ionization	45.00 MeV/amu	Ex	845
Ni^{28+} + Ag	Ionization	45.00 MeV/amu	Ex	845
Ni^{28+} + Au	Ionization	45.00 MeV/amu	Ex	845
Cu + Bi	Ionization	0.10-1.62 MeV/amu	Ex	973
Cu + Bi	Ionization	0.10-1.62 MeV/amu	Ex	973
Cu^{1+} + Cu	Ionization	0.10-1.50 MeV/amu	Ex	972
Se^{28+} + He	Ionization	0.05-100.00 GeV/amu	Ex	989
Se^{28+} + He	Ionization	0.00-1.00 GeV/amu	Th	987
Kr^{4+} + Kr^{4+}	Charge Transfer	10.00-60.00 keV	Ex	748
Kr^{4+} + Kr^{4+}	Ionization	10.00-60.00 keV	Ex	748
Kr^{7+} + CO	Charge Transfer	0.30-1.30 eV/amu	Ex	944
Kr^{7+} + N_2	Charge Transfer	0.30-1.30 eV/amu	Ex	944
Kr^{7+} + O_2	Charge Transfer	0.30-1.30 eV/amu	Ex	944
Kr^{7+} + Ne	Charge Transfer	0.30-1.30 eV/amu	Ex	944

Kr^{8+} + **Li**	Charge Transfer	0.10-0.30 keV/amu	Ex	966
Kr^{8+} + **Li**	Excitation	0.10-0.30 keV/amu	Ex	966
Kr^{8+} + **CO**	Charge Transfer	0.30-1.30 eV/amu	Ex	944
Kr^{8+} + N_2	Dissociation	19.00-171.00 eV/amu	Ex	890
Kr^{8+} + N_2	Charge Transfer	5.00-200.00 eV/amu	Ex	1000
Kr^{8+} + N_2	Charge Transfer	0.30-1.30 eV/amu	Ex	944
Kr^{8+} + O_2	Charge Transfer	0.30-1.30 eV/amu	Ex	944
Kr^{8+} + **Ne**	Charge Transfer	0.30-1.30 eV/amu	Ex	944
Kr^{9+} + **CO**	Charge Transfer	0.30-1.30 eV/amu	Ex	944
Kr^{9+} + N_2	Charge Transfer	0.30-1.30 eV/amu	Ex	944
Kr^{9+} + O_2	Charge Transfer	0.30-1.30 eV/amu	Ex	944
Kr^{9+} + **Ne**	Charge Transfer	0.30-1.30 eV/amu	Ex	944
Kr^{27+} + **He**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{27+} + CH_4	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{27+} + N_2	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{27+} + **Ne**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{27+} + **Ar**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{28+} + **He**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{28+} + CH_4	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{28+} + N_2	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{28+} + **Ne**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{28+} + **Ar**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{29+} + **He**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{29+} + CH_4	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{29+} + N_2	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{29+} + **Ne**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{29+} + **Ar**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{30+} + **He**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{30+} + CH_4	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{30+} + N_2	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{30+} + **Ne**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{30+} + **Ar**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{31+} + **He**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{31+} + CH_4	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{31+} + N_2	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{31+} + **Ne**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{31+} + **Ar**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{32+} + **He**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{32+} + CH_4	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{32+} + N_2	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{32+} + **Ne**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{32+} + **Ar**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{33+} + **He**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{33+} + CH_4	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{33+} + N_2	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{33+} + **Ne**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{33+} + **Ar**	Charge Transfer	2.00 keV/amu	E/T	901
Kr^{34+} + H_2	Ionization	60.00 meV/amu	Ex	931
Kr^{36+} + **H**	Charge Transfer	0.00-100.00 keV/amu	Th	737
Kr^{36+} + **C**	Charge Transfer	0.00-1.00 GeV/amu	Th	912
Rb + H	Elastic Scattering	0.00-2.72 eV	Th	852
Rb + H	Interaction Potentials		Th	902
Rb + He	Heavy Particle Coll.	0.05 eV	Th	804
Rb + He	Line Broadening	0.05 eV	Th	804
Rb + He	Excitation	0.05 eV	Th	804
Rb + Ne	Heavy Particle Coll.	0.05 eV	Th	804
Rb + Ne	Line Broadening	0.05 eV	Th	804

Rb + Ne	Excitation	0.05 eV	Th	804
Rb + Ar	Heavy Particle Coll.	0.05 eV	Th	804
Rb + Ar	Line Broadening	0.05 eV	Th	804
Rb + Ar	Excitation	0.05 eV	Th	804
Rb + Kr	Heavy Particle Coll.	0.05 eV	Th	804
Rb + Kr	Line Broadening	0.05 eV	Th	804
Rb + Kr	Excitation	0.05 eV	Th	804
Rb + Rb	Line Broadening	0.02 eV	Th	803
Rb + Rb	Elastic Scattering	0.00 K	Th	851
$\mathbf{Rb^{*} + Rb}$	Energy Transfer		E/T	688
Rb + Rb	Energy Transfer		E/T	688
$\mathbf{Rb^{*} + Rb}$	Interaction Potentials		Th	871
Rb + Rb	Interaction Potentials		Th	871
$\mathbf{Rb^{*} + Rb}$	Interaction Potentials		Th	812
Rb + Rb	Interaction Potentials		Th	812
$\mathbf{Rb^{*} + Rb}$	Interaction Potentials		Th	811
Rb + Rb	Interaction Potentials		Th	811
Rb + Rb	Excitation	3.00-3.40 V/cm	Ex	921
$\mathbf{Rb^{*} + Rb^{*}}$	Excitation	3.00-3.40 V/cm	Ex	921
Rb + Xe	Heavy Particle Coll.	0.05 eV	Th	804
Rb + Xe	Line Broadening	0.05 eV	Th	804
Rb + Xe	Excitation	0.05 eV	Th	804
$\mathbf{Rb^{1+} + Cs}$	Interaction Potentials	6.00-60.00 a_0	Th	742
Sr + Sr	Interaction Potentials		Th	886
$\mathbf{I^{23+} + He}$	Ionization	0.35-1.50 MeV/amu	Ex	955
$\mathbf{I^{23+} + Ne}$	Ionization	0.35-1.50 MeV/amu	Ex	955
$\mathbf{I^{23+} + Ar}$	Ionization	0.35-1.50 MeV/amu	Ex	955
Xe + H	Ionization	1.00-100.00 MeV/amu	Th	823
Xe + He	Ionization	1.00-100.00 MeV/amu	Th	823
Xe + Li	Ionization	1.00-100.00 MeV/amu	Th	823
Xe + Be	Ionization	1.00-100.00 MeV/amu	Th	823
Xe + N	Ionization	1.00-100.00 MeV/amu	Th	823
Xe + F	Ionization	1.00-100.00 MeV/amu	Th	823
Xe + Ar	Ionization	1.00-100.00 MeV/amu	Th	823
Xe + Kr	Energy Transfer		Ex	787
$\mathbf{Xe + Kr_2}$	Energy Transfer		Ex	787
Xe + Xe	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{Xe^{1+} + H^{-1+}}$	Detachment	200.00 keV	Th	952
$\mathbf{Xe^{1+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe^{1+} + N_2}$	Ionization	2.00-20.00 MeV/amu	Ex	786
$\mathbf{Xe^{1+} + N_2}$	Ionization	2.00-20.00 MeV/amu	Ex	786
$\mathbf{Xe^{1+} + Xe}$	Charge Transfer	1.00-300.00 eV	E/T	694
$\mathbf{Xe^{1+} + Xe}$	Interaction Potentials	1.00-300.00 eV	E/T	694
$\mathbf{Xe^{2+} + H^{-1+}}$	Detachment	200.00 keV	Th	952
$\mathbf{Xe^{2+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe^{2+} + Rb}$	Charge Transfer		Ex	1019
$\mathbf{Xe^{2+} + Xe}$	Charge Transfer	1.00-300.00 eV	E/T	694
$\mathbf{Xe^{2+} + Xe}$	Interaction Potentials	1.00-300.00 eV	E/T	694
$\mathbf{Xe^{3+} + H^{-1+}}$	Detachment	200.00 keV	Th	952
$\mathbf{Xe^{3+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe^{4+} + H^{-1+}}$	Detachment	200.00 keV	Th	952
$\mathbf{Xe^{4+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe^{4+} + Rb}$	Charge Transfer		Ex	1019
$\mathbf{Xe^{4+} + Xe^{4+}}$	Charge Transfer	2.00-70.00 keV	Ex	815
$\mathbf{Xe^{4+} + Xe^{4+}}$	Charge Transfer	10.00-60.00 keV	Ex	748
$\mathbf{Xe^{4+} + Xe^{4+}}$	Ionization	10.00-60.00 keV	Ex	748
$\mathbf{Xe^{5+} + H^{-1+}}$	Detachment	200.00 keV	Th	952

$\mathbf{Xe}^{5+}$ + $\mathbf{BeF}_2$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe}^{6+}$ + $\mathbf{H}^{-1+}$	Detachment	200.00 keV	Th	952
$\mathbf{Xe}^{6+}$ + $\mathbf{BeF}_2$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe}^{7+}$ + $\mathbf{H}^{-1+}$	Detachment	200.00 keV	Th	952
$\mathbf{Xe}^{7+}$ + $\mathbf{BeF}_2$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe}^{8+}$ + $\mathbf{H}^{-1+}$	Detachment	200.00 keV	Th	952
$\mathbf{Xe}^{8+}$ + $\mathbf{BeF}_2$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe}^{8+}$ + $\mathbf{N}_2$	Ionization	2.00-20.00 MeV/amu	Ex	786
$\mathbf{Xe}^{8+}$ + $\mathbf{N}_2$	Ionization	2.00-20.00 MeV/amu	Ex	786
$\mathbf{Xe}^{8+}$ + $\mathbf{Rb}$	Charge Transfer		Ex	1019
$\mathbf{Xe}^{9+}$ + $\mathbf{BeF}_2$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe}^{10+}$ + $\mathbf{BeF}_2$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe}^{11+}$ + $\mathbf{BeF}_2$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe}^{12+}$ + $\mathbf{BeF}_2$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Xe}^{17+}$ + $\mathbf{H}_2\mathbf{O}$	Dissociation	5.90 MeV/amu	Ex	777
$\mathbf{Xe}^{17+}$ + $\mathbf{H}_2\mathbf{O}$	Ionization	5.90 MeV/amu	Ex	777
$\mathbf{Xe}^{18+}$ + $\mathbf{H}_2\mathbf{O}$	Dissociation	5.90 MeV/amu	Ex	777
$\mathbf{Xe}^{18+}$ + $\mathbf{H}_2\mathbf{O}$	Ionization	5.90 MeV/amu	Ex	777
$\mathbf{Xe}^{18+}$ + $\mathbf{N}_2$	Ionization	2.00-20.00 MeV/amu	Ex	786
$\mathbf{Xe}^{18+}$ + $\mathbf{N}_2$	Ionization	2.00-20.00 MeV/amu	Ex	786
$\mathbf{Xe}^{18+}$ + $\mathbf{O}_2$	Dissociation	5.90 MeV/amu	Ex	993
$\mathbf{Xe}^{18+}$ + $\mathbf{O}_2$	Ionization	5.90 MeV/amu	Ex	993
$\mathbf{Xe}^{23+}$ + $\mathbf{H}_2$	Charge Transfer	0.00-2.60 keV/amu	Th	713
$\mathbf{Xe}^{23+}$ + $\mathbf{H}_2$	Total Scattering	0.00-2.60 keV/amu	Th	713
$\mathbf{Xe}^{26+}$ + $\mathbf{H}_2$	Dissociation	0.03-3.90 MeV	E/T	1021
$\mathbf{Xe}^{26+}$ + $\mathbf{H}_2$	Dissociation	0.19-50.00 keV/amu	Ex	862
$\mathbf{Xe}^{26+}$ + $\mathbf{D}_2$	Dissociation	0.03-3.90 MeV	E/T	1021
$\mathbf{Xe}^{26+}$ + $\mathbf{D}_2$	Dissociation	0.19-50.00 keV/amu	Ex	862
$\mathbf{Xe}^{26+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{27+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{28+}$ + $\mathbf{Na}$	Ionization	560.00 keV	Ex	801
$\mathbf{Xe}^{28+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{28+}$ + $\mathbf{Na}_n$	Dissociation	560.00 keV	Ex	801
$\mathbf{Xe}^{28+}$ + $\mathbf{Na}_n$	Ionization	560.00 keV	Ex	801
$\mathbf{Xe}^{29+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{30+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{31+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{32+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{32+}$ + $\mathbf{Rb}$	Charge Transfer		Ex	1019
$\mathbf{Xe}^{33+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{34+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{35+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{36+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{37+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{38+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{39+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{40+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{40+}$ + $\mathbf{Rb}$	Charge Transfer		Ex	1019
$\mathbf{Xe}^{40+}$ + $\mathbf{Xe}$	Excitation	3.60-5.88 MeV	Th	746
$\mathbf{Xe}^{40+}$ + $\mathbf{Xe}$	Ionization	3.60-5.88 MeV	Th	746
$\mathbf{Xe}^{40+}$ + $\mathbf{Xe}$	Ionization	3.60-5.88 MeV	Th	746
$\mathbf{Xe}^{41+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{42+}$ + $\mathbf{Ar}$	Charge Transfer	0.74 keV/amu	Ex	689
$\mathbf{Xe}^{43+}$ + $\mathbf{H}_2\mathbf{O}$	Dissociation	5.90 MeV/amu	Ex	777
$\mathbf{Xe}^{43+}$ + $\mathbf{H}_2\mathbf{O}$	Ionization	5.90 MeV/amu	Ex	777
$\mathbf{Xe}^{43+}$ + $\mathbf{O}_2$	Dissociation	5.90 MeV/amu	Ex	993
$\mathbf{Xe}^{43+}$ + $\mathbf{O}_2$	Ionization	5.90 MeV/amu	Ex	993

Xe^{43+} + **Ar**	Charge Transfer	0.74 keV/amu	Ex	689
Xe^{44+} + **CO**	Dissociation	6.70 MeV/amu	Ex	945
Xe^{44+} + **CO**	Ionization	6.70 MeV/amu	Ex	945
Xe^{54+} + **H**	Charge Transfer	0.00-100.00 keV	E/T	940
Xe^{54+} + **H**	Charge Transfer	0.00-100.00 keV/amu	Th	737
Xe^{54+} + **H**	Excitation	0.00-100.00 keV	E/T	940
Xe^{54+} + **C**	Charge Transfer	0.00-1.00 GeV/amu	Th	912
Cs + **H**	Elastic Scattering	0.00-2.72 eV	Th	852
Cs + **He**	Line Broadening	294.00 K	Ex	894
Cs + N_2	Line Broadening	294.00 K	Ex	894
Cs + O_2	Charge Transfer	5.00-87.00 eV	E/T	783
Cs + **Ar**	Charge Transfer	5.00-87.00 eV	E/T	783
Cs + **Cs**	Association		Th	918
Cs + **Cs**	Association	0.13 mK	Ex	881
Cs^* + **Cs**	Energy Transfer		E/T	688
Cs + **Cs**	Energy Transfer		E/T	688
Cs^{1+} + **Rb**	Interaction Potentials	6.00-60.00 a_0	Th	742
Ba + **Ar**	Total Scattering	0.50 eV	Th	734
Ba + **Ar**	Excitation	0.50 eV	Th	734
Ba + **Ba**	Interaction Potentials		Th	886
Dy^{66+} + **C**	Charge Transfer	0.00-1.00 GeV/amu	Th	912
Ta^{35+} + N_2	Charge Transfer	240.00-400.00 keV	Ex	1016
Ta^{37+} + N_2	Charge Transfer	240.00-400.00 keV	Ex	1016
Ta^{40+} + N_2	Charge Transfer	240.00-400.00 keV	Ex	1016
Ta^{44+} + N_2	Charge Transfer	240.00-400.00 keV	Ex	1016
Ta^{47+} + N_2	Charge Transfer	240.00-400.00 keV	Ex	1016
Au^{52+} + H_2	Ionization	1.00-100.00 MeV/amu	Th	823
Au^{52+} + N_2	Ionization	1.00-100.00 MeV/amu	Th	823
Au^{53+} + **He**	Ionization	3.60 eV	Ex	1015
Au^{53+} + **He**	Ionization	0.05-100.00 GeV/amu	Ex	989
Au^{53+} + **He**	Ionization	3.60 MeV/amu	Ex	957
Au^{53+} + **He**	Ionization	3.60 MeV/amu	Ex	790
Au^{53+} + **He**	Ionization	3.60 MeV/amu	Th	781
Au^{53+} + **He**	Ionization	3.60-100.00 MeV/amu	Th	779
Au^{53+} + **Ne**	Total Scattering	3.60 MeV/amu	Ex	908
Au^{53+} + **Ne**	Ionization	3.60 MeV/amu	Ex	1018
Au^{53+} + **Ne**	Ionization	3.60 MeV/amu	Th	1002
Au^{53+} + **Ne**	Ionization	3.60 MeV/amu	Ex	908
Au^{53+} + **Ne**	Ionization	3.60 MeV/amu	Th	781
Au^{53+} + **Ar**	Total Scattering	3.60 MeV/amu	Ex	908
Au^{53+} + **Ar**	Ionization	3.60 MeV/amu	Ex	1018
Au^{53+} + **Ar**	Ionization	3.60 MeV/amu	Th	1002
Au^{53+} + **Ar**	Ionization	3.60 MeV/amu	Ex	908
Au^{78+} + **C**	Ionization	0.22-11.00 GeV/amu	Th	997
Au^{78+} + **Al**	Ionization	0.22-11.00 GeV/amu	Th	997
Au^{78+} + **Ni**	Ionization	0.22-11.00 GeV/amu	Th	997
Au^{78+} + **Cu**	Ionization	0.22-11.00 GeV/amu	Th	997
Au^{78+} + **Ag**	Ionization	0.22-11.00 GeV/amu	Th	997
Au^{78+} + **Au**	Ionization	0.22-11.00 GeV/amu	Th	997
Au^{79+} + **C**	Charge Transfer	0.00-1.00 GeV/amu	Th	912
Au^{79+} + U^{91+}	Ionization	100.00 MeV/amu	Th	691
Pb + **H**	Ionization	1.00-100.00 MeV/amu	Th	823
Pb + **He**	Ionization	1.00-100.00 MeV/amu	Th	823
Pb + **Li**	Ionization	1.00-100.00 MeV/amu	Th	823
Pb + **Be**	Ionization	1.00-100.00 MeV/amu	Th	823
Pb + **N**	Ionization	1.00-100.00 MeV/amu	Th	823
Pb + **F**	Ionization	1.00-100.00 MeV/amu	Th	823

Pb + Ar	Ionization	1.00-100.00 MeV/amu	Th	823
Pb + Xe	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{Pb^{4+} + Pb^{4+}}$	Charge Transfer	10.00-60.00 keV	Ex	748
$\mathbf{Pb^{4+} + Pb^{4+}}$	Ionization	10.00-60.00 keV	Ex	748
$\mathbf{Pb^{81+} + Al}$	Ionization	33.00 TeV	Th	729
$\mathbf{Pb^{82+} + C}$	Charge Transfer	0.00-1.00 GeV/amu	Th	912
perturbation + He	Ionization		Th	806
$\mathbf{C_{60}{}^{-1+} + Ar}$	Dissociation	45.00 keV	Ex	870
$\mathbf{U^{1+} + H}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{1+} + He}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{1+} + Li}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{1+} + Be}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{1+} + N}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{1+} + F}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{1+} + Ar}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{1+} + Xe}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{4+} + H}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{4+} + He}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{4+} + Li}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{4+} + Be}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{4+} + N}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{4+} + F}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{4+} + Ar}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{4+} + Xe}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{7+} + H}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{7+} + He}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{7+} + Li}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{7+} + Be}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{7+} + N}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{7+} + F}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{7+} + Ar}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{7+} + Xe}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{10+} + H}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{10+} + H_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{U^{10+} + He}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{10+} + Li}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{10+} + Be}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{10+} + N}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{10+} + N_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{U^{10+} + F}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{10+} + Ar}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{10+} + Xe}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{28+} + H}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{28+} + He}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{28+} + Li}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{28+} + Be}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{28+} + N}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{28+} + F}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{28+} + Ar}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{28+} + Xe}$	Excitation	3.60-5.88 MeV	Th	746
$\mathbf{U^{28+} + Xe}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{U^{28+} + Xe}$	Ionization	3.60-5.88 MeV	Th	746
$\mathbf{U^{28+} + Xe}$	Ionization	3.60-5.88 MeV	Th	746
$\mathbf{U^{29+} + Ne}$	Excitation	3.60-5.88 MeV	Th	746
$\mathbf{U^{29+} + Ne}$	Ionization	3.60-5.88 MeV	Th	746
$\mathbf{U^{29+} + Ne}$	Ionization	3.60-5.88 MeV	Th	746
$\mathbf{U^{90+} + N_2}$	Charge Transfer	223.00 MeV/amu	Ex	1004

$\mathbf{U^{90+} + N_2}$	Charge Transfer	223.00 MeV/amu	E/T	853
$\mathbf{U^{90+} + Ar}$	Charge Transfer	223.00 MeV/amu	Ex	1004
$\mathbf{U^{90+} + Ar}$	Charge Transfer	223.00 MeV/amu	Ex	985
$\mathbf{U^{90+} + Ar}$	Charge Transfer	223.00 MeV/amu	E/T	853
$\mathbf{U^{90+} + Ar}$	Excitation	223.00 MeV/amu	Ex	985
$\mathbf{U^{90+} + Kr}$	Charge Transfer	223.00 MeV/amu	Ex	1004
$\mathbf{U^{90+} + Kr}$	Charge Transfer	223.00 MeV/amu	Ex	985
$\mathbf{U^{90+} + Kr}$	Charge Transfer	223.00 MeV/amu	E/T	853
$\mathbf{U^{90+} + Kr}$	Excitation	223.00 MeV/amu	Ex	985
$\mathbf{U^{90+} + Xe}$	Charge Transfer	223.00 MeV/amu	Ex	1004
$\mathbf{U^{90+} + Xe}$	Charge Transfer	223.00 MeV/amu	Ex	985
$\mathbf{U^{90+} + Xe}$	Charge Transfer	223.00 MeV/amu	E/T	853
$\mathbf{U^{90+} + Xe}$	Excitation	223.00 MeV/amu	Ex	985
$\mathbf{U^{92+} + He}$	Ionization	0.00-1.00 GeV/amu	Th	987
$\mathbf{U^{92+} + He}$	Ionization	1.00 GeV/amu	Ex	962
$\mathbf{U^{92+} + He}$	Ionization	1.00 GeV/amu	E/T	893
$\mathbf{U^{92+} + C}$	Charge Transfer	0.00-1.00 GeV/amu	Th	912
$\mathbf{U^{92+} + N_2}$	Charge Transfer	88.00-310.00 MeV/amu	Ex	1012
$\mathbf{U^{92+} + N_2}$	Charge Transfer	286.00 MeV/amu	Ex	1011
$\mathbf{U^{92+} + Ne}$	Ionization	1.00 GeV/amu	Ex	962
$\mathbf{U^{92+} + Ar}$	Charge Transfer	286.00 MeV/amu	Ex	1011
$\mathbf{U^{92+} + Pb}$	Fluorescence	3.00-100.00 MeV/amu	Th	986
$\mathbf{U^{92+} + Pb}$	Excitation	3.00-100.00 MeV/amu	Th	986
$\mathbf{Bi^{1+} + H}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{Bi^{1+} + He}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{Bi^{1+} + Li}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{Bi^{1+} + Be}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{Bi^{1+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{1+} + N}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{Bi^{1+} + F}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{Bi^{1+} + Ar}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{Bi^{1+} + Xe}$	Ionization	1.00-100.00 MeV/amu	Th	823
$\mathbf{Bi^{2+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{3+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{4+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{4+} + Bi^{4+}}$	Charge Transfer	2.00-70.00 keV	Ex	815
$\mathbf{Bi^{4+} + Bi^{4+}}$	Charge Transfer	10.00-60.00 keV	Ex	748
$\mathbf{Bi^{4+} + Bi^{4+}}$	Ionization	10.00-60.00 keV	Ex	748
$\mathbf{Bi^{5+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{6+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{7+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{8+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{9+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{10+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{11+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{12+} + BeF_2}$	Ionization	2.60-8.40 GeV	Th	816
$\mathbf{Bi^{25+} + N_2}$	Dissociation	0.06-7.00 MeV	Ex	942
$\mathbf{Bi^{25+} + N_2}$	Ionization	0.06-7.00 MeV	Ex	942
$\mathbf{Bi^{26+} + He}$	Ionization	1.40-3.60 MeV/amu	Ex	959
$\mathbf{Bi^{57+} + N_2}$	Dissociation	0.06-7.00 MeV	Ex	942
$\mathbf{Bi^{57+} + N_2}$	Ionization	0.06-7.00 MeV	Ex	942

2.3 Surface Interactions

hν + perturbation	Surface Interactions	59.50 keV	E/T	1082

e + H_2O	Surface Interactions	4.00-20.00 keV	Ex	1085
e + Be	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
e + Be	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + C	Surface Interactions	17.00 MeV	Ex	1228
e + C	Second. Elect. Emission	4.00 keV	Th	1165
e + C	Second. Elect. Emission	4.00 keV	Th	1165
e + C	Second. Elect. Emission	5.00-20.00 eV	Ex	1037
e + C	Second. Elect. Emission	3.00 keV	Ex	1034
e + C	Second. Elect. Emission	0.50-15.00 eV	E/T	1032
e + C + Cs	Second. Elect. Emission	3.00 keV	Ex	1034
e + Mg	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
e + Al	Reflection	0.00-1.00 GeV	Th	1108
e + Al	Second. Elect. Emission	3.00 keV; 3.00 MeV	Ex	1184
e + Al	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
e + Al_2O_3	Second. Elect. Emission	3.00 keV; 3.00 MeV	Ex	1184
e + Si	Second. Elect. Emission	3.00 keV	Th	1099
e + Si	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + SiO_2	Second. Elect. Emission	3.00 keV	Th	1099
e + K	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + V	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + Cr	Second. Elect. Emission	4.00-25.00 keV	Th	1294
e + Fe	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + Ni	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + Cu	Second. Elect. Emission	3.00 keV; 3.00 MeV	Ex	1184
e + Cu	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + Rb	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + Nb	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + Mo	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + Ag	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + Cs	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + CeO_2	Second. Elect. Emission	3.00 keV; 3.00 MeV	Ex	1184
e + Eu	Desorption	100.00 eV	Ex	1092
e + Ta	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + W	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + Ir	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + Pt	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + Au	Reflection	20.00-100.00 keV	Ex	1145
e + Au	Reflection	0.00-1.00 GeV	Th	1108
e + Au	Second. Elect. Emission	0.10-2.00 keV	Th	1033
e + MgO	Second. Elect. Emission	1.00-1.50 keV	Ex	1031
e + CaF_2	Second. Elect. Emission	3.00 keV; 3.00 MeV	Ex	1184
e + H + Si	Desorption	12.00 eV	Ex	1301
e + H + Si	Desorption	50.00-300.00 eV	Ex	1216
e + D + C	Desorption	5.00-35.00 eV	Ex	1227
e + H_2O + Ar	Desorption	100.00-500.00 eV	Ex	1172
e + D_2O + Ar	Desorption	1.00 keV	Ex	1317
e + D_2O + Kr	Desorption	1.00 keV	Ex	1317
e + (D + Si)	Desorption	50.00-300.00 eV	Ex	1216
e + H + C	Desorption	5.00-45.00 eV	Ex	1289
e + H + C	Desorption	7.00-18.00 eV	Ex	1226
e + H + C	Desorption	2.00-45.00 eV	Ex	1217
e + H + C	Desorption	7.00-18.00 eV	Ex	1129
e + H + C	Second. Elect. Emission	3.00 keV	Ex	1034
H^{-1+} + Al	Neutraliz., Ioniz., Dissoc.		Th	1314
H^{-1+} + Ag	Surface Interactions	0.50-15.00 keV	Ex	1322
H + Al	Adsorption, Desorption	100.00 keV	Th	1208
H + Al	Neutraliz., Ioniz., Dissoc.	100.00 keV	Th	1208

H + Si	Chemical Reactions	5.00-8.00 keV	Ex	1036
H + Si	Surface Interactions	5.00-8.00 keV	Ex	1036
H + V	Trapping, Detrapping		Th	1271
H + Fe	Reflection	2.00-50.00 keV	Th	1114
H + Fe	Trapping, Detrapping		Ex	1073
H + FeTi	Trapping, Detrapping		Th	1271
H + Ni	Trapping, Detrapping		Th	1271
H + Cu	Adsorption, Desorption		Th	1030
H + Cu	Reflection	2.00-50.00 keV	Th	1114
H + Cu	Trapping, Detrapping		Th	1271
H + Nb	Trapping, Detrapping		Th	1271
H + Nb	Trapping, Detrapping	0.30 eV	Ex	1269
H + Pd	Adsorption, Desorption		Th	1030
H + Pd	Trapping, Detrapping		Th	1272
H + Sn	Adsorption, Desorption	1.30 K	Ex	1296
H + Sn	Trapping, Detrapping	1.30 K	Ex	1296
H + Ta	Trapping, Detrapping		Th	1271
H + Pt	Adsorption, Desorption	1.30 K	Ex	1296
H + Pt	Adsorption, Desorption		Th	1030
H + Pt	Trapping, Detrapping	1.30 K	Ex	1296
H + Au	Reflection	2.00-50.00 keV	Th	1114
H + LiF	Reflection	350.00-800.00 eV	Ex	1232
H + LiF	Second. Elect. Emission	350.00-800.00 eV	Ex	1232
H + LiF	Second. Elect. Emission	0.30-1.50 keV	Ex	1185
H + LiF	Second. Elect. Emission	1.00-20.00 keV	Ex	1138
H + NiTi	Trapping, Detrapping		Th	1271
H + (D + Si)	Desorption		Ex	1230
H + SS	Trapping, Detrapping		Ex	1073
$\mathbf{H^+ + H_2O}$	Reflection	100.00-500.00 eV	Ex	1172
$\mathbf{H^+ + Li}$	Chemical Reactions	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + Li}$	Desorption	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + Li}$	Reflection		Th	1239
$\mathbf{H^+ + Li}$	Neutraliz., Ioniz., Dissoc.		Th	1239
$\mathbf{H^+ + Li}$	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + Li}$	Trapping, Detrapping	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + Be}$	Chemical Reactions	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + Be}$	Desorption	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + Be}$	Surface Interactions	5.00-20.00 keV	Ex	1191
$\mathbf{H^+ + Be}$	Reflection	5.00-20.00 keV	Ex	1191
$\mathbf{H^+ + Be}$	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + Be}$	Trapping, Detrapping	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + B}$	Chemical Reactions	0.70-5.00 keV	Ex	1067
$\mathbf{H^+ + B}$	Desorption	0.70-5.00 keV	Ex	1067
$\mathbf{H^+ + B}$	Sputtering	0.70-5.00 keV	Ex	1067
$\mathbf{H^+ + B}$	Sputtering	0.70-5.00 keV	Ex	1067
$\mathbf{H^+ + B}$	Trapping, Detrapping	0.70-5.00 keV	Ex	1067
$\mathbf{H^+ + C}$	Chemical Reactions	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + C}$	Chemical Reactions	0.70-5.00 keV	Ex	1067
$\mathbf{H^+ + C}$	Chemical Reactions	1.00-10.00 eV	Th	1052
$\mathbf{H^+ + C}$	Desorption	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + C}$	Desorption	0.70-5.00 keV	Ex	1067
$\mathbf{H^+ + C}$	Second. Elect. Emission	0.10-30.00 keV	Ex	1311
$\mathbf{H^+ + C}$	Second. Elect. Emission	0.20-9.20 MeV	E/T	1182
$\mathbf{H^+ + C}$	Second. Elect. Emission	0.10-5.00 keV	Ex	1181
$\mathbf{H^+ + C}$	Second. Elect. Emission	40.00-240.00 keV	Th	1166
$\mathbf{H^+ + C}$	Second. Elect. Emission	1.00-2.00 MeV	Ex	1160
$\mathbf{H^+ + C}$	Second. Elect. Emission	0.04-2.00 MeV	Ex	1159

H^+ + C	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex	1075
H^+ + C	Sputtering	1.00-35.00 eV	Th	1224
H^+ + C	Sputtering	0.70-5.00 keV	Ex	1067
H^+ + C	Sputtering	0.70-5.00 keV	Ex	1067
H^+ + C	Sputtering	1.00-10.00 eV	Th	1052
H^+ + C	Trapping, Detrapping	0.10-15.00 keV	Ex	1075
H^+ + C	Trapping, Detrapping	0.70-5.00 keV	Ex	1067
H^+ + CO	Reflection	100.00-500.00 eV	Ex	1172
H^+ + O_2	Chemical Reactions	100.00 keV	Ex	1197
H^+ + O_2	Sputtering	100.00 keV	Ex	1197
H^+ + Mg	Reflection		Th	1239
H^+ + Mg	Neutraliz., Ioniz., Dissoc.		Th	1239
H^+ + Al	Adsorption, Desorption	100.00 keV	Th	1208
H^+ + Al	Reflection	700.00 keV	Th	1211
H^+ + Al	Second. Elect. Emission	700.00 keV	Th	1211
H^+ + Al	Second. Elect. Emission	25.00-50.00 keV	Th	1170
H^+ + Al	Second. Elect. Emission	3.00-10.00 keV	Th	1128
H^+ + Al	Second. Elect. Emission	4.00 keV	Th	1122
H^+ + Al	Neutraliz., Ioniz., Dissoc.	100.00 keV	Th	1208
H^+ + Al	Trapping, Detrapping	200.00-700.00 keV	Ex	1074
H^+ + Al_2O_3	Surface Interactions	0.40-3.00 MeV	Ex	1156
H^+ + Si	Reflection	50.00-340.00 keV	Ex	1174
H^+ + SiO_2	Surface Interactions	0.40-3.00 MeV	Ex	1156
H^+ + Cl	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex	1140
H^+ + Ar	Reflection	10.00-500.00 eV	Ex	1320
H^+ + Ar	Reflection	10.00-500.00 eV	Ex	1304
H^+ + Ar	Reflection	0.10-2.00 keV	Ex	1221
H^+ + Ar	Reflection	100.00-500.00 eV	Ex	1172
H^+ + Ar	Neutraliz., Ioniz., Dissoc.	10.00-500.00 eV	Ex	1320
H^+ + Ar	Sputtering	0.10-2.00 keV	Ex	1221
H^+ + TiN	Second. Elect. Emission	28.00-182.00 MeV	Ex	1093
H^+ + Cr	Second. Elect. Emission	4.00-25.00 keV	Th	1294
H^+ + Ni	Reflection	25.00-80.00 keV	Th	1190
H^+ + Cu	Reflection	8.00-25.00 keV	Th	1180
H^+ + Cu	Second. Elect. Emission	4.00 keV	Th	1122
H^+ + Ga	Chemical Reactions	0.10-15.00 keV	Ex	1075
H^+ + Ga	Desorption	0.10-15.00 keV	Ex	1075
H^+ + Ga	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex	1075
H^+ + Ga	Trapping, Detrapping	0.10-15.00 keV	Ex	1075
H^+ + Kr	Reflection	10.00-500.00 eV	Ex	1320
H^+ + Kr	Reflection	10.00-500.00 eV	Ex	1304
H^+ + Kr	Reflection	0.10-2.00 keV	Ex	1221
H^+ + Kr	Reflection	100.00-500.00 eV	Ex	1172
H^+ + Kr	Neutraliz., Ioniz., Dissoc.	10.00-500.00 eV	Ex	1320
H^+ + Kr	Sputtering	0.10-2.00 keV	Ex	1221
H^+ + Nb_2O_5	Surface Interactions	0.40-3.00 MeV	Ex	1156
H^+ + Ag	Surface Interactions	0.50-15.00 keV	Ex	1322
H^+ + Ag	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex	1140
H^+ + In	Reflection		Th	1239
H^+ + In	Neutraliz., Ioniz., Dissoc.		Th	1239
H^+ + Xe	Reflection	10.00-500.00 eV	Ex	1320
H^+ + Xe	Reflection	10.00-500.00 eV	Ex	1304
H^+ + Xe	Reflection	0.10-2.00 keV	Ex	1221
H^+ + Xe	Reflection	100.00-500.00 eV	Ex	1172
H^+ + Xe	Neutraliz., Ioniz., Dissoc.	10.00-500.00 eV	Ex	1320
H^+ + Xe	Sputtering	0.10-2.00 keV	Ex	1221
H^+ + $BaZrO_3$	Reflection	0.50-3.00 keV	Ex	1104

$\mathbf{H^+ + W}$	Chemical Reactions	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + W}$	Chemical Reactions	2.40-3.00 keV	Ex	1047
$\mathbf{H^+ + W}$	Desorption	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + W}$	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + W}$	Sputtering	2.40-3.00 keV	Ex	1047
$\mathbf{H^+ + W}$	Trapping, Detrapping	1.00 keV	E/T	1275
$\mathbf{H^+ + W}$	Trapping, Detrapping	800.00 MeV	Ex	1268
$\mathbf{H^+ + W}$	Trapping, Detrapping	0.10-15.00 keV	Ex	1075
$\mathbf{H^+ + Au}$	Reflection		Th	1239
$\mathbf{H^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex	1183
$\mathbf{H^+ + Au}$	Second. Elect. Emission	3.00-10.00 keV	Th	1128
$\mathbf{H^+ + Au}$	Neutraliz., Ioniz., Dissoc.		Th	1239
$\mathbf{H^+ + PbWO_4}$	Surface Interactions	0.90 MeV	Th	1117
$\mathbf{H^+ + LiF}$	Reflection	2.00 keV	Ex	1253
$\mathbf{H^+ + LiF}$	Reflection	100.00-500.00 eV	Th	1223
$\mathbf{H^+ + LiF}$	Second. Elect. Emission	2.00 keV	Ex	1253
$\mathbf{H^+ + SnTe}$	Reflection	0.50 MeV/amu	Ex	1188
$\mathbf{H^+ + SnTe}$	Second. Elect. Emission	0.50 MeV/amu	Ex	1188
$\mathbf{H^+ + MgO}$	Reflection	0.09-3.00 keV	Ex	1164
$\mathbf{H^+ + CsI}$	Surface Interactions	20.00 MeV	Th	1203
$\mathbf{H^+ + KCl}$	Reflection	0.50 MeV/amu	Ex	1188
$\mathbf{H^+ + KCl}$	Second. Elect. Emission	0.50 MeV/amu	Ex	1188
$\mathbf{H^+ + O + Ti}$	Desorption	30.00-60.00 eV	Th	1078
$\mathbf{H^+ + SrCeYbO}$	Second. Elect. Emission	1.00-100.00 keV	Ex	1238
$\mathbf{H^+ + LiO_2}$	Surface Interactions	0.40-3.00 MeV	Ex	1156
$\mathbf{H^+ + SS}$	Second. Elect. Emission	28.00-182.00 MeV	Ex	1093
$\mathbf{H_2 + C}$	Trapping, Detrapping	1.00 K	Ex	1042
$\mathbf{H_2 + Si}$	Adsorption, Desorption	300.00 K	Ex	1229
$\mathbf{H_2 + Si}$	Adsorption, Desorption	0.30 eV	Th	1083
$\mathbf{H_2 + Si}$	Desorption	0.30 eV	Th	1083
$\mathbf{H_2 + Si}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex	1229
$\mathbf{H_2 + Si}$	Neutraliz., Ioniz., Dissoc.	0.30 eV	Th	1083
$\mathbf{H_2 + Si}$	Trapping, Detrapping	300.00 K	Ex	1229
$\mathbf{H_2 + V}$	Adsorption, Desorption	88.00 meV	Ex	1326
$\mathbf{H_2 + Cu}$	Adsorption, Desorption	0.05 eV	Th	1310
$\mathbf{H_2 + Cu}$	Reflection	0.50-1.50 eV	Th	1312
$\mathbf{H_2 + Cu}$	Reflection	50.00-450.00 meV	Th	1288
$\mathbf{H_2 + Cu}$	Reflection	32.00-46.00 meV	E/T	1231
$\mathbf{H_2 + Cu}$	Neutraliz., Ioniz., Dissoc.	0.05 eV	Th	1310
$\mathbf{H_2 + Cu_3Pt}$	Adsorption, Desorption	7.60 meV	Th	1299
$\mathbf{H_2 + Cu_3Pt}$	Neutraliz., Ioniz., Dissoc.	7.60 meV	Th	1299
$\mathbf{H_2 + Mo}$	Adsorption, Desorption	300.00 K	Th	1306
$\mathbf{H_2 + Mo}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th	1306
$\mathbf{H_2 + Pd}$	Adsorption, Desorption	0.05 eV	Th	1310
$\mathbf{H_2 + Pd}$	Neutraliz., Ioniz., Dissoc.	0.05 eV	Th	1310
$\mathbf{H_2 + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex	1104
$\mathbf{H_2 + W}$	Adsorption, Desorption	300.00 K	Th	1306
$\mathbf{H_2 + W}$	Adsorption, Desorption	300.00 K	Ex	1279
$\mathbf{H_2 + W}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th	1306
$\mathbf{H_2{}^+ + Be}$	Surface Interactions	5.00-20.00 keV	Ex	1191
$\mathbf{H_2{}^+ + Be}$	Reflection	5.00-20.00 keV	Ex	1191
$\mathbf{H_2{}^+ + C}$	Second. Elect. Emission	0.10-5.00 keV	Ex	1181
$\mathbf{H_2{}^+ + C}$	Second. Elect. Emission	40.00-240.00 keV	Th	1166
$\mathbf{H_2{}^+ + Al_2O_3}$	Surface Interactions	0.40-3.00 MeV	Ex	1156
$\mathbf{H_2{}^+ + SiO_2}$	Surface Interactions	0.40-3.00 MeV	Ex	1156
$\mathbf{H_2{}^+ + Nb_2O_5}$	Surface Interactions	0.40-3.00 MeV	Ex	1156
$\mathbf{H_2{}^+ + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex	1104

$\mathbf{H_2}^+$ + **Au**	Second. Elect. Emission	0.20-3.00 MeV	Ex	1183
$\mathbf{H_2}^+$ + **LiF**	Reflection	0.60-4.00 keV	Ex	1219
$\mathbf{H_2}^+$ + **LiF**	Neutraliz., Ioniz., Dissoc.	0.60-4.00 keV	Ex	1219
$\mathbf{H_2}^+$ + **MgO**	Reflection	0.09-3.00 keV	Ex	1164
$\mathbf{H_2}^+$ + **SrCeYbO**	Second. Elect. Emission	1.00-100.00 keV	Ex	1238
$\mathbf{H_2}^+$ + $\mathbf{LiO_2}$	Surface Interactions	0.40-3.00 MeV	Ex	1156
$\mathbf{H_3}^+$ + **Be**	Surface Interactions	5.00-20.00 keV	Ex	1191
$\mathbf{H_3}^+$ + **Be**	Reflection	5.00-20.00 keV	Ex	1191
$\mathbf{H_3}^+$ + **C**	Second. Elect. Emission	0.10-5.00 keV	Ex	1181
$\mathbf{H_3}^+$ + **C**	Second. Elect. Emission	40.00-240.00 keV	Th	1166
$\mathbf{H_3}^+$ + **Au**	Second. Elect. Emission	0.20-3.00 MeV	Ex	1183
$\mathbf{H_3}^+$ + **SrCeYbO**	Second. Elect. Emission	1.00-100.00 keV	Ex	1238
D + **Li**	Sputtering	0.01-5.00 keV	Th	1058
D + **Li**	Trapping, Detrapping	0.01-5.00 keV	Th	1058
D + **Be**	Sputtering	100.00 eV	Th	1045
D + **C**	Chemical Reactions	0.03-1.00 keV	Ex	1065
D + **C**	Chemical Reactions	400.00 eV	Ex	1054
D + **C**	Chemical Reactions	15.00-50.00 eV	Th	1046
D + **C**	Desorption	15.00-50.00 eV	Th	1046
D + **C**	Sputtering	0.03-1.00 keV	Ex	1065
D + **C**	Sputtering	0.03-1.00 keV	Ex	1065
D + **C**	Sputtering	400.00 eV	Ex	1054
D + **C**	Sputtering	400.00 eV	Ex	1054
D + **C**	Sputtering	15.00-50.00 eV	Th	1046
D + **C**	Trapping, Detrapping	0.03-1.00 keV	Ex	1065
D + **C**	Trapping, Detrapping	0.50 keV	Ex	1060
D + **C**	Trapping, Detrapping	400.00 eV	Ex	1054
D + **C** + **W**	Trapping, Detrapping	10.00-100.00 keV	Ex	1039
D + **SiC**	Chemical Reactions	0.03-1.00 keV	Ex	1065
D + **SiC**	Sputtering	0.03-1.00 keV	Ex	1065
D + **SiC**	Sputtering	0.03-1.00 keV	Ex	1065
D + **SiC**	Sputtering	0.01-10.00 keV	Ex	1061
D + **SiC**	Sputtering	0.01-10.00 keV	Ex	1061
D + **SiC**	Trapping, Detrapping	0.03-1.00 keV	Ex	1065
D + **TiC**	Chemical Reactions	0.03-1.00 keV	Ex	1065
D + **TiC**	Sputtering	0.03-1.00 keV	Ex	1065
D + **TiC**	Sputtering	0.03-1.00 keV	Ex	1065
D + **TiC**	Trapping, Detrapping	0.03-1.00 keV	Ex	1065
D + $\mathbf{V_8C_7}$	Chemical Reactions	0.03-1.00 keV	Ex	1065
D + $\mathbf{V_8C_7}$	Sputtering	0.03-1.00 keV	Ex	1065
D + $\mathbf{V_8C_7}$	Sputtering	0.03-1.00 keV	Ex	1065
D + $\mathbf{V_8C_7}$	Trapping, Detrapping	0.03-1.00 keV	Ex	1065
D + **Fe**	Reflection	2.00-50.00 keV	Th	1114
D + **Cu**	Reflection	2.00-50.00 keV	Th	1114
D + **Ga**	Sputtering	0.01-5.00 keV	Th	1058
D + **Mo**	Trapping, Detrapping	1.00-10.00 keV	Ex	1041
D + **Sn**	Adsorption, Desorption	1.30 K	Ex	1296
D + **Sn**	Sputtering	0.01-5.00 keV	Th	1058
D + **Sn**	Trapping, Detrapping	1.30 K	Ex	1296
D + **Sn**	Trapping, Detrapping	0.01-5.00 keV	Th	1058
D + **W**	Trapping, Detrapping	0.50 keV	Ex	1060
D + **W**	Trapping, Detrapping	1.00-10.00 keV	Ex	1041
D + **W**	Trapping, Detrapping	10.00-100.00 keV	Ex	1039
D + **WC**	Chemical Reactions	0.03-1.00 keV	Ex	1065
D + **WC**	Sputtering	0.03-1.00 keV	Ex	1065
D + **WC**	Sputtering	0.03-1.00 keV	Ex	1065
D + **WC**	Trapping, Detrapping	0.03-1.00 keV	Ex	1065

D + WC	Trapping, Detrapping	10.00-100.00 keV	Ex	1039
D + W_2C	Trapping, Detrapping	0.50 keV	Ex	1060
D + Pt	Adsorption, Desorption	1.30 K	Ex	1296
D + Pt	Trapping, Detrapping	1.30 K	Ex	1296
D + Au	Reflection	2.00-50.00 keV	Th	1114
D + ZrC	Chemical Reactions	0.03-1.00 keV	Ex	1065
D + ZrC	Sputtering	0.03-1.00 keV	Ex	1065
D + ZrC	Sputtering	0.03-1.00 keV	Ex	1065
D + ZrC	Trapping, Detrapping	0.03-1.00 keV	Ex	1065
D^+ + Li	Chemical Reactions	0.10-15.00 keV	Ex	1075
D^+ + Li	Desorption	0.10-15.00 keV	Ex	1075
D^+ + Li	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex	1075
D^+ + Li	Sputtering	75.00-200.00 eV	Th	1071
D^+ + Li	Sputtering	0.03-4.00 keV	Th	1057
D^+ + Li	Sputtering	0.20-1.00 keV	E/T	1056
D^+ + Li	Trapping, Detrapping	0.10-15.00 keV	Ex	1075
D^+ + Be	Chemical Reactions	0.10-15.00 keV	Ex	1075
D^+ + Be	Desorption	0.10-15.00 keV	Ex	1075
D^+ + Be	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex	1075
D^+ + Be	Trapping, Detrapping		Ex	1274
D^+ + Be	Trapping, Detrapping	1.80-8.00 keV	Ex	1273
D^+ + Be	Trapping, Detrapping	0.10-15.00 keV	Ex	1075
D^+ + BeO	Trapping, Detrapping	1.80-8.00 keV	Ex	1273
D^+ + C	Chemical Reactions	20.00-300.00 eV	E/T	1256
D^+ + C	Chemical Reactions	9.00 eV	Ex	1255
D^+ + C	Chemical Reactions	0.10-15.00 keV	Ex	1075
D^+ + C	Chemical Reactions	50.00-200.00 eV	Ex	1068
D^+ + C	Chemical Reactions	0.03-1.00 keV	Ex	1055
D^+ + C	Chemical Reactions	400.00 eV	Ex	1054
D^+ + C	Chemical Reactions	1.00-10.00 eV	Th	1052
D^+ + C	Desorption	0.10-15.00 keV	Ex	1075
D^+ + C	Desorption	50.00-200.00 eV	Ex	1068
D^+ + C	Desorption	0.03-1.00 keV	Ex	1055
D^+ + C	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex	1075
D^+ + C	Sputtering	20.00-300.00 eV	E/T	1256
D^+ + C	Sputtering	9.00 eV	Ex	1255
D^+ + C	Sputtering	50.00-200.00 eV	Ex	1068
D^+ + C	Sputtering	50.00-200.00 eV	Ex	1068
D^+ + C	Sputtering	400.00 eV	Ex	1054
D^+ + C	Sputtering	400.00 eV	Ex	1054
D^+ + C	Sputtering	1.00-10.00 eV	Th	1052
D^+ + C	Trapping, Detrapping	8.00 keV	Ex	1105
D^+ + C	Trapping, Detrapping	0.10-15.00 keV	Ex	1075
D^+ + C	Trapping, Detrapping	50.00-200.00 eV	Ex	1068
D^+ + C	Trapping, Detrapping	400.00 eV	Ex	1054
D^+ + Al	Trapping, Detrapping	200.00-700.00 keV	Ex	1074
D^+ + Si	Reflection	0.50-3.00 keV	Ex	1049
D^+ + Fe	Reflection		Th	1062
D^+ + Fe	Trapping, Detrapping		E/T	1267
D^+ + Ni	Reflection		Th	1062
D^+ + Ga	Chemical Reactions	0.10-15.00 keV	Ex	1075
D^+ + Ga	Desorption	0.10-15.00 keV	Ex	1075
D^+ + Ga	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex	1075
D^+ + Ga	Sputtering	75.00-200.00 eV	Th	1071
D^+ + Ga	Trapping, Detrapping	0.10-15.00 keV	Ex	1075
D^+ + Nb	Adsorption, Desorption	2.00-200.00 eV	Ex	1066
D^+ + Nb	Trapping, Detrapping	2.00-200.00 eV	Ex	1066

$\mathbf{D^+ + Nb}$	Trapping, Detrapping	5.00-120.00 eV	Ex	1048
$\mathbf{D^+ + Pd}$	Reflection		Th	1062
$\mathbf{D^+ + W}$	Chemical Reactions	0.10-15.00 keV	Ex	1075
$\mathbf{D^+ + W}$	Desorption	0.10-15.00 keV	Ex	1075
$\mathbf{D^+ + W}$	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex	1075
$\mathbf{D^+ + W}$	Trapping, Detrapping	1.00 keV	E/T	1275
$\mathbf{D^+ + W}$	Trapping, Detrapping	1.80-8.00 keV	Ex	1273
$\mathbf{D^+ + W}$	Trapping, Detrapping	6.00 keV	Ex	1270
$\mathbf{D^+ + W}$	Trapping, Detrapping	0.10-15.00 keV	Ex	1075
$\mathbf{D^+ + W}$	Trapping, Detrapping	100.00 eV	Ex	1063
$\mathbf{D^+ + W}$	Trapping, Detrapping	1.00 keV	Ex	1050
$\mathbf{D^+ + NaCl}$	Reflection	2.00-10.00 keV	Th	1150
$\mathbf{D^+ + O + Ti}$	Desorption	30.00-60.00 eV	Th	1078
$\mathbf{D^+ + SS}$	Reflection		Th	1062
$\mathbf{D^+ + SS}$	Trapping, Detrapping		E/T	1267
$\mathbf{D_2 + Si}$	Adsorption, Desorption	0.30 eV	Th	1083
$\mathbf{D_2 + Si}$	Desorption	0.30 eV	Th	1083
$\mathbf{D_2 + Si}$	Neutraliz., Ioniz., Dissoc.	0.30 eV	Th	1083
$\mathbf{D_2 + V}$	Adsorption, Desorption	88.00 meV	Ex	1326
$\mathbf{D_2 + V}$	Desorption	300.00 K	Ex	1285
$\mathbf{D_2 + V}$	Reflection	300.00 K	Ex	1285
$\mathbf{D_2 + V}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex	1285
$\mathbf{D_2 + Cu}$	Adsorption, Desorption	0.05 eV	Th	1310
$\mathbf{D_2 + Cu}$	Reflection	32.00-46.00 meV	E/T	1231
$\mathbf{D_2 + Cu}$	Neutraliz., Ioniz., Dissoc.	0.05 eV	Th	1310
$\mathbf{D_2 + Pd}$	Adsorption, Desorption	0.05 eV	Th	1310
$\mathbf{D_2 + Pd}$	Neutraliz., Ioniz., Dissoc.	0.05 eV	Th	1310
$\mathbf{D_2 + W}$	Adsorption, Desorption	300.00 K	Ex	1279
$\mathbf{{D_2}^+ + Mo}$	Trapping, Detrapping	10.00 keV	Ex	1266
$\mathbf{{D_2}^+ + W}$	Trapping, Detrapping	10.00 keV	Ex	1266
$\mathbf{{D_3}^+ + C}$	Sputtering	5.00 keV	Ex	1040
$\mathbf{{D_3}^+ + C}$	Trapping, Detrapping	1.50 keV	Ex	1044
$\mathbf{{D_3}^+ + C}$	Trapping, Detrapping	5.00 keV	Ex	1040
$\mathbf{{D_3}^+ + Si}$	Desorption	3.00 keV	Ex	1043
$\mathbf{{D_3}^+ + Si}$	Trapping, Detrapping	3.00 keV	Ex	1043
$\mathbf{{D_3}^+ + W}$	Trapping, Detrapping	1.50 keV	Ex	1072
$\mathbf{{D_3}^+ + W}$	Trapping, Detrapping	1.50 keV	Ex	1044
$\mathbf{T + Li}$	Sputtering	0.01-5.00 keV	Th	1058
$\mathbf{T + Li}$	Trapping, Detrapping	0.01-5.00 keV	Th	1058
$\mathbf{T + Be}$	Trapping, Detrapping		Ex	1059
$\mathbf{T + Ga}$	Sputtering	0.01-5.00 keV	Th	1058
$\mathbf{T + Sn}$	Trapping, Detrapping	0.01-5.00 keV	Th	1058
$\mathbf{T^+ + Be}$	Trapping, Detrapping		Ex	1274
$\mathbf{T^+ + C}$	Chemical Reactions	1.00-10.00 eV	Th	1052
$\mathbf{T^+ + C}$	Sputtering	1.00-10.00 eV	Th	1052
$\mathbf{T^+ + W}$	Trapping, Detrapping	100.00 eV	Ex	1063
$\mathbf{T^+ + O + Ti}$	Desorption	30.00-60.00 eV	Th	1078
$\mathbf{He + Li}$	Sputtering	0.01-5.00 keV	Th	1058
$\mathbf{He + Be}$	Sputtering	100.00 eV	Th	1045
$\mathbf{He + C}$	Reflection	0.50-3.00 keV	Ex	1171
$\mathbf{He + C_2H_2 + Cu}$	Reflection	1.00 eV	Th	1215
$\mathbf{He + Si}$	Chemical Reactions	5.00-8.00 keV	Ex	1036
$\mathbf{He + Si}$	Surface Interactions	5.00-8.00 keV	Ex	1036
$\mathbf{He + Si}$	Reflection	0.50-3.00 keV	Ex	1171
$\mathbf{He + SiO_2}$	Adsorption, Desorption	300.00 K	Ex	1096
$\mathbf{He + Ti}$	Adsorption, Desorption	300.00 K	Ex	1096
$\mathbf{He + Fe}$	Reflection	15.00 keV	Th	1118

He + Fe	Reflection	2.00-50.00 keV	Th	1114
He + Fe	Trapping, Detrapping		Ex	1073
He + Cu	Reflection	32.00-46.00 meV	E/T	1231
He + Cu	Reflection	15.00-75.00 meV	E/T	1225
He + Cu	Reflection	2.00-50.00 keV	Th	1114
He + Ga	Sputtering	0.01-5.00 keV	Th	1058
He + Rh	Adsorption, Desorption		E/T	1087
He + Rh	Surface Interactions		E/T	1087
He + Rh	Reflection		Th	1283
He + Rh	Reflection		E/T	1087
He + Rh	Neutraliz., Ioniz., Dissoc.		E/T	1087
He + Ag	Adsorption, Desorption	300.00 K	Ex	1096
He + Ag	Surface Interactions	0.50-15.00 keV	Ex	1322
He + Ag	Reflection	0.50-3.00 keV	Ex	1171
He + Sn	Reflection	0.50-3.00 keV	Ex	1171
He + Sb	Reflection	0.50-3.00 keV	Ex	1171
He + Xe + Cu	Adsorption, Desorption	45.00 meV	Th	1086
He + Xe + Cu	Reflection	45.00 meV	Th	1086
He + Ba	Sputtering	0.25-2.50 keV	Th	1284
He + W	Adsorption, Desorption		E/T	1087
He + W	Surface Interactions		E/T	1087
He + W	Reflection		E/T	1087
He + W	Neutraliz., Ioniz., Dissoc.		E/T	1087
He + Au	Reflection	2.00-50.00 keV	Th	1114
He + Pb	Reflection	0.50-3.00 keV	Ex	1171
He + Bi	Reflection	0.50-3.00 keV	Ex	1171
He + Kr + Pt	Reflection	20.00-83.00 meV	E/T	1088
He + CO + Cu	Reflection	1.00 eV	Th	1215
He + CO + Cu	Reflection	20.00 meV	Th	1089
He + CO + Cu	Reflection	20.00-83.00 meV	E/T	1088
He + CO + Pt	Reflection	20.00-83.00 meV	E/T	1088
He + SS	Trapping, Detrapping		Ex	1073
$\mathbf{He^+ + D}$	Sputtering	4.00-10.00 keV	Ex	1123
$\mathbf{He^+ + Li}$	Sputtering	0.20-1.00 keV	E/T	1056
$\mathbf{He^+ + Be}$	Surface Interactions	5.00-20.00 keV	Ex	1191
$\mathbf{He^+ + Be}$	Reflection	5.00-20.00 keV	Ex	1191
$\mathbf{He^+ + Be}$	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
$\mathbf{He^+ + C}$	Chemical Reactions	0.50-5.00 keV	Ex	1137
$\mathbf{He^+ + C}$	Reflection	0.50-3.00 keV	Ex	1171
$\mathbf{He^+ + C}$	Second. Elect. Emission	0.50-3.50 keV	Th	1163
$\mathbf{He^+ + C}$	Second. Elect. Emission	0.04-2.00 MeV	Ex	1159
$\mathbf{He^+ + O_2}$	Sputtering	2.00 MeV	Th	1121
$\mathbf{He^+ + Mg}$	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
$\mathbf{He^+ + Al}$	Reflection	2.00-8.00 keV	Ex	1264
$\mathbf{He^+ + Al}$	Reflection	1.00-3.00 keV	Ex	1161
$\mathbf{He^+ + Al}$	Reflection	0.50-2.00 keV	E/T	1132
$\mathbf{He^+ + Al}$	Reflection	0.50-2.00 keV	E/T	1132
$\mathbf{He^+ + Al}$	Second. Elect. Emission	2.00-8.00 keV	Ex	1264
$\mathbf{He^+ + Al}$	Second. Elect. Emission	16.00-500.00 eV	Ex	1187
$\mathbf{He^+ + Al}$	Second. Elect. Emission	0.50-3.50 keV	Th	1163
$\mathbf{He^+ + Al}$	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
$\mathbf{He^+ + Al}$	Neutraliz., Ioniz., Dissoc.	0.10-3.00 keV	Th	1207
$\mathbf{He^+ + Al}$	Neutraliz., Ioniz., Dissoc.	16.00-500.00 eV	Ex	1187
$\mathbf{He^+ + Si}$	Reflection	5.00 keV	Ex	1303
$\mathbf{He^+ + Si}$	Reflection	0.50-3.00 keV	Ex	1171
$\mathbf{He^+ + Si}$	Reflection	0.50-3.00 keV	Ex	1049
$\mathbf{He^+ + SiO}$	Chemical Reactions	0.50-5.00 keV	Ex	1154

He^+ + SiO_2	Chemical Reactions	0.50-5.00 keV	Ex	1154
He^+ + Cl	Reflection	1.00-4.00 keV	Ex	1140
He^+ + Ca	Reflection	1.00-3.00 keV	Ex	1161
He^+ + Ti	Chemical Reactions	0.50-5.00 keV	Ex	1137
He^+ + TiO_2	Reflection	0.50-2.00 keV	E/T	1132
He^+ + TiO_2	Reflection	0.50-2.00 keV	E/T	1132
He^+ + Fe_3O_4	Reflection	5.00-6.50 keV	Ex	1167
He^+ + Ni	Reflection	4.00 keV	Ex	1168
He^+ + Ni	Reflection	0.50-2.00 keV	E/T	1132
He^+ + Ni	Reflection	0.50-2.00 keV	E/T	1132
He^+ + $NiSi_2$	Reflection	1.80 keV	Ex	1325
He^+ + Cu	Reflection	1.00-3.00 keV	Ex	1161
He^+ + Cu	Reflection	3.00 keV	E/T	1136
He^+ + Cu	Reflection	0.50-2.00 keV	E/T	1132
He^+ + Cu	Reflection	0.50-2.00 keV	E/T	1132
He^+ + Cu	Second. Elect. Emission	16.00-500.00 eV	Ex	1187
He^+ + Cu	Second. Elect. Emission	0.50-3.50 keV	Th	1163
He^+ + Cu	Neutraliz., Ioniz., Dissoc.	16.00-500.00 eV	Ex	1187
He^+ + Rb	Reflection	0.50-2.00 keV	E/T	1132
He^+ + Rb	Reflection	0.50-2.00 keV	E/T	1132
He^+ + Pd	Neutraliz., Ioniz., Dissoc.	0.10-3.00 keV	Th	1207
He^+ + Ag	Surface Interactions	0.50-15.00 keV	Ex	1322
He^+ + Ag	Reflection	0.50-3.00 keV	Ex	1171
He^+ + Ag	Reflection	1.00-4.00 keV	Ex	1140
He^+ + Sn	Reflection	0.50-3.00 keV	Ex	1171
He^+ + Sb	Reflection	0.50-3.00 keV	Ex	1171
He^+ + Ba	Reflection	2.00-5.00 keV	Ex	1234
He^+ + Ba	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex	1234
He^+ + W	Reflection	2.00-5.00 keV	Ex	1234
He^+ + W	Reflection	0.50-5.00 keV	Th	1051
He^+ + W	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex	1234
He^+ + W	Trapping, Detrapping	0.50-5.00 keV	Th	1051
He^+ + Re	Reflection	2.00-5.00 keV	Ex	1234
He^+ + Re	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex	1234
He^+ + Au	Reflection	0.50-2.00 keV	E/T	1132
He^+ + Au	Reflection	0.50-2.00 keV	E/T	1132
He^+ + Au	Second. Elect. Emission	16.00-500.00 eV	Ex	1187
He^+ + Au	Second. Elect. Emission	0.20-3.00 MeV	Ex	1183
He^+ + Au	Second. Elect. Emission	3.00-10.00 keV	Th	1128
He^+ + Au	Neutraliz., Ioniz., Dissoc.	16.00-500.00 eV	Ex	1187
He^+ + Pb	Reflection	0.50-3.00 keV	Ex	1171
He^+ + LiF	Reflection	100.00-500.00 eV	Th	1223
He^+ + MgO	Reflection	1.80 keV	Ex	1325
He^+ + MgO	Second. Elect. Emission	0.06-1.00 keV	Ex	1100
He^+ + MgO	Second. Elect. Emission	200.00 eV	Ex	1038
He^+ + Bi	Reflection	0.50-3.00 keV	Ex	1171
He^+ + CsI	Surface Interactions	20.00 MeV	Th	1203
He^+ + CO + Cu	Chemical Reactions	40.30 meV	E/T	1222
He^+ + CO + Cu	Reflection	40.30 meV	E/T	1222
He^+ + CO + Pt	Chemical Reactions	40.30 meV	E/T	1222
He^+ + CO + Pt	Reflection	40.30 meV	E/T	1222
He^+ + KI	Reflection	1.80 keV	Ex	1325
He^{2+} + Al	Second. Elect. Emission	3.00 keV; 3.00 MeV	Ex	1184
He^{2+} + Al_2O_3	Second. Elect. Emission	3.00 keV; 3.00 MeV	Ex	1184
He^{2+} + Cu	Second. Elect. Emission	3.00 keV; 3.00 MeV	Ex	1184
He^{2+} + Ag	Surface Interactions	0.50-15.00 keV	Ex	1322
He^{2+} + CeO_2	Second. Elect. Emission	3.00 keV; 3.00 MeV	Ex	1184

He^{2+} + SnTe	Reflection	0.50 MeV/amu	Ex	1188
He^{2+} + SnTe	Second. Elect. Emission	0.50 MeV/amu	Ex	1188
He^{2+} + KCl	Reflection	0.50 MeV/amu	Ex	1188
He^{2+} + KCl	Second. Elect. Emission	0.50 MeV/amu	Ex	1188
He^{2+} + CaF_2	Second. Elect. Emission	3.00 keV; 3.00 MeV	Ex	1184
HeH^{+} + C	Second. Elect. Emission	40.00-240.00 keV	Th	1166
HeH^{+} + Au	Second. Elect. Emission	0.20-3.00 MeV	Ex	1183
Li + Li	Sputtering	0.01-5.00 keV	Th	1058
Li + Ga	Sputtering	0.01-5.00 keV	Th	1058
Li^{+} + Li	Reflection	0.00-1.00 keV	Th	1179
Li^{+} + Li	Sputtering	75.00-200.00 eV	Th	1071
Li^{+} + Li	Sputtering	0.03-4.00 keV	Th	1057
Li^{+} + Li	Sputtering	0.20-1.00 keV	E/T	1056
Li^{+} + C	Reflection	1.70-5.50 MeV	Ex	1146
Li^{+} + Ni	Reflection	4.00 keV	Ex	1168
Li^{+} + Ni	Reflection	4.00 keV	E/T	1148
Li^{+} + Au	Reflection	1.00-6.00 MeV	Ex	1155
Li^{2+} + SnTe	Reflection	0.50 MeV/amu	Ex	1188
Li^{2+} + SnTe	Second. Elect. Emission	0.50 MeV/amu	Ex	1188
Li^{2+} + KCl	Reflection	0.50 MeV/amu	Ex	1188
Li^{2+} + KCl	Second. Elect. Emission	0.50 MeV/amu	Ex	1188
Be^{+} + Be	Reflection	0.00-1.00 keV	Th	1179
Be^{+} + Cu	Sputtering	1.00 keV	Th	1029
Be^{+} + Cu	Sputtering	1.00 keV	Th	1029
B + Si	Adsorption, Desorption	300.00 K	Ex	1094
B^{+} + B	Reflection	0.00-1.00 keV	Th	1179
C + Be	Chemical Reactions	300.00 K	Ex	1070
C + W	Trapping, Detrapping		E/T	1077
C + MgO	Reflection	0.09-3.00 keV	Ex	1164
C^{+} + Be	Sputtering	3.00-5.00 keV	Ex	1069
C^{+} + Be	Sputtering	3.00-5.00 keV	Ex	1069
C^{+} + Be	Trapping, Detrapping	3.00-5.00 keV	Ex	1069
C^{+} + C	Reflection	0.00-1.00 keV	Th	1179
C^{+} + C	Second. Elect. Emission	0.10-30.00 keV	Ex	1311
C^{+} + C	Second. Elect. Emission	0.10-5.00 keV	Ex	1181
C^{+} + W	Chemical Reactions	2.40 keV	Th	1053
C^{+} + W	Chemical Reactions	2.40-3.00 keV	Ex	1047
C^{+} + W	Sputtering	2.40 keV	Th	1053
C^{+} + W	Sputtering	2.40-3.00 keV	Ex	1047
C^{+} + Au	Second. Elect. Emission	5.00 keV/amu	Ex	1246
C^{+} + Au	Second. Elect. Emission	0.10-30.00 keV	Th	1213
C^{+} + Au	Second. Elect. Emission	0.20-3.00 MeV	Ex	1183
C^{+} + Au	Second. Elect. Emission	3.00-10.00 keV	Th	1128
C^{+} + MgO	Reflection	0.09-3.00 keV	Ex	1164
C^{+} + CsI	Surface Interactions	20.00 MeV	Th	1203
C^{2+} + Au	Second. Elect. Emission	5.00 keV/amu	Ex	1246
C^{4+} + Al	Second. Elect. Emission	0.01-1.00 keV	Th	1298
C^{5+} + Al	Second. Elect. Emission	0.01-1.00 keV	Th	1298
C^{6+} + C	Second. Elect. Emission	9.00 MeV/amu	Ex	1237
C^{6+} + C + N	Desorption	6.00-13.00 MeV/amu	Ex	1110
$CH_3{}^{+}$ + W	Chemical Reactions	2.40-3.00 keV	Ex	1047
$CH_3{}^{+}$ + W	Sputtering	2.40-3.00 keV	Ex	1047
CH_4 + Ni	Adsorption, Desorption	300.00 K	Ex	1305
CH_4 + Ni	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex	1305
CH_4 + Ru	Adsorption, Desorption	300.00 K	Ex	1305
CH_4 + Ru	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex	1305
CH_4 + Pt	Adsorption, Desorption	100.00-600.00 meV	Ex	1316

$\mathbf{CH_4 + Pt}$	Neutraliz., Ioniz., Dissoc.	100.00-600.00 meV	Ex	1316
$\mathbf{CH_4 + LiF}$	Reflection	200.00-800.00 meV	Ex	1095
CO + V	Adsorption, Desorption	88.00 meV	Ex	1326
CO + Cu	Adsorption, Desorption	1.50 eV	Th	1281
CO + Cu	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex	1287
CO + Ru	Reflection	300.00 K	Th	1293
$\mathbf{CO^+ + Be}$	Sputtering	3.00-5.00 keV	Ex	1069
$\mathbf{CO^+ + Be}$	Sputtering	3.00-5.00 keV	Ex	1069
$\mathbf{CO^+ + Be}$	Trapping, Detrapping	3.00-5.00 keV	Ex	1069
$\mathbf{CO_2 + Pd}$	Adsorption, Desorption	8.50-38.00 kJ/mol	Ex	1307
$\mathbf{CO_2 + Pd}$	Neutraliz., Ioniz., Dissoc.	8.50-38.00 kJ/mol	Ex	1307
$\mathbf{CO_2 + Pt}$	Adsorption, Desorption	8.50-38.00 kJ/mol	Ex	1307
$\mathbf{CO_2 + Pt}$	Neutraliz., Ioniz., Dissoc.	8.50-38.00 kJ/mol	Ex	1307
$\mathbf{C_2H_2 + LiF}$	Reflection	242.00 meV	Th	1175
$\mathbf{C_2H_2 + LiF}$	Reflection	242.00 meV	Th	1175
$\mathbf{CF_2{}^+ + Cu}$	Sputtering	1.80-3.60 keV	Ex	1204
$\mathbf{N^+ + C}$	Second. Elect. Emission	15.00-34.00 keV	Ex	1330
$\mathbf{N^+ + C}$	Second. Elect. Emission	0.10-30.00 keV	Ex	1311
$\mathbf{N^+ + C}$	Second. Elect. Emission	0.10-5.00 keV	Ex	1181
$\mathbf{N^+ + C}$	Sputtering	100.00-800.00 eV	Ex	1147
$\mathbf{N^+ + Al}$	Chemical Reactions	1.60 keV	Ex	1149
$\mathbf{N^+ + Al}$	Reflection	5.00-50.00 keV	Ex	1309
$\mathbf{N^+ + Al}$	Second. Elect. Emission	5.00-50.00 keV	Ex	1309
$\mathbf{N^+ + Al}$	Sputtering	5.00-50.00 keV	Ex	1309
$\mathbf{N^+ + K}$	Reflection	5.00-50.00 keV	Ex	1309
$\mathbf{N^+ + K}$	Second. Elect. Emission	5.00-50.00 keV	Ex	1309
$\mathbf{N^+ + K}$	Sputtering	5.00-50.00 keV	Ex	1309
$\mathbf{N^+ + Ti}$	Sputtering	400.00-700.00 eV	Ex	1090
$\mathbf{N^+ + Ti}$	Sputtering	400.00-700.00 eV	Ex	1090
$\mathbf{N^+ + TiN}$	Sputtering	400.00-700.00 eV	Ex	1090
$\mathbf{N^+ + TiN}$	Sputtering	400.00-700.00 eV	Ex	1090
$\mathbf{N^+ + Cr}$	Second. Elect. Emission	15.00-34.00 keV	Ex	1330
$\mathbf{N^+ + Fe}$	Second. Elect. Emission	150.00 keV	Ex	1192
$\mathbf{N^+ + Cu}$	Sputtering	1.80-3.60 keV	Ex	1204
$\mathbf{N^+ + Au}$	Chemical Reactions	0.50-2.00 keV	Ex	1321
$\mathbf{N^+ + Au}$	Second. Elect. Emission	15.00-34.00 keV	Ex	1330
$\mathbf{N^+ + Au}$	Second. Elect. Emission	5.00 keV/amu	Ex	1246
$\mathbf{N^+ + Au}$	Second. Elect. Emission	0.10-30.00 keV	Th	1213
$\mathbf{N^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex	1183
$\mathbf{N^{2+} + Fe}$	Second. Elect. Emission	150.00 keV	Ex	1192
$\mathbf{N^{2+} + Au}$	Second. Elect. Emission	5.00 keV/amu	Ex	1246
$\mathbf{N^{3+} + Au}$	Second. Elect. Emission	5.00 keV/amu	Ex	1246
$\mathbf{N^{4+} + Fe}$	Second. Elect. Emission	150.00 keV	Ex	1192
$\mathbf{N^{5+} + Fe}$	Second. Elect. Emission	150.00 keV	Ex	1192
$\mathbf{N^{6+} + Al}$	Reflection	70.00 eV	Th	1241
$\mathbf{N^{6+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th	1298
$\mathbf{N^{6+} + Al}$	Neutraliz., Ioniz., Dissoc.	70.00 eV	Th	1241
$\mathbf{N^{6+} + Fe}$	Second. Elect. Emission	150.00 keV	Ex	1192
$\mathbf{N^{6+} + Ni}$	Reflection	2.10 keV/amu	Th	1210
$\mathbf{N_2 + Fe}$	Neutraliz., Ioniz., Dissoc.		Th	1295
$\mathbf{N_2 + Ni}$	Adsorption, Desorption	300.00 K	Th	1280
$\mathbf{N_2 + Ni}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th	1280
$\mathbf{N_2 + Cu}$	Adsorption, Desorption	300.00 K	Th	1280
$\mathbf{N_2 + Cu}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th	1280
$\mathbf{N_2 + Ru}$	Neutraliz., Ioniz., Dissoc.		Th	1295
$\mathbf{N_2 + Pd}$	Adsorption, Desorption	300.00 K	Th	1280
$\mathbf{N_2 + Pd}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th	1280

$\mathbf{N_2 + Ag}$	Adsorption, Desorption	300.00 K	Th	1280
$\mathbf{N_2 + Ag}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th	1280
$\mathbf{N_2 + Pt}$	Adsorption, Desorption	300.00 K	Th	1280
$\mathbf{N_2 + Pt}$	Reflection	1.00-2.00 keV	Ex	1130
$\mathbf{N_2 + Pt}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th	1280
$\mathbf{N_2 + Pt}$	Neutraliz., Ioniz., Dissoc.	1.00-2.00 keV	Ex	1130
$\mathbf{N_2 + Au}$	Adsorption, Desorption	300.00 K	Th	1280
$\mathbf{N_2 + Au}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th	1280
$\mathbf{N_2{}^+ + C}$	Chemical Reactions	5.00-800.00 eV	Ex	1292
$\mathbf{N_2{}^+ + C}$	Desorption	5.00-800.00 eV	Ex	1292
$\mathbf{N_2{}^+ + C}$	Second. Elect. Emission	15.00-34.00 keV	Ex	1330
$\mathbf{N_2{}^+ + C}$	Second. Elect. Emission	30.00 keV	Ex	1079
$\mathbf{N_2{}^+ + C}$	Sputtering	5.00-800.00 eV	Ex	1292
$\mathbf{N_2{}^+ + C}$	Sputtering	100.00-800.00 eV	Ex	1147
$\mathbf{N_2{}^+ + C}$	Sputtering	30.00 keV	Ex	1079
$\mathbf{N_2{}^+ + SiO}$	Chemical Reactions	0.50-5.00 keV	Ex	1154
$\mathbf{N_2{}^+ + SiO_2}$	Chemical Reactions	0.50-5.00 keV	Ex	1154
$\mathbf{N_2{}^+ + Cr}$	Second. Elect. Emission	15.00-34.00 keV	Ex	1330
$\mathbf{N_2{}^+ + Au}$	Second. Elect. Emission	15.00-34.00 keV	Ex	1330
NO + Pd	Adsorption, Desorption	300.00 K	Ex	1323
NO + Pd	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex	1323
O + Si	Sputtering	5.00 keV	Th	1035
O + Cu	Adsorption, Desorption	5.00-20.00 keV	Ex	1291
O + Cu	Adsorption, Desorption	600.00 eV	E/T	1214
O + Cu	Reflection	600.00 eV	E/T	1214
O + Cu	Trapping, Detrapping	600.00 eV	E/T	1214
$\mathbf{O + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex	1104
O + MgO	Reflection	0.09-3.00 keV	Ex	1164
$\mathbf{O^+ + B}$	Chemical Reactions	0.70-5.00 keV	Ex	1067
$\mathbf{O^+ + B}$	Desorption	0.70-5.00 keV	Ex	1067
$\mathbf{O^+ + B}$	Sputtering	0.70-5.00 keV	Ex	1067
$\mathbf{O^+ + B}$	Sputtering	0.70-5.00 keV	Ex	1067
$\mathbf{O^+ + B}$	Trapping, Detrapping	0.70-5.00 keV	Ex	1067
$\mathbf{O^+ + C}$	Chemical Reactions	0.70-5.00 keV	Ex	1067
$\mathbf{O^+ + C}$	Desorption	0.70-5.00 keV	Ex	1067
$\mathbf{O^+ + C}$	Second. Elect. Emission	0.10-30.00 keV	Ex	1311
$\mathbf{O^+ + C}$	Second. Elect. Emission	0.10-5.00 keV	Ex	1181
$\mathbf{O^+ + C}$	Sputtering	0.70-5.00 keV	Ex	1067
$\mathbf{O^+ + C}$	Sputtering	0.70-5.00 keV	Ex	1067
$\mathbf{O^+ + C}$	Trapping, Detrapping	0.70-5.00 keV	Ex	1067
$\mathbf{O^+ + Al}$	Reflection	5.00-50.00 keV	Ex	1309
$\mathbf{O^+ + Al}$	Second. Elect. Emission	5.00-50.00 keV	Ex	1309
$\mathbf{O^+ + Al}$	Second. Elect. Emission	0.60 a.u.	Ex	1209
$\mathbf{O^+ + Al}$	Sputtering	5.00-50.00 keV	Ex	1309
$\mathbf{O^+ + Si}$	Reflection	10.00-150.00 eV	Ex	1133
$\mathbf{O^+ + Si}$	Reflection	10.00-150.00 eV	Ex	1133
$\mathbf{O^+ + Si}$	Sputtering	10.00-150.00 eV	Ex	1133
$\mathbf{O^+ + SiO}$	Reflection	10.00-150.00 eV	Ex	1133
$\mathbf{O^+ + SiO}$	Reflection	10.00-150.00 eV	Ex	1133
$\mathbf{O^+ + SiO}$	Sputtering	10.00-150.00 eV	Ex	1133
$\mathbf{O^+ + K}$	Reflection	5.00-50.00 keV	Ex	1309
$\mathbf{O^+ + K}$	Second. Elect. Emission	5.00-50.00 keV	Ex	1309
$\mathbf{O^+ + K}$	Sputtering	5.00-50.00 keV	Ex	1309
$\mathbf{O^+ + TiN}$	Second. Elect. Emission	28.00-182.00 MeV	Ex	1093
$\mathbf{O^+ + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex	1104
$\mathbf{O^+ + Au}$	Second. Elect. Emission	5.00 keV/amu	Ex	1246
$\mathbf{O^+ + Au}$	Second. Elect. Emission	0.10-30.00 keV	Th	1213

$\mathbf{O^{+} + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex	1183
$\mathbf{O^{+} + MgO}$	Reflection	0.09-3.00 keV	Ex	1164
$\mathbf{O^{+} + NaCl}$	Reflection	2.00-10.00 keV	Th	1150
$\mathbf{O^{+} + SS}$	Second. Elect. Emission	28.00-182.00 MeV	Ex	1093
$\mathbf{O^{2+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex	1209
$\mathbf{O^{2+} + Au}$	Second. Elect. Emission	5.00 keV/amu	Ex	1246
$\mathbf{O^{2+} + LiF}$	Reflection	2.00 keV	Ex	1253
$\mathbf{O^{2+} + LiF}$	Reflection	10.00 keV	Ex	1244
$\mathbf{O^{2+} + LiF}$	Second. Elect. Emission	2.00 keV	Ex	1253
$\mathbf{O^{2+} + LiF}$	Second. Elect. Emission	10.00 keV	Ex	1244
$\mathbf{O^{3+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex	1209
$\mathbf{O^{3+} + Au}$	Second. Elect. Emission	5.00 keV/amu	Ex	1246
$\mathbf{O^{3+} + LiF}$	Reflection	2.00 keV	Ex	1253
$\mathbf{O^{3+} + LiF}$	Reflection	10.00 keV	Ex	1244
$\mathbf{O^{3+} + LiF}$	Second. Elect. Emission	2.00 keV	Ex	1253
$\mathbf{O^{3+} + LiF}$	Second. Elect. Emission	10.00 keV	Ex	1244
$\mathbf{O^{4+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex	1209
$\mathbf{O^{5+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex	1209
$\mathbf{O^{5+} + LiF}$	Reflection	2.00 keV	Ex	1253
$\mathbf{O^{5+} + LiF}$	Reflection	10.00 keV	Ex	1244
$\mathbf{O^{5+} + LiF}$	Second. Elect. Emission	2.00 keV	Ex	1253
$\mathbf{O^{5+} + LiF}$	Second. Elect. Emission	10.00 keV	Ex	1244
$\mathbf{O^{6+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th	1298
$\mathbf{O^{6+} + Al}$	Second. Elect. Emission	78.00-91.00 eV	Ex	1240
$\mathbf{O^{6+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex	1209
$\mathbf{O^{6+} + Si}$	Second. Elect. Emission	78.00-91.00 eV	Ex	1240
$\mathbf{O^{6+} + Au}$	Reflection	2.50 keV	Ex	1242
$\mathbf{O^{6+} + LiF}$	Reflection	2.00 keV	Ex	1253
$\mathbf{O^{6+} + LiF}$	Reflection	10.00 keV	Ex	1244
$\mathbf{O^{6+} + LiF}$	Second. Elect. Emission	2.00 keV	Ex	1253
$\mathbf{O^{6+} + LiF}$	Second. Elect. Emission	10.00 keV	Ex	1244
$\mathbf{O^{7+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th	1298
$\mathbf{O^{7+} + Al}$	Second. Elect. Emission	78.00-91.00 eV	Ex	1240
$\mathbf{O^{7+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex	1209
$\mathbf{O^{7+} + Si}$	Second. Elect. Emission	78.00-91.00 eV	Ex	1240
$\mathbf{O^{7+} + Au}$	Second. Elect. Emission	3.60-6.15 keV	Ex	1252
$\mathbf{O^{7+} + LiF}$	Second. Elect. Emission	3.60-6.15 keV	Ex	1252
$\mathbf{O_2 + Al}$	Adsorption, Desorption	10.00-20.00 keV	Ex	1276
$\mathbf{O_2 + Cu}$	Neutraliz., Ioniz., Dissoc.		Th	1300
$\mathbf{O_2 + Pd}$	Adsorption, Desorption	300.00 K	Ex	1286
$\mathbf{O_2 + Pd}$	Desorption	300.00 K	Ex	1286
$\mathbf{O_2 + Pd}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex	1286
$\mathbf{O_2 + Ag}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th	1278
$\mathbf{O_2 + Ag}$	Neutraliz., Ioniz., Dissoc.	40.00-200.00 K	Ex	1084
$\mathbf{O_2 + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex	1104
$\mathbf{O_2 + Au}$	Adsorption, Desorption	300.00 K	Ex	1318
$\mathbf{O_2 + MgO}$	Reflection	0.09-3.00 keV	Ex	1164
$\mathbf{O_2 + MgO}$	Reflection	0.09-3.00 keV	Ex	1164
$\mathbf{O_2 + Cs + Ag}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th	1278
$\mathbf{O_2{}^{+} + Al}$	Sputtering	5.50 keV	Ex	1091
$\mathbf{O_2{}^{+} + Si}$	Sputtering	5.50 keV	Ex	1091
$\mathbf{O_2{}^{+} + SiO_2}$	Sputtering	5.50 keV	Ex	1091
$\mathbf{O_2{}^{+} + Ti}$	Sputtering	5.50 keV	Ex	1091
$\mathbf{O_2{}^{+} + TiSi_2}$	Sputtering	5.50 keV	Ex	1091
$\mathbf{O_2{}^{+} + FeS_2}$	Sputtering	6.50-10.00 keV	E/T	1152
$\mathbf{O_2{}^{+} + Co}$	Sputtering	5.50 keV	Ex	1091
$\mathbf{O_2{}^{+} + Cu}$	Sputtering	5.50 keV	Ex	1091

$\mathbf{O_2^+ + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex	1104
$\mathbf{O_2^+ + Ta}$	Sputtering	5.50 keV	Ex	1091
$\mathbf{O_2^+ + W}$	Sputtering	5.50 keV	Ex	1091
$\mathbf{O_2^+ + Pt}$	Sputtering	5.50 keV	Ex	1091
$\mathbf{O_2^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex	1183
$\mathbf{O_2^+ + PbS}$	Sputtering	6.50-10.00 keV	E/T	1152
$\mathbf{O_2^+ + MgO}$	Reflection	0.09-3.00 keV	Ex	1164
F + LiF	Reflection		Th	1218
F + LiF	Neutraliz., Ioniz., Dissoc.		Th	1218
$\mathbf{F^+ + NaCl}$	Reflection	2.00-10.00 keV	Th	1150
$\mathbf{F^{5+} + C}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{5+} + Al}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{5+} + Au}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{6+} + C}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{6+} + Al}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{6+} + Au}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{7+} + C}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{7+} + Al}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{7+} + Au}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{8+} + C}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{8+} + Al}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{8+} + Au}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{9+} + C}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{9+} + Al}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F^{9+} + Au}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex	1186
$\mathbf{F_2 + Si}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex	1324
$\mathbf{Ne + C_2H_2 + Cu}$	Reflection	1.00 eV	Th	1215
$\mathbf{Ne + SiO_2}$	Adsorption, Desorption	300.00 K	Ex	1096
Ne + Ti	Adsorption, Desorption	300.00 K	Ex	1096
Ne + Cu	Reflection	32.00-46.00 meV	E/T	1231
Ne + Ag	Adsorption, Desorption	300.00 K	Ex	1096
Ne + CO + Cu	Reflection	1.00 eV	Th	1215
$\mathbf{Ne^+ + Be}$	Surface Interactions	5.00-20.00 keV	Ex	1191
$\mathbf{Ne^+ + Be}$	Reflection	5.00-20.00 keV	Ex	1191
$\mathbf{Ne^+ + Be}$	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
$\mathbf{Ne^+ + C}$	Sputtering	100.00-800.00 eV	Ex	1147
$\mathbf{Ne^+ + Mg}$	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
$\mathbf{Ne^+ + Al}$	Surface Interactions	5.00-20.00 keV	Ex	1157
$\mathbf{Ne^+ + Al}$	Surface Interactions	5.00-20.00 keV	Ex	1157
$\mathbf{Ne^+ + Al}$	Reflection	5.00-50.00 keV	Ex	1309
$\mathbf{Ne^+ + Al}$	Reflection	3.00 keV	Ex	1302
$\mathbf{Ne^+ + Al}$	Reflection	3.00 keV	Ex	1302
$\mathbf{Ne^+ + Al}$	Reflection	3.00-50.00 keV	Ex	1277
$\mathbf{Ne^+ + Al}$	Reflection	2.00-8.00 keV	Ex	1264
$\mathbf{Ne^+ + Al}$	Reflection	0.50-2.00 keV	E/T	1132
$\mathbf{Ne^+ + Al}$	Reflection	0.50-2.00 keV	E/T	1132
$\mathbf{Ne^+ + Al}$	Second. Elect. Emission	5.00-50.00 keV	Ex	1309
$\mathbf{Ne^+ + Al}$	Second. Elect. Emission	3.00-50.00 keV	Ex	1277
$\mathbf{Ne^+ + Al}$	Second. Elect. Emission	2.00-8.00 keV	Ex	1264
$\mathbf{Ne^+ + Al}$	Second. Elect. Emission	0.10-10.00 keV	E/T	1258
$\mathbf{Ne^+ + Al}$	Second. Elect. Emission	5.00 keV	Ex	1142
$\mathbf{Ne^+ + Al}$	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
$\mathbf{Ne^+ + Al}$	Second. Elect. Emission	3.00-10.00 keV	Th	1128
$\mathbf{Ne^+ + Al}$	Sputtering	5.00-50.00 keV	Ex	1309
$\mathbf{Ne^+ + Al}$	Sputtering	5.00-20.00 keV	Ex	1157
$\mathbf{Ne^+ + Al}$	Sputtering	5.00-20.00 keV	Ex	1157
$\mathbf{Ne^+ + Si}$	Surface Interactions	0.10-300.00 keV	Ex	1308

Ne^+ + Si	Sputtering	0.10-300.00 keV	Ex	1308
Ne^+ + Cl	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex	1140
Ne^+ + K	Reflection	5.00-50.00 keV	Ex	1309
Ne^+ + K	Second. Elect. Emission	5.00-50.00 keV	Ex	1309
Ne^+ + K	Sputtering	5.00-50.00 keV	Ex	1309
Ne^+ + TiO_2	Reflection	0.50-2.00 keV	E/T	1132
Ne^+ + TiO_2	Reflection	0.50-2.00 keV	E/T	1132
Ne^+ + Ni	Reflection	4.00 keV	Ex	1168
Ne^+ + Ni	Reflection	0.50-2.00 keV	E/T	1132
Ne^+ + Ni	Reflection	0.50-2.00 keV	E/T	1132
Ne^+ + Ni	Sputtering	10.00 keV	E/T	1327
Ne^+ + Cu	Surface Interactions	5.00-20.00 keV	Ex	1157
Ne^+ + Cu	Surface Interactions	5.00-20.00 keV	Ex	1157
Ne^+ + Cu	Reflection	3.00 keV	E/T	1136
Ne^+ + Cu	Reflection	0.50-2.00 keV	E/T	1132
Ne^+ + Cu	Reflection	0.50-2.00 keV	E/T	1132
Ne^+ + Cu	Sputtering	5.00-20.00 keV	Ex	1291
Ne^+ + Cu	Sputtering	5.00-20.00 keV	Ex	1291
Ne^+ + Cu	Sputtering	5.00-20.00 keV	Ex	1157
Ne^+ + Cu	Sputtering	5.00-20.00 keV	Ex	1157
Ne^+ + Cu	Sputtering	1.00 keV	Th	1029
Ne^+ + Cu	Sputtering	1.00 keV	Th	1029
Ne^+ + Rb	Reflection	0.50-2.00 keV	E/T	1132
Ne^+ + Rb	Reflection	0.50-2.00 keV	E/T	1132
Ne^+ + Ag	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex	1140
Ne^+ + Ba	Reflection	2.00-5.00 keV	Ex	1234
Ne^+ + Ba	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex	1234
Ne^+ + W	Reflection	2.00-5.00 keV	Ex	1234
Ne^+ + W	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex	1234
Ne^+ + Re	Reflection	2.00-5.00 keV	Ex	1234
Ne^+ + Re	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex	1234
Ne^+ + Pt	Reflection	40.00-140.00 eV	Ex	1144
Ne^+ + Au	Reflection	40.00-140.00 eV	Ex	1144
Ne^+ + Au	Reflection	0.50-2.00 keV	E/T	1132
Ne^+ + Au	Reflection	0.50-2.00 keV	E/T	1132
Ne^+ + Au	Second. Elect. Emission	5.00 keV/amu	Ex	1246
Ne^+ + Au	Second. Elect. Emission	0.10-30.00 keV	Th	1213
Ne^+ + Au	Second. Elect. Emission	3.00-10.00 keV	Th	1128
Ne^+ + LiF	Reflection	2.00 keV	Ex	1162
Ne^+ + LiF	Second. Elect. Emission	2.00 keV	Ex	1162
Ne^+ + LiF	Neutraliz., Ioniz., Dissoc.	2.00 keV	Ex	1162
Ne^+ + MgO	Second. Elect. Emission	0.06-1.00 keV	Ex	1100
Ne^+ + O + Al	Desorption	5.00-20.00 keV	Ex	1157
Ne^+ + O + Cu	Desorption	5.00-20.00 keV	Ex	1157
Ne^+ + KBr	Reflection	3.00 keV	Ex	1302
Ne^+ + KBr	Reflection	3.00 keV	Ex	1302
Ne^{2+} + Al	Reflection	2.00-8.00 keV	Ex	1264
Ne^{2+} + Al	Second. Elect. Emission	2.00-8.00 keV	Ex	1264
Ne^{2+} + Al	Second. Elect. Emission	0.10-10.00 keV	E/T	1258
Ne^{2+} + Au	Second. Elect. Emission	5.00 keV/amu	Ex	1246
Ne^{3+} + Al	Reflection	2.00-8.00 keV	Ex	1264
Ne^{3+} + Al	Second. Elect. Emission	2.00-8.00 keV	Ex	1264
Ne^{3+} + Au	Second. Elect. Emission	0.10-10.00 keV	E/T	1258
Ne^{3+} + Au	Second. Elect. Emission	5.00 keV/amu	Ex	1246
Ne^{4+} + Al	Reflection	2.00-8.00 keV	Ex	1264
Ne^{4+} + Al	Second. Elect. Emission	2.00-8.00 keV	Ex	1264
Ne^{4+} + Al	Second. Elect. Emission	1.00-4.00 keV	Ex	1177

Ne^{4+} + Al	Second. Elect. Emission	1.00-4.00 keV	Ex	1143
Ne^{4+} + Au	Second. Elect. Emission	0.10-10.00 keV	E/T	1258
Ne^{5+} + Au	Second. Elect. Emission	0.10-10.00 keV	E/T	1258
Ne^{6+} + Au	Second. Elect. Emission	0.10-10.00 keV	E/T	1258
Ne^{7+} + Au	Second. Elect. Emission	0.10-10.00 keV	E/T	1258
Ne^{8+} + Al	Second. Elect. Emission	0.01-1.00 keV	Th	1298
Ne^{8+} + Au	Second. Elect. Emission	0.10-10.00 keV	E/T	1258
Ne^{9+} + Al	Second. Elect. Emission	0.01-1.00 keV	Th	1298
Ne^{9+} + Al	Second. Elect. Emission	0.14-4.50 keV	Th	1251
Ne^{9+} + Al	Second. Elect. Emission	78.00-91.00 eV	Ex	1240
Ne^{9+} + Au	Second. Elect. Emission	0.10-10.00 keV	E/T	1258
Ne^{10+} + Ni	Reflection	2.10 keV/amu	Th	1210
Ne^{10+} + LiF	Neutraliz., Ioniz., Dissoc.	1.00 a.u.	Th	1139
Ne^{19+} + C	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ne^{19+} + Al	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ne^{19+} + Ni	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ne^{19+} + Ag	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ne^{19+} + Au	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ne^{28+} + C	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ne^{28+} + Al	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ne^{28+} + Ni	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ne^{28+} + Ag	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ne^{28+} + Au	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Na + Cu	Adsorption, Desorption	600.00 eV	E/T	1214
Na + Cu	Reflection	600.00 eV	E/T	1214
Na + Cu	Trapping, Detrapping	600.00 eV	E/T	1214
Na^{+} + Na + Ru	Second. Elect. Emission	0.12-1.62 keV	Ex	1189
Na^{+} + Cl + Ru	Second. Elect. Emission	0.12-1.62 keV	Ex	1189
Na^{+} + Ni	Reflection	4.00 keV	Ex	1168
Na^{+} + Ru	Second. Elect. Emission	0.12-1.62 keV	Ex	1189
Na^{+} + I + Ru	Second. Elect. Emission	0.12-1.62 keV	Ex	1189
Na^{+} + NaCl	Reflection	2.00-10.00 keV	Th	1150
Al^{+} + Al	Adsorption, Desorption	25.00-150.00 eV	Th	1098
Al^{+} + Al	Sputtering	25.00-150.00 eV	Th	1098
Al^{+} + Si	Sputtering	1.50-3.00 keV	Th	1313
Al^{+} + Si	Sputtering	1.50-3.00 keV	Th	1313
Al_2^{+} + Al	Sputtering	0.20-1.00 keV	Th	1200
Al_2^{+} + Si	Sputtering	1.50-3.00 keV	Th	1313
Al_2^{+} + Si	Sputtering	1.50-3.00 keV	Th	1313
Al_2^{+} + Ni_3Al	Sputtering	0.20-1.00 keV	Th	1200
Si^{+} + Al	Sputtering	0.50-5.00 MeV	Ex	1194
Si^{+} + Si	Reflection	0.00-1.00 keV	Th	1179
Si^{+} + Si	Sputtering	0.50-5.00 MeV	Ex	1194
Si^{+} + GaAs	Sputtering	0.50-5.00 MeV	Ex	1194
Si^{+} + GaP	Sputtering	0.50-5.00 MeV	Ex	1194
P + Si	Adsorption, Desorption	300.00 K	Ex	1094
S^{7+} + Au	Sputtering	80.00-200.00 MeV	Ex	1076
Cl^{+} + Al	Sputtering	50.00-600.00 keV	Ex	1263
Cl^{2+} + Al	Sputtering	50.00-600.00 keV	Ex	1263
Cl^{3+} + Al	Sputtering	50.00-600.00 keV	Ex	1263
Cl^{4+} + Al	Sputtering	50.00-600.00 keV	Ex	1263
Cl^{5+} + Al	Sputtering	50.00-600.00 keV	Ex	1263
Cl^{6+} + Al	Sputtering	50.00-600.00 keV	Ex	1263
Cl^{7+} + Al	Sputtering	50.00-600.00 keV	Ex	1263
Cl^{8+} + Al	Sputtering	50.00-600.00 keV	Ex	1263
Cl^{9+} + Al	Sputtering	50.00-600.00 keV	Ex	1263
Cl^{10+} + Al	Sputtering	50.00-600.00 keV	Ex	1263

Cl_2 + Si	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex	1324
Ar + Si	Sputtering	11.00 keV	Ex	1126
Ar + SiO_2	Adsorption, Desorption	300.00 K	Ex	1096
Ar + Ti	Adsorption, Desorption	300.00 K	Ex	1096
Ar + Cu	Reflection	32.00-46.00 meV	E/T	1231
Ar + Ag	Adsorption, Desorption	300.00 K	Ex	1096
Ar + Ba	Sputtering	0.25-2.50 keV	Th	1284
Ar + H_2 + Al	Desorption	570.00 keV	Ex	1196
Ar + H_2 + Al	Sputtering	570.00 keV	Ex	1196
Ar^+ + Be	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
Ar^+ + C	Chemical Reactions	0.50-5.00 keV	Ex	1137
Ar^+ + C	Second. Elect. Emission	0.04-2.00 MeV	Ex	1159
Ar^+ + Mg	Reflection	43.00-95.00 MeV	Ex	1262
Ar^+ + Mg	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
Ar^+ + Al	Surface Interactions	5.00-20.00 keV	Ex	1157
Ar^+ + Al	Surface Interactions	5.00-20.00 keV	Ex	1157
Ar^+ + Al	Reflection	5.00-50.00 keV	Ex	1309
Ar^+ + Al	Reflection	43.00-95.00 MeV	Ex	1262
Ar^+ + Al	Reflection	0.50-2.00 keV	E/T	1132
Ar^+ + Al	Reflection	0.50-2.00 keV	E/T	1132
Ar^+ + Al	Second. Elect. Emission	5.00-50.00 keV	Ex	1309
Ar^+ + Al	Second. Elect. Emission	5.00 keV	Ex	1142
Ar^+ + Al	Second. Elect. Emission	0.05-4.50 keV	Ex	1141
Ar^+ + Al	Neutraliz., Ioniz., Dissoc.	40.00 keV	Ex	1319
Ar^+ + Al	Sputtering	40.00 keV	Ex	1319
Ar^+ + Al	Sputtering	5.00-50.00 keV	Ex	1309
Ar^+ + Al	Sputtering	5.00-20.00 keV	Ex	1157
Ar^+ + Al	Sputtering	5.00-20.00 keV	Ex	1157
Ar^+ + Al	Sputtering	200.00-500.00 eV	Ex	1112
Ar^+ + Al	Sputtering	0.05-1.00 keV	Th	1097
Ar^+ + Al_2O_3	Sputtering	0.10-1.50 keV	Ex	1127
Ar^+ + Si	Surface Interactions	0.10-300.00 keV	Ex	1308
Ar^+ + Si	Sputtering	0.10-300.00 keV	Ex	1308
Ar^+ + Si	Sputtering	0.50-5.00 keV	Ex	1193
Ar^+ + Si	Sputtering	30.00-500.00 eV	Th	1119
Ar^+ + Si	Sputtering	0.05-1.00 keV	Th	1097
Ar^+ + SiO	Chemical Reactions	0.50-5.00 keV	Ex	1154
Ar^+ + SiO_2	Chemical Reactions	0.50-5.00 keV	Ex	1154
Ar^+ + SiO_2	Desorption	0.10-10.00 keV	E/T	1258
Ar^+ + SiO_2	Sputtering	0.10-10.00 keV	E/T	1258
Ar^+ + Cl	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex	1140
Ar^+ + Ar	Reflection	0.10-2.00 keV	Ex	1221
Ar^+ + Ar	Sputtering	0.10-2.00 keV	Ex	1221
Ar^+ + K	Reflection	5.00-50.00 keV	Ex	1309
Ar^+ + K	Second. Elect. Emission	5.00-50.00 keV	Ex	1309
Ar^+ + K	Sputtering	5.00-50.00 keV	Ex	1309
Ar^+ + $CaCeF_2$	Sputtering	0.50-5.00 keV	Ex	1153
Ar^+ + Ti	Chemical Reactions	0.50-5.00 keV	Ex	1137
Ar^+ + Ti	Reflection	43.00-95.00 MeV	Ex	1262
Ar^+ + Ti	Sputtering	0.05-1.00 keV	Th	1097
Ar^+ + Ti	Sputtering	400.00-700.00 eV	Ex	1090
Ar^+ + Ti	Sputtering	400.00-700.00 eV	Ex	1090
Ar^+ + TiN	Sputtering	400.00-700.00 eV	Ex	1090
Ar^+ + TiN	Sputtering	400.00-700.00 eV	Ex	1090
Ar^+ + TiO_2	Reflection	0.50-2.00 keV	E/T	1132
Ar^+ + TiO_2	Reflection	0.50-2.00 keV	E/T	1132
Ar^+ + V	Reflection	43.00-95.00 MeV	Ex	1262

Ar^+ + **V**	Sputtering	0.05-1.00 keV	Th	1097
Ar^+ + **Cr**	Reflection	43.00-95.00 MeV	Ex	1262
Ar^+ + **Cr**	Sputtering	0.05-1.00 keV	Th	1097
Ar^+ + **Fe**	Reflection	43.00-95.00 MeV	Ex	1262
Ar^+ + **Fe**	Sputtering		Th	1111
Ar^+ + **Fe**	Sputtering	0.60-1.00 keV	E/T	1107
Ar^+ + **Fe**	Sputtering	0.05-1.00 keV	Th	1097
Ar^+ + **Co**	Reflection	43.00-95.00 MeV	Ex	1262
Ar^+ + **Co**	Sputtering	3.00-15.00 keV	Ex	1125
Ar^+ + **Ni**	Reflection	43.00-95.00 MeV	Ex	1262
Ar^+ + **Ni**	Reflection	25.00-80.00 keV	Th	1190
Ar^+ + **Ni**	Reflection	0.50-2.00 keV	E/T	1132
Ar^+ + **Ni**	Reflection	0.50-2.00 keV	E/T	1132
Ar^+ + **Ni**	Sputtering	20.00 keV	Th	1328
Ar^+ + **Ni**	Sputtering	3.00-15.00 keV	Ex	1125
Ar^+ + **Ni**	Sputtering	0.05-1.00 keV	Th	1097
Ar^+ + **Cu**	Surface Interactions	0.10-300.00 keV	Ex	1308
Ar^+ + **Cu**	Surface Interactions	5.00-20.00 keV	Ex	1157
Ar^+ + **Cu**	Surface Interactions	5.00-20.00 keV	Ex	1157
Ar^+ + **Cu**	Reflection	43.00-95.00 MeV	Ex	1262
Ar^+ + **Cu**	Reflection	3.00 keV	E/T	1136
Ar^+ + **Cu**	Reflection	0.50-2.00 keV	E/T	1132
Ar^+ + **Cu**	Reflection	0.50-2.00 keV	E/T	1132
Ar^+ + **Cu**	Reflection	5.00 keV	Th	1115
Ar^+ + **Cu**	Second. Elect. Emission	2.40-125.00 eV/amu	Ex	1247
Ar^+ + **Cu**	Sputtering	0.10-300.00 keV	Ex	1308
Ar^+ + **Cu**	Sputtering	5.00-20.00 keV	Ex	1291
Ar^+ + **Cu**	Sputtering	5.00-20.00 keV	Ex	1291
Ar^+ + **Cu**	Sputtering	400.00-800.00 eV	E/T	1236
Ar^+ + **Cu**	Sputtering	5.00 keV	Th	1205
Ar^+ + **Cu**	Sputtering	1.80-3.60 keV	Ex	1204
Ar^+ + **Cu**	Sputtering	3.00 keV	Th	1202
Ar^+ + **Cu**	Sputtering	5.00-20.00 keV	Ex	1157
Ar^+ + **Cu**	Sputtering	5.00-20.00 keV	Ex	1157
Ar^+ + **Cu**	Sputtering	3.00-15.00 keV	Ex	1125
Ar^+ + **Cu**	Sputtering	0.60-8.00 keV	Th	1120
Ar^+ + **Cu**	Sputtering	5.00 keV	Th	1115
Ar^+ + **Cu**	Sputtering	0.05-1.00 keV	Th	1097
Ar^+ + **Cu**	Sputtering	1.00 keV	Th	1029
Ar^+ + **Cu**	Sputtering	1.00 keV	Th	1029
Ar^+ + **Cu** + **Ni**	Chemical Reactions	5.00 keV	Ex	1282
Ar^+ + **Cu** + **Ni**	Desorption	5.00 keV	Ex	1282
Ar^+ + **Cu** + **Ni**	Sputtering	5.00 keV	Ex	1282
Ar^+ + **Zn**	Reflection	43.00-95.00 MeV	Ex	1262
Ar^+ + **Ge**	Sputtering	0.50-5.00 keV	Ex	1193
Ar^+ + **Ge**	Sputtering	0.05-100.00 keV	Th	1151
Ar^+ + **Ge**	Sputtering	0.05-1.00 keV	Th	1097
Ar^+ + **Kr**	Reflection	0.10-2.00 keV	Ex	1221
Ar^+ + **Kr**	Sputtering	0.10-2.00 keV	Ex	1221
Ar^+ + **Rb**	Reflection	0.50-2.00 keV	E/T	1132
Ar^+ + **Rb**	Reflection	0.50-2.00 keV	E/T	1132
Ar^+ + **Rb**	Sputtering	0.60-8.00 keV	Th	1120
Ar^+ + **Sr**	Sputtering	3.00-15.00 keV	Ex	1125
Ar^+ + **Y**	Reflection	43.00-95.00 MeV	Ex	1262
Ar^+ + **Zr**	Sputtering	0.05-1.00 keV	Th	1097
Ar^+ + **Nb**	Reflection	43.00-95.00 MeV	Ex	1262
Ar^+ + **Nb**	Sputtering		Th	1111

Ar^{+} + Mo	Reflection	43.00-95.00 MeV	Ex	1262
Ar^{+} + Rh	Sputtering	0.05-1.00 keV	Th	1097
Ar^{+} + Ag	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex	1140
Ar^{+} + Ag	Sputtering	5.00-15.00 keV	E/T	1235
Ar^{+} + Ag	Sputtering	3.00-15.00 keV	Ex	1125
Ar^{+} + Ag	Sputtering		Th	1111
Ar^{+} + Sn	Reflection	43.00-95.00 MeV	Ex	1262
Ar^{+} + Sn	Sputtering	3.00 keV	Ex	1116
Ar^{+} + Xe	Reflection	0.10-2.00 keV	Ex	1221
Ar^{+} + Xe	Sputtering	0.10-2.00 keV	Ex	1221
Ar^{+} + Cs	Sputtering	0.60-8.00 keV	Th	1120
Ar^{+} + Ba	Reflection	2.00-5.00 keV	Ex	1234
Ar^{+} + Ba	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex	1234
Ar^{+} + Nd	Reflection	43.00-95.00 MeV	Ex	1262
Ar^{+} + Tb	Reflection	43.00-95.00 MeV	Ex	1262
Ar^{+} + Ho	Reflection	43.00-95.00 MeV	Ex	1262
Ar^{+} + Ta	Reflection	43.00-95.00 MeV	Ex	1262
Ar^{+} + Ta	Sputtering		Th	1111
Ar^{+} + W	Reflection	2.00-5.00 keV	Ex	1234
Ar^{+} + W	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex	1234
Ar^{+} + W	Sputtering	0.60-8.00 keV	Th	1120
Ar^{+} + W	Sputtering	0.05-1.00 keV	Th	1097
Ar^{+} + Re	Reflection	2.00-5.00 keV	Ex	1234
Ar^{+} + Re	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex	1234
Ar^{+} + Pt	Sputtering	0.20-50.00 keV	Th	1106
Ar^{+} + Au	Reflection	0.50-2.00 keV	E/T	1132
Ar^{+} + Au	Reflection	0.50-2.00 keV	E/T	1132
Ar^{+} + Au	Sputtering	0.10-1.50 keV	Ex	1127
Ar^{+} + Au	Sputtering	0.60-8.00 keV	Th	1120
Ar^{+} + Pb	Sputtering	3.00 keV	Th	1202
Ar^{+} + perturbation	Reflection	50.00-500.00 eV	Th	1113
Ar^{+} + perturbation	Sputtering	0.05-100.00 keV	Th	1151
Ar^{+} + perturbation	Sputtering	50.00-500.00 eV	Th	1113
Ar^{+} + perturbation	Sputtering	0.60-1.00 keV	E/T	1107
Ar^{+} + GaAs	Sputtering	5.00 keV	Ex	1173
Ar^{+} + CsI	Reflection	3.00-30.00 keV	Ex	1176
Ar^{+} + O + Al	Desorption	10.00-20.00 keV	Ex	1276
Ar^{+} + O + Al	Desorption	5.00-20.00 keV	Ex	1157
Ar^{+} + O + Al	Sputtering	10.00-20.00 keV	Ex	1276
Ar^{+} + O + Cu	Desorption	5.00-20.00 keV	Ex	1157
Ar^{+} + CaF_2	Sputtering	0.50-5.00 keV	Ex	1153
Ar^{+} + SrCeYbO	Second. Elect. Emission	1.00-100.00 keV	Ex	1238
Ar^{2+} + Cu	Second. Elect. Emission	2.40-125.00 eV/amu	Ex	1247
Ar^{2+} + Au	Reflection	2.40-35.00 keV	Ex	1259
Ar^{2+} + LiF	Second. Elect. Emission	450.00-900.00 eV/amu	Ex	1257
Ar^{2+} + CsI	Reflection	3.00-30.00 keV	Ex	1176
Ar^{3+} + Al_2O_3	Sputtering	0.10-1.50 keV	Ex	1127
Ar^{3+} + Au	Reflection	2.40-35.00 keV	Ex	1259
Ar^{3+} + Au	Sputtering	0.10-1.50 keV	Ex	1127
Ar^{3+} + CsI	Reflection	3.00-30.00 keV	Ex	1176
Ar^{4+} + SiO_2	Desorption	0.10-10.00 keV	E/T	1258
Ar^{4+} + SiO_2	Sputtering	0.10-10.00 keV	E/T	1258
Ar^{4+} + Au	Reflection	2.40-35.00 keV	Ex	1259
Ar^{4+} + CsI	Reflection	3.00-30.00 keV	Ex	1176
Ar^{5+} + Au	Reflection	2.40-35.00 keV	Ex	1259
Ar^{5+} + CsI	Reflection	3.00-30.00 keV	Ex	1176
Ar^{6+} + Au	Reflection	2.40-35.00 keV	Ex	1259

$\mathbf{Ar^{6+} + Au}$	Reflection	4.00 keV	Ex	1243
$\mathbf{Ar^{6+} + Au}$	Second. Elect. Emission	0.45 keV/amu	Ex	1254
$\mathbf{Ar^{6+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex	1243
$\mathbf{Ar^{6+} + CsI}$	Reflection	3.00-30.00 keV	Ex	1176
$\mathbf{Ar^{7+} + Au}$	Reflection	2.00-8.00 keV	Ex	1261
$\mathbf{Ar^{7+} + Au}$	Reflection	2.40-35.00 keV	Ex	1259
$\mathbf{Ar^{7+} + Au}$	Reflection	4.00 keV	Ex	1243
$\mathbf{Ar^{7+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex	1243
$\mathbf{Ar^{7+} + CsI}$	Reflection	3.00-30.00 keV	Ex	1176
$\mathbf{Ar^{8+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th	1298
$\mathbf{Ar^{8+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Ar^{8+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T	1258
$\mathbf{Ar^{8+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T	1258
$\mathbf{Ar^{8+} + Au}$	Reflection	2.00-8.00 keV	Ex	1261
$\mathbf{Ar^{8+} + Au}$	Reflection	2.40-35.00 keV	Ex	1259
$\mathbf{Ar^{8+} + Au}$	Reflection	4.00 keV	Ex	1243
$\mathbf{Ar^{8+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex	1243
$\mathbf{Ar^{8+} + Au}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Ar^{8+} + LiF}$	Second. Elect. Emission	450.00-900.00 eV/amu	Ex	1257
$\mathbf{Ar^{8+} + CsI}$	Reflection	3.00-30.00 keV	Ex	1176
$\mathbf{Ar^{9+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th	1298
$\mathbf{Ar^{9+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Ar^{9+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T	1258
$\mathbf{Ar^{9+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T	1258
$\mathbf{Ar^{9+} + Au}$	Reflection	2.00-8.00 keV	Ex	1261
$\mathbf{Ar^{9+} + Au}$	Reflection	2.40-35.00 keV	Ex	1259
$\mathbf{Ar^{9+} + Au}$	Reflection	4.00 keV	Ex	1243
$\mathbf{Ar^{9+} + Au}$	Reflection	20.00 keV	Ex	1178
$\mathbf{Ar^{9+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex	1243
$\mathbf{Ar^{9+} + Au}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Ar^{9+} + LiF}$	Second. Elect. Emission	450.00-900.00 eV/amu	Ex	1257
$\mathbf{Ar^{9+} + CsI}$	Reflection	3.00-30.00 keV	Ex	1176
$\mathbf{Ar^{10+} + Au}$	Reflection	2.00-8.00 keV	Ex	1261
$\mathbf{Ar^{10+} + Au}$	Reflection	2.40-35.00 keV	Ex	1259
$\mathbf{Ar^{10+} + Au}$	Reflection	4.00 keV	Ex	1243
$\mathbf{Ar^{10+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex	1243
$\mathbf{Ar^{10+} + CsI}$	Reflection	3.00-30.00 keV	Ex	1176
$\mathbf{Ar^{11+} + Au}$	Reflection	2.00-8.00 keV	Ex	1261
$\mathbf{Ar^{11+} + Au}$	Reflection	2.40-35.00 keV	Ex	1259
$\mathbf{Ar^{11+} + Au}$	Reflection	4.00 keV	Ex	1243
$\mathbf{Ar^{11+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex	1243
$\mathbf{Ar^{11+} + CsI}$	Reflection	3.00-30.00 keV	Ex	1176
$\mathbf{Ar^{12+} + Au}$	Reflection	2.00-8.00 keV	Ex	1261
$\mathbf{Ar^{12+} + Au}$	Reflection	2.40-35.00 keV	Ex	1259
$\mathbf{Ar^{12+} + Au}$	Reflection	4.00 keV	Ex	1243
$\mathbf{Ar^{12+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex	1243
$\mathbf{Ar^{13+} + Au}$	Reflection	2.00-8.00 keV	Ex	1261
$\mathbf{Ar^{13+} + Au}$	Reflection	2.40-35.00 keV	Ex	1259
$\mathbf{Ar^{13+} + Au}$	Reflection	4.00 keV	Ex	1243
$\mathbf{Ar^{13+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex	1243
$\mathbf{Ar^{17+} + C}$	Second. Elect. Emission	390.00 MeV/amu	Ex	1248
$\mathbf{Ar^{17+} + C + N}$	Desorption	6.00-13.00 MeV/amu	Ex	1110
$\mathbf{Ar^{17+} + SiO_2}$	Surface Interactions	130.00-200.00 keV	Ex	1080
$\mathbf{Ar^{17+} + N_2 + C}$	Desorption	6.00-13.00 MeV/amu	Ex	1260
$\mathbf{Ar^{18+} + C}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
$\mathbf{Ar^{18+} + C}$	Second. Elect. Emission	13.60-93.00 MeV/amu	Th	1249
$\mathbf{Ar^{18+} + Al}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265

Ar^{18+} + Ni	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ar^{18+} + Ag	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ar^{18+} + Au	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex	1265
Ca^{20+} + C	Second. Elect. Emission	9.00 MeV/amu	Ex	1237
V + Si	Sputtering	30.00-50.00 keV	Ex	1103
Fe^{+} + Au	Reflection	1.00-6.00 MeV	Ex	1155
Fe^{+} + NaCl	Reflection	2.00-10.00 keV	Th	1150
Co + Si	Sputtering	30.00-50.00 keV	Ex	1103
Co^{+} + Au	Second. Elect. Emission	0.20-3.00 MeV	Ex	1183
Ni + Si	Sputtering	30.00-50.00 keV	Ex	1103
Ni^{+} + SiO_2	Sputtering	89.00 MeV	Ex	1201
Ni^{+} + Ni	Adsorption, Desorption	25.00-150.00 eV	Th	1098
Ni^{+} + Ni	Reflection	0.00-1.00 keV	Th	1179
Ni^{+} + Ni	Sputtering	25.00-150.00 eV	Th	1098
Ni^{6+} + Au	Sputtering	80.00-200.00 MeV	Ex	1076
Ni^{19+} + C	Second. Elect. Emission	45.00 MeV/amu	Ex	1206
Ni^{19+} + Al	Second. Elect. Emission	45.00 MeV/amu	Ex	1206
Ni^{19+} + Au	Second. Elect. Emission	45.00 MeV/amu	Ex	1206
Ni^{24+} + C + N	Desorption	6.00-13.00 MeV/amu	Ex	1110
Ni^{28+} + C	Second. Elect. Emission	45.00 MeV/amu	Ex	1206
Ni^{28+} + Al	Second. Elect. Emission	45.00 MeV/amu	Ex	1206
Ni^{28+} + Ni	Second. Elect. Emission	45.00 MeV/amu	Ex	1206
Ni^{28+} + Ag	Second. Elect. Emission	45.00 MeV/amu	Ex	1206
Ni^{28+} + Au	Second. Elect. Emission	45.00 MeV/amu	Ex	1206
Cu^{-1+} + Al_2O_3	Reflection	60.00 keV	Ex	1109
Cu^{-1+} + Al_2O_3	Sputtering	60.00 keV	Ex	1109
Cu^{-1+} + MgO	Reflection	60.00 keV	Ex	1109
Cu^{-1+} + MgO	Sputtering	60.00 keV	Ex	1109
Cu^{+} + $MgAl_2O_3$	Desorption	60.00 keV	Ex	1158
Cu^{+} + Cu	Sputtering	1.00 keV	Th	1029
Cu^{+} + Cu	Sputtering	1.00 keV	Th	1029
Cu^{+} + MgO	Desorption	60.00 keV	Ex	1158
Cu^{+} + $LiNbO_3$	Desorption	60.00 keV	Ex	1158
Ga^{+} + Ga	Sputtering	75.00-200.00 eV	Th	1071
Ge^{28+} + C + N	Desorption	6.00-13.00 MeV/amu	Ex	1110
Kr + SiO_2	Adsorption, Desorption	300.00 K	Ex	1096
Kr + Ti	Adsorption, Desorption	300.00 K	Ex	1096
Kr + Cu	Reflection	32.00-46.00 meV	E/T	1231
Kr + Ag	Adsorption, Desorption	300.00 K	Ex	1096
Kr^{+} + Be	Surface Interactions	5.00-20.00 keV	Ex	1191
Kr^{+} + Be	Reflection	5.00-20.00 keV	Ex	1191
Kr^{+} + Si	Surface Interactions	0.10-300.00 keV	Ex	1308
Kr^{+} + Si	Sputtering	0.10-300.00 keV	Ex	1308
Kr^{+} + Ni	Sputtering	0.20-1.40 GeV	Ex	1329
Kr^{+} + Cu	Surface Interactions	0.10-300.00 keV	Ex	1308
Kr^{+} + Cu	Surface Interactions	10.00 MeV/amu	E/T	1081
Kr^{+} + Cu	Reflection	3.00 keV	E/T	1136
Kr^{+} + Cu	Reflection	5.00 keV	Th	1115
Kr^{+} + Cu	Second. Elect. Emission	2.40-125.00 eV/amu	Ex	1247
Kr^{+} + Cu	Sputtering	0.10-300.00 keV	Ex	1308
Kr^{+} + Cu	Sputtering	5.00 keV	Th	1115
Kr^{+} + Au	Sputtering	0.20-1.40 GeV	Ex	1329
Kr^{+} + GaAs	Sputtering	5.00 keV	Ex	1173
Kr^{2+} + Cu	Second. Elect. Emission	2.40-125.00 eV/amu	Ex	1247
Rb^{+} + Cu	Reflection	10.00-250.00 eV	Ex	1131
Rb^{+} + Cu	Reflection	10.00-250.00 eV	Ex	1131
Mo^{+} + Mo	Reflection	0.00-1.00 keV	Th	1179

$\mathbf{Mo^{39+} + C}$	Second. Elect. Emission	9.00 MeV/amu	Ex	1237
$\mathbf{Pd + MoS_2}$	Adsorption, Desorption		Th	1315
$\mathbf{Ag^+ + Ag}$	Sputtering	21.00 keV	Ex	1198
$\mathbf{Ag_2{}^+ + Ag}$	Sputtering	21.00 keV	Ex	1198
$\mathbf{Ag_3{}^+ + Ag}$	Sputtering	21.00 keV	Ex	1198
$\mathbf{I^{9+} + Au}$	Sputtering	80.00-200.00 MeV	Ex	1076
$\mathbf{I^{12+} + Au}$	Sputtering	80.00-200.00 MeV	Ex	1076
$\mathbf{Xe^+ + Al}$	Sputtering	200.00-500.00 eV	Ex	1112
$\mathbf{Xe^+ + Si}$	Surface Interactions	0.10-300.00 keV	Ex	1308
$\mathbf{Xe^+ + Si}$	Sputtering	0.10-300.00 keV	Ex	1308
$\mathbf{Xe^+ + Cu}$	Surface Interactions	10.00 MeV/amu	E/T	1081
$\mathbf{Xe^+ + Cu}$	Reflection	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^+ + Cu}$	Reflection	3.00 keV	E/T	1136
$\mathbf{Xe^+ + Cu}$	Reflection	5.00 keV	Th	1115
$\mathbf{Xe^+ + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^+ + Cu}$	Sputtering	0.60-8.00 keV	Th	1120
$\mathbf{Xe^+ + Cu}$	Sputtering	5.00 keV	Th	1115
$\mathbf{Xe^+ + Cu}$	Sputtering	1.00 keV	Th	1029
$\mathbf{Xe^+ + Cu}$	Sputtering	1.00 keV	Th	1029
$\mathbf{Xe^+ + Rb}$	Sputtering	0.60-8.00 keV	Th	1120
$\mathbf{Xe^+ + In}$	Sputtering	15.00 keV	Ex	1199
$\mathbf{Xe^+ + Cs}$	Sputtering	0.60-8.00 keV	Th	1120
$\mathbf{Xe^+ + W}$	Sputtering	0.60-8.00 keV	Th	1120
$\mathbf{Xe^+ + Au}$	Second. Elect. Emission	0.10-30.00 keV	Th	1213
$\mathbf{Xe^+ + Au}$	Second. Elect. Emission	3.00-10.00 keV	Th	1128
$\mathbf{Xe^+ + Au}$	Sputtering	0.60-8.00 keV	Th	1120
$\mathbf{Xe^{2+} + Cu}$	Reflection	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{2+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{3+} + Cu}$	Reflection	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{3+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{4+} + Cu}$	Reflection	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{4+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{5+} + Cu}$	Reflection	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{5+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{6+} + Cu}$	Reflection	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{6+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{7+} + C}$	Sputtering	700.00 eV	Ex	1250
$\mathbf{Xe^{7+} + Cu}$	Reflection	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{7+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{8+} + Cu}$	Reflection	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{8+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{9+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Xe^{9+} + Cu}$	Reflection	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{9+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{9+} + Au}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Xe^{10+} + Cu}$	Reflection	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{10+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex	1245
$\mathbf{Xe^{14+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Xe^{14+} + Au}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Xe^{15+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{15+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{15+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T	1258
$\mathbf{Xe^{15+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T	1258
$\mathbf{Xe^{15+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{15+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{16+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{16+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124

$\mathbf{Xe^{16+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{16+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{17+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{17+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{17+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{17+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{17+} + Au}$	Neutraliz., Ioniz., Dissoc.		Ex	1169
$\mathbf{Xe^{18+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{18+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{18+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{18+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{19+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{19+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Xe^{19+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{19+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{19+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{19+} + Au}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Xe^{20+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{20+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{20+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T	1258
$\mathbf{Xe^{20+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T	1258
$\mathbf{Xe^{20+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{20+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{20+} + Au}$	Neutraliz., Ioniz., Dissoc.		Ex	1169
$\mathbf{Xe^{21+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{21+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{21+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{21+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{22+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{22+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{22+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{22+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{23+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{23+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{23+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{23+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{24+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{24+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{24+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{24+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{25+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{25+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Xe^{25+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{25+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T	1258
$\mathbf{Xe^{25+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T	1258
$\mathbf{Xe^{25+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{25+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{25+} + Au}$	Sputtering	0.10-1.50 keV	Ex	1127
$\mathbf{Xe^{26+} + C}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Xe^{26+} + C}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Xe^{26+} + Al}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{26+} + Si}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Xe^{26+} + Si}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Xe^{26+} + Si}$	Sputtering	0.76-3.00 MeV	Ex	1124
$\mathbf{Xe^{26+} + SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Xe^{26+} + SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Xe^{26+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex	1124

Xe^{26+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{26+} + Ag	Surface Interactions	182.00-441.00 keV	Ex	1212
Xe^{26+} + Ag	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Xe^{26+} + Au	Surface Interactions	182.00-441.00 keV	Ex	1212
Xe^{26+} + Au	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Xe^{27+} + C	Surface Interactions	182.00-441.00 keV	Ex	1212
Xe^{27+} + C	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Xe^{27+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{27+} + Si	Surface Interactions	182.00-441.00 keV	Ex	1212
Xe^{27+} + Si	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Xe^{27+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{27+} + SiO_2	Surface Interactions	182.00-441.00 keV	Ex	1212
Xe^{27+} + SiO_2	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Xe^{27+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{27+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{27+} + Ag	Surface Interactions	182.00-441.00 keV	Ex	1212
Xe^{27+} + Ag	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Xe^{27+} + Au	Surface Interactions	182.00-441.00 keV	Ex	1212
Xe^{27+} + Au	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Xe^{28+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{28+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{28+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{28+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{29+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{29+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{29+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{29+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{30+} + C	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{30+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{30+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{30+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{30+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{31+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{31+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{31+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{31+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{32+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{32+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{32+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{32+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{33+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{33+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{33+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{33+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{34+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{34+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{34+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{34+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{35+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{35+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{35+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{35+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{36+} + C	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{36+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{36+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{36+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{36+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124

Xe^{37+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{37+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{37+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{37+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{38+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{38+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{38+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{38+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{39+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{39+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{39+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{39+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{40+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{40+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{40+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{40+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{41+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{41+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{41+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{41+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{42+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{42+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{42+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{42+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{43+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{43+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{43+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{43+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{44+} + C	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{44+} + C + N	Desorption	6.00-13.00 MeV/amu	Ex	1110
Xe^{44+} + Al	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{44+} + Si	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{44+} + Ni	Sputtering	0.76-3.00 MeV	Ex	1124
Xe^{44+} + Cu	Sputtering	0.76-3.00 MeV	Ex	1124
Cs^{+} + D_2O	Chemical Reactions	30.00 eV	Ex	1134
Cs^{+} + D_2O	Reflection	30.00 eV	Ex	1134
Cs^{+} + D_2O	Sputtering	30.00 eV	Ex	1134
Cs^{+} + C	Sputtering	14.50 keV	Ex	1220
Cs^{+} + NH_3	Chemical Reactions	30.00 eV	Ex	1134
Cs^{+} + NH_3	Reflection	30.00 eV	Ex	1134
Cs^{+} + NH_3	Sputtering	30.00 eV	Ex	1134
Cs^{+} + Al	Sputtering	5.50 keV	Ex	1091
Cs^{+} + Si	Sputtering	5.50 keV	Ex	1091
Cs^{+} + Si_3N_4	Sputtering	5.50 keV	Ex	1091
Cs^{+} + SiO_2	Sputtering	5.50 keV	Ex	1091
Cs^{+} + Ti	Sputtering	5.50 keV	Ex	1091
Cs^{+} + FeS_2	Sputtering	6.50-10.00 keV	E/T	1152
Cs^{+} + $CoSi_2$	Sputtering	5.50 keV	Ex	1091
Cs^{+} + Cu	Sputtering	5.50 keV	Ex	1091
Cs^{+} + Ta	Sputtering	5.50 keV	Ex	1091
Cs^{+} + W	Sputtering	5.50 keV	Ex	1091
Cs^{+} + WSi_2	Sputtering	5.50 keV	Ex	1091
Cs^{+} + Pt	Reflection	25.00-100.00 eV	Th	1297
Cs^{+} + Pt	Reflection	5.00-100.00 eV	Th	1135
Cs^{+} + Au	Reflection	1.00-6.00 MeV	Ex	1155
Cs^{+} + PbS	Sputtering	6.50-10.00 keV	E/T	1152
Cs^{+} + HCl	Chemical Reactions	30.00 eV	Ex	1134

Cs^{+} + HCl	Reflection	30.00 eV	Ex	1134
Cs^{+} + HCl	Sputtering	30.00 eV	Ex	1134
Ho^{39+} + C	Surface Interactions	182.00-441.00 keV	Ex	1212
Ho^{39+} + C	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Ho^{39+} + Si	Surface Interactions	182.00-441.00 keV	Ex	1212
Ho^{39+} + Si	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Ho^{39+} + SiO_2	Surface Interactions	182.00-441.00 keV	Ex	1212
Ho^{39+} + SiO_2	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Ho^{39+} + Ag	Surface Interactions	182.00-441.00 keV	Ex	1212
Ho^{39+} + Ag	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Ho^{39+} + Au	Surface Interactions	182.00-441.00 keV	Ex	1212
Ho^{39+} + Au	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Ho^{40+} + C	Surface Interactions	182.00-441.00 keV	Ex	1212
Ho^{40+} + C	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Ho^{40+} + Si	Surface Interactions	182.00-441.00 keV	Ex	1212
Ho^{40+} + Si	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Ho^{40+} + SiO_2	Surface Interactions	182.00-441.00 keV	Ex	1212
Ho^{40+} + SiO_2	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Ho^{40+} + Ag	Surface Interactions	182.00-441.00 keV	Ex	1212
Ho^{40+} + Ag	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Ho^{40+} + Au	Surface Interactions	182.00-441.00 keV	Ex	1212
Ho^{40+} + Au	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Er + Si	Sputtering	30.00-50.00 keV	Ex	1103
Ta^{11+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{12+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{13+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{14+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{15+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{16+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{17+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{18+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{19+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{20+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{21+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{22+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{23+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{24+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{25+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{26+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{27+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{28+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{29+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{30+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{31+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{32+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{33+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{34+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{35+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{36+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{37+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{38+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{39+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{40+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{41+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex	1102
Ta^{54+} + C	Second. Elect. Emission	6.00-13.00 MeV/amu	Ex	1110
Ta^{54+} + C + N	Desorption	6.00-13.00 MeV/amu	Ex	1110
W^{+} + Be	Sputtering	0.00-1.00 MeV	E/T	1101

$\mathbf{W^{+} + C}$	Chemical Reactions	100.00 eV	Ex	1064
$\mathbf{W^{+} + C}$	Sputtering	0.00-1.00 MeV	E/T	1101
$\mathbf{W^{+} + C}$	Sputtering	100.00 eV	Ex	1064
$\mathbf{W^{+} + Si}$	Sputtering	0.00-1.00 MeV	E/T	1101
$\mathbf{W^{+} + W}$	Reflection	0.00-1.00 keV	Th	1179
$\mathbf{Au^{-1+} + Nb}$	Sputtering	6.00-18.00 keV	Th	1290
$\mathbf{Au^{-1+} + Ta}$	Sputtering	6.00-18.00 keV	Th	1290
$\mathbf{Au^{+} + Si}$	Sputtering	1.50-3.00 keV	Th	1313
$\mathbf{Au^{+} + Si}$	Sputtering	1.50-3.00 keV	Th	1313
$\mathbf{Au^{+} + Ti}$	Sputtering	0.20-1.40 GeV	Ex	1329
$\mathbf{Au^{+} + TiN}$	Second. Elect. Emission	28.00-182.00 MeV	Ex	1093
$\mathbf{Au^{+} + Cu}$	Sputtering	100.00-300.00 MeV	Ex	1195
$\mathbf{Au^{+} + Cu}$	Sputtering	1.00 keV	Th	1029
$\mathbf{Au^{+} + Cu}$	Sputtering	1.00 keV	Th	1029
$\mathbf{Au^{+} + Zr}$	Sputtering	0.20-1.40 GeV	Ex	1329
$\mathbf{Au^{+} + Ag}$	Sputtering	0.02-5.00 MeV	Ex	1233
$\mathbf{Au^{+} + Au}$	Second. Elect. Emission	0.10-30.00 keV	Th	1213
$\mathbf{Au^{+} + Au}$	Second. Elect. Emission	3.00-10.00 keV	Th	1128
$\mathbf{Au^{+} + Au}$	Sputtering	0.20-1.40 GeV	Ex	1329
$\mathbf{Au^{+} + Au}$	Sputtering	0.02-5.00 MeV	Ex	1233
$\mathbf{Au^{+} + Au}$	Sputtering	100.00-300.00 MeV	Ex	1195
$\mathbf{Au^{+} + SS}$	Second. Elect. Emission	28.00-182.00 MeV	Ex	1093
$\mathbf{Au^{51+} + C}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{51+} + C}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{51+} + Si}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{51+} + Si}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{51+} + SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{51+} + SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{51+} + Ag}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{51+} + Ag}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{51+} + Au}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{51+} + Au}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{52+} + C}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{52+} + C}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{52+} + Si}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{52+} + Si}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{52+} + SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{52+} + SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{52+} + Ag}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{52+} + Ag}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{52+} + Au}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Au^{52+} + Au}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{62+} + C}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{62+} + C}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{62+} + Si}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{62+} + Si}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{62+} + SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{62+} + SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{62+} + Ag}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{62+} + Ag}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{62+} + Au}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{62+} + Au}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{63+} + C}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{63+} + C}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{63+} + Si}$	Surface Interactions	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{63+} + Si}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
$\mathbf{Th^{63+} + SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex	1212

Th^{63+} + SiO_2	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Th^{63+} + Ag	Surface Interactions	182.00-441.00 keV	Ex	1212
Th^{63+} + Ag	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
Th^{63+} + Au	Surface Interactions	182.00-441.00 keV	Ex	1212
Th^{63+} + Au	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex	1212
U^{+} + Au	Sputtering	0.20-1.40 GeV	Ex	1329
Bi^{+} + Cu	Surface Interactions	10.00 MeV/amu	E/T	1081
C_2H_6 + LiF	Reflection	200.00-800.00 meV	Ex	1095
$Au_2{}^{-1+}$ + Nb	Sputtering	6.00-18.00 keV	Th	1290
$Au_2{}^{-1+}$ + Ta	Sputtering	6.00-18.00 keV	Th	1290
$Au_2{}^{+}$ + Si	Sputtering	1.50-3.00 keV	Th	1313
$Au_2{}^{+}$ + Si	Sputtering	1.50-3.00 keV	Th	1313
$Au_2{}^{+}$ + Ag	Sputtering	0.02-5.00 MeV	Ex	1233
$Au_2{}^{+}$ + Au	Sputtering	0.02-5.00 MeV	Ex	1233
$Au_3{}^{-1+}$ + Nb	Sputtering	6.00-18.00 keV	Th	1290
$Au_3{}^{-1+}$ + Ta	Sputtering	6.00-18.00 keV	Th	1290

2.4 Data Collection, Biblioraphy, Progress Report

e + H^{-1+}	Data Coll., Biblio., Progress Report	0.10-10.00 eV	Th	1333
e + H^{-1+}	Data Coll., Biblio., Progress Report	0.10-10.00 eV	Th	1333
e + H_2	Data Coll., Biblio., Progress Report	100.00 eV	Th	1334
e + $H_2{}^{1+}$	Data Coll., Biblio., Progress Report	12.00 eV	Th	1335
e + $H_2{}^{1+}$	Data Coll., Biblio., Progress Report	0.10-10.00 eV	Th	1333
e + $H_2{}^{1+}$	Data Coll., Biblio., Progress Report	0.10-10.00 eV	Th	1333
e + HD^{1+}	Data Coll., Biblio., Progress Report	12.00 eV	Th	1335
e + $D_2{}^{1+}$	Data Coll., Biblio., Progress Report	12.00 eV	Th	1335
H^{1+} + H_2	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
H^{1+} + H_2	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
H^{1+} + HT	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
H^{1+} + HT	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
H^{1+} + D_2	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
H^{1+} + D_2	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
H^{1+} + DT	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
H^{1+} + DT	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
H^{1+} + T_2	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
H^{1+} + T_2	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
H^{1+} + Li	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex	1332
H^{1+} + Be	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex	1332
H^{1+} + C	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex	1332
H^{1+} + Ga	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex	1332
H^{1+} + W	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex	1332
$H_2{}^{1+}$ + H	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$H_2{}^{1+}$ + H	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$H_2{}^{1+}$ + D	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$H_2{}^{1+}$ + D	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
HD^{1+} + H	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
HD^{1+} + H	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
HD^{1+} + D	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
HD^{1+} + D	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
D^{1+} + H_2	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
D^{1+} + H_2	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
D^{1+} + HT	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
D^{1+} + HT	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
D^{1+} + D_2	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336

$\mathbf{D}^{1+} + \mathbf{D}_2$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{D}^{1+} + \mathbf{DT}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{D}^{1+} + \mathbf{DT}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{D}^{1+} + \mathbf{T}_2$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{D}^{1+} + \mathbf{T}_2$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{D}^{1+} + \mathbf{Li}$	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex	1332
$\mathbf{D}^{1+} + \mathbf{Be}$	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex	1332
$\mathbf{D}^{1+} + \mathbf{C}$	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex	1332
$\mathbf{D}^{1+} + \mathbf{Ga}$	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex	1332
$\mathbf{D}^{1+} + \mathbf{W}$	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex	1332
$\mathbf{D_2}^{1+} + \mathbf{H}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{D_2}^{1+} + \mathbf{H}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{D_2}^{1+} + \mathbf{D}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{D_2}^{1+} + \mathbf{D}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{T}^{1+} + \mathbf{H}_2$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{T}^{1+} + \mathbf{H}_2$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{T}^{1+} + \mathbf{HT}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{T}^{1+} + \mathbf{HT}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{T}^{1+} + \mathbf{D}_2$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{T}^{1+} + \mathbf{D}_2$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{T}^{1+} + \mathbf{DT}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{T}^{1+} + \mathbf{DT}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{T}^{1+} + \mathbf{T}_2$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{T}^{1+} + \mathbf{T}_2$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T	1336
$\mathbf{perturbation}^{1+}$	Data Coll., Biblio., Progress Report		Th	1331

2.5 Fusion Research of General Interest

$\mathbf{h\nu} + \mathbf{H}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{h\nu} + \mathbf{H}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{h\nu} + \mathbf{D}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{h\nu} + \mathbf{D}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{h\nu} + \mathbf{He}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{h\nu} + \mathbf{He}^{1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{h\nu} + \mathbf{Li}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{h\nu} + \mathbf{Li}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{h\nu} + \mathbf{Li}^{1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{h\nu} + \mathbf{Li}^{2+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{e} + \mathbf{H}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{e} + \mathbf{D}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{e} + \mathbf{He}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{e} + \mathbf{He}^{1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{e} + \mathbf{He}^{2+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{e} + \mathbf{Li}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{e} + \mathbf{Li}^{1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{e} + \mathbf{Li}^{2+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{e} + \mathbf{Li}^{3+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{H}^{1+} + \mathbf{H}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{H}^{1+} + \mathbf{D}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{H}^{1+} + \mathbf{Li}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{H}_2 + \mathbf{D}^{1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{H_2}^{1+} + \mathbf{H}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{D}^{1+} + \mathbf{H}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{D}^{1+} + \mathbf{D}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337
$\mathbf{D}^{1+} + \mathbf{Li}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th	1337

Li^{1+} + H^{-1+}	Fusion Research of General Interest	0.10-1.00 K	Th	1337
Li^{1+} + D^{-1+}	Fusion Research of General Interest	0.10-1.00 K	Th	1337

2.6 Particle Beam-Matter interaction

e + H_2O	Particle Beam-Matter interaction	0.01-10.00 keV	Th	1403
e + H_2O	Particle Beam-Matter interaction	0.01-10.00 keV	Th	1403
e + H_2O	Particle Beam-Matter interaction	10.00-44.00 MeV	Th	1357
e + Be	Particle Beam-Matter interaction	10.00-44.00 MeV	Th	1357
e + B^{1+}	Particle Beam-Matter interaction		Th	1426
e + C	Particle Beam-Matter interaction	10.00-44.00 MeV	Th	1357
e + C^{1+}	Particle Beam-Matter interaction	3.60-11.40 MeV/amu	Ex	1351
e + O^{2+}	Particle Beam-Matter interaction	0.10-0.80 MeV/amu	Ex	1349
e + Al	Particle Beam-Matter interaction	1.00-50.00 keV	Th	1376
e + Al	Particle Beam-Matter interaction	10.00-44.00 MeV	Th	1357
e + Cl^{7+}	Particle Beam-Matter interaction	0.06-1.03 MeV	Ex	1352
e + Fe^{21+}	Particle Beam-Matter interaction	6.00 MeV/amu	Ex	1350
e + Fe^{25+}	Particle Beam-Matter interaction	6.00 MeV/amu	Ex	1350
e + Cu	Particle Beam-Matter interaction	1.00-50.00 keV	Th	1376
e + Cu	Particle Beam-Matter interaction	10.00-44.00 MeV	Th	1357
e + Kr^{1+}	Particle Beam-Matter interaction	3.60-11.40 MeV/amu	Ex	1351
e + Au	Particle Beam-Matter interaction	1.00-50.00 keV	Th	1376
e + Pb	Particle Beam-Matter interaction	10.00-44.00 MeV	Th	1357
e + Pb^{1+}	Particle Beam-Matter interaction	3.60-11.40 MeV/amu	Ex	1351
H + H	Particle Beam-Matter interaction	5.00-60.00 keV	Ex	1389
H + He	Particle Beam-Matter interaction	5.00-60.00 keV	Ex	1389
H + C	Particle Beam-Matter interaction	2.50 MeV	Ex	1405
H + C	Particle Beam-Matter interaction	2.50 MeV	Ex	1405
H + C	Particle Beam-Matter interaction	0.00-10.00 MeV	Th	1397
H + Mg	Particle Beam-Matter interaction	10.00-600.00 keV	Th	1371
H + Al	Particle Beam-Matter interaction	0.00-10.00 MeV	Th	1397
H + Al	Particle Beam-Matter interaction		Th	1393
H + Al	Particle Beam-Matter interaction	1.00-100.00 keV	Th	1388
H + InP	Particle Beam-Matter interaction	0.30-2.50 MeV	Ex	1339
H + GaN	Particle Beam-Matter interaction	0.30-2.50 MeV	Ex	1339
H^{1+} + H	Particle Beam-Matter interaction	0.00-3.60 MeV	Th	1372
H^{1+} + H	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th	1348
H^{1+} + B	Particle Beam-Matter interaction	0.70-5.00 keV	Ex	1343
H^{1+} + C	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex	1408
H^{1+} + C	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex	1408
H^{1+} + C	Particle Beam-Matter interaction	0.20-9.20 MeV	E/T	1400
H^{1+} + C	Particle Beam-Matter interaction	0.00-10.00 MeV	Th	1397
H^{1+} + C	Particle Beam-Matter interaction	10.00-200.00 keV	Ex	1367
H^{1+} + C	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th	1348
H^{1+} + C	Particle Beam-Matter interaction	0.70-5.00 keV	Ex	1343
H^{1+} + O	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th	1348
H^{1+} + O_2	Particle Beam-Matter interaction	5.00-100.00 MeV	Th	1410
H^{1+} + Al	Particle Beam-Matter interaction	0.30-10.00 MeV	E/T	1420
H^{1+} + Al	Particle Beam-Matter interaction	0.01-1.00 MeV	E/T	1419
H^{1+} + Al	Particle Beam-Matter interaction	5.00-100.00 MeV	Th	1410
H^{1+} + Al	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex	1408
H^{1+} + Al	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex	1408
H^{1+} + Al	Particle Beam-Matter interaction	0.00-10.00 MeV	Th	1397
H^{1+} + Al	Particle Beam-Matter interaction	1.00-100.00 keV	Th	1388
H^{1+} + Al	Particle Beam-Matter interaction	700.00 keV	Th	1370

$\mathbf{H^{1+} + Al}$	Particle Beam-Matter interaction	10.00-200.00 keV	Ex	1367
$\mathbf{H^{1+} + Al}$	Particle Beam-Matter interaction	2.50-25.00 keV	Th	1363
$\mathbf{H^{1+} + Al}$	Particle Beam-Matter interaction	100.00 keV	Th	1359
$\mathbf{H^{1+} + Al}$	Particle Beam-Matter interaction	100.00 keV	Th	1359
$\mathbf{H^{1+} + Al_2O_3}$	Particle Beam-Matter interaction	80.00 a.u.	Th	1413
$\mathbf{H^{1+} + Al_2O_3}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T	1412
$\mathbf{H^{1+} + Al_2O_3}$	Particle Beam-Matter interaction	0.00-1.00 MeV	Ex	1384
$\mathbf{H^{1+} + Si}$	Particle Beam-Matter interaction	0.30-10.00 MeV	E/T	1420
$\mathbf{H^{1+} + Si}$	Particle Beam-Matter interaction	0.01-1.00 MeV	E/T	1419
$\mathbf{H^{1+} + Si}$	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex	1408
$\mathbf{H^{1+} + Si}$	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex	1408
$\mathbf{H^{1+} + Si}$	Particle Beam-Matter interaction	1.00-12.00 MeV	Th	1407
$\mathbf{H^{1+} + Si}$	Particle Beam-Matter interaction	2.00-200.00 keV	Ex	1406
$\mathbf{H^{1+} + Si}$	Particle Beam-Matter interaction	2.00-200.00 keV	Ex	1406
$\mathbf{H^{1+} + SiO_2}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T	1412
$\mathbf{H^{1+} + SiO_2}$	Particle Beam-Matter interaction	0.00-1.00 MeV	Ex	1384
$\mathbf{H^{1+} + Mn}$	Particle Beam-Matter interaction	10.00-200.00 keV	Ex	1367
$\mathbf{H^{1+} + Ni}$	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex	1408
$\mathbf{H^{1+} + Ni}$	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex	1408
$\mathbf{H^{1+} + Cu}$	Particle Beam-Matter interaction	8.00-25.00 keV	Th	1399
$\mathbf{H^{1+} + Cu}$	Particle Beam-Matter interaction	10.00-200.00 keV	Ex	1367
$\mathbf{H^{1+} + Zn}$	Particle Beam-Matter interaction	0.01-1.00 MeV	E/T	1419
$\mathbf{H^{1+} + Zn}$	Particle Beam-Matter interaction	10.00-200.00 keV	Ex	1367
$\mathbf{H^{1+} + Se}$	Particle Beam-Matter interaction	10.00-200.00 keV	Ex	1367
$\mathbf{H^{1+} + Rb}$	Particle Beam-Matter interaction	0.00-1.00 MeV	Th	1394
$\mathbf{H^{1+} + Rb}$	Particle Beam-Matter interaction	0.00-1.00 MeV	Th	1394
$\mathbf{H^{1+} + Sr}$	Particle Beam-Matter interaction	0.00-1.00 MeV	Th	1394
$\mathbf{H^{1+} + Sr}$	Particle Beam-Matter interaction	0.00-1.00 MeV	Th	1394
$\mathbf{H^{1+} + Ag}$	Particle Beam-Matter interaction	80.00 a.u.	Th	1413
$\mathbf{H^{1+} + Ag}$	Particle Beam-Matter interaction	10.00-200.00 keV	Ex	1367
$\mathbf{H^{1+} + Sb}$	Particle Beam-Matter interaction	10.00-200.00 keV	Ex	1367
$\mathbf{H^{1+} + Au}$	Particle Beam-Matter interaction	0.01-1.00 MeV	E/T	1419
$\mathbf{H^{1+} + Au}$	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex	1408
$\mathbf{H^{1+} + Au}$	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex	1408
$\mathbf{H^{1+} + Au}$	Particle Beam-Matter interaction	2.50-25.00 keV	Th	1396
$\mathbf{H^{1+} + Au}$	Particle Beam-Matter interaction	2.50-25.00 keV	Th	1396
$\mathbf{H^{1+} + Au}$	Particle Beam-Matter interaction	10.00-200.00 keV	Ex	1367
$\mathbf{H^{1+} + C_{60}}$	Particle Beam-Matter interaction	0.10-5.00 a.u.	Th	1347
$\mathbf{H^{1+} + Bi}$	Particle Beam-Matter interaction	10.00-200.00 keV	Ex	1367
$\mathbf{H^{1+} + ZrO_2}$	Particle Beam-Matter interaction	0.00-1.00 MeV	Ex	1384
$\mathbf{H_2{}^{1+} + Al}$	Particle Beam-Matter interaction	25.00-100.00 keV/amu	Ex	1390
$\mathbf{H_2{}^{1+} + Al}$	Particle Beam-Matter interaction	25.00-100.00 keV/amu	Ex	1390
$\mathbf{H_2{}^{1+} + Si}$	Particle Beam-Matter interaction	0.60-2.10 MeV	Ex	1381
$\mathbf{H_3{}^{1+} + Si}$	Particle Beam-Matter interaction	0.60-2.10 MeV	Ex	1381
$\mathbf{D + C + W}$	Particle Beam-Matter interaction	10.00-100.00 keV	Ex	1341
$\mathbf{D + W}$	Particle Beam-Matter interaction	10.00-100.00 keV	Ex	1341
$\mathbf{D + WC}$	Particle Beam-Matter interaction	10.00-100.00 keV	Ex	1341
$\mathbf{D^{1+} + Be}$	Particle Beam-Matter interaction	1.80-8.00 keV	Ex	1434
$\mathbf{D^{1+} + BeO}$	Particle Beam-Matter interaction	1.80-8.00 keV	Ex	1434
$\mathbf{D^{1+} + W}$	Particle Beam-Matter interaction	1.80-8.00 keV	Ex	1434
$\mathbf{D^{1+} + Au}$	Particle Beam-Matter interaction	2.50-25.00 keV	Th	1396
$\mathbf{D^{1+} + Au}$	Particle Beam-Matter interaction	2.50-25.00 keV	Th	1396
$\mathbf{D_3{}^{1+} + W}$	Particle Beam-Matter interaction	1.50 keV	Ex	1344
$\mathbf{He + C}$	Particle Beam-Matter interaction	0.00-10.00 MeV	Th	1397
$\mathbf{He + Al}$	Particle Beam-Matter interaction	0.00-10.00 MeV	Th	1397
$\mathbf{He + Al}$	Particle Beam-Matter interaction		Th	1393
$\mathbf{He^{1+} + C}$	Particle Beam-Matter interaction	8.00-80.00 keV	Ex	1423

$\mathbf{He}^{1+}$ + **C**	Particle Beam-Matter interaction	32.00 MeV	Th	1398
$\mathbf{He}^{1+}$ + **C**	Particle Beam-Matter interaction	0.00-10.00 MeV	Th	1397
$\mathbf{He}^{1+}$ + **C**	Particle Beam-Matter interaction	100.00-800.00 keV/amu	Ex	1380
$\mathbf{He}^{1+}$ + **C**	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1361
$\mathbf{He}^{1+}$ + **Al**	Particle Beam-Matter interaction	0.00-10.00 MeV	Th	1397
$\mathbf{He}^{1+}$ + $\mathbf{Al_2O_3}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T	1412
$\mathbf{He}^{1+}$ + **Si**	Particle Beam-Matter interaction	0.20-9.00 MeV	Ex	1425
$\mathbf{He}^{1+}$ + **Si**	Particle Beam-Matter interaction	1.00-12.00 MeV	Th	1407
$\mathbf{He}^{1+}$ + **Si**	Particle Beam-Matter interaction	0.16-3.30 MeV	E/T	1401
$\mathbf{He}^{1+}$ + **Si**	Particle Beam-Matter interaction	1.47-1.78 MeV	Th	1385
$\mathbf{He}^{1+}$ + $\mathbf{SiO_2}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T	1412
$\mathbf{He}^{1+}$ + **Nb**	Particle Beam-Matter interaction	0.40-2.80 MeV	Ex	1409
$\mathbf{He}^{2+}$ + **H**	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th	1348
$\mathbf{He}^{2+}$ + **C**	Particle Beam-Matter interaction	32.00 MeV	Th	1398
$\mathbf{He}^{2+}$ + **C**	Particle Beam-Matter interaction	0.00-10.00 MeV	Th	1397
$\mathbf{He}^{2+}$ + **C**	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th	1348
$\mathbf{He}^{2+}$ + **O**	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th	1348
$\mathbf{He}^{2+}$ + **Al**	Particle Beam-Matter interaction	0.00-10.00 MeV	Th	1397
$\mathbf{Li}^{1+}$ + **Be**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **C**	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{Li}^{1+}$ + **C**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **N**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **O**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Ne**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Al**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Si**	Particle Beam-Matter interaction	0.20-9.00 MeV	Ex	1425
$\mathbf{Li}^{1+}$ + **Si**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Si**	Particle Beam-Matter interaction	0.28-8.50 MeV	Ex	1368
$\mathbf{Li}^{1+}$ + **Si**	Particle Beam-Matter interaction	0.28-8.50 MeV	Ex	1368
$\mathbf{Li}^{1+}$ + **Si**	Particle Beam-Matter interaction	0.28-8.50 MeV	Ex	1368
$\mathbf{Li}^{1+}$ + **Ar**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Ti**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Cu**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Kr**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Ag**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Sn**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Xe**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Pt**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **Pb**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{1+}$ + **U**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Li}^{2+}$ + **C**	Particle Beam-Matter interaction	63.40 MeV	Th	1428
$\mathbf{Be}^{1+}$ + **Be**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Be}^{1+}$ + **C**	Particle Beam-Matter interaction	100.00-800.00 keV/amu	Ex	1380
$\mathbf{Be}^{1+}$ + **C**	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{Be}^{1+}$ + **C**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Be}^{1+}$ + **C**	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1361
$\mathbf{Be}^{1+}$ + **C**	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1361
$\mathbf{Be}^{1+}$ + **N**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Be}^{1+}$ + **O**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Be}^{1+}$ + **Ne**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Be}^{1+}$ + **Al**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Be}^{1+}$ + **Si**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Be}^{1+}$ + **Ar**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Be}^{1+}$ + **Ti**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Be}^{1+}$ + **Cu**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Be}^{1+}$ + **Kr**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369

Be^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Be^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Be^{1+} + Xe	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Be^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Be^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Be^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Be^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
B^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + N	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Si	Particle Beam-Matter interaction	4.00 MeV	Th	1378
B^{1+} + Si	Particle Beam-Matter interaction	4.00 MeV	Th	1378
B^{1+} + Si	Particle Beam-Matter interaction	4.00 MeV	Th	1378
B^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Kr	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Xe	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
B^{2+} + C	Particle Beam-Matter interaction	0.85-9.00 MeV	E/T	1416
B^{3+} + C	Particle Beam-Matter interaction	0.50-2.00 MeV/amu	Ex	1421
${B_3}^{1+}$ + Si	Particle Beam-Matter interaction	4.00 MeV	Th	1378
${B_3}^{1+}$ + Si	Particle Beam-Matter interaction	4.00 MeV	Th	1378
${B_3}^{1+}$ + Si	Particle Beam-Matter interaction	4.00 MeV	Th	1378
C + Al	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
C + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
C + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
C + Au	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
C^{1+} + H	Particle Beam-Matter interaction	350.00 keV/amu	Ex	1340
C^{1+} + Li	Particle Beam-Matter interaction	350.00 keV/amu	Ex	1340
C^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
C^{1+} + C	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1431
C^{1+} + C	Particle Beam-Matter interaction	100.00-800.00 keV/amu	Ex	1380
C^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
C^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
C^{1+} + C	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
C^{1+} + N	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
C^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
C^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
C^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
C^{1+} + Al	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
C^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
C^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
C^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
C^{1+} + Ni	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
C^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
C^{1+} + Cu	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360

$\mathbf{C^{1+} + Kr}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{C^{1+} + Ag}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{C^{1+} + Ag}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{C^{1+} + Sn}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{C^{1+} + Xe}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{C^{1+} + Ta}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{C^{1+} + Pt}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{C^{1+} + Au}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{C^{1+} + Au}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{C^{1+} + Pb}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{C^{1+} + U}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{C^{4+} + C}$	Particle Beam-Matter interaction	0.50-2.00 MeV/amu	Ex	1421
$\mathbf{N + Al}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{N + Ni}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{N + Ag}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{N + Au}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{N^{1+} + Be}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + C}$	Particle Beam-Matter interaction	15.00-34.00 keV	Ex	1435
$\mathbf{N^{1+} + C}$	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{N^{1+} + C}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + N}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + O}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Ne}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Al}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Al_2O_3}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T	1412
$\mathbf{N^{1+} + Si}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + SiO_2}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T	1412
$\mathbf{N^{1+} + Ar}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Ti}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Cu}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Kr}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Ag}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Sn}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Xe}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Pt}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Au}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + Pb}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{1+} + U}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{N^{5+} + C}$	Particle Beam-Matter interaction	0.50-2.00 MeV/amu	Ex	1421
$\mathbf{N_2{}^{1+} + Al}$	Particle Beam-Matter interaction		Th	1392
$\mathbf{O + Al}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{O + Ni}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{O + Ag}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{O + Au}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{O^{1+} + H}$	Particle Beam-Matter interaction	350.00 keV/amu	Ex	1340
$\mathbf{O^{1+} + Li}$	Particle Beam-Matter interaction	350.00 keV/amu	Ex	1340
$\mathbf{O^{1+} + Be}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + B}$	Particle Beam-Matter interaction	0.70-5.00 keV	Ex	1343
$\mathbf{O^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1431
$\mathbf{O^{1+} + C}$	Particle Beam-Matter interaction	5.00 MeV	Th	1411
$\mathbf{O^{1+} + C}$	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{O^{1+} + C}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1361
$\mathbf{O^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1361
$\mathbf{O^{1+} + C}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{O^{1+} + C}$	Particle Beam-Matter interaction	0.70-5.00 keV	Ex	1343
$\mathbf{O^{1+} + N}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369

$\mathbf{O^{1+} + O}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Ne}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Al}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1431
$\mathbf{O^{1+} + Al}$	Particle Beam-Matter interaction		Th	1395
$\mathbf{O^{1+} + Al}$	Particle Beam-Matter interaction		Th	1395
$\mathbf{O^{1+} + Al}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Al}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1361
$\mathbf{O^{1+} + Al}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{O^{1+} + Al}$	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex	1355
$\mathbf{O^{1+} + Si}$	Particle Beam-Matter interaction	0.30-13.50 MeV	Ex	1382
$\mathbf{O^{1+} + Si}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Si}$	Particle Beam-Matter interaction	25.00-200.00 keV	Ex	1366
$\mathbf{O^{1+} + Si}$	Particle Beam-Matter interaction	25.00-200.00 keV	Ex	1366
$\mathbf{O^{1+} + SiO_2}$	Particle Beam-Matter interaction	25.00-200.00 keV	Ex	1366
$\mathbf{O^{1+} + SiO_2}$	Particle Beam-Matter interaction	25.00-200.00 keV	Ex	1366
$\mathbf{O^{1+} + Ar}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Ti}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Ti}$	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex	1355
$\mathbf{O^{1+} + Ni}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{O^{1+} + Ni}$	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex	1355
$\mathbf{O^{1+} + Cu}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Cu}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{O^{1+} + Kr}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Ag}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Ag}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{O^{1+} + Sn}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Xe}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Ta}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{O^{1+} + Ta}$	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex	1355
$\mathbf{O^{1+} + Pt}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Au}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + Au}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{O^{1+} + Pb}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{1+} + U}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{O^{6+} + C}$	Particle Beam-Matter interaction	0.50-2.00 MeV/amu	Ex	1421
$\mathbf{O_2{}^{-1+} + C}$	Particle Beam-Matter interaction	5.00 MeV	Th	1411
$\mathbf{O_2{}^{1+} + C}$	Particle Beam-Matter interaction	5.00 MeV	Th	1411
$\mathbf{F + Al}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{F + Ni}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{F + Ag}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{F + Au}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{F^{1+} + H}$	Particle Beam-Matter interaction	350.00 keV/amu	Ex	1340
$\mathbf{F^{1+} + Li}$	Particle Beam-Matter interaction	350.00 keV/amu	Ex	1340
$\mathbf{F^{1+} + C}$	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{F^{1+} + N}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{F^{1+} + O}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{F^{1+} + Ne}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{F^{1+} + Ar}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{F^{1+} + Kr}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{F^{1+} + SnO_2}$	Particle Beam-Matter interaction	50.00-180.00 keV	Ex	1377
$\mathbf{F^{1+} + SnO_2}$	Particle Beam-Matter interaction	50.00-180.00 keV	Ex	1377
$\mathbf{F^{1+} + SnO_2}$	Particle Beam-Matter interaction	50.00-180.00 keV	Ex	1377
$\mathbf{F^{1+} + Xe}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{F^{1+} + LiNbO_3}$	Particle Beam-Matter interaction	50.00-330.00 keV	Ex	1358
$\mathbf{F^{1+} + LiNbO_3}$	Particle Beam-Matter interaction	50.00-330.00 keV	Ex	1358
$\mathbf{F^{7+} + C}$	Particle Beam-Matter interaction	0.50-2.00 MeV/amu	Ex	1421
$\mathbf{Ne + Al}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415

Ne + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Ne + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Ne + Au	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{Ne^{1+} + Be}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + C}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + N}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + O}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Ne}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Al}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Si}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Ar}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Ti}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Cu}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Kr}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Ag}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Sn}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Xe}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Pt}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Au}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + Pb}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{1+} + U}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ne^{6+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Th	1391
$\mathbf{Ne^{6+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Ex	1379
$\mathbf{Ne^{7+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Th	1391
$\mathbf{Ne^{7+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Ex	1379
$\mathbf{Ne^{8+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Th	1391
$\mathbf{Ne^{8+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Ex	1379
$\mathbf{Ne^{9+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Th	1391
$\mathbf{Ne^{9+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Ex	1379
$\mathbf{Ne^{10+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Th	1391
$\mathbf{Ne^{10+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Ex	1379
Na + Al	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Na + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Na + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Na + Au	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{Na^{1+} + Be}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + C}$	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{Na^{1+} + C}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + C}$	Particle Beam-Matter interaction	0.43-1.66 MeV	Ex	1356
$\mathbf{Na^{1+} + N}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + O}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Ne}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Al}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Si}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Ar}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Ti}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Cu}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Kr}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Ag}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Sn}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Xe}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Pt}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Au}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + Pb}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Na^{1+} + U}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Mg + Al	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Mg + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th	1415

Mg + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Mg + Au	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{Mg^{1+}}$ **+ Be**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ C**	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{Mg^{1+}}$ **+ C**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ N**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ O**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Ne**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Al**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Si**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Ar**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Ti**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Cu**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Kr**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Ag**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Sn**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Xe**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Pt**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Au**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ Pb**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Mg^{1+}}$ **+ U**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Al + Al	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Al + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Al + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Al + Au	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{Al^{1+}}$ **+ Be**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Al^{1+}}$ **+ C**	Particle Beam-Matter interaction	100.00-800.00 keV/amu	Ex	1380
$\mathbf{Al^{1+}}$ **+ C**	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{Al^{1+}}$ **+ C**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Al^{1+}}$ **+ C**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Al^{1+}}$ **+ Al**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Al^{1+}}$ **+ Si**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Al^{1+}}$ **+ Ar**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Al^{1+}}$ **+ Ti**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Al^{1+}}$ **+ Ni**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Al^{1+}}$ **+ Cu**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Al^{1+}}$ **+ Cu**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Al^{1+}}$ **+ Ag**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Al^{1+}}$ **+ Ag**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Al^{1+}}$ **+ Sn**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Al^{1+}}$ **+ Ta**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Al^{1+}}$ **+ Pt**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Al^{1+}}$ **+ Au**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Al^{1+}}$ **+ Au**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Al^{1+}}$ **+ Pb**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Al^{1+}}$ **+ U**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Si + Al	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Si + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Si + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Si + Au	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{Si^{1+}}$ **+ Be**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Si^{1+}}$ **+ C**	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{Si^{1+}}$ **+ C**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Si^{1+}}$ **+ Al**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Si^{1+}}$ **+ Si**	Particle Beam-Matter interaction	100.00 eV	Th	1424
$\mathbf{Si^{1+}}$ **+ Si**	Particle Beam-Matter interaction	0.10-3.30 MeV/amu	Ex	1383
$\mathbf{Si^{1+}}$ **+ Si**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369

Si^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Si^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Si^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Si^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Si^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Si^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Si^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Si^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P + Al	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
P + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
P + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
P + Au	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
P^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
P^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S + Al	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
S + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
S + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
S + Au	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
S^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + N	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Kr	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Xe	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
S^{7+} + C	Particle Beam-Matter interaction	2.50 MeV/amu	Ex	1402
S^{7+} + Au	Particle Beam-Matter interaction	80.00-200.00 MeV	Ex	1345
S^{10+} + C	Particle Beam-Matter interaction	2.50 MeV/amu	Ex	1402
S^{12+} + C	Particle Beam-Matter interaction	2.50 MeV/amu	Ex	1402
S^{13+} + C	Particle Beam-Matter interaction	2.50 MeV/amu	Ex	1402
Cl + Al	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Cl + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Cl + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Cl + Au	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
Cl^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
Cl^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369

$\mathbf{Cl^{1+} + C}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cl^{1+} + N}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + O}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Ne}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Al}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Al}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cl^{1+} + Si}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Ar}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Ti}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Ni}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cl^{1+} + Cu}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Cu}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cl^{1+} + Kr}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Ag}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Ag}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cl^{1+} + Sn}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Xe}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Ta}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cl^{1+} + Pt}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Au}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + Au}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cl^{1+} + Pb}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{1+} + U}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Cl^{7+} + D_2}$	Particle Beam-Matter interaction	0.06-1.03 MeV	Ex	1352
$\mathbf{Cl^{7+} + C}$	Particle Beam-Matter interaction	0.06-1.03 MeV	Ex	1352
$\mathbf{Cl^{10+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th	1353
$\mathbf{Cl^{11+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th	1353
$\mathbf{Cl^{12+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th	1353
$\mathbf{Cl^{13+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th	1353
$\mathbf{Cl^{14+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th	1353
$\mathbf{Cl^{15+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th	1353
$\mathbf{Ar + Al}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{Ar + Ni}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{Ar + Ag}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{Ar + Au}$	Particle Beam-Matter interaction	0.82 a.u.	Th	1415
$\mathbf{Ar^{1+} + Be}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + C}$	Particle Beam-Matter interaction	1.00-25.00 MeV	E/T	1374
$\mathbf{Ar^{1+} + C}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1361
$\mathbf{Ar^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1361
$\mathbf{Ar^{1+} + CO_2}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + N}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + O}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Ne}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Al}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Al}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1361
$\mathbf{Ar^{1+} + Si}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Ar}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Ti}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Ni}$	Particle Beam-Matter interaction	1.00-25.00 MeV	E/T	1374
$\mathbf{Ar^{1+} + Cu}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Kr}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Kr}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Ag}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Sn}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Xe}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar^{1+} + Pt}$	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369

$\mathbf{Ar}^{1+}$ + **Au**	Particle Beam-Matter interaction	1.00-25.00 MeV	E/T	1374
$\mathbf{Ar}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar}^{1+}$ + **Pb**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar}^{1+}$ + **U**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th	1369
$\mathbf{Ar}^{17+}$ + **C**	Particle Beam-Matter interaction	390.00 MeV/amu	Ex	1427
$\mathbf{Ar}^{17+}$ + **Si**	Particle Beam-Matter interaction	1.60-1.90 GeV/amu	Ex	1429
$\mathbf{Ar}^{18+}$ + **C**	Particle Beam-Matter interaction	13.60 MeV/amu	E/T	1430
$\mathbf{Ar}^{18+}$ + **C**	Particle Beam-Matter interaction	13.60 MeV/amu	E/T	1430
$\mathbf{Ar}^{18+}$ + **Si**	Particle Beam-Matter interaction	1.60-1.90 GeV/amu	Ex	1429
$\mathbf{Cr}^{1+}$ + **C**	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{Mn}^{1+}$ + **C**	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{Fe}^{1+}$ + **C**	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex	1375
$\mathbf{Fe}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Fe}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Fe}^{1+}$ + **Bi**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Fe}^{1+}$ + **Bi**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Co}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Co}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Co}^{1+}$ + **Bi**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Co}^{1+}$ + **Bi**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Ni}^{1+}$ + **C**	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1431
$\mathbf{Ni}^{1+}$ + **Al**	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex	1355
$\mathbf{Ni}^{1+}$ + **Ti**	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex	1355
$\mathbf{Ni}^{1+}$ + **Ni**	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex	1355
$\mathbf{Ni}^{1+}$ + **Ta**	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex	1355
$\mathbf{Ni}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Ni}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Ni}^{1+}$ + **Bi**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Ni}^{1+}$ + **Bi**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Ni}^{6+}$ + **Au**	Particle Beam-Matter interaction	80.00-200.00 MeV	Ex	1345
$\mathbf{Ni}^{28+}$ + **C**	Particle Beam-Matter interaction	45.00 MeV/amu	E/T	1346
$\mathbf{Cu}^{1+}$ + **C**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cu}^{1+}$ + **Al**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cu}^{1+}$ + **Ni**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cu}^{1+}$ + **Cu**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cu}^{1+}$ + **Ag**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cu}^{1+}$ + **Ta**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cu}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Cu}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Cu}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex	1360
$\mathbf{Cu}^{1+}$ + **Bi**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{Cu}^{1+}$ + **Bi**	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex	1387
$\mathbf{As}^{1+}$ + **Si**	Particle Beam-Matter interaction	100.00 keV	Th	1364
$\mathbf{As}^{1+}$ + **Si**	Particle Beam-Matter interaction	100.00 keV	Th	1364
$\mathbf{Kr}^{35+}$	Particle Beam-Matter interaction	60.00 MeV/amu	Th	1418
$\mathbf{Kr}^{35+}$ + **C**	Particle Beam-Matter interaction	33.00-60.00 MeV/amu	Ex	1432
$\mathbf{Kr}^{35+}$ + **C**	Particle Beam-Matter interaction	60.00 MeV/amu	Th	1418
$\mathbf{Kr}^{35+}$ + **C**	Particle Beam-Matter interaction	60.00 MeV/amu	Th	1418
$\mathbf{Kr}^{35+}$ + **C**	Particle Beam-Matter interaction	60.00 MeV/amu	Th	1418
$\mathbf{Kr}^{35+}$ + **C**	Particle Beam-Matter interaction	60.00 MeV/amu	E/T	1404
$\mathbf{Kr}^{36+}$ + **C**	Particle Beam-Matter interaction	33.00-60.00 MeV/amu	Ex	1432
$\mathbf{Sn}^{1+}$ + $\mathbf{SiO_2}$	Particle Beam-Matter interaction	1.35-3.60 MeV	E/T	1373
$\mathbf{Sn}^{1+}$ + $\mathbf{SiO_2}$	Particle Beam-Matter interaction	1.35-3.60 MeV	E/T	1373
$\mathbf{Sb}^{1+}$ + $\mathbf{SiO_2}$	Particle Beam-Matter interaction	1.35-3.60 MeV	E/T	1373
$\mathbf{Sb}^{1+}$ + $\mathbf{SiO_2}$	Particle Beam-Matter interaction	1.35-3.60 MeV	E/T	1373
$\mathbf{I}^{9+}$ + **Au**	Particle Beam-Matter interaction	80.00-200.00 MeV	Ex	1345
$\mathbf{I}^{12+}$ + **Au**	Particle Beam-Matter interaction	80.00-200.00 MeV	Ex	1345

$\mathbf{Xe^{1+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Xe^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1361
$\mathbf{Xe^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th	1361
$\mathbf{Xe^{2+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Xe^{3+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Xe^{4+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Xe^{5+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Xe^{6+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Xe^{7+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Xe^{8+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Xe^{9+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Xe^{10+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Xe^{11+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Xe^{12+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{W^{1+} + C}$	Particle Beam-Matter interaction	100.00 eV	Ex	1342
$\mathbf{Au^{1+} + Cu}$	Particle Beam-Matter interaction	300.00 keV	E/T	1422
$\mathbf{Pb^{81+} + C}$	Particle Beam-Matter interaction	46.00 MeV/amu	Ex	1433
$\mathbf{Pb^{82+} + Si}$	Particle Beam-Matter interaction	160.00 GeV/amu	Ex	1414
$\mathbf{Bi_2{}^{1+} + Si}$	Particle Beam-Matter interaction	0.50-1.00 MeV	Ex	1338
$\mathbf{perturbation^{1+} + C}$	Particle Beam-Matter interaction	5.00 MeV/amu	Th	1365
$\mathbf{perturbation^{1+} + C}$	Particle Beam-Matter interaction	5.00 MeV/amu	Th	1365
$\mathbf{U^{10+} + H_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{U^{10+} + N_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{U^{91+} + Be}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T	1386
$\mathbf{U^{91+} + Be}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T	1386
$\mathbf{U^{91+} + Al}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T	1386
$\mathbf{U^{91+} + Al}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T	1386
$\mathbf{U^{91+} + Pb}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T	1386
$\mathbf{U^{91+} + Pb}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T	1386
$\mathbf{Bi^{1+} + LiB_3O_5}$	Particle Beam-Matter interaction	100.00-350.00 keV	Ex	1362
$\mathbf{Bi^{1+} + LiB_3O_5}$	Particle Beam-Matter interaction	100.00-350.00 keV	Ex	1362
$\mathbf{Bi^{1+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Bi^{1+} + Si}$	Particle Beam-Matter interaction	0.50-1.00 MeV	Ex	1338
$\mathbf{Bi^{2+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Bi^{3+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Bi^{4+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Bi^{5+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Bi^{6+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Bi^{7+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Bi^{8+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Bi^{9+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Bi^{10+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Bi^{11+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Bi^{12+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th	1354
$\mathbf{Na_{20} + Al}$	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th	1417
$\mathbf{Na_{10} + Al}$	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th	1417
$\mathbf{Na_{30} + Al}$	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th	1417
$\mathbf{Na_{50} + Al}$	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th	1417
$\mathbf{Na_{100} + Al}$	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th	1417
$\mathbf{Na_{200} + Al}$	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th	1417

2.7 Interactions of Atomic Particles with Fields

e + H	Inter. of Atomic part. with Fields	500.00 eV	Th	1496
e + H	Inter. of Atomic part. with Fields	10^9-10^{11} W/cm2	Th	1495

e + H^*	Inter. of Atomic part. with Fields	100.00-500.00 eV	Th	1484
e + H	Inter. of Atomic part. with Fields	100.00-500.00 eV	Th	1484
e + H	Inter. of Atomic part. with Fields	200.00 eV	Th	1474
e + H	Inter. of Atomic part. with Fields	200.00 eV	Th	1459
e + H	Inter. of Atomic part. with Fields	100.00 eV	Th	1448
e + He	Inter. of Atomic part. with Fields	500.00 eV	Th	1496
e + He	Inter. of Atomic part. with Fields	0.65-0.78 a.u.	Th	1460
e + He	Inter. of Atomic part. with Fields	1.00-20.00 eV	Ex	1441
e + O^{5+}	Inter. of Atomic part. with Fields		Ex	1510
e + O^{5+}	Inter. of Atomic part. with Fields	2.00-12.00 eV	E/T	1500
e + Ne^{7+}	Inter. of Atomic part. with Fields		Ex	1510
e + Ne^{7+}	Inter. of Atomic part. with Fields	18.00 eV	Ex	1481
e + Ti^{19+}	Inter. of Atomic part. with Fields		Ex	1509
e + Ni^{25+}	Inter. of Atomic part. with Fields		Ex	1509
e + Ge^{1+}	Inter. of Atomic part. with Fields	1.00-10.00 keV	Th	1467
e + Zr^{1+}	Inter. of Atomic part. with Fields	10.00 K	Th	1437
e + Zr^{2+}	Inter. of Atomic part. with Fields	10.00 K	Th	1437
e + Au^{25+}	Inter. of Atomic part. with Fields	0.00-1.00 eV	Ex	1508
e + Au^{48+}	Inter. of Atomic part. with Fields	1.00-10.00 keV	Th	1467
e + Bi^{83+}	Inter. of Atomic part. with Fields	0.00-100.00 eV	Ex	1511
H^{-1+}	Inter. of Atomic part. with Fields		Th	1473
H	Inter. of Atomic part. with Fields		E/T	1502
H	Inter. of Atomic part. with Fields	3.40 eV	E/T	1501
H	Inter. of Atomic part. with Fields	200.00-500.00 V/cm	Th	1493
H	Inter. of Atomic part. with Fields		Th	1492
H	Inter. of Atomic part. with Fields	10^{12}-10^{15} W/cm2	Th	1491
H	Inter. of Atomic part. with Fields		Th	1487
H	Inter. of Atomic part. with Fields		Th	1480
H	Inter. of Atomic part. with Fields	5.00 eV	Th	1475
H	Inter. of Atomic part. with Fields		Th	1469
H^*	Inter. of Atomic part. with Fields		Th	1469
H	Inter. of Atomic part. with Fields		Th	1466
H	Inter. of Atomic part. with Fields		Th	1451
H + H	Inter. of Atomic part. with Fields		Th	1480
H^{1+} + H	Inter. of Atomic part. with Fields	0.00-1.00 MeV	Th	1472
H_2	Inter. of Atomic part. with Fields	13.10-13.10 eV	Th	1497
$H_2{}^{1+}$	Inter. of Atomic part. with Fields		Th	1476
$H_2{}^{1+}$	Inter. of Atomic part. with Fields	.	Th	1451
H_3	Inter. of Atomic part. with Fields	3.10-6.20 eV	Ex	1478
$H_3{}^{1+}$	Inter. of Atomic part. with Fields		Th	1486
HD_2	Inter. of Atomic part. with Fields	3.10-6.20 eV	Ex	1478
$D_2{}^{1+}$	Inter. of Atomic part. with Fields		Th	1476
D_3	Inter. of Atomic part. with Fields	3.10-6.20 eV	Ex	1478
He^{-1+}	Inter. of Atomic part. with Fields		Th	1485
He	Inter. of Atomic part. with Fields		Th	1494
He	Inter. of Atomic part. with Fields		Th	1473
He	Inter. of Atomic part. with Fields		Th	1471
He	Inter. of Atomic part. with Fields	0.65-0.78 a.u.	Th	1460
He	Inter. of Atomic part. with Fields	30.00 eV	E/T	1456
He	Inter. of Atomic part. with Fields	0-7x10^{-5} a.u.	Th	1443
He	Inter. of Atomic part. with Fields	65.00-72.00 eV	Th	1442
He + He	Inter. of Atomic part. with Fields	12.00 keV	E/T	1449
He + O_2	Inter. of Atomic part. with Fields	0.00-5.00 K	Th	1499
He^{1+}	Inter. of Atomic part. with Fields	40.60-42.00 eV	Th	1498
He^{1+}	Inter. of Atomic part. with Fields		Th	1492
He^{2+} + H	Inter. of Atomic part. with Fields	12.00 a.u.	Th	1454
He^{2+} + H	Inter. of Atomic part. with Fields	10.00 a.u.	Th	1445

He_2	Inter. of Atomic part. with Fields		Th	1483
Li	Inter. of Atomic part. with Fields		Ex	1470
Li^*	Inter. of Atomic part. with Fields		Th	1446
Li	Inter. of Atomic part. with Fields		Th	1446
Li^{2+}	Inter. of Atomic part. with Fields		Th	1492
B	Inter. of Atomic part. with Fields		Th	1447
B^*	Inter. of Atomic part. with Fields		Th	1447
B^{1+}	Inter. of Atomic part. with Fields		Th	1447
B^{1+*}	Inter. of Atomic part. with Fields		Th	1447
N_2	Inter. of Atomic part. with Fields	1.17-1.55 eV	Th	1490
N_2	Inter. of Atomic part. with Fields		Ex	1450
O^{2+}	Inter. of Atomic part. with Fields	17.00-54.00 K	Ex	1439
Na + Na	Inter. of Atomic part. with Fields	663.00-723.00 K	Ex	1444
Mg	Inter. of Atomic part. with Fields	1.55 eV	Ex	1488
Mg + Ne	Inter. of Atomic part. with Fields		Th	1507
Si^{2+}	Inter. of Atomic part. with Fields	1.66-3.26 eV	Ex	1436
S^{3+}	Inter. of Atomic part. with Fields	4.00 eV	Ex	1440
Ar	Inter. of Atomic part. with Fields		Th	1473
Ar	Inter. of Atomic part. with Fields	6 10^{13} W/cm2	Th	1461
Ar^{3+}	Inter. of Atomic part. with Fields	3.10-4.96 eV	Ex	1438
Ca + He	Inter. of Atomic part. with Fields	0.00-1.00 K	E/T	1468
Kr	Inter. of Atomic part. with Fields		E/T	1455
Kr^{1+}	Inter. of Atomic part. with Fields	16.00-24.50 K	Ex	1452
Rb + Rb	Inter. of Atomic part. with Fields	3.00-3.40 V/cm	Ex	1504
Rb^* + Rb^*	Inter. of Atomic part. with Fields	3.00-3.40 V/cm	Ex	1504
Rb^{2+}	Inter. of Atomic part. with Fields	110.00-150.00 eV	E/T	1464
Sr	Inter. of Atomic part. with Fields		Ex	1465
Sr^*	Inter. of Atomic part. with Fields		Ex	1465
Sr^* + He	Inter. of Atomic part. with Fields	1.03 K	Ex	1458
Sr + He	Inter. of Atomic part. with Fields	1.03 K	Ex	1458
Sr^* + Ar	Inter. of Atomic part. with Fields	1.03 K	Ex	1458
Sr + Ar	Inter. of Atomic part. with Fields	1.03 K	Ex	1458
Sr^* + Xe	Inter. of Atomic part. with Fields	1.03 K	Ex	1458
Sr + Xe	Inter. of Atomic part. with Fields	1.03 K	Ex	1458
I	Inter. of Atomic part. with Fields		Ex	1462
Xe	Inter. of Atomic part. with Fields	2.03-3.10 eV	Ex	1479
Xe	Inter. of Atomic part. with Fields		Th	1473
Cs	Inter. of Atomic part. with Fields		Ex	1477
Cs	Inter. of Atomic part. with Fields	1.46 eV	E/T	1457
Cs + Cs	Inter. of Atomic part. with Fields		Th	1503
Cs + Cs	Inter. of Atomic part. with Fields	0.13 mK	Ex	1489
Ba	Inter. of Atomic part. with Fields		Ex	1482
Ba^{1+}	Inter. of Atomic part. with Fields		Ex	1505
Pb^{1+}	Inter. of Atomic part. with Fields	11.00-24.00 K	E/T	1463
I_2	Inter. of Atomic part. with Fields		Ex	1462
Na_2	Inter. of Atomic part. with Fields		Ex	1453
HCN	Inter. of Atomic part. with Fields	0.06-0.17 eV	Th	1506

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22. S. R. Federman, J. Zsargo
Atomic physics with the Goddard high resolution spectrograph on the Hubble Space Telescope. V. Oscillator strengths for neutral carbon lines below 1200 A.
Astrophys. J. **555**, 020 (2001)

Transition probabil., Oscill. Streng	**C I**	Ex

23. L. M. Wiese, G. A. Bonvallet, J. E. Lawler
Laboratory measurement of the Fe II 114.4938 nanometer oscillator strength.
Astrophys. J. **569**, 032 (2002)

Transition probabil., Oscill. Streng	**Fe II**	Ex

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Weighted oscillator strengths and lifetimes for the neutral oxygen spectrum, O I.
Braz. J. Phys. **31**, 8 (2001)

Transition probabil., Oscill. Streng	**O I**	Th

25. G. Tachiev, C. Froese Fischer
Breit-Pauli energy levels and transition rates for the carbonlike sequence.
Can. J. Phys. **79**, 55 (2001)

Transition probabil., Oscill. Streng	**C I Z= 7, 15**	Th

26. B. Saha, A. K. Das, P. K. Mukherjee
Radiative transitions in highly ionized silicon-like ions.
Eur. Phys. J. D **14**, 3 (2001)

Transition probabil., Oscill. Streng	**Si I Z= 25, 36**	Th

27. C. Z. Dong, S. Fritzsche, B. Fricke
Theoretical investigations on the 3d94p - 3d10 spectrum of Cu II.
J. Electron. Spectrosc. Relat. Phenom. **114-116**, 57 (2001)

Transition probabil., Oscill. Streng	**Cu II**	Th

28. N.-W. Zheng, T. Wang, D.-X. Ma, T. Zhou
Calculation of the transition probability for C (I-IV).
J. Opt. Soc. Am. B **18**, 395 (2001)

Transition probabil., Oscill. Streng	**C I**	Th
Transition probabil., Oscill. Streng	**C II**	Th
Transition probabil., Oscill. Streng	**C III**	Th
Transition probabil., Oscill. Streng	**C IV**	Th

29. I. Murakami, U. I. Safronova, T. Kato
Dielectronic recombination rate coefficients to excited states of Ne VII from Ne VIII.
J. Phys. B **32**, 331 (1999)

Transition probabil., Oscill. Streng	**Ne VII**	Th

30. Z. S. Li, H. Lundberg, U. Berzinsh, S. Johansson, S. Svanberg
The FERRUM project: radiative lifetimes of the 3d5(6S)4s4p(3P)y 6Po states of Fe II measured with time-resolved vacuum ultraviolet laser spectroscopy.
J. Phys. B **33**, 593 (2000)

Transition probabil., Oscill. Streng	**C I**	Ex
Transition probabil., Oscill. Streng	**Fe II**	Ex

31. J. E. Rice, K. B. Fournier, J. A. Goetz, E. S. Marmar, J. L. Terry
X-ray observations of 2l-nl' transitions and configuration-interaction effects from Kr, Mo, Nb, and Zr in near neon-like charge states from tokamak plasmas.
J. Phys. B **33**, 435 (2000)

Transition probabil., Oscill. Streng	**Kr XXV**	Th
Transition probabil., Oscill. Streng	**Kr XXVI**	Th
Transition probabil., Oscill. Streng	**Kr XXVII**	Th
Transition probabil., Oscill. Streng	**Kr XXVIII**	Th
Transition probabil., Oscill. Streng	**Zr XXXI**	Th
Transition probabil., Oscill. Streng	**Nb XXXII**	Th
Transition probabil., Oscill. Streng	**Mo XXXIII**	Th

32. E. Charro, D. Bielinska-Waz, I. Martin
Line strengths for E2 transitions in Fe XVI.
J. Phys. B **33**, 855 (2000)

Transition probabil., Oscill. Streng	**Fe XVI**	Th

33. K. A. Berrington, J. C. Pelan, J. A. Waldock
Oscillator strength for 3s23p5-3s3p6 in Cl-like ions.
J. Phys. B **34**, 419 (2001)

Transition probabil., Oscill. Streng	**Cl I Z= 18, 29**	Th

34. Y. Zou, C. Froese Fischer
Multiconfiguration Dirac-Hartree-Fock calculations of the forbidden transitions between 3s2 1S0, 3s3p 3P0,1,2, 1P1 states for Mg-like ions.
J. Phys. B **34**, 15 (2001)

Transition probabil., Oscill. Streng	**Mg I Z= 13, 16**	Th

35. C. M. Sikstrm, H. Pihlemark, H. Nilsson, U. Litzen, S. Johansson, Z. S. Li, H. Lundberg
Experimental Mo II oscillator strengths.
J. Phys. B **34**, 77 (2001)

Transition probabil., Oscill. Streng	**Mo II**	E/T
Transition probabil., Oscill. Streng	**Mo II**	E/T

36. J. A. del Val, J. A. Aparicio, V. R. Gonzalez, S. Mar
Transition probability measurement of several O II spectral lines.
J. Phys. B **34**, 531 (2001)

Transition probabil., Oscill. Streng	**O II**	Ex

37. E. Charro, S. Lopez-Ferrero, I. Martin
Forbidden emission coefficients for intraconfiguration transitions 2p3/2→2p1/2 along the boron sequence.
J. Phys. B **34**, 243 (2001)

Transition probabil., Oscill. Streng	**B I Z= 5, 82**	Th

38. G. P. Gupta, A. Z. Msezane
Fine-structure energy levels and lifetimes in Al-like iron and nickel.
J. Phys. B **34**, 217 (2001)

Transition probabil., Oscill. Streng	**Fe XIV**	Th
Transition probabil., Oscill. Streng	**Ni XVI**	Th

39. A. de Castro, J. A. Aparicio, J. A. del Val, V. R. Gonzalez, S. Mar
Measurement of Stark broadening and shift constants of singly ionized krypton lines.
J. Phys. B **34**, 275 (2001)

Transition probabil., Oscill. Streng	**Kr II**	Th

40. E. Charro, I. Martin
E2 transitions in Ti XII. Relativistic calculations.
J. Phys. B **34**, 13 (2001)

Transition probabil., Oscill. Streng	**Ti XII**	Th

41. P. L. Norquist, D. R. Beck
Ab initio lifetimes, Lande g-values and hyperfine structure for Ta II states.
J. Phys. B **34**, 107 (2001)

Transition probabil., Oscill. Streng	**Ta II**	Th

42. C. J. Zeippen, E. Biemont, E. Traebert
Calculated transition probabilities in highly charged Ti-like ions.
J. Phys. B **34**, 941 (2001)

Transition probabil., Oscill. Streng	**Ti I Z= 42, 83**	Th

43. O. Zatsarinny, S. S. Tayal
Low-energy electron collisions with atomic oxygen: R-matrix calculation with non-orthogonal orbitals.
J. Phys. B **34**, 299 (2001)

Transition probabil., Oscill. Streng	**O I**	Th

44. C. Froese Fischer, P. Jönsson, M. Godefroid
Non-relativistic variational calculations of atomic properties in Li-like ions: Li I to O VI.
J. Phys. B **34**, 079 (2001)

Transition probabil., Oscill. Streng	**Li I**	Th

45. O. Zatsarinny, C. Froese Fischer
Oscillator strengths for transitions to high-lying excited states of carbon.
J. Phys. B **35**, 669 (2002)

Transition probabil., Oscill. Streng	**C I**	Th

46. E. Trabert, G. Gwinner, A. Wolf, E. J. Knystautas, H.-P. Garnir, X. Tordoir
M1/E2 transition rates in Fe X through Fe XIII measured at a heavy-ion storage ring.
J. Phys. B **35**, 71 (2002)

Transition probabil., Oscill. Streng	**Fe X**	Ex
Transition probabil., Oscill. Streng	**Fe XI**	Ex
Transition probabil., Oscill. Streng	**Fe XII**	Ex
Transition probabil., Oscill. Streng	**Fe XIII**	Ex
Transition probabil., Oscill. Streng	**Fe XIV**	Ex

47. P. Quinet
Investigation of configuration interaction and core-polarization effects in singly ionized molybdenum (Mo II).
J. Phys. B **35**, 9 (2002)

Transition probabil., Oscill. Streng	**Mo II**	Th

48. G. Correge, A. Hibbert
Intercombination lines in C II, N III, and O IV.
J. Phys. B **35**, 211 (2002)

Transition probabil., Oscill. Streng	**C II**	Th
Transition probabil., Oscill. Streng	**N III**	Th
Transition probabil., Oscill. Streng	**O IV**	Th

49. N. W. Zheng, T. Wang, T. Zhou, D. X. Ma
Theoretical study of transition probability for oxygen atom and ions.
J. Phys. Soc. Jpn. **71**, 672 (2002)

Transition probabil., Oscill. Streng	**O I - O VI**	Th

50. P. Matheron, A. Escarguel, R. Redon, A. Lesage, J. Richou
Si II transition probabilities measurements in a laser induced plasma.
J. Quant. Spectrosc. Radiat. Transfer **69**, 35 (2001)

Transition probabil., Oscill. Streng	**Si II**	Ex

51. O. Renner, F. B. Rosmej, E. Krousky, P. Sondhauss, M. P. Kalachnikov, P. V. Nickles, I. Uschmann, E. Foerster
Aluminum Lyman alpha group formation at high-intensity, high-energy laser-matter interaction.
J. Quant. Spectrosc. Radiat. Transfer **71**, 23 (2001)

Transition probabil., Oscill. Streng	**Al XII**	Th
Transition probabil., Oscill. Streng	**Al XIII**	Th

52. L. H. Coutinho, A. G. Trigueiros
Weighted oscillator strengths and lifetimes for the Si XII and Si XIII spectra.
J. Quant. Spectrosc. Radiat. Transfer **72**, 85 (2002)

Transition probabil., Oscill. Streng	**Si XII**	Th
Transition probabil., Oscill. Streng	**Si XIII**	Th

53. L. H. Coutinho, A. G. Trigueiros
Weighted oscillator strengths and lifetimes for the Si I spectrum.
J. Quant. Spectrosc. Radiat. Transfer **75**, 57 (2002)

Transition probabil., Oscill. Streng	**Si I**	Th

54. C.-Z. Dong, S. Fritzsche, L.-Y. Xie
Energy levels and transition probabilities for possible x-ray laser lines of highly charged Ni-like ions.
J. Quant. Spectrosc. Radiat. Transfer **76**, 47 (2003)

Transition probabil., Oscill. Streng	**Ni I Z= 74, 84**	Th

55. T. Brage, J. Fleming, R. Hutton
A review of intercombination lines in beryllium-like ions.
Mol. Phys. **98**, 057 (2000)

Transition probabil., Oscill. Streng	**Be I Z= 6, 8**	Th

56. M. P. Donnelly, A. Hibbert
Sextet transitions in Fe II.
Mon. Not. R. Astron. Soc. **321**, 47 (2001)

Transition probabil., Oscill. Streng	**Fe II**	Th

57. A. V. Loginov, V. I. Tuchkin
Radiative constants in the spectra of ions of the erbium isoelectronic sequence.
Opt. Spectrosc. **90**, 31 (2001)

Transition probabil., Oscill. Streng	**Er I Z= 70, 73**	Th

58. A. V. Loginov, V. I. Tuchkin
Radiative constants in the spectra of ions of the krypton isoelectronic sequence.
Opt. Spectrosc. **91**, 65 (2001)

Transition probabil., Oscill. Streng	**Kr I Z= 37, 42**	Th

59. S. J. Smith, A. Chutjian, J. B. Greenwood
Lifetimes of the 2s22p 2Po - 2s2p2 4P intercombination transitions of C+.
Phys. Rev. A **60**, 569 (1999)

Transition probabil., Oscill. Streng	**C II**	Ex

60. N. C. Deb, G. P. Gupta, A. Z. Msezane
Correlation effects on fine-structure energy levels and oscillator strengths in Fe X.
Phys. Rev. A **60**, 569 (1999)

Transition probabil., Oscill. Streng	**Fe X**	Th

61. Y. Zou, C. Froese Fischer
Multiconfiguration Dirac-Hartree-Fock optimization strategies for 3s2 1S0-3s3p 3P1 transition rates for Al+ - S4+.
Phys. Rev. A **62**, 62505 (2000)

Transition probabil., Oscill. Streng	**Mg I Z= 13, 92**	Th

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Radiation trapping of the 3P1 - 1S0 resonant transitions of xenon and krypton in Xe-Kr, Xe-Ar, and Kr-Ar mixtures: Kinetic analysis and determination of the van der Waals broadening coefficients.
Phys. Rev. A **62**, 52721 (2000)

Transition probabil., Oscill. Streng	**Kr I**	Ex
Transition probabil., Oscill. Streng	**Xe I**	Ex

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K-shell dielectronic resonances in photoabsorption: Differential oscillator strengths for Li-like C IV, O VI, and Fe XXIV.
Phys. Rev. A **63**, 60701 (2001)

Transition probabil., Oscill. Streng	**C IV**	Th
Transition probabil., Oscill. Streng	**O VI**	Th
Transition probabil., Oscill. Streng	**Fe XXIV**	Th

64. Y. Ishikawa, M. J. Vilkas
Relativistic multireference many-body perturbation-theory calculations of the magnetic-dipole and electric-quadrupole transition probabilities of ions in the silicon isoelectronic sequence.
Phys. Rev. A **63**, 42506 (2001)

Transition probabil., Oscill. Streng	**Si I Z= 26, 54**	Th

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Experimental and theoretical investigations of radiative lifetimes in the s and d sequences of neutral boron.
Phys. Rev. A **63**, 32505 (2001)

Transition probabil., Oscill. Streng	**B I**	E/T
Transition probabil., Oscill. Streng	**B I**	E/T

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Oscillator strengths, Lande g values, and hyperfine structure for 3d4 J=0?3d34p J=1 transitions in Fe V.
Phys. Rev. A **63**, 32501 (2001)

Transition probabil., Oscill. Streng **Fe V** Th

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Effects of LS term dependence in He-like ions.
Phys. Rev. A **63**, 14702 (2001)
Transition probabil., Oscill. Streng **He I Z= 3, 12** Th

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Time-resolved nonlinear laser-induced fluorescence technique for a combined lifetime and branching-fraction measurement.
Phys. Rev. A **63**, 12519 (2000)
Transition probabil., Oscill. Streng **Fe II** Ex

69. E. Träbert, P. Beiersdorfer, G. V. Brown, H. Chen, D. B. Thorn, E. Biemont
Experimental M1 transition rates in highly charged Kr ions.
Phys. Rev. A **64**, 42511 (2001)
Transition probabil., Oscill. Streng **Kr XVII-XIX** E/T
Transition probabil., Oscill. Streng **Kr XXII-XXIII** E/T

70. M. H. Chen, K. T. Cheng, W. R. Johnson
Large-scale relativistic configuration-interaction calculation of the 2s2 1S0 - 2s2p 3P1 intercombination transition in C III.
Phys. Rev. A **64**, 42507 (2001)
Transition probabil., Oscill. Streng **C III** Th

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Experimental M1 transition rates in K XI, K XV, and K XVI.
Phys. Rev. A **64**, 34501 (2001)
Transition probabil., Oscill. Streng **K XI** Ex
Transition probabil., Oscill. Streng **K XV** Ex
Transition probabil., Oscill. Streng **K XVI** Ex

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Relativistic close-coupling calculations for photoionization and recombination of Ne-like Fe XVII.
Phys. Rev. A **64**, 32719 (2001)
Transition probabil., Oscill. Streng **Fe XVIII** Th

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Detailed-term-accounting-approximation calculations of the radiative opacity of laser-produced Al plasmas.
Phys. Rev. D **64**, 66412 (2001)
Transition probabil., Oscill. Streng **Al V** Th
Transition probabil., Oscill. Streng **Al VI** Th

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Spectroscopic investigations of the 2p23configurations in Si VIII and S X.
Phys. Scr. **59**, 55 (1999)
Transition probabil., Oscill. Streng **Si VIII** Th
Transition probabil., Oscill. Streng **S X** Th

75. I. Kink, L. Engstrm, P. M. R. Rao
Experimental study of configuration mixing effects on the lifetimes of 1s22s6 levels in Be-like O.
Phys. Scr. **60**, 22 (1999)

Transition probabil., Oscill. Streng **O V** E/T

76. N. J. Wilson, A. Hibbert, K. L. Bell
Oscillator strengths for K III, Ca IV and Sc V.
Phys. Scr. **61**, 03 (2000)

Transition probabil., Oscill. Streng	**K III**	Th
Transition probabil., Oscill. Streng	**Ca IV**	Th
Transition probabil., Oscill. Streng	**Sc V**	Th

77. M. Schultz-Johanning, R. Kling, R. Schnabel, M. Kock, Z. Li, H. Lundberg, S. Johansson
Lifetimes, branching fractions, and oscillator strengths of doubly ionized tungsten.
Phys. Scr. **63**, 67 (2001)

Transition probabil., Oscill. Streng **W III** Ex

78. A. Sreckovic, V. Drincic, S. Bukvic, S. Djenize
Stark broadening parameters and transition probabilities in the O II spectrum.
Phys. Scr. **63**, 06 (2001)

Transition probabil., Oscill. Streng **O II** Ex

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Intensity vs. electron density of the ultraviolet M1 transition in Xe32+, Gd42+, W52+, Bi61+, and U70+ (Ti-like ions).
Phys. Scr. **63**, 84 (2001)

Transition probabil., Oscill. Streng **Ti I Z= 54, 92** Th

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The calculation of the line strengths for magnetic dipole transitions between the 2s2, 2s2p and 2p2 states in Be-like ions.
Phys. Scr. **64**, 8 (2001)

Transition probabil., Oscill. Streng **Be I Z= 5, 36** Th

81. C. Blancard, M. Cornille, J. Dubau
Radiative and collisional atomic data for neon-like copper.
Phys. Scr. **64**, 52 (2001)

Transition probabil., Oscill. Streng **Cu XX** Th

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Measurements of spectral line strengths within some C I multiplets belonging to the 3p-3d and 3p-4s transition arrays.
Phys. Scr. **64**, 14 (2001)

Transition probabil., Oscill. Streng **C I** Ex

83. N. C. Deb, A. Z. Msezane
Fine-structure energy levels, oscillator strengths and transition probabilities in Ni XVI.
Phys. Scr. **64**, 12 (2001)

Transition probabil., Oscill. Streng **Ni XVI** Th

84. H.-S. Chou
Comments on "Relativistic many-body calculations of transition probabilities for the 2122[LSJ]-2324[L'S'J'] lines in the Be-like ions".
Phys. Scr. **64**, 40 (2001)

Transition probabil., Oscill. Streng **Be I Z= 4, 14** Th

85. A. Sreckovic, S. Djenize, S. Bukvic
Measured transition probabilities in the O II higher multiplets.
Phys. Scr. **65**, 59 (2002)

Transition probabil., Oscill. Streng **O II** Ex

86. A. Baclawski, T. Wujec, J. Musielok
Relative transition probability measurements for prominent infrared spectral lines of N I.
Phys. Scr. **65**, 8 (2002)
Transition probabil., Oscill. Streng **N I** Ex

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Relativistic multireference Moeller-Plesset perturbation theory calculations on the term energy and lifetime of the 5So2 state in siliconlike ions with Z=28-79.
Phys. Scr. **65**, 19 (2002)
Transition probabil., Oscill. Streng **Si I Z= 28, 79** Th

88. K. L. Bell
Photoionization of ions of astrophysical interest: Theoretical survey.
Phys. Scr. **T100**, 4 (2002)
Transition probabil., Oscill. Streng **N IV** Th
Transition probabil., Oscill. Streng **O V** Th

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Ab-initio calculations for forbidden M1 transitions in Ar13+ and Ar14+ ions.
Phys. Scr. **T92**, 94 (2001)
Transition probabil., Oscill. Streng **Ar XIV** Th
Transition probabil., Oscill. Streng **Ar XV** Th

90. S. Mar, C. Perez, V. R. Gonzalez, M. A. Gigosos, J. A. del Val, I. de la Rosa, J. A. Aparicio
Experimental transition probabilities in NII lines.
Astron. Astrophys. Suppl. Ser. **144**, 509 (2000)
$\mathbf{h}\nu + \mathbf{N}^{1+}$ Photoexcitation 1.77-3.26 eV Ex

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Ab initio calculations of oscillator strengths and Lande factors for Nd III.
Astron. Astrophys. Suppl. Ser. **144**, 517 (2000)
$\mathbf{h}\nu + \mathbf{Nd}^{2+}$ Photoexcitation 1.80-4.00 eV Th

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Atomic data from the Iron Project. XLV. Relativistic transition probabilities for carbon-like Ar XIII and Fe XXI using Breit-Pauli R-matrix method.
Astron. Astrophys. Suppl. Ser. **147**, 253 (2000)
$\mathbf{h}\nu + \mathbf{Ar}^{12+}$ Photoexcitation 8.00 Ry Th
$\mathbf{h}\nu + \mathbf{Fe}^{20+}$ Photoexcitation 8.00 Ry Th

93. A. G. Kochur, D. Petrini, E. P. Da Silva
2s-photoionisation of atomic magnesium: Shake processes and Coster-Kronig radiationless decay.
Astron. Astrophys. **365**, 248 (2001)
$\mathbf{h}\nu + \mathbf{Mg}$ Photoionization 100.00-300.00 eV Th

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Transition probabilities of several transitions in the Ar III and Ar IV spectra.
Astron. Astrophys. **365**, 252 (2001)
$\mathbf{h}\nu + \mathbf{Ar}^{2+}$ Photoexcitation 4.13 eV Ex
$\mathbf{h}\nu + \mathbf{Ar}^{3+}$ Photoexcitation 4.13 eV Ex

95. J. A. Tully, M. C. Chidichimo
Oscillator strengths between fine structure levels of Fe XXIII.
Astron. Astrophys. **365**, 266 (2001)
$\mathbf{h}\nu + \mathbf{Fe}^{22+}$ Photoexcitation Th

3.2 Atomic and Molecular Collisions

3.2.1 Photon Collisions

96. N. V. Dobrodey
Radiative transitions in TiO: Ab initio oscillator strengths and lifetimes for low-lying electronic states.
Astron. Astrophys. **365**, 642 (2001)

hν + TiO	Photoexcitation		Th

97. H. O. Karlsson, C. M. Sikstrom, S. Johansson, Z. S. Li, H. Lundberg
The FERRUM project: Experimental f-values for 4p-5s transitions in Fe II.
Astron. Astrophys. **371**, 360 (2001)

hν + Fe^{1+}	Photoexcitation	10.00 eV	Ex

98. F. Rodriguez, J. A. Aparicio, A. de Castro, J. A. del Val, V. R. Gonzalez, S. Mar
Measurement of several transition probabilities in singly-ionized krypton.
Astron. Astrophys. **372**, 338 (2001)

hν + Kr^{1+}	Photoexcitation	2.14-2.76 eV	Ex

99. E. Charro, I. Martin
Regularities along spectral series in forbidden transitions of Ti^{11+}.
Astron. Astrophys. **373**, 720 (2001)

hν + Ti^{11+}	Photoexcitation		Th

100. E. Charro, I. Martin
Relativistic quantum defect orbital study of forbidden transitions in Co^{16+}.
Astron. Astrophys. **376**, 1106 (2001)

hν + Co^{16+}	Photoexcitation		Th

101. J. C. Pickering, S. Johansson, P. L. Smith
The FERRUM project: Branching ratios and atomic transition probabilities of Fe II transitions from the $3d^6(a^3F)4p$ subconfiguration in the visible to VUV spectral region.
Astron. Astrophys. **377**, 361 (2001)

hν + Fe^{1+}	Photoexcitation	3.54-7.75 eV	Ex

102. S. Djenize, V. Milosavljevic, M. S. Dimitrijevic
Stark shifts and transition probabilities in the Ne II spectrum.
Astron. Astrophys. **382**, 359 (2002)

hν + Ne^{1+}	Photoexcitation	3.54 eV	Ex

103. H. Nilsson, Z. G. Zhang, H. Lundberg, S. Johansson, B. Nordstroem
Experimental oscillator strengths in Th II.
Astron. Astrophys. **382**, 368 (2002)

hν + Th^{1+}	Photoexcitation	0.95-4.13 eV	Ex

104. Z. G. Zhang, G. Somesfalean, S. Svanberg, P. Palmeri, P. Quinet, E. Biemont
Radiative lifetime measurements and oscillator strengths of astrophysical interest in Ho III.
Astron. Astrophys. **384**, 364 (2002)

hν + Ho^{2+}	Photoexcitation	1.35-5.39 eV	Ex

105. G. I. Tachiev, C. Froese-Fischer
Breit-Pauli energy levels and transition rates for nitrogen-like and oxygen-like sequences.
Astron. Astrophys. **385**, 716 (2002)

$h\nu$ + **N**	Photoexcitation		Th
$h\nu$ + **O**	Photoexcitation		Th
$h\nu$ + O^{1+}	Photoexcitation		Th
$h\nu$ + F^{1+}	Photoexcitation		Th
$h\nu$ + F^{2+}	Photoexcitation		Th
$h\nu$ + Ne^{2+}	Photoexcitation		Th
$h\nu$ + Ne^{3+}	Photoexcitation		Th
$h\nu$ + Na^{3+}	Photoexcitation		Th
$h\nu$ + Na^{4+}	Photoexcitation		Th
$h\nu$ + Mg^{4+}	Photoexcitation		Th
$h\nu$ + Mg^{5+}	Photoexcitation		Th
$h\nu$ + Al^{5+}	Photoexcitation		Th
$h\nu$ + Al^{6+}	Photoexcitation		Th
$h\nu$ + Si^{6+}	Photoexcitation		Th
$h\nu$ + Si^{7+}	Photoexcitation		Th
$h\nu$ + P^{7+}	Photoexcitation		Th
$h\nu$ + P^{8+}	Photoexcitation		Th
$h\nu$ + S^{8+}	Photoexcitation		Th
$h\nu$ + S^{9+}	Photoexcitation		Th
$h\nu$ + Cl^{9+}	Photoexcitation		Th
$h\nu$ + Cl^{10+}	Photoexcitation		Th
$h\nu$ + Ar^{10+}	Photoexcitation		Th
$h\nu$ + K^{11+}	Photoexcitation		Th
$h\nu$ + Ca^{12+}	Photoexcitation		Th
$h\nu$ + **O Seq**	Photoexcitation		Th
$h\nu$ + **N Seq.**	Photoexcitation		Th

106. Z. G. Zhang, S. Svanberg, P. Palmeri, P. Quinet, E. Biemont
Measurement of lifetimes by laser-induced fluorescence and determination of transition probabilities of astrophysical interest in Nd III.
Astron. Astrophys. **385**, 724 (2002)

$h\nu$ + Nd^{2+}	Photoexcitation	1.75-3.78 eV	E/T

107. E. Charro, Z. Curiel, I. Martin
Atomic data for M1 and E2 emission lines in the potassium isoelectronic sequence.
Astron. Astrophys. **387**, 1146 (2002)

$h\nu$ + Mn^{6+}	Photoexcitation		Th
$h\nu$ + Fe^{7+}	Photoexcitation		Th
$h\nu$ + Fe^{42+}	Photoexcitation		Th
$h\nu$ + Co^{8+}	Photoexcitation		Th
$h\nu$ + Ni^{9+}	Photoexcitation		Th
$h\nu$ + Cu^{10+}	Photoexcitation		Th
$h\nu$ + Zn^{11+}	Photoexcitation		Th
$h\nu$ + Ga^{12+}	Photoexcitation		Th
$h\nu$ + Ge^{13+}	Photoexcitation		Th
$h\nu$ + As^{14+}	Photoexcitation		Th
$h\nu$ + Se^{15+}	Photoexcitation		Th
$h\nu$ + Br^{16+}	Photoexcitation		Th
$h\nu$ + Kr^{17+}	Photoexcitation		Th
$h\nu$ + Rb^{18+}	Photoexcitation		Th
$h\nu$ + Sr^{19+}	Photoexcitation		Th
$h\nu$ + Y^{20+}	Photoexcitation		Th
$h\nu$ + Zr^{21+}	Photoexcitation		Th
$h\nu$ + Nb^{22+}	Photoexcitation		Th
$h\nu$ + Mo^{23+}	Photoexcitation		Th
$h\nu$ + Tc^{24+}	Photoexcitation		Th
$h\nu$ + Ru^{25+}	Photoexcitation		Th

hν + Rh^{26+}	Photoexcitation		Th
hν + Pd^{27+}	Photoexcitation		Th
hν + Ag^{28+}	Photoexcitation		Th
hν + Cd^{29+}	Photoexcitation		Th
hν + In^{30+}	Photoexcitation		Th
hν + Sn^{31+}	Photoexcitation		Th
hν + Sb^{32+}	Photoexcitation		Th
hν + Te^{33+}	Photoexcitation		Th
hν + I^{34+}	Photoexcitation		Th
hν + Xe^{35+}	Photoexcitation		Th
hν + Cs^{36+}	Photoexcitation		Th
hν + Ba^{37+}	Photoexcitation		Th
hν + La^{38+}	Photoexcitation		Th
hν + Hf^{39+}	Photoexcitation		Th
hν + Ta^{40+}	Photoexcitation		Th
hν + W^{41+}	Photoexcitation		Th
hν + Os^{43+}	Photoexcitation		Th
hν + Ir^{44+}	Photoexcitation		Th
hν + Pt^{45+}	Photoexcitation		Th
hν + Au^{46+}	Photoexcitation		Th
hν + Hg^{47+}	Photoexcitation		Th

108. V. Vujnovic, K. Blagoev, C. Fuerboeck, T. Neger, H. Jaeger
Absolute transition probabilities of Al I and Al II spectral lines and intensity ratios within multiplets.
Astron. Astrophys. **388**, 704 (2002)

hν + Al	Photoexcitation	2.07-6.20 eV	E/T
hν + Al^{1+}	Photoexcitation	2.07-6.20 eV	E/T

109. S. N. Nahar
Relativistic fine structure oscillator strengths for Li-like ions: C IV - Si XII, S XIV, Ar XVI, Ca XVIII, Ti XX, Cr XXII, and Ni XXVI.
Astron. Astrophys. **389**, 716 (2002)

hν + C^{3+}	Photoexcitation	20.00-680.00 Ry	Th
hν + N^{4+}	Photoexcitation	20.00-680.00 Ry	Th
hν + O^{5+}	Photoexcitation	20.00-680.00 Ry	Th
hν + F^{6+}	Photoexcitation	20.00-680.00 Ry	Th
hν + Ne^{7+}	Photoexcitation	20.00-680.00 Ry	Th
hν + Na^{8+}	Photoexcitation	20.00-680.00 Ry	Th
hν + Mg^{9+}	Photoexcitation	20.00-680.00 Ry	Th
hν + Al^{10+}	Photoexcitation	20.00-680.00 Ry	Th
hν + Si^{11+}	Photoexcitation	20.00-680.00 Ry	Th
hν + S^{13+}	Photoexcitation	20.00-680.00 Ry	Th
hν + Ar^{15+}	Photoexcitation	20.00-680.00 Ry	Th
hν + Ca^{17+}	Photoexcitation	20.00-680.00 Ry	Th
hν + Ti^{19+}	Photoexcitation	20.00-680.00 Ry	Th
hν + Cr^{21+}	Photoexcitation	20.00-680.00 Ry	Th
hν + Ni^{25+}	Photoexcitation	20.00-680.00 Ry	Th

110. H. Ray
Studies on the E2-transition in CoXVII.
Astron. Astrophys. **391**, 1173 (2002)

hν + Co^{16+}	Photoexcitation		Th

111. T. Brage, P. G. Judge, P. Joensson, D. P. Edwards
Spectral lines for polarization measurements of the coronal magnetic field. III. Atomic data for Si IX.
Astrophys. J., Part 1 **540**, 1114 (2001)

hν + $\mathbf{Si}^{8+}$	Photoexcitation	12.40-49.59 eV	Th

112. L. M. Wiese, J. A. Fedchak, J. E. Lawler
Absorption f-values of Ti II vacuum ultraviolet resonance transitions.
Astrophys. J., Part 1 **547**, 1178 (2001)

hν + $\mathbf{Ti}^{1+}$	Photoexcitation	6.49 eV	Ex

113. G. M. Wahlgren, T. Brage, J. C. Brandt, J. Fleming, S. Johansson, D. S. Leckrone, C. R. Proffitt, J. Reader, C. J. Sansonetti
The bismuth abundance in the HgMn stars χ Lupi and HR 7775 and improved atomic data for selected transitions of Bi I, Bi II, and Bi III.
Astrophys. J., Part 1 **551**, 520 (2001)

hν + $\mathbf{Bi}^{1+}$	Photoexcitation	3.10-11.27 eV	Th

114. S. R. Federman, J. Zsargo
Atomic physics with the Goddard High Resolution Spectrograph on the Hubble Space Telescope. V. Oscillator strengths for neutral carbon lines below 1200 Å.
Astrophys. J., Part 1 **555**, 1020 (2001)

hν + **C**	Photoexcitation	10.33-10.78 eV	Ex

115. J. E. Lawler, G. Bonvallet, C. Sneden
Experimental radiative lifetimes, branching fractions, and oscillator strengths for La II and a new determination of the solar lanthanum abundance.
Astrophys. J., Part 1 **556**, 452 (2001)

hν + $\mathbf{La}^{1+}$	Photoexcitation	2.13-4.12 eV	Ex

116. J. E. Lawler, M. E. Wickliffe, E. A. Den Hartog, C. Sneden
Improved laboratory transition parameters for Eu II and application to the solar Europium elemental and isotopic composition.
Astrophys. J., Part 1 **563**, 1075 (2001)

hν + $\mathbf{Eu}^{1+}$	Photoexcitation	16.53-34.44 eV	Ex

117. E. Biemont, P. Palmeri, P. Quinet, Z. G. Zhang, S. Svanberg
Doubly ionized thorium: Laser lifetime measurements and transition probability determination of interest in cosmochronology.
Astrophys. J., Part 1 **567**, 1276 (2002)

hν + $\mathbf{Th}^{2+}$	Photoexcitation	1.25-9.54 eV	Ex

118. W. L. Wiese, G. A. Bonvallet, J. E. Lawler
Laboratory measurement of the Fe II 114.4938 nanometer oscillator strength.
Astrophys. J., Part 1 **569**, 1032 (2002)

hν + $\mathbf{Fe}^{1+}$	Photoexcitation	10.83 eV	Ex

119. E. Behar, H. Netzer
Inner-shell 1s-2p soft x-ray absorption lines.
Astrophys. J., Part 1 **570**, 165 (2002)

hν + $\mathbf{Ne}^{1+}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ne}^{2+}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ne}^{3+}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ne}^{4+}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ne}^{5+}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ne}^{6+}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ne}^{7+}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Mg}^{3+}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Mg}^{4+}$	Photoexcitation	0.92-8.27 keV	Th

hν + $\mathbf{Mg^{5+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Mg^{6+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Mg^{7+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Mg^{8+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Mg^{9+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Al^{4+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Al^{5+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Al^{6+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Al^{7+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Al^{8+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Al^{9+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Al^{10+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Si^{5+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Si^{6+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Si^{7+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Si^{8+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Si^{9+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Si^{10+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Si^{11+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{S^{7+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{S^{8+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{S^{9+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{S^{10+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{S^{11+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{S^{12+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{S^{13+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ar^{9+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ar^{10+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ar^{11+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ar^{12+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ar^{13+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ar^{14+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ar^{15+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ca^{11+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ca^{12+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ca^{13+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ca^{14+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ca^{15+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ca^{16+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Ca^{17+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Fe^{17+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Fe^{18+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Fe^{19+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Fe^{20+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Fe^{21+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Fe^{22+}}$	Photoexcitation	0.92-8.27 keV	Th
hν + $\mathbf{Fe^{23+}}$	Photoexcitation	0.92-8.27 keV	Th

120. S. Majumder, H. Merlitz, G. Gopakumar, B. P. Das, U. S. Mahapatra, D. Mukherjee
Accurate calculations of interstellar lines of $\mathbf{Mg^{+}}$ using the coupled cluster approach.
Astrophys. J., Part 1 **574**, 513 (2002)

hν + $\mathbf{Mg^{1+}}$	Photoexcitation	9.92 eV	Th

121. P. C. Lee, J. B. Nee
Detection of O(^{1}D) produced in the photodissociation of $\mathbf{O_2}$. II. Identification of the $^3\Sigma_u{}^-$ and $^3\Pi_u$ Rydberg states in 105-113 nm.
J. Chem. Phys. **114**, 792 (2001)

hν + O_2	Photodissociation	10.97-11.81 eV	Ex

122. T. Masuoka
Single- and double-photoionization cross sections of sulfur dioxide (SO_2) and ionic fragmentation of $SO_2{}^+$ and $SO_2{}^{2+}$.
J. Chem. Phys. **115**, 264 (2001)

hν + $SO_2{}^{1+}$	Photoionization	37.00-120.00 eV	Ex
hν + $SO_2{}^{2+}$	Photoionization	37.00-120.00 eV	Ex

123. A. Mocellin, K. Wiesner, F. Burmeister, O. Bjoerneholm, A. Naves de Brito
Experimental study of photoionization of ozone in the 12 to 21 eV region.
J. Chem. Phys. **115**, 5041 (2001)

hν + O_3	Photoionization	12.00-21.00 eV	Ex

124. P. Lin, R. R. Lucchese
Theoretical studies of cross sections and photoelectron angular distributions in the valence photoionization of molecular oxygen.
J. Chem. Phys. **116**, 8863 (2002)

hν + O_2	Photoionization	50.00 eV	Th

125. P. Lin, R. R. Lucchese
Total cross sections and molecular frame photoelectron angular distributions in the N 1 s photoionization of N_2: An investigation of electron correlation effects.
J. Chem. Phys. **117**, 4348 (2002)

hν + N_2	Photoionization	410.00-450.00 eV	Th

126. R. Wehlitz, S. B. Whitfield
Valence double photoionization of beryllium.
J. Phys. B **32**, L719 (2001)

hν + Be	Photoionization	32.00-80.00 eV	Ex

127. E. G. Drukarev, N. B. Avdonina, R. H. Pratt
Correlation effects in the energy spectrum of fast outgoing electrons from double photoionization of helium.
J. Phys. B **34**, 1 (2001)

hν + He	Photoionization	1.00-50.00 keV	Th
nhν + He	Photoionization	1.00-50.00 keV	Th

128. K. Ueda, Y. Shimizu, H. Chiba, M. Kitajima, H. Tanaka, S. Fritzsche, N. M. Kabachnik
Experimental and theoretical study of the Auger cascade following 2p -¿ 4s photoexcitation in Ar.
J. Phys. B **34**, 107 (2001)

hν + Ar	Photoionization	245.00 eV	Ex
hν + Ar	Photoexcitation	245.00 eV	Ex

129. C. Doule, E. Hertz, L. Berguiga, R. Chaux, B. Lavorel, O. Faucher
Temporal phase control of bound-bound and bound-free two-photon transitions in NO with two time-delayed cross-polarized pulses.
J. Phys. B **34**, 1133 (2001)

hν + NO	Photoionization	2.33-2.74 eV	Ex

130. T. K. Fang, K. T. Chung
Electric-field effects on He ground-state photoionization.
J. Phys. B **34**, 1245 (2001)

hν + He	Photoionization	65.00-72.00 eV	Th

131. M. Martins
Photoionization of open-shell atoms: the chlorine 2p excitation.
J. Phys. B **34**, 1321 (2001)

hν + **Cl**	Photoionization	202.00-212.00 eV	Th

132. K. Berrington
Oscillator strengths of Na III.
J. Phys. B **34**, 1443 (2001)

hν + $\mathbf{Na^{2+}}$	Photoexcitation		Th

133. H. Y. Wang, M. Baessler, I. Hjelte, F. Burmeister, L. Karlsson
A vibrationally resolved experimental study of the sulfur L-shell photoelectron spectrum of the $\mathbf{CS_2}$ molecule.
J. Phys. B **34**, 1745 (2001)

hν + $\mathbf{CS_2}$	Photoionization	250.00 eV	Ex
hν + $\mathbf{CS_2}$	Photoexcitation	250.00 eV	Ex

134. A. Kupliauskiene, N. Rakstikas, V. Tutlys
Polarization studies in the photoionization of atoms using a graphical technique.
J. Phys. B **34**, 1783 (2001)

hν + **Na**	Photoionization	40.00-140.00 eV	Th

135. P. Andersen, T. Andersen, F. Folkmann, V. K. Ivanov, H. Kjeldsen, J. B. West
Absolute cross sections for the photoionization of 4d electrons in $\mathbf{Xe^{+}}$ and $\mathbf{Xe^{2+}}$ ions.
J. Phys. B **34**, 2009 (2001)

hν + $\mathbf{Xe^{1+}}$	Photoionization	50.00-130.00 eV	Ex
hν + $\mathbf{Xe^{2+}}$	Photoionization	50.00-130.00 eV	Ex

136. S. Seven, K. Kocak
Angular dependence of L x-ray production cross sections in seven elements from Yb to Pt at a photon energy of 59.5 keV.
J. Phys. B **34**, 2021 (2001)

hν + **Yb**	Photoionization	59.50 keV	Ex
hν + **Lu**	Photoionization	59.50 keV	Ex
hν + **Hf**	Photoionization	59.50 keV	Ex
hν + **Ta**	Photoionization	59.50 keV	Ex
hν + **W**	Photoionization	59.50 keV	Ex
hν + **Re**	Photoionization	59.50 keV	Ex
hν + **Pt**	Photoionization	59.50 keV	Ex

137. M. Ertugrul
Measurements of $\mathbf{L_{3l}}$, $\mathbf{L_{3\alpha}}$, $\mathbf{L_{3\beta}}$, $\mathbf{L_{2\beta}}$, $\mathbf{L_{2\gamma}}$, $\mathbf{L_{1\beta}}$, $\mathbf{L_{1\gamma}}$, $\mathbf{L_{\beta}}$, $\mathbf{L_{\gamma}}$, $\mathbf{L_{1x}}$, $\mathbf{L_{2x}}$ and $\mathbf{L_{3x}}$ x-ray production cross sections and L subshell fluorescence yields for Re, W and Ta at 59.5 keV.
J. Phys. B **34**, 2081 (2001)

hν + **Ta**	Fluorescence	59.50 keV	E/T
hν + **W**	Fluorescence	59.50 keV	E/T
hν + **Re**	Fluorescence	59.50 keV	E/T

138. S. S. Tayal
Photoelectron angular distributions for 2p ionization of atomic oxygen.
J. Phys. B **34**, 2215 (2001)

hν + **O**	Photoionization	50.00 eV	E/T

139. J. Bauer, L. Plucinski, B. Piraux, R. M. Potvliege, M. Gajda, J. Krzywinski
Ionization of hydrogen atoms by intense vacuum ultraviolet radiation.
J. Phys. B **34**, 2245 (2001)

hν + H	Photoionization	17.00-50.00 eV	E/T

140. A. Nadeem, S. A. Bhatti, N. Ahmad, M. A. Baig
Two-step laser excitation of the even parity 5p$_{1/2}$np and nf J=1,2 Rydberg levels of neutral tin.
J. Phys. B **34**, 2407 (2001)

hν + Sn	Photoexcitation	0.49-2.48 eV	Ex

141. T. Grycuk, W. Behmenburg, V. Staemmler
Quantum calculation of the excitation spectra of Li*He probing interaction potentials and dipole moments.
J. Phys. B **34**, 245 (2001)

hν + Li	Elastic Scattering	0.50-0.99 eV	Th

142. H. Liebel, R. Mueller-Albrecht, S. Lauer, F. Vollweiler, A. Ehresmann, H. Schmoranzer
Fine-structure selectivity of neutral dissociation with excitation observed in O_2.
J. Phys. B **34**, 2581 (2001)

hν + O_2	Photoexcitation	14.60-16.20 eV	Ex
hν + O_2	Photodissociation	14.60-16.20 eV	Ex
hν + O_2	Fluorescence	14.60-16.20 eV	Ex
hν + O_2	Total Absor., Scat.	14.60-16.20 eV	Ex

143. J. J. Camacho, A. Pardo, I. P. Acin
Laser-induced (5145 Å) B $^1\Pi_u$ -¿ X $^1\Sigma_g{}^+$ fluorescence of Na_2.
J. Phys. B **34**, 2597 (2001)

hν + Na_2	Fluorescence	2.41 eV	Ex

144. D.-S. Kim
Photoionization of the excited 3s3p ^{1,3}P^0 states of atomic magnesium.
J. Phys. B **34**, 2615 (2001)

hν + Mg^*	Photoionization	5.00-15.00 eV	Th
hν + Mg	Photoionization	5.00-15.00 eV	Th

145. K. A. Berrington, C. Ballance
Inner-shell photoionization of the 3d^x ground state Fe ions.
J. Phys. B **34**, 2697 (2001)

hν + Fe^{2+}	Photoionization	0.03-8.16 keV	Th
hν + Fe^{3+}	Photoionization	0.03-8.16 keV	Th
hν + Fe^{4+}	Photoionization	0.03-8.16 keV	Th
hν + Fe^{5+}	Photoionization	0.03-8.16 keV	Th
hν + Fe^{6+}	Photoionization	0.03-8.16 keV	Th
hν + Fe^{7+}	Photoionization	0.03-8.16 keV	Th

146. G. Pruemper, O. Gessner, B. Zimmermann, J. Viefhaus, R. Hentges, H. Kleinpoppen, U. Becker
Absorption of circularly polarized VUV radiation in polarized iron vapour.
J. Phys. B **34**, 2707 (2001)

hν + Fe	Total Absor., Scat.	10.00-230.00 eV	Ex

147. J. Zeng, J. Yuan, Q. Lu
Photoionization of O III low-lying states: autoionization resonance energies and widths of some 1s-2p excited states.
J. Phys. B **34**, 2823 (2001)

hν + O^{2+}	Photoionization	39.00 eV	Th

148. A. Ehresmann, H. Liebel, M. von Kroeger, H. Schmoranzer
Dissociation of NO b $^3\Pi_{0,1,2}$ npλ $^2\Lambda$ (v=0) Rydberg states into O((^{4}S)3s ^{3}S$_1$) + N(^{4}S$_{3/2}$) fragments: rotational band shapes of vibronic peaks seen in fluorescence.
J. Phys. B **34**, 2893 (2001)

hν + NO	Photodissociation	16.27 eV	Ex

149. W. A. Schroeder, T. R. Nelson, A. B. Borisov, J. W. Longworth, K. Boyer, C. K. Rhodes
An efficient, selective collisional ejection mechanism for inner-shell population inversion in laser-driven plasmas.
J. Phys. B **34**, 297 (2001)

hν + Xe	Photoionization	1.55-5.00 eV	Th

150. D.-S. Guo, R. R. Freeman, L. Gao, X. Li, P. Fu, T. Edis, A. Troha
Spin-other-orbit effect of photon modes.
J. Phys. B **34**, 2983 (2001)

hν + Xe	Photoionization	4.66 eV	Th

151. A. Ehresmann, H. Liebel, M. von Kroeger, H. Schmoranzer
Final-state selectively observed autoionization and predissociation processes in NO for E$_{ex}$ = 16.9-19.6 eV.
J. Phys. B **34**, 3119 (2001)

hν + NO	Photoionization	16.90-19.60 eV	Ex
hν + NO	Photodissociation	16.90-19.60 eV	Ex
hν + NO	Photoexcitation	16.90-19.60 eV	Ex

152. G. Duffy, P. van Kampen, P. Dunne
4d -¿ 5p transitions in the extreme ultraviolet photoabsorption spectra of Sn II and Sn III.
J. Phys. B **34**, 3171 (2001)

hν + Sn^{1+}	Total Absor., Scat.	23.00-33.00 eV	Ex
hν + Sn^{2+}	Total Absor., Scat.	23.00-33.00 eV	Ex

153. P. Bolognesi, R. Camilloni, M. Coreno, G. Turri, J. Berakdar, A. S. Kheifets, L. Avaldi
Complementary TDCS for the photo-double ionization of He at 40 eV above the threshold in unequal energy-sharing conditions.
J. Phys. B **34**, 3193 (2001)

hν + He	Photoionization	94.40 eV	Ex

154. M. B. Trzhaskovskaya, V. K. Nikulin, V. I. Nefedov, V. G. Yarzhemsky
Relativistic photoelectron angular distribution parameters in the quadrupole approximation.
J. Phys. B **34**, 3221 (2001)

hν + Kr	Photoionization	0.01-10.00 keV	Th
hν + Xe	Photoionization	0.01-10.00 keV	Th
hν + Pu	Photoionization	0.01-10.00 keV	Th

155. C. P. Ballance, N. R. Badnell, K. A. Berrington
Inner-shell processes of Li- and Be-like Fe.
J. Phys. B **34**, 3287 (2001)

hν + Fe^{22+}	Photoionization	138.00-800.00 Ry	Th
hν + Fe^{23+}	Photoionization	138.00-800.00 Ry	Th

156. A. Kupliauskiene
On the application of relaxed-orbital and sudden perturbation approximations for the photoionization of atoms.
J. Phys. B **34**, 345 (2001)

hν + He	Photoionization	20.00-300.00 eV	Th
hν + Li	Photoionization	20.00-300.00 eV	Th
hν + Na	Photoionization	20.00-300.00 eV	Th
hν + K	Photoionization	20.00-300.00 eV	Th

157. S. F. Itza-Ortiz, A. L. Godunov, J. Wang, J. H. McGuire
Ionization-excitation of H^- and He by Compton scattering.
J. Phys. B **34**, 3477 (2001)

hν + H^{-1+}	Photoexcitation	6.00-60.00 keV	Th
hν + He	Photoexcitation	6.00-60.00 keV	Th
hν + H^{-1+}	Photoionization	6.00-60.00 keV	Th
hν + He	Photoionization	6.00-60.00 keV	Th
hν + H^{-1+}	Photodetachment	6.00-60.00 keV	Th
hν + He	Photodetachment	6.00-60.00 keV	Th

158. Y. Itoh, A. Ito, M. Kitajima, T. Koizumi, T. M. Kojima, H. Sakai, M. Sano, N. Watanabe
Absolute photoionization cross section measurements of Xe^+ ions in the 4d threshold energy region.
J. Phys. B **34**, 3493 (2001)

hν + Xe^{1+}	Photoionization	80.00-140.00 eV	Ex

159. A. Kumar, J. S. Shahi, M. L. Garg, S. Puri, D. Mehta, N. Singh
Inelastic scattering of 88.03 keV photons by elements with 4 ¡ Z ¡ 83.
J. Phys. B **34**, 3555 (2001)

hν + He	Photoionization	88.00 eV	E/T
hν + Be	Photoionization	88.00 eV	E/T
hν + C	Photoionization	88.00 eV	E/T
hν + Mg	Photoionization	88.00 eV	E/T
hν + Al	Photoionization	88.00 eV	E/T
hν + S	Photoionization	88.00 eV	E/T
hν + Ti	Photoionization	88.00 eV	E/T
hν + Fe	Photoionization	88.00 eV	E/T
hν + Cu	Photoionization	88.00 eV	E/T
hν + Zn	Photoionization	88.00 eV	E/T
hν + Se	Photoionization	88.00 eV	E/T
hν + Y	Photoionization	88.00 eV	E/T
hν + Mo	Photoionization	88.00 eV	E/T
hν + Ag	Photoionization	88.00 eV	E/T
hν + In	Photoionization	88.00 eV	E/T
hν + Sn	Photoionization	88.00 eV	E/T
hν + Te	Photoionization	88.00 eV	E/T
hν + Gd	Photoionization	88.00 eV	E/T
hν + Dy	Photoionization	88.00 eV	E/T
hν + Tm	Photoionization	88.00 eV	E/T
hν + Bi	Photoionization	88.00 eV	E/T
hν + He	Photoexcitation	88.00 eV	E/T
hν + Be	Photoexcitation	88.00 eV	E/T
hν + C	Photoexcitation	88.00 eV	E/T
hν + Mg	Photoexcitation	88.00 eV	E/T
hν + Al	Photoexcitation	88.00 eV	E/T
hν + S	Photoexcitation	88.00 eV	E/T
hν + Ti	Photoexcitation	88.00 eV	E/T
hν + Fe	Photoexcitation	88.00 eV	E/T
hν + Cu	Photoexcitation	88.00 eV	E/T
hν + Zn	Photoexcitation	88.00 eV	E/T
hν + Se	Photoexcitation	88.00 eV	E/T

hν + Y	Photoexcitation	88.00 eV	E/T
hν + Mo	Photoexcitation	88.00 eV	E/T
hν + Ag	Photoexcitation	88.00 eV	E/T
hν + In	Photoexcitation	88.00 eV	E/T
hν + Sn	Photoexcitation	88.00 eV	E/T
hν + Te	Photoexcitation	88.00 eV	E/T
hν + Gd	Photoexcitation	88.00 eV	E/T
hν + Dy	Photoexcitation	88.00 eV	E/T
hν + Tm	Photoexcitation	88.00 eV	E/T
hν + Bi	Photoexcitation	88.00 eV	E/T

160. Th. Weber, O. Jagutzki, M. Hattass, A. Staudte, A. Nauert, L. Schmidt, M. H. Prior, A. L. Landers, A. Braeuning-Demian, H. Braeuning, C. L. Cocke, T. Osipov, I. Ali, R. Diez Muino, D. Rolles, F. J. Garcia de Abajo, C. S. Fadley, M. A. Van Hove, A. Cassimi, H. Schmidt-Boecking, R. Doerner
K-shell photoionization of CO and N_2: Is there a link between the photoelectron angular distribution and the molecular decay dynamics?
J. Phys. B **34**, 3669 (2001)

hν + CO	Photodissociation	306.40-419.30 eV	Ex
hν + N_2	Photodissociation	306.40-419.30 eV	Ex
hν + CO	Photoionization	306.40-419.30 eV	Ex
hν + N_2	Photoionization	306.40-419.30 eV	Ex

161. T. Mercouris, C. Haritos, A. Nicolaides
Theory and computation of the rate of multiphoton two-electron ionization via the direct mechanism.
J. Phys. B **34**, 3789 (2001)

hν + H^{-1+}	Photoionization	4.00-180.00 eV	Th
hν + He^{-1+}	Photoionization	4.00-180.00 eV	Th
nhν + H^{-1+}	Photoionization	4.00-180.00 eV	Th
nhν + He^{-1+}	Photoionization	4.00-180.00 eV	Th

162. M. Kitajima, M. Okamoto, Y. Shimizu, H. Chiba, S. Fritzsche, N. M. Kabachnik, I. P. Sazhina, F. Koike, T. Hayaishi, H. Tanaka, Y. Sato, K. Ueda
Experimental and theoretical study of the Auger cascade following 3d -¿ 5p photoexcitation in Kr.
J. Phys. B **34**, 3829 (2001)

hν + Kr	Photoionization		E/T

163. V. A. Kilin, D. A. Lazarev, Dm. A. Lazarev, V. M. Zelichenko, M. Ya. Amusia, K.-H. Schartner, A. Ehresmann, H. Schmoranzer
Test of a q-fractional $V^{(N-q)}$ Hartree-Fock potential for the calculation of double photoionization cross sections of neon.
J. Phys. B **34**, 3993 (2001)

hν + Ne	Photoionization	60.00-330.00 eV	Th
2hν + Ne	Photoionization	60.00-330.00 eV	Th

164. J. B. West, H. Kjeldsen, F. Folkmann, T. Andersen
Photoionization of doubly-charged Ca ions.
J. Phys. B **34**, 4035 (2001)

hν + Ca^{2+}	Photoionization	50.00-70.00 eV	Ex

165. R. Kundliya, K. Batra, M. Mohan
Multiphoton ionization of atoms using the pseudostate summation technique.
J. Phys. B **34**, 4083 (2001)

hν + H	Photoionization	1.13-6.53 eV	Th

166. J. B. West, K. J. Ross, H.-J. Beyer, A. De Fanis, H. Hamdy
Triple differential cross section measurements for resonant double photoionization of Sr.
J. Phys. B **34**, 4167 (2001)

hν + Sr	Photoionization	25.14-25.26 eV	Ex

167. H. van der Heijden, J. van der Mullen
Semiclassical and quantum-mechanical descriptions of S_2 molecular radiation.
J. Phys. B **34**, 4183 (2001)

hν + S_2	Total Absor., Scat.	0.00-6.00 K	Th

168. B. Schmidtke, T. Khalil, M. Drescher, N. Mueller, N. M. Kabachnik, U. Heinzmann
The Kr $M_{4,5}N_1N_{2,3}$ $^1P_1$ Auger decay: measurement of the transferred spin polarization and analysis of Auger amplitudes.
J. Phys. B **34**, 4293 (2001)

hν + Kr	Photoionization	90.00-190.00 eV	Ex

169. H. Wang, R. F. Fink, M. N. Piancastelli, I. Hjelte, K. Wiesner, M. Bassler, R. Feifel, O. Bjorneholm, C. Miron, A. Giertz, F. Burmeister, S. L. Sorensen, S. Svensson
Filtering core excitation spectra: vibrationally resolved constant ionic state studies of N 1s -¿ 2π core-excited NO.
J. Phys. B **34**, 4417 (2001)

hν + NO	Photoexcitation	399.00-401.00 eV	Ex

170. K. Kim, M. Kwon, H. D. Park, H. S. Moon, H. S. Rawat, K. An, J. B. Kim
Electromagnetically induced absorption spectra depending on intensities and detunings of the coupling field in Cs vapour.
J. Phys. B **34**, 4801 (2001)

hν + Cs	Photoionization	1.46 eV	E/T

171. S. A. Novikov, A. N. Hopersky
Two-photon excitation-ionization of the 1s shell of highly charged positive atomic ions.
J. Phys. B **34**, 4857 (2001)

hν + Ne	Photoionization	7.00-300.00 eV	Th
hν + Ne^{6+}	Photoionization	7.00-300.00 eV	Th
hν + Ne^{8+}	Photoionization	7.00-300.00 eV	Th
nhν + Ne	Photoionization	7.00-300.00 eV	Th
nhν + Ne^{6+}	Photoionization	7.00-300.00 eV	Th
nhν + Ne^{8+}	Photoionization	7.00-300.00 eV	Th
hν + Ne	Photoexcitation	7.00-300.00 eV	Th
hν + Ne^{6+}	Photoexcitation	7.00-300.00 eV	Th
hν + Ne^{8+}	Photoexcitation	7.00-300.00 eV	Th
nhν + Ne	Photoexcitation	7.00-300.00 eV	Th
nhν + Ne^{6+}	Photoexcitation	7.00-300.00 eV	Th
nhν + Ne^{8+}	Photoexcitation	7.00-300.00 eV	Th

172. A. Pohl, P.-G. Reinhard, E. Suraud
Influence of intermediate states on photoelectron spectra.
J. Phys. B **34**, 4969 (2001)

hν + ${Na_9}^{1+}$	Photoionization	5.00 eV	Ex

173. S. Barsanti, P. Bicchi
Energy-pooling ionization (EPI) in Ga vapour: electronic detection and cross section measurement.
J. Phys. B **34**, 5031 (2001)

hν + Ga	Photoionization	3.07 eV	Ex

174. L.A.A Nikolopoulos, P. Lambropoulos
Multichannel theory of two-photon single and double ionization of helium.
J. Phys. B **34**, 545 (2001)

hν + **He**	Photoionization	12.75-150.00 eV	Th
2hν + **He**	Photoionization	12.75-150.00 eV	Th

175. A. Kumar, S. Puri, J. S. Shahi, M. L. Garg, D. Mehta, N. Singh
L x-ray production cross sections in Th and U at 17.8, 25.8 and 46.9 keV photon energies.
J. Phys. B **34**, 613 (2001)

hν + **Th**	Photoionization	17.80-46.90 keV	Ex
hν + **U**	Photoionization	17.80-46.90 keV	Ex

176. A. P. Jayadevan, R. B. Thayyullathil
Two-photon ionization of atomic hydrogen above the one-photon ionization threshold.
J. Phys. B **34**, 699 (2001)

hν + **H**	Photoionization	13.78-619.90 eV	Th
2hν + **H**	Photoionization	13.78-619.90 eV	Th

177. F. B. Yousif, C. Cisneros, J. de Urquijo, I. Alvarez
One-photon excitation and dissociation of both weakly bound rotational excited states and vibrational excited states of HD_2^+ and photofragment branching ratio D^+/H^+ of the final predissociative states.
J. Phys. B **34**, 725 (2001)

hν + $\mathbf{H_2}^{1+}$	Photodissociation	1.17 eV	E/T
hν + $\mathbf{H_2}^{1+}$	Photoexcitation	1.17 eV	E/T
hν + $\mathbf{HD_2}^{1+}$	Photodissociation	1.17 eV	E/T
hν + $\mathbf{HD_2}^{1+}$	Photoexcitation	1.17 eV	E/T

178. G. Duffy, P. Dunne
The photoabsorption spectrum of an indium laser produced plasma.
J. Phys. B **34**, L173 (2001)

hν + $\mathbf{In}^{1+}$	Total Absor., Scat.	18.00-33.00 eV	Ex

179. N. A. Cherepkov, S. K. Semenov
Non-dipole effects in spin polarization of photoelectrons from Xe 4p and 5p shells.
J. Phys. B **34**, L211 (2001)

hν + $\mathbf{Xe}^*$	Photoionization	10.00-400.00 eV	Th
hν + **Xe**	Photoionization	10.00-400.00 eV	Th

180. M. Terao-Dunseath, K. M. Dunseath, D. Charlo, A. Hibbert, R. J. Allan
Electron-helium scattering in a Nd-YAG laser field at collision energies near the He(1s2l) thresholds.
J. Phys. B **34**, L263 (2001)

hν + **He**	Photoexcitation	0.65-0.78 a.u.	Th

181. C. Blondel, C. Delsart, F. Goldfarb
Electron spectrometry at the μ eV level and the electron affinities of Si and F.
J. Phys. B **34**, L281 (2001)

hν + $\mathbf{F}^{-1+}$	Photodetachment	1.39-6.81 eV	Ex
hν + $\mathbf{Si}^{-1+}$	Photodetachment	1.39-6.81 eV	Ex

182. M. Brewczyk, K. Rzazewski
Interaction of a multi-electron atom with intense radiation in the VUV range: beyond the conventional model for high harmonic generation.
J. Phys. B **34**, L289 (2001)

hν + Cl	Photoexcitation	27.00 eV	Th

183. T. Andersen, H. Kjeldsen, H. Knudsen, F. Folkmann
Absolute cross section for photoionization of CO^+ leading to longlived metastable CO^{2+}.
J. Phys. B **34**, L327 (2001)

hν + CO^{1+}	Photoionization	27.30-50.00 eV	Ex

184. H. Kjeldsen, P. Andersen, F. Folkmann, B. Kristensen, T. Andersen
Inner-shell photodetachment of Li^-.
J. Phys. B **34**, L353 (2001)

hν + Li^{-1+}	Photoionization	56.00-70.00 eV	Ex
hν + Li^{-1+}	Photodetachment	56.00-70.00 eV	Ex

185. A. De Fanis, N. Saito, M. Kitajima, Y. Shimizu, K. Okada, H. Tanaka, I. Koyano, K. Ueda
High resolution measurement for the resonant Auger emission of Xe following $3d_{5/2}$ -¿ 6p excitation.
J. Phys. B **34**, L377 (2001)

hν + Xe	Photoionization	672.00 eV	E/T
hν + Xe	Photoexcitation	672.00 eV	E/T

186. K. A. Berrington, C. Ballance
Double ionization yields from the photoionization of Fe II and Fe I.
J. Phys. B **34**, L383 (2001)

hν + Fe	Photoionization	6.00 Ry	Ex
hν + Fe^{1+}	Photoionization	6.00 Ry	Ex

187. M. Weckenbrock, M. Hattass, A. Czasch, O. Jagutzki, L. Schmidt, T. Weber, H. Roskos, T. Loeffler, M. Thomson, R. Doerner
Experimental evidence for electron repulsion in multiphoton double ionization.
J. Phys. B **34**, L449 (2001)

hν + Ar	Photoionization	4.70 W/cm2	Ex
2hν + Ar	Photoionization	4.70 W/cm2	Ex

188. J. Colgan, M. S. Pindzola, F. Robicheaux
Fully quantal (γ,2e) calculations for absolute differential cross sections of helium.
J. Phys. B **34**, L457 (2001)

hν + He	Photoionization	74.40 eV	Th

189. C. Dawson, S. Cvejanovic, D. P. Seccombe, T. J. Reddish, F. Maulbetsch, A. Heutz, J. Mazeau, A. S. Keifets
Helium (γ,2e) triple differential cross sections at an excess energy of 60 eV.
J. Phys. B **34**, L525 (2001)

hν + He	Photoionization	139.00 eV	Ex

190. H. W. Van der Hart, L. Feng
Double photoionization of excited He-like atoms.
J. Phys. B **34**, L601 (2001)

hν + He	Photoionization	60.00-200.00 eV	Th
hν + Li^{2+}	Photoionization	60.00-200.00 eV	Th
hν + Be^{2+}	Photoionization	60.00-200.00 eV	Th
hν + C^{4+}	Photoionization	60.00-200.00 eV	Th
hν + O^{6+}	Photoionization	60.00-200.00 eV	Th

191. A. Neogi, E. T. Kennedy, J.-P. Mosnier, P. van Kampen, J. T. Costello, C. McGuinness, G. O'Sullivan
Vacuum-ultraviolet absorption spectrum of the Rb^+ ion in a laser-generated plasma.
J. Phys. B **34**, L651 (2001)

hν + Rb^{1+}	Total Absor., Scat.	100.00-140.00 eV	Ex

192. B. Obst, T. Richter, M. Martins, U. Zimmermann
Photoionization of atomic scandium in the region of the 2p resonances.
J. Phys. B **34**, L657 (2001)

hν + Sc	Photoionization	351.00-410.00 eV	Ex

193. V. K. Ivanov, G. Yu Kashenock, R. G. Polozkov, A. V. Solov'yov
Photoionization cross sections of the fullerenes C_{20} and C_{60} calculated in a simple spherical model.
J. Phys. B **34**, L669 (2001)

hν + C_{60}	Photoionization	7.00-50.00 eV	Th
hν + C_{20}	Photoionization	7.00-50.00 eV	Th

194. J. S. Parker, L. R. Moore, K. J. Meharg, D. Dundas, K. T. Taylor
Double-electron above threshold ionization of helium.
J. Phys. B **34**, L69 (2001)

hν + He	Photoionization	0.50-2x10^{16} W/cm2	Th

195. J. Jimenez-Mier, S. B. Whitfield, R. Wehlitz, H. Diaz-Jimenez
Core polarization effects in the decay of 1s -¿ np (n=2-6) resonantly excited beryllium.
J. Phys. B **34**, L693 (2001)

hν + Be	Photodissociation	115.49-123.16 eV	Ex
hν + Be	Photoexcitation	115.49-123.16 eV	Ex

196. A. M. Covington, A. Aguilar, V. T. Davis, I. Alvarez, H. C. Bryant, C. Cisneros, M. Halka, D. Hanstorp, G. Hinojosa, A. S. Schlachter, J. S. Thompson, D. J. Pegg
Correlated processes in inner-shell photodetachment of the Na^- ion.
J. Phys. B **34**, L735 (2001)

hν + Na^{-1+}	Photodetachment	30.00-51.00 eV	Ex

197. L. Veseth
Computed photoionization cross sections of CO^+.
J. Phys. B **34**, L773 (2001)

hν + CO^{1+}	Photoionization	25.00-50.00 eV	Th

198. E. Cormier, D. Garzella, P. Breger, P. Agostini, G. Cheriaux, C. LeBlanc
Above-threshold ionization contrast and channel closure in argon.
J. Phys. B **34**, L9 (2001)

hν + Ar	Photoionization		Th
nhν + Ar	Photoionization		Th

199. A. De Fanis, H.-J. Beyer, K. J. Ross, J. B. West
Dipole matrix elements for 4p photoionization of Sr.
J. Phys. B **34**, L99 (2001)

hν + Sr	Photoionization	34.00-42.00 eV	Ex

200. J. B. West
Photoionization of atomic ions.
J. Phys. B **34**, R45 (2001)

hν + C^{1+}	Photon Collisions	15.00 eV	Th
hν + O^{1+}	Photon Collisions	15.00 eV	Th
hν + Na^{1+}	Photon Collisions	15.00 eV	Th
hν + Mg^{1+}	Photon Collisions	15.00 eV	Th
hν + Mg^{2+}	Photon Collisions	15.00 eV	Th

hν + $\mathbf{Al}^{1+}$	Photon Collisions	15.00 eV	Th
hν + $\mathbf{Al}^{2+}$	Photon Collisions	15.00 eV	Th
hν + $\mathbf{Al}^{3+}$	Photon Collisions	15.00 eV	Th
hν + $\mathbf{Si}^{4+}$	Photon Collisions	15.00 eV	Th
hν + **Ar**	Photon Collisions	15.00 eV	Th
hν + $\mathbf{K}^{1+}$	Photon Collisions	15.00 eV	Th
hν + $\mathbf{Ca}^{2+}$	Photon Collisions	15.00 eV	Th
hν + **Mn**	Photon Collisions	15.00 eV	Th
hν + $\mathbf{Mn}^{1+}$	Photon Collisions	15.00 eV	Th
hν + $\mathbf{I}^{2+}$	Photon Collisions	15.00 eV	Th
hν + **Xe**	Photon Collisions	15.00 eV	Th
hν + $\mathbf{Xe}^{1+}$	Photon Collisions	15.00 eV	Th
hν + $\mathbf{Xe}^{2+}$	Photon Collisions	15.00 eV	Th
hν + **Ba**	Photon Collisions	15.00 eV	Th
hν + $\mathbf{Ba}^{1+}$	Photon Collisions	15.00 eV	Th
hν + $\mathbf{Ba}^{2+}$	Photon Collisions	15.00 eV	Th
hν + $\mathbf{C}^{1+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{O}^{1+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{Na}^{1+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{Mg}^{1+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{Mg}^{2+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{Al}^{1+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{Al}^{2+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{Al}^{3+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{Si}^{4+}$	Photoionization	15.00 eV	Th
hν + **Ar**	Photoionization	15.00 eV	Th
hν + $\mathbf{K}^{1+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{Ca}^{2+}$	Photoionization	15.00 eV	Th
hν + **Mn**	Photoionization	15.00 eV	Th
hν + $\mathbf{Mn}^{1+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{I}^{2+}$	Photoionization	15.00 eV	Th
hν + **Xe**	Photoionization	15.00 eV	Th
hν + $\mathbf{Xe}^{1+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{Xe}^{2+}$	Photoionization	15.00 eV	Th
hν + **Ba**	Photoionization	15.00 eV	Th
hν + $\mathbf{Ba}^{1+}$	Photoionization	15.00 eV	Th
hν + $\mathbf{Ba}^{2+}$	Photoionization	15.00 eV	Th

201. R. A. Mackie, A. M. Sands, S.W.J. Scully, D.M.P Holland, D. A. Shaw, K. F. Dunn, C. J. Latimer
The molecular and dissociative photoionization of ethane in the inner and outer valence energy regions.
J. Phys. B **35**, 1061 (2002)

hν + $\mathbf{C_2H_6}$	Photoionization	11.00-40.00 eV	Ex
hν + $\mathbf{C_2H_6}$	Photodissociation	11.00-40.00 eV	Ex

202. H. Nilsson, S. Ivarsson, S. Johansson, H. Lundberg
Experimental oscillator strengths in U II of cosmological interest.
J. Phys. B **35**, 1090 (2002)

hν + $\mathbf{U}^{1+}$	Photoexcitation	1.85-3.54 eV	E/T

203. H. W. Van der Hart, L. Feng
Multiphoton ionization processes in $\mathbf{Ar}^{7+}$.
J. Phys. B **35**, 1185 (2002)

hν + $\mathbf{Ar}^{7+}$	Photoionization	47.50-67.50 eV	Th
nhν + $\mathbf{Ar}^{7+}$	Photoionization	47.50-67.50 eV	Th

204. D. Toffoli, M. Stener, P. Decleva
Application of the relativistic time-dependent density functional theory to the photoionization of xenon.
J. Phys. B **35**, 1275 (2002)

hν + Xe	Photoionization	400.00 eV	E/T

205. A. Neogi, M. Martins, C. McGuinness, G. O'Sullivan, E. T. Kennedy, J.-P. Mosnier, P. van Kampen, J. T. Costello
Vacuum-ultraviolet absorption spectrum of the Rb^{2+} ion in a laser generated plasma.
J. Phys. B **35**, 1329 (2002)

hν + Rb^{2+}	Total Absor., Scat.	110.00-150.00 eV	E/T

206. M. Stener, G. Fronzoni, D. Toffoli, P. Colavita, S. Furlan, P. Decleva
Valence and core photoemission in M@C_{60} (M = Be, Mg, Ca).
J. Phys. B **35**, 1421 (2002)

hν + Be	Photoionization	160.00 eV	Th
hν + Mg	Photoionization	160.00 eV	Th
hν + Ca	Photoionization	160.00 eV	Th
hν + C_{60}(Be)	Photoionization	160.00 eV	Th
hν + C_{60}(Mg)	Photoionization	160.00 eV	Th
hν + C_{60}(Ca)	Photoionization	160.00 eV	Th

207. A. Zawadzka, R. S. Dygdala, A. Raczynski, J. Zaremba, J. Kobus
Three-photon resonances due to autoionizing states in calcium.
J. Phys. B **35**, 1801 (2002)

hν + Ca	Photoionization	$10^7 - 10^8$ W/cm2	E/T
3hν + Ca	Photoionization	$10^7 - 10^8$ W/cm2	E/T

208. A. Apalategui, A. Saenz
Multiphoton ionization of the hydrogen molecule H_2.
J. Phys. B **35**, 1909 (2002)

hν + H_2	Photoionization		Th
2hν + H_2	Photoionization		Th
3hν + H_2	Photoionization		Th
4hν + H_2	Photoionization		Th

209. D. N. Madsen, J. W. Thomsen
Measurement of absolute photo-ionization cross sections using magnesium magneto-optical traps.
J. Phys. B **35**, 2173 (2002)

hν + Mg	Photoionization	4.35 eV	Ex

210. R. Zinkstok, E. J. van Duijn, S. Witte, W. Hogervorst
Hyperfine structure and isotope shift of transitions in Yb I using UV and deep-UV cw laser light and the angular distribution of fluorescence radiation.
J. Phys. B **35**, 2693 (2002)

hν + Yb	Fluorescence	3.11 eV	Ex

211. S.W.J. Scully, R. A. Mackie, R. Browning, K. F. Dunn, C. J. Latimer
Negative photoion spectroscopy of SF_6 in the inner valence and S 2p energy regions.
J. Phys. B **35**, 2703 (2002)

hν + SF_6	Photoionization	20.00-205.00 eV	Ex
hν + SF_6	Photodissociation	20.00-205.00 eV	Ex

212. Y. Tamenori, K. Okada, S. Nagaoka, T. Ibuki, S. Tanimoto, Y. Shimizu, A. Fujii, Y. Haga, H. Yoshida, H. Ohashi, I. H. Suzuki
A study of multi-charged Xe ions formed through 3d hole states using a coincidence technique.
J. Phys. B **35**, 2799 (2002)

hν + **Xe**	Photoionization	700.00-800.00 eV	Ex

213. M. Forre, D. Fregenal, J. C. Day, T. Ehrenreich, J.-P. Hansen, B. Henningsen, E. Horsdal-Pedersen, L. Nyvang, O. E. Povlsen, K. Taulbjerg, I. Vogelius
Dynamics of a single Rydberg shell in time dependent external fields.
J. Phys. B **35**, 410 (2002)

hν + **Li**	Photoexcitation		Ex

214. N. M. Cann, A. J. Thakkar
Quadrupole oscillator strengths for the helium isoelectronic sequence: n ^{1}S-m ^{1}D, ^{3}S-m ^{3}D, n ^{1}P-m ^{1}P, and n ^{3}P-m ^{3}P transitions with n ¡ 7 and m ¡ 7.
J. Phys. B **35**, 421 (2002)

hν + **He**	Photoexcitation		Th

215. H. Bachau
Multiphoton ionization of one-electron diatomic molecules: the discretization approach for the two-centre problem.
J. Phys. B **35**, 509 (2002)

hν + $\mathbf{H_2}^{1+}$	Photoionization	4.08-5.44 eV	Th

216. M. Ertugrul, O. Simsek
Measurement of Kβ 2'/Kβ 1' and Kβ 2'/Kα 1 relative intensities with ^{57}Co for heavy elements.
J. Phys. B **35**, 601 (2002)

hν + **Tm**	Photoionization	5.96 keV	Ex
hν + **Yb**	Photoionization	5.96 keV	Ex
hν + **Lu**	Photoionization	5.96 keV	Ex
hν + **Ta**	Photoionization	5.96 keV	Ex
hν + **W**	Photoionization	5.96 keV	Ex
hν + **Re**	Photoionization	5.96 keV	Ex
hν + **Au**	Photoionization	5.96 keV	Ex
hν + **Hg**	Photoionization	5.96 keV	Ex
hν + **Tl**	Photoionization	5.96 keV	Ex
hν + **Pb**	Photoionization	5.96 keV	Ex
hν + **Th**	Photoionization	5.96 keV	Ex
hν + **U**	Photoionization	5.96 keV	Ex
hν + **Bi**	Photoionization	5.96 keV	Ex
hν + **Tm**	Photoexcitation	5.96 keV	Ex
hν + **Yb**	Photoexcitation	5.96 keV	Ex
hν + **Lu**	Photoexcitation	5.96 keV	Ex
hν + **Ta**	Photoexcitation	5.96 keV	Ex
hν + **W**	Photoexcitation	5.96 keV	Ex
hν + **Re**	Photoexcitation	5.96 keV	Ex
hν + **Au**	Photoexcitation	5.96 keV	Ex
hν + **Hg**	Photoexcitation	5.96 keV	Ex
hν + **Tl**	Photoexcitation	5.96 keV	Ex
hν + **Pb**	Photoexcitation	5.96 keV	Ex
hν + **Th**	Photoexcitation	5.96 keV	Ex
hν + **U**	Photoexcitation	5.96 keV	Ex
hν + **Bi**	Photoexcitation	5.96 keV	Ex

217. K. J. Mendham, J.W.G. Tisch, M. B. Mason, N. Hay, R. A. Smith, J. P. Marangos
Multi-keV proton energies from exploding hydrogen clusters.
J. Phys. B **35**, 663 (2002)

hν + H_2	Photodissociation	6x10^{16} W/cm2	Ex

218. H. Liebel, A. Ehresmann, H. Schmoranzer, Ph. V. Demekhin, B. M. Lagutin, V. L. Sukhorukov
De-excitation dynamics of Rydberg states in O_2: I. Total cross sections for O I fluorescence emission following predissociation of $2\sigma_u{}^{-1}(c^4\Sigma_u{}^-)n\sigma_g\ {}^3\Sigma_u{}^-$ states.
J. Phys. B **35**, 895 (2002)

hν + O_2	Fluorescence	20.50-25.00 eV	E/T
hν + O_2	Photodissociation	20.50-25.00 eV	E/T
hν + O_2	Photoexcitation	20.50-25.00 eV	E/T

219. G. Duffy
The 3d photoabsorption spectrum of doubly ionized titanium.
J. Phys. B **35**, L119 (2002)

hν + Ti^{2+}	Total Absor., Scat.	17.00-27.00 eV	Ex

220. T. Pattard
Shape-resonance-induced long-range molecular Rydberg states. H06: hv + O A shape function for single-photon multiple ionization cross sections.
J. Phys. B **35**, L207 (2002)

hν + He	Photoionization	1.00 keV	Th
hν + Li	Photoionization	1.00 keV	Th
hν + Li^{1+}	Photoionization	1.00 keV	Th
hν + N	Photoionization	1.00 keV	Th
hν + Ne	Photoionization	1.00 keV	Th

221. M. Martins
On the 3p -¿ 3d photoexcitation of atomic scandium.
J. Phys. B **35**, L223 (2002)

hν + Sc	Photoexcitation	27.00-45.00 eV	E/T

222. W. C. Stolte, G. Ohrwall, M. M. Sant'Anna, I. Dominguez Lopez, L.T.N. Dang, M. N. Piancastelli, D. W. Lindle
100% site-selective fragmentation in core-hole-photoexcited methanol by anion-yield spectroscopy.
J. Phys. B **35**, L253 (2002)

hν + CH_3OH	Photoionization	285.00-560.00 eV	Ex
hν + CH_3OH	Photodissociation	285.00-560.00 eV	Ex

223. C. A. Nicolaides, T. Mercouris, Y. Komninos
Attosecond dynamics of electron correlation in doubly excited atomic states.
J. Phys. B **35**, L271 (2002)

hν + He^*	Photoexcitation	1.45-1.78 a.u.	Th
hν + He	Photoexcitation	1.45-1.78 a.u.	Th

224. P. A. Hatherly, J. Rius i Riu, M. Stankiewicz, F. M. Quinn, L. J. Frasinski
Dynamics of the shake-up satellites of C 1s excited carbon dioxide studied by threshold electron spectroscopy.
J. Phys. B **35**, L77 (2002)

hν + CO_2	Photoionization	306.00-320.00 eV	Ex
hν + CO_2	Photoexcitation	306.00-320.00 eV	Ex

225. N. Scherer, H. Lorch, T. Kerkau, V. Schmidt
Exchange interference between coincident photoelectrons and Auger electrons.
J. Phys. B **64**, L339 (2001)

hν + Xe	Photoionization	94.52 eV	Th

226. C. T. Chantler
Detailed tabulation of atomic form factors, photoelectric absorption and scattering cross section, and mass attenuation coefficients in the vicinity of absorption edges in the soft x-ray (Z=30-36, Z=60-89, E=0.1 keV-10 keV), addressing convergence issues of earlier work.
J. Phys. Chem. Ref. Data **29**, 597 (2000)

hν + perturbation	Photon Collisions	0.10-10.00 keV	E/T

227. A. C. Mandal, M. Sarkar, D. M. Bhattacharya, P. Sen
Measurement of photon-induced L shell fluorescence cross-sections of gold and lead at 21.6, 23.7, and 25.8 keV.
Nucl. Instrum. Methods Phys. Res. B **174**, 41 (2001)

hν + Au	Photoionization	21.00-26.00 keV	Ex
hν + Pb	Photoionization	21.00-26.00 keV	Ex

228. R. A. Barrea, E. V. Bonzi
L X-ray fluorescence cross-sections for rare earths at 10 and 11 keV with synchrotron radiation.
Nucl. Instrum. Methods Phys. Res. B **179**, 1 (2001)

hν + Gd	Fluorescence	4.00-10.00 keV	Ex
hν + Tb	Fluorescence	4.00-10.00 keV	Ex
hν + Dy	Fluorescence	4.00-10.00 keV	Ex
hν + Ho	Fluorescence	4.00-10.00 keV	Ex
hν + Er	Fluorescence	4.00-10.00 keV	Ex
hν + Yb	Fluorescence	4.00-10.00 keV	Ex

229. J. S. Shahi, A. Kumar, D. Mehta, S. Puri, M. L. Garg, N. Singh
Inelastic scattering of 59.5 keV photons by elements with 13¡Z¡82.
Nucl. Instrum. Methods Phys. Res. B **179**, 15 (2001)

hν + Al	Photoionization	59.50 keV	Ex
hν + Ti	Photoionization	59.50 keV	Ex
hν + Fe	Photoionization	59.50 keV	Ex
hν + Ni	Photoionization	59.50 keV	Ex
hν + Cu	Photoionization	59.50 keV	Ex
hν + Zn	Photoionization	59.50 keV	Ex
hν + Zr	Photoionization	59.50 keV	Ex
hν + Nb	Photoionization	59.50 keV	Ex
hν + Mo	Photoionization	59.50 keV	Ex
hν + Rh	Photoionization	59.50 keV	Ex
hν + Ag	Photoionization	59.50 keV	Ex
hν + Sn	Photoionization	59.50 keV	Ex
hν + Ta	Photoionization	59.50 keV	Ex
hν + W	Photoionization	59.50 keV	Ex
hν + Re	Photoionization	59.50 keV	Ex
hν + Pt	Photoionization	59.50 keV	Ex
hν + Au	Photoionization	59.50 keV	Ex
hν + Pb	Photoionization	59.50 keV	Ex

230. J. Baltazar-Rodrigues, C. Cusatis
Determination of X-ray photoelectric absorption of Ge and Si avoiding solid-state effects.
Nucl. Instrum. Methods Phys. Res. B **179**, 325 (2001)

hν + Si	Total Absor., Scat.	8.00-25.00 keV	Ex
hν + Ge	Total Absor., Scat.	8.00-25.00 keV	Ex
hν + Si	Photoionization	8.00-25.00 keV	Ex
hν + Ge	Photoionization	8.00-25.00 keV	Ex

231. M. Ertugrul
Measurements of L_{31}, $L_3\alpha$, $L_3\beta$, $L_2\beta$, $L_2\gamma$, $L_1\beta$ and $L_1\gamma$ X-ray production cross sections for Tl, Pb and Bi elements at 59.5 keV.
Nucl. Instrum. Methods Phys. Res. B **179**, 459 (2001)

hν + Tl	Photoionization	59.50 keV	Ex
hν + Pb	Photoionization	59.50 keV	Ex
hν + Bi	Photoionization	59.50 keV	Ex

232. A. Kumar, J. S. Shahi, M. L. Garg, S. Puri, D. Mehta, N. Singh
Large-angle elastic scattering of 88.03-keV photons by elements with 30¡Z¡92.
Nucl. Instrum. Methods Phys. Res. B **183**, 178 (2001)

hν + Mg	Elastic Scattering	88.00 keV	Ex
hν + Zn	Elastic Scattering	88.00 keV	Ex
hν + Mo	Elastic Scattering	88.00 keV	Ex
hν + Sn	Elastic Scattering	88.00 keV	Ex
hν + Ba	Elastic Scattering	88.00 keV	Ex
hν + Gd	Elastic Scattering	88.00 keV	Ex
hν + Ho	Elastic Scattering	88.00 keV	Ex
hν + Yb	Elastic Scattering	88.00 keV	Ex
hν + Ta	Elastic Scattering	88.00 keV	Ex
hν + W	Elastic Scattering	88.00 keV	Ex
hν + Pt	Elastic Scattering	88.00 keV	Ex
hν + Au	Elastic Scattering	88.00 keV	Ex
hν + Tl	Elastic Scattering	88.00 keV	Ex
hν + Pb	Elastic Scattering	88.00 keV	Ex
hν + Th	Elastic Scattering	88.00 keV	Ex
hν + U	Elastic Scattering	88.00 keV	Ex
hν + Bi	Elastic Scattering	88.00 keV	Ex

233. S. J. Ward, J. C. Hunnell, J. H. Macek
The effect of the polarization potential on low-energy atomic processes.
Nucl. Instrum. Methods Phys. Res. B **192**, 54 (2002)

hν + Li^{-1+}	Photodetachment	2.40-2.50 eV	Th

234. K. Singh, H. Singh, V. Sharma, R. Nathuram, A. Khanna, R. Kumar, S. S. Bhatti, H. S. Sahota
Gamma-ray attenuation coefficients in bismuth borate glasses.
Nucl. Instrum. Methods Phys. Res. B **194**, 1 (2002)

hν + B_2O_3	Total Absor., Scat.	0.36-1.33 MeV	Ex
hν + Bi_2O_3	Total Absor., Scat.	0.36-1.33 MeV	Ex

235. A. Kumar, J. S. Shahi, D. Mehta, N. Singh
Differential cross-section measurements for elastic scattering of 22.1 keV photons by elements with 6¡Z¡81.
Nucl. Instrum. Methods Phys. Res. B **194**, 105 (2002)

hν + C	Elastic Scattering	22.10 keV	Ex
hν + S	Elastic Scattering	22.10 keV	Ex
hν + Ge	Elastic Scattering	22.10 keV	Ex
hν + As	Elastic Scattering	22.10 keV	Ex
hν + Se	Elastic Scattering	22.10 keV	Ex
hν + Rb	Elastic Scattering	22.10 keV	Ex
hν + Ag	Elastic Scattering	22.10 keV	Ex
hν + Te	Elastic Scattering	22.10 keV	Ex
hν + Ba	Elastic Scattering	22.10 keV	Ex
hν + Sm	Elastic Scattering	22.10 keV	Ex
hν + Ho	Elastic Scattering	22.10 keV	Ex
hν + Tm	Elastic Scattering	22.10 keV	Ex

hν + **Yb**	Elastic Scattering	22.10 keV	Ex
hν + **Hg**	Elastic Scattering	22.10 keV	Ex
hν + **Tl**	Elastic Scattering	22.10 keV	Ex

236. A. Kumar, J. S. Shahi, S. Puri, D. Mehta, N. Singh
Differential cross-section measurements for inelastic scattering of 22.1 keV photons by elements with 4¡Z¡69.
Nucl. Instrum. Methods Phys. Res. B **194**, 99 (2002)

hν + **Be**	Photoionization	22.10 keV	Ex
hν + **C**	Photoionization	22.10 keV	Ex
hν + **Mg**	Photoionization	22.10 keV	Ex
hν + **Al**	Photoionization	22.10 keV	Ex
hν + **S**	Photoionization	22.10 keV	Ex
hν + **Ti**	Photoionization	22.10 keV	Ex
hν + **Fe**	Photoionization	22.10 keV	Ex
hν + **Cu**	Photoionization	22.10 keV	Ex
hν + **Zn**	Photoionization	22.10 keV	Ex
hν + **As**	Photoionization	22.10 keV	Ex
hν + **Se**	Photoionization	22.10 keV	Ex
hν + **Y**	Photoionization	22.10 keV	Ex
hν + **Zr**	Photoionization	22.10 keV	Ex
hν + **Ag**	Photoionization	22.10 keV	Ex
hν + **Ag**	Photoionization	22.10 keV	Ex
hν + **In**	Photoionization	22.10 keV	Ex
hν + **Sn**	Photoionization	22.10 keV	Ex
hν + **Te**	Photoionization	22.10 keV	Ex
hν + **Gd**	Photoionization	22.10 keV	Ex
hν + **Dy**	Photoionization	22.10 keV	Ex
hν + **Ho**	Photoionization	22.10 keV	Ex
hν + **Tm**	Photoionization	22.10 keV	Ex
hν + **Be**	Photoexcitation	22.10 keV	Ex
hν + **C**	Photoexcitation	22.10 keV	Ex
hν + **Mg**	Photoexcitation	22.10 keV	Ex
hν + **Al**	Photoexcitation	22.10 keV	Ex
hν + **S**	Photoexcitation	22.10 keV	Ex
hν + **Ti**	Photoexcitation	22.10 keV	Ex
hν + **Fe**	Photoexcitation	22.10 keV	Ex
hν + **Cu**	Photoexcitation	22.10 keV	Ex
hν + **Zn**	Photoexcitation	22.10 keV	Ex
hν + **As**	Photoexcitation	22.10 keV	Ex
hν + **Se**	Photoexcitation	22.10 keV	Ex
hν + **Y**	Photoexcitation	22.10 keV	Ex
hν + **Zr**	Photoexcitation	22.10 keV	Ex
hν + **Ag**	Photoexcitation	22.10 keV	Ex
hν + **Ag**	Photoexcitation	22.10 keV	Ex
hν + **In**	Photoexcitation	22.10 keV	Ex
hν + **Sn**	Photoexcitation	22.10 keV	Ex
hν + **Te**	Photoexcitation	22.10 keV	Ex
hν + **Gd**	Photoexcitation	22.10 keV	Ex
hν + **Dy**	Photoexcitation	22.10 keV	Ex
hν + **Ho**	Photoexcitation	22.10 keV	Ex
hν + **Tm**	Photoexcitation	22.10 keV	Ex

237. E. A. Volkova, A. M. Popov, O. V. Tikhonova
Resonant multiphoton ionization of the 1s state of a hydrogen atom in a strong laser field.
Opt. Spectrosc. **88**, 1 (2000)

hν + **H**	Photoionization	5.00 eV	Th

238. S. A. Novikov, A. N. Khoperskii
Two-photon excitation and ionization of inner atomic shells.
Opt. Spectrosc. **89**, 11 (2000)

hν + Ne	Photoionization	0.10-60.00 a.u.	Th
hν + Ne	Photoexcitation	0.10-60.00 a.u.	Th
2hν + Ne	Photoionization	0.10-60.00 a.u.	Th
2hν + Ne	Photoexcitation	0.10-60.00 a.u.	Th

239. E. V. Vsevolodskii, A. A. Chernenko
Photoionization of the 4d state of the sodium atom in the field of a nanosecond pulse of a Nd:YAG laser.
Opt. Spectrosc. **91**, 675 (2001)

hν + Na	Photoionization	1.24 MeV	E/T
hν + Na*	Photoionization	1.24 MeV	E/T

240. H. Suno, L. Andric, T. P. Grozdanov, R. McCarroll
Iterative calculations of photoionization cross sections by using the Lanczos algorithm and the complex coordinate method in the discrete variable representation.
Phys. Lett. A **265**, 377 (2000)

hν + H	Photoionization	5.00-28.00 eV	Th
hν + Li	Photoionization	5.00-28.00 eV	Th
hν + Na	Photoionization	5.00-28.00 eV	Th

241. H. Liebel, S. Lauer, F. Vollweiler, R. Mueller-Albrecht, A. Ehresmann, H. Schmoranzer, G. Mentzel, K.-H. Schartner, O. Wilhelmi
Neutral photodissociation of O_2 Rydberg states accompanied by changes of the Rydberg electron's quantum numbers n and l.
Phys. Lett. A **267**, 357 (2000)

hν + O_2*	Photodissociation	22.70-24.80 eV	E/T

242. D.-J. Jiang, J.-C. Liu, X.-D. Yang, P.-F. Lu
Resonant structure due to the 3p -¿ 3d transition in the photoionization of Ca^+.
Phys. Lett. A **288**, 95 (2001)

hν + Ca^{1+}	Photoionization	32.80-33.50 eV	E/T

243. J. Shertzer, C. H. Greene
Nonadiabatic dipole polarizabilities of $H_2{}^+$ and $D_2{}^+$ ground states.
Phys. Rev. A **58**, 1082 (1998)

hν + $H_2{}^{1+}$	Photon Collisions		Th
hν + $D_2{}^{1+}$	Photon Collisions		Th

244. R. J. Rafac, C. E. Tanner
Measurement of the ratio of the cesium D-line transition strengths.
Phys. Rev. A **58**, 1087 (1998)

hν + Cs	Total Absor., Scat.		Ex

245. D. Azinovic, R. Bruckmeier, C. Wunderlich, H. Figger, G. Theodorakopoulos, I. D. Petsalakis
Dynamics on the ground-state potential surfaces of H_3 and its isotopomeres from their uv spectra.
Phys. Rev. A **58**, 1115 (1998)

hν + H_3	Fluorescence	3.10-6.20 eV	Ex
hν + HD_2	Fluorescence	3.10-6.20 eV	Ex
hν + D_3	Fluorescence	3.10-6.20 eV	Ex
hν + H_3	Photoexcitation	3.10-6.20 eV	Ex
hν + HD_2	Photoexcitation	3.10-6.20 eV	Ex
hν + D_3	Photoexcitation	3.10-6.20 eV	Ex
hν + H_3	Photon Collisions	3.10-6.20 eV	Ex
hν + HD_2	Photon Collisions	3.10-6.20 eV	Ex
hν + D_3	Photon Collisions	3.10-6.20 eV	Ex

246. C. Cornaggia, L. Quaglia
Experimental observation of non-Coulombic states of transient multicharged molecular ions $N_2{}^{4+}$ and $O_2{}^{4+}$.
Phys. Rev. A **63**, 030702 (2001)

hν + $\mathbf{N_2}$	Photodissociation	1.20-10^{15} W/cm2	Ex
hν + $\mathbf{O_2}$	Photodissociation	1.20-10^{15} W/cm2	Ex

247. D. Mathur
Irradiation of benzene molecules by ion-induced and light-induced intense fields.
Phys. Rev. A **63**, 032502 (2001)

hν + $\mathbf{C_6H_6}$	Photoionization	8x10^{13} W/cm2	Ex
hν + $\mathbf{C_6H_6}$	Photodissociation	8x10^{13} W/cm2	Ex

248. R.R.T Marinho, O. Bjoerneholm, S. L. Sorensen, I. Hjelte, S. Sundin, M. Baessler, S. Svensson, A. Naves de Brito
Interference between direct and resonant channels in near-resonance photoemission in argon.
Phys. Rev. A **63**, 032514 (2001)

hν + **Ar**	Photoionization	35.00-45.00 eV	Ex

249. H.-K. Chung, K. Kirby, J. F. Babb
Theoretical study of the absorption spectra of the sodium dimer.
Phys. Rev. A **63**, 032516 (2001)

hν + $\mathbf{Na_2}$	Total Absor., Scat.	1.00-3.00 K	Th

250. S.-M. Huttula, S. Heinasmaki, H. Aksela, J. Tulkki, A. Kivimaki, M. Jurvansuu, S. Aksela
Electron correlation effects in Auger cascades following 2p $^{-1}$4s excitations in argon.
Phys. Rev. A **63**, 032703 (2001)

hν + **Ar**	Photoionization	0.05-1.00 keV	Ex
hν + **Ar**	Elastic Scattering	0.05-1.00 keV	Ex

251. Jr. Abdallah, J., A. Ya Faenov, I. Yu. Skobelev, A. I. Magunov, T. A. Pikuz, T. Auguste, P. d'Oliveira, S. Hulin, P. Monot
Hot-electron influence on the x-ray emission spectra of Ar clusters heated by a high-intensity 60-fs laser pulse.
Phys. Rev. A **63**, 032706 (2001)

hν + **Ar**	Photoexcitation	7x10^{17} W/cm2	Ex

252. G. Snell, U. Hergenhahn, N. Mueller, M. Drescher, J. Viefhaus, U. Becker, U. Heinzmann
Study of xenon 4d, 5p, and 5s photoionization in the shape-resonance region using spin-resolved electron spectroscopy.
Phys. Rev. A **63**, 032712 (2001)

hν + **Xe**	Photoionization	93.80 eV	Ex

253. R. Sankari, A. Kivimaki, M. Huttula, H. Aksela, S. Aksela, M. Coreno, G. Turri, R. Camilloni, M. De Simone, K. C. Prince
Angular distribution in resonant Auger spectra of xenon excited below the $3d_{5/2}$ ionization threshold.
Phys. Rev. A **63**, 032715 (2001)

hν + **Xe**	Photoionization	20.00-900.00 eV	Ex
hν + **Xe**	Elastic Scattering	20.00-900.00 eV	Ex

254. R. van Leeuwen, K. Vijayalakshmi, R. R. Jones
Manipulation of differential electron yields via autoionizing wave-packet control.
Phys. Rev. A **63**, 033403 (2001)

hν + Ca	Photoionization	1.60 μm	Ex
hν + Ca	Elastic Scattering	1.60 μm	Ex

255. G. L. Yudin, M. Yu. Ivanov
Physics of correlated double ionization of atoms in intense laser fields: Quasistatic tunneling limit.
Phys. Rev. A **63**, 033404 (2001)

hν + He	Photoionization	2-18x10^{14} W/cm2	Th

256. M. Jurvansuu, A. Kivimaki, S. Aksela
Inherent lifetime widths of Ar $2p^{-1}$, Kr $3d^{-1}$, Xe $3d^{-1}$, and Xe $4d^{-1}$ states.
Phys. Rev. A **64**, 012502 (2001)

hν + Ar	Photoionization	117.00-743.00 eV	Ex
hν + Kr	Photoionization	117.00-743.00 eV	Ex
hν + Xe	Photoionization	117.00-743.00 eV	Ex

257. F. Gel'mukhanov, P. Salek, H. Agren
Vibrationally resolved core-photoelectron spectroscopy as an infinite-slit interferometry.
Phys. Rev. A **64**, 012504 (2001)

hν + CO	Photoionization	2.00-20.00 keV	Th

258. P. Recanatini, P. Nicolosi, P. Villoresi
^{2}P and ^{4}P C II photoabsorption spectra.
Phys. Rev. A **64**, 012509 (2001)

hν + C^{1+}	Photoionization	21.75-38.74 eV	Ex
hν + C^{1+}	Elastic Scattering	21.75-38.74 eV	Ex
hν + C^{1+}	Total Absor., Scat.	21.75-38.74 eV	Ex

259. P. Bolognesi, L. Avaldi, M.C.A Lopes, G. Dawber, G. C. King, M. A. MacDonald, C. Villani, F. Tarantelli
Direct observation of the Kr ($3d^{-1}$ $4p^{-1}$) and Xe ($4d^{-1}$ $5p^{-1}$) doubly charged ion states by threshold-photoelectron coincidence spectroscopy.
Phys. Rev. A **64**, 012701 (2001)

H + Kr	Photoionization	75.00-127.00 eV	Ex
H + Xe	Photoionization	75.00-127.00 eV	Ex

260. S.-H. Lin, C.-S. Hsue, T. Chung
Auger width and branching ratios for Be-like $1s2s^2p$ $^3P^0$ and $1s2s2p^2$ ^{3}S, ^{3}P, ^{3}D resonances and photoionization of Be from $1s^22s2p$ $^3P^0$.
Phys. Rev. A **64**, 012709 (2001)

hν + Be*	Photoionization	30.00-125.00 eV	Th
hν + Be	Photoionization	30.00-125.00 eV	Th

261. R. Krivec, M. Ya. Amusia, V. B. Mandelzweig
Calculation of the contribution of the quasifree mechanism to the two-electron photoionization cross section.
Phys. Rev. A **64**, 012713 (2001)

hν + H^{-1+}	Photodetachment		Th
hν + He	Photodetachment		Th
hν + He Seq	Photodetachment		Th
hν + H^{-1+}	Photoionization		Th
hν + He	Photoionization		Th
hν + He Seq	Photoionization		Th

262. H. L. Zhou, S. T. Manson, L. Vo Ky, A. Hibbert, N. Feautrier
Photodetachment of He^- 1s2s2p $^4P^0$ in the region of the 1s threshold.
Phys. Rev. A **64**, 012714 (2001)

hν + He^{-1+}	Photodetachment	37.60-44.00 eV	Th

263. S. L. Sorensen, R. F. Fink, R. Feifel, M. N. Piancastelli, M. Bassler, C. Miron, H. Wang, I. Hjelte, O. Bjorneholm, S. Svensson
High-resolution excitation-energy-dependent study of the Auger decay of the O 1s-1π_g core-excited state in oxygen.
Phys. Rev. A **64**, 012719 (2001)

hν + O$_2$	Photoionization	70.00-531.00 eV	E/T

264. G. G. Paulus, F. Grasbon, H. Walther, R. Kopold, W. Becker
Channel-closing-induced resonances in the above-threshold ionization plateau.
Phys. Rev. A **64**, 021401 (2001)

hν + H	Photoionization		Th
nhν + H	Photoionization		Th

265. O. Navandin, T. W. Gorczyca, A. A. Wills, B. Langer, J. D. Bozek, N. Berrah
Interference effects in the Auger decay of the Ar 2p^{-1}3d resonances.
Phys. Rev. A **64**, 022505 (2001)

hν + Ar	Photoionization	246.90-249.00 eV	E/T

266. O. Hemmers, S. T. Manson, M. M. Sant'Anna, P. Focke, H. Wang, I. A. Sellin, D. W. Lindle
Relativistic effects on interchannel coupling in atomic photoionization: The photoelectron angular distribution of Xe 5s.
Phys. Rev. A **64**, 022507 (2001)

hν + Xe	Photoionization	80.00-200.00 eV	Ex

267. M. Meyer, A. Marquette, A. N. Grum-Grzhimailo, U. Kleiman, B. Lohmann
Polarization analysis of fluorescence probing the alignment of Xe$^+$ ions in the resonant Auger decay of the Xe* 4d$_{5/2}$$^{-1}$6p photoexcited state.
Phys. Rev. A **64**, 022703 (2001)

hν + Xe	Photoionization	2.03-3.10 eV	Ex
hν + Xe	Fluorescence	2.03-3.10 eV	Ex

268. K. Tiedtke, Ch. Gerth, M. Martins, P. Zimmermann
Term-dependent lifetime broadening in the 3p photoelectron spectra of atomic Fe and Co.
Phys. Rev. A **64**, 022705 (2001)

hν + Fe	Photoionization	127.00 eV	Ex
hν + Co	Photoionization	127.00 eV	Ex

269. W. C. Shiu, C.-S. Hsue, K. T. Chung
Auger branching ratios for berylliumlike 1s2s2p^2 ^{1}S, ^{1}P, ^{1}D resonances and photoionization of beryllium from 1s^{2}2s2p ^{1}P^o.
Phys. Rev. A **64**, 022714 (2001)

hν + Be	Photoionization	23.00-117.00 eV	Th

270. A. Becker, L. Plaja, P. Moreno, M. Nurhuda, F.H.M. Faisal
Total ionization rates and ion yields of atoms at nonperturbative laser intensities.
Phys. Rev. A **64**, 023408 (2001)

hν + H	Photoionization		Th
hν + Ne	Photoionization		Th
hν + Ar	Photoionization		Th
hν + Kr	Photoionization		Th
hν + Xe	Photoionization		Th

271. M. V. Frolov, N. L. Manakov, A. F. Starace
Dynamic hyperpolarizability and two-photon detachment in the presence of a strong static electric field: Application to H^-.
Phys. Rev. A **64**, 023417 (2001)

hν + $\mathbf{H}^{-1+}$	Photon Collisions		Th
2hν + $\mathbf{H}^{-1+}$	Photon Collisions		Th
hν + $\mathbf{H}^{-1+}$	Photodetachment		Th
2hν + $\mathbf{H}^{-1+}$	Photodetachment		Th

272. R. C. Bilodeau, H. K. Haugen
Electron affinity of Bi using infrared laser photodetachment threshold spectroscopy.
Phys. Rev. A **64**, 024501 (2001)

hν + $\mathbf{Bi}^{-1+}$	Photodetachment	7.60-7.60 keV	Ex

273. W. Sun, P. Xue, X. P. Xie, W. Huang, C. B. Xu, Z. P. Zhong, X. Y. Xu
Atomic triply excited double Rydberg states of lanthanum investigated by selective laser excitation.
Phys. Rev. A **64**, 031402 (2001)

hν + **La**	Elastic Scattering	11.18-11.31 eV	E/T

274. D. Descamps, L. Roos, C. Delfin, A. L'Huillier, C.-G. Wahlstrom
Two- and three-photon ionization of rare gases using femtosecond harmonic pulses generated in a gas medium.
Phys. Rev. A **64**, 031404 (2001)

hν + **Ar**	Photoionization	7.70 eV	Ex

275. F. A. Gianturco, R. R. Lucchese
Cross sections and asymmetry parameters in gas-phase photoionization of C_{60}.
Phys. Rev. A **64**, 032706 (2001)

hν + $\mathbf{C}_{60}$	Photoionization	5.00-45.00 eV	Th

276. X. M. Tong, D. Kato, T. Watanabe, S. Ohtani
Sharp and window resonances in the 4d photoabsorption spectrum of Eu^+ ions.
Phys. Rev. A **64**, 032716 (2001)

hν + **Eu**	Total Absor., Scat.	110.00-160.00 eV	Th
hν + $\mathbf{Eu}^{1+}$	Total Absor., Scat.	110.00-160.00 eV	Th

277. H. L. Zhang, S. N. Nahar, A. K. Pradhan
Relativistic close-coupling calculations for photoionization and recombination of Ne-like Fe XVII.
Phys. Rev. A **64**, 032719 (2001)

hν + $\mathbf{Fe}^{16+}$	Photoionization	100.00 eV	Th
hν + $\mathbf{Fe}^{17+}$	Photoionization	100.00 eV	Th

278. G. L. Yudin, M. Yu. Ivanov
Correlated multiphoton double ionization of helium: The role of nonadiabatic tunneling and singlet recollision.
Phys. Rev. A **64**, 035401 (2001)

hν + **He**	Photoionization	2-4x10^{14} W/cm2	Th

279. J. Zeng, J.-M. Yuan, Q. Lu
Photoionization for the ground state of Al VII from threshold to the K shell.
Phys. Rev. A **64**, 042704 (2001)

hν + $\mathbf{Al}^{6+}$	Photoionization	140.00 Ry	Th

280. Ph. Wernet, J. Schulz, B. F. Sonntag, K. Godehusen, P. Zimmermann, A. N. Grum-Grzhimailo, N. M. Kabachnik, M. Martins
2p photoelectron spectra and linear alignment dichroism of atomic Cr.
Phys. Rev. A **64**, 042707 (2001)

hν + **Cr**	Photoionization	706.00 eV	Ex

281. D.-S. Kim, H.-L. Zhou, S. T. Manson, S. S. Tayal
Photoionization of the excited 1s^{2}2s2p ^{1,3}Po states of atomic beryllium.
Phys. Rev. A **64**, 042713 (2001)

hν + **Be**	Photoionization	4.00-20.00 eV	Th
hν + **Be***	Photoionization	4.00-20.00 eV	Th

282. T. Pattard, J. Burgdoerfer
Half-collision model for multiple ionization by photon impact.
Phys. Rev. A **64**, 042720 (2001)

hν + **He**	Photoionization	1.50 keV	Th
hν + **Li**	Photoionization	1.50 keV	Th

283. R. Kundliya, K. Batra, M. Mohan
Two-photon ionization using elliptically polarized light.
Phys. Rev. A **64**, 043404 (2001)

hν + **H***	Photoionization	1.71-13.78 eV	Th
hν + **H**	Photoionization	1.71-13.78 eV	Th

284. I. Kawata, H. Kono, A. D. Bandrauk
Mechanism of enhanced ionization of linear $H_3{}^+$ in intense laser fields.
Phys. Rev. A **64**, 043411 (2001)

hν + $\mathbf{H_3}^{1+}$	Photoionization		Th

285. J. S. Cohen
Reexamination of over-the-barrier and tunneling ionization of the hydrogen atom in an intense field.
Phys. Rev. A **64**, 043412 (2001)

hν + **H**	Photoionization		Th

286. G. D. Gillen, M. A. Walker, L. D. van Woerkom
Enhanced double ionization with circularly polarized light.
Phys. Rev. A **64**, 043413 (2001)

hν + **Mg**	Photoionization	1.55 eV	Ex

287. C.-N. Liu
Photodetachment of K^-.
Phys. Rev. A **64**, 052715 (2001)

hν + $\mathbf{K}^{-1+}$	Photodetachment	3.00-4.40 eV	E/T

288. H. S. Fung, H. H. Wu, T. S. Yih, T. K. Fang, T. N. Chang
Photoabsorption of Mg above the 3p threshold.
Phys. Rev. A **64**, 052716 (2001)

hν + **Mg**	Total Absor., Scat.	8.55-16.53 eV	E/T

289. E. R. Peterson, P. H. Bucksbaum
Above-threshold double-ionization spectroscopy of argon.
Phys. Rev. A **64**, 053405 (2001)

hν + **Ar**	Photoionization	1.55 eV	Ex

290. M. Dammasch, M. Dorr, U. Eichmann, E. Lenz, W. Sandner
Relativistic laser-field-drift suppression of nonsequential multiple ionization.
Phys. Rev. A **64**, 061402 (2001)

hν + Xe	Photoionization	2 10^{18} W/cm2	Ex

291. N. D. Gibson, M. D. Gasda, K. A. Moore, D. A. Zawistowski, C. W. Walter
s-wave photodetachment from S^- ions in a static electric field.
Phys. Rev. A **64**, 061403 (2001)

hν + S^{-1+}	Photodetachment	2.02-2.02 eV	Ex

292. B. Zimmermann, G. Snell, B. Schmidtke, J. Viefhaus, N. A. Cherepkov, B. Langer, M. Drescher, N. Mueller, U. Heinzmann, U. Becker
Interchannel interaction versus relativistic effects: Xe 5p photoionization revisited.
Phys. Rev. A **64**, 062501 (2001)

hν + Xe	Photoionization	15.00-200.00 eV	Ex

293. S. A. Collins, A. Huetz, T. J. Reddish, D. P. Seccombe, K. Soejima
Triply differential cross-section measurements in the double photoionization of D_2 and He with asymmetric kinematic conditions.
Phys. Rev. A **64**, 062706 (2001)

hν + H_2	Photoionization	76.10-104.00 eV	Ex
hν + D_2	Photoionization	76.10-104.00 eV	Ex
hν + He	Photoionization	76.10-104.00 eV	Ex

294. A. S. Baltenkov, V. K. Dolmatov, S. T. Manson
Theory of inner-shell photoionization of fixed-in-space molecules.
Phys. Rev. A **64**, 062707 (2001)

hν + CO	Photodissociation	334.00 eV	Th
hν + CO	Photoionization	334.00 eV	Th

295. P. Faucher, H. L. Zhou, S. Bougouffa, F. Bely-Dubau
Resonance analysis in the photoionization of excited lithium below the 1s2l and 1s3l ionization thresholds of the Li atom.
Phys. Rev. A **64**, 062715 (2001)

hν + Li*	Photoionization	59.00-73.00 eV	Th
hν + Li	Photoionization	59.00-73.00 eV	Th

296. D. Bauer, F. Ceccherini, A. Macchi, F. Cornolti
C_{60} intense femtosecond laser pulses: Nonlinear dipole response and ionization.
Phys. Rev. A **64**, 063203 (2001)

hν + C_{60}	Photoionization	0.30-1.70 a.u.	Th

297. M. Martins, K. Godehusen, Ch. Gerth, P. Zimmermann, J. Schulz, Ph. Wernet, B. Sonntag
Core-hole-induced degeneracy of the valence subshells in the 5p photoemission of atomic europium.
Phys. Rev. A **65**, 020701 (2002)

hν + Eu	Photoionization	53.00 eV	E/T

298. R. R. Lucchese, A. Lafosse, J. C. Brenot, P. M. Guyon, J. C. Houver, M. Lebech, G. Raseev, D. Dowek
Polar and azimuthal dependence of the molecular frame photoelectron angular distributions of spatially oriented linear molecules.
Phys. Rev. A **65**, 020702 (2002)

hν + NO	Photoionization	25.00 eV	Th

299. A. Staudte, C. L. Cocke, M. H. Prior, A. Belkacem, C. Ray, H. W. Chong, T. E. Glover, R. W. Schoenlein, U. Saalmann
Observation of a nearly isotropic, high-energy Coulomb explosion group in the fragmentation of D_2 by short laser pulses.
Phys. Rev. A **65**, 020703 (2002)

hν + $\mathbf{H_2}$	Photodissociation	0.65-8x10^{14} W/cm2	Ex
hν + $\mathbf{H_2}$	Photoionization	0.65-8x10^{14} W/cm2	Ex
hν + $\mathbf{D_2}$	Photodissociation	0.65-8x10^{14} W/cm2	Ex
hν + $\mathbf{D_2}$	Photoionization	0.65-8x10^{14} W/cm2	Ex

300. W. Chism, L. E. Reichl
Rydberg atoms in circular polarization: Classical stabilization in optical frequency fields.
Phys. Rev. A **65**, 021404 (2002)

hν + **H**	Photon Collisions	1.43x10^{12}-1.83x10^{15} W/cm2	Th

301. L.-B. Fu, J. Liu, S.-G. Chen
Correlated electron emission in laser-induced nonsequence double ionization of helium.
Phys. Rev. A **65**, 021406 (2002)

hν + **He**	Photoionization		Th

302. A. Bhattacharjee, K. R. Dastidar
Photodissociation of NaH.
Phys. Rev. A **65**, 022701 (2002)

hν + **NaH**	Photodissociation	4.17 eV	Th

303. B. Kristensen, T. Andersen, F. Folkmann, H. Kjeldsen, J. B. West
Photoionization of singly charged sulfur ions in the extreme-ultraviolet region: Absolute continuum cross section and resonance structures.
Phys. Rev. A **65**, 022707 (2002)

hν + $\mathbf{S^{1+}}$	Photoionization	20.00-200.00 eV	Ex

304. A. S. Kheifets, I. Bray
Symmetrized amplitudes of the helium-atom double photoionization.
Phys. Rev. A **65**, 022708 (2002)

hν + **He**	Photoionization	9.00-60.00 eV	Th

305. J. Colgan, M. S. Pindzola
Double photoionization of beryllium.
Phys. Rev. A **65**, 022709 (2002)

hν + **Be**	Photoionization	1.00-75.00 eV	Th

306. S. Chelkowski, A. D. Bandrauk
Measuring moving nuclear wave packets using laser Coulomb-explosion imaging.
Phys. Rev. A **65**, 023403 (2002)

hν + $\mathbf{H_2}^{1+}$	Photodissociation		Ex
hν + $\mathbf{D_2}^{1+}$	Photodissociation		Ex

307. L. N. Gaier, C. H. Keitel
Relativistic classical Monte Carlo simulations of stabilization of hydrogenlike ions in intense laser pulses.
Phys. Rev. A **65**, 023406 (2002)

hν + **H**	Photoionization		Th
hν + $\mathbf{He^{1+}}$	Photoionization		Th
hν + $\mathbf{Li^{2+}}$	Photoionization		Th
hν + **H**	Photon Collisions		Th
hν + $\mathbf{He^{1+}}$	Photon Collisions		Th
hν + $\mathbf{Li^{2+}}$	Photon Collisions		Th

308. D. Dundas
Efficient grid treatment of the ionization dynamics of laser-driven H_2^+.
Phys. Rev. A **65**, 023408 (2002)

hν + $\mathbf{H_2}^{1+}$	Photoionization		Th

309. V. T. Davis, J. Ashokkumar, J. S. Thompson
Fine-structure-resolved measurements of photoelectron angular distributions by single-photon detachment of Sn^- at visible wavelengths.
Phys. Rev. A **65**, 024702 (2002)

hν + $\mathbf{Sn}^{-1+}$	Photodetachment	2.41-2.71 eV	Ex

310. G. N. Rockwell, V. F. Hoffman, Th. Clausen, R. Bluemel
Realistic three-dimensional computations of microwave-ionization curves of hydrogen Rydberg atoms.
Phys. Rev. A **65**, 025401 (2002)

hν + **H**	Photoionization	200.00-500.00 V/cm	Th
nhν + **H**	Photoionization	200.00-500.00 V/cm	Th

311. K. Ishikawa, K. Midorikawa
Coherent control of extreme uv absorption and photoemission by the simultaneous irradiation of ultrashort extreme uv and laser pulses.
Phys. Rev. A **65**, 031403 (2002)

hν + **H**	Total Absor., Scat.	1-20x10^{12} W/cm2	Th
hν + **H**	Elastic Scattering	1-20x10^{12} W/cm2	Th

312. R. Klingeler, N. Pontius, G. Luettgens, P. S. Bechthold, M. Neeb, W. Eberhardt
Photoelectron spectroscopy of GdO^-.
Phys. Rev. A **65**, 032502 (2002)

hν + $\mathbf{GdO}^{-1+}$	Photodetachment	3.50 eV	Ex

313. R. Puettner, Y.-F. Hu, E. Nommiste, G. M. Bancroft, S. Aksela
Angle-resolved photoabsorption spectra of core holes with strong spin-orbit interaction: Below the Br 3d thresholds in HBr.
Phys. Rev. A **65**, 032513 (2002)

hν + **HBr**	Photoionization	69.00-79.00 eV	Ex
hν + **HBr**	Total Absor., Scat.	69.00-79.00 eV	Ex

314. M. Zitnik, K. Bucar, M. Stuhec, F. Penent, R. I. Hall, P. Lablanquie
Fluorescence of low-lying doubly photoexcited states in helium.
Phys. Rev. A **65**, 032520 (2002)

hν + **He**	Total Absor., Scat.		Th

315. H. Lin, C.-S. Hsue, K. T. Chung
Auger width and branching ratios for berylliumlike $1s2s^2np\ ^1P^0$ and $1s2p^3\ ^1P^0$ resonances and photoionization of beryllium from $1s^22s^2\ ^1S$.
Phys. Rev. A **65**, 032706 (2002)

hν + **Be**	Photoionization	30.00-120.00 eV	Th
hν + $\mathbf{B}^{1+}$	Photoionization	30.00-120.00 eV	Th
hν + $\mathbf{C}^{2+}$	Photoionization	30.00-120.00 eV	Th
hν + $\mathbf{N}^{3+}$	Photoionization	30.00-120.00 eV	Th
hν + $\mathbf{O}^{4+}$	Photoionization	30.00-120.00 eV	Th
hν + $\mathbf{F}^{5+}$	Photoionization	30.00-120.00 eV	Th
hν + $\mathbf{Ne}^{6+}$	Photoionization	30.00-120.00 eV	Th
hν + **Be**	Elastic Scattering	30.00-120.00 eV	Th
hν + $\mathbf{B}^{1+}$	Elastic Scattering	30.00-120.00 eV	Th

hν + $\mathbf{C^{2+}}$	Elastic Scattering	30.00-120.00 eV	Th
hν + $\mathbf{N^{3+}}$	Elastic Scattering	30.00-120.00 eV	Th
hν + $\mathbf{O^{4+}}$	Elastic Scattering	30.00-120.00 eV	Th
hν + $\mathbf{F^{5+}}$	Elastic Scattering	30.00-120.00 eV	Th
hν + $\mathbf{Ne^{6+}}$	Elastic Scattering	30.00-120.00 eV	Th

316. P. Selles, L. Malegat, A. K. Kazansky
Ab initio calculation of the whole set of He double-photoionization cross sections.
Phys. Rev. A **65**, 032711 (2002)

hν + **He**	Photoionization	90.00 eV	Th

317. M. Ya. Amusia, L. V. Chernysheva, V. K. Ivanov, S. T. Manson
Photoionization of 4d electrons in $\mathbf{I^{+}}$ and $\mathbf{I^{2+}}$.
Phys. Rev. A **65**, 032714 (2002)

hν + $\mathbf{I^{1+}}$	Photoionization	40.00-150.00 eV	Th
hν + $\mathbf{I^{2+}}$	Photoionization	40.00-150.00 eV	Th

318. W.-J. Chen, T. K. Fang, T. N. Chang, T. S. Yih, C.-K. Ni, A. H. Kung
3smd^{1}D to 3png^{1}F autoionization resonances of Mg.
Phys. Rev. A **65**, 032717 (2002)

hν + **Mg**	Photoionization	4.35 eV	Ex
hν + **Mg**	Photoexcitation	4.35 eV	Ex

319. A. T. Domondon, X. M. Tong
Photoabsorption spectra of I and its ions in the 4d region.
Phys. Rev. A **65**, 032718 (2002)

hν + **I**	Total Absor., Scat.	60.00-130.00 eV	Th
hν + $\mathbf{I^{1+}}$	Total Absor., Scat.	60.00-130.00 eV	Th
hν + $\mathbf{I^{2+}}$	Total Absor., Scat.	60.00-130.00 eV	Th
hν + $\mathbf{I^{3+}}$	Total Absor., Scat.	60.00-130.00 eV	Th

320. S. S. Tayal
Resonant photoionization cross sections and branching ratios for atomic oxygen.
Phys. Rev. A **65**, 032724 (2002)

hν + **O**	Photoionization	13.00-60.00 eV	Th

321. J. Colgan, M. S. Pindzola
(γ,2e) total and differential cross-section calculations for helium at various excell energies.
Phys. Rev. A **65**, 032729 (2002)

hν + **He**	Photoionization	75.00-200.00 eV	Th

322. M. Lein, T. Kreibich, E.K.U. Gross, V. Engel
Strong-field ionization dynamics of a model $\mathbf{H_2}$ molecule.
Phys. Rev. A **65**, 033403 (2002)

hν + $\mathbf{H_2}$	Photoionization	1.57-1.61 eV	Th

323. W. Huang, T. J. Morgan
Photoabsorption dynamics of doubly excited two-electron systems: Closed classical orbits.
Phys. Rev. A **65**, 033409 (2002)

hν + **He**	Total Absor., Scat.		Th
hν + **Yb**	Total Absor., Scat.		Th

324. W. Becken, P. Schmelcher
Electromagnetic transitions of the helium atom in a strong magnetic field.
Phys. Rev. A **65**, 033416 (2002)

hν + He	Photoexcitation		Th

325. S. N. Pisharody, R. R. Jones
Phase-controlled stair-step decay of autoionizing radial wave packets.
Phys. Rev. A **65**, 033418 (2002)

hν + Cs	Photoionization	2.93-3.90 eV	Ex
hν + Cs	Photoexcitation	2.93-3.90 eV	Ex

326. G. Turri, L. Avaldi, P. Bolognesi, R. Camilloni, M. Coreno, J. Berakdar, A. S. Kheifets, G. Stefani
Double photoionization of He at 80 eV excess energy in the equal-energy-sharing condition.
Phys. Rev. A **65**, 034702 (2002)

hν + He	Photoionization	74.00-134.00 eV	Ex

327. R. Sankari, A. Kivimaeki, M. Huttula, T. Matila, H. Aksela, S. Aksela, M. Coreno, G. Turri, R. Camilloni, M. De Simone, K. C. Prince
Interference effects between 2p photoionization and resonant Auger decay channels at $2s^{-1}np$ (n=4,5) inner-shell resonances in Ar.
Phys. Rev. A **65**, 042702 (2002)

hν + Ar	Photoionization	321.00-330.00 eV	Ex
hν + Ar	Photoexcitation	321.00-330.00 eV	Ex

328. S. Ricz, A. Koever, M. Jurvansuu, D. Varga, J. Molnar, S. Aksela
High-resolution photoelectron-Auger-electron coincidence study for the L_{23}-$M_{23}M_{23}$ transitions of argon.
Phys. Rev. A **65**, 042707 (2002)

hν + Ar	Photoionization	440.00 eV	Th

329. S. Bruenken, Ch. Gerth, B. Kanngiesser, T. Luhmann, M. Richter, P. Zimmermann
Decay of the Ar $2s^{-1}$ and $2p^{-1}$ and Kr $3p^{-1}$ and $3d^{-1}$ hole states studied by photoelectron-ion coincidence spectroscopy.
Phys. Rev. A **65**, 042708 (2002)

hν + Ar	Photoionization	360.00 eV	Th

330. T. Schneider, C.-N. Liu, J.-M. Rost
Intermanifold similarities in partial photoionization cross sections of helium.
Phys. Rev. A **65**, 042715 (2002)

hν + He	Photoionization	76.00-78.50 eV	Th

331. A. Datta, S. S. Bhattacharyya, B. Kim
Effects of chirping on the dissociation dynamics of H_2 in a two-frequency laser field.
Phys. Rev. A **65**, 043404 (2002)

hν + H_2	Photodissociation	13.10-13.10 eV	Th
2hν + H_2	Photodissociation	13.10-13.10 eV	Th

332. K. Ishikawa, K. Midorikawa
Two-photon ionization of He^+ as a nonlinear optical effect in the soft-x-ray region.
Phys. Rev. A **65**, 043405 (2002)

hν + He^{1+}	Photodissociation	40.60-42.00 eV	Th
2hν + He^{1+}	Photodissociation	40.60-42.00 eV	Th

333. R. Feifel, L. Karlsson, M. N. Piancastelli, R. F. Fink, M. Baessler, O. Bjoerneholm, K. Wiesner, C. Miron, H. Wang, A. Giertz, S. L. Sorensen, A. Naves de Brito, S. Svensson
"Hidden" vibrations in CO: Reinvestigation of resonant Auger decay for the C 1s -¿ π excitation.
Phys. Rev. A **65**, 052701 (2002)

hν + **CO**	Photoionization	286.50-288.50 eV	Ex
hν + **CO**	Photoexcitation	286.50-288.50 eV	Ex

334. S. Nahar
Relativistic photoionization cross sections for C II.
Phys. Rev. A **65**, 052702 (2002)

hν + $\mathbf{C}^{1+}$	Photoionization	1.80-2.30 Ry	E/T

335. N. B. Avdonina, E. G. Drukarev, R. H. Pratt
Applicability of a nonrelativistic asymptotic description of high-energy photoionization.
Phys. Rev. A **65**, 052705 (2002)

hν + **Ne**	Photoionization	0.60-60.00 keV	Th
hν + **Ar**	Photoionization	0.60-60.00 keV	Th
hν + $\mathbf{K}^{1+}$	Photoionization	0.60-60.00 keV	Th

336. T. Mukoyama, M. Uda
Electron excitation during inner-shell ionization.
Phys. Rev. A **65**, 052706 (2002)

hν + **Ne**	Photoexcitation	0.85-1.20 keV	E/T
hν + **Ne**	Photoionization	0.85-1.20 keV	E/T

337. S. A. Collins, S. Cvejanovic, C. Dawson, T. J. Reddish, D. P. Seccombe, A. Huetz, L. Malegat, P. Selles, A. K. Kazansky, A. Danjo, K. Soejima, K. Okuno, A. Yagishita
Double photoionization of helium at an excess energy of 60 eV using left- and right-elliptically-polarized light.
Phys. Rev. A **65**, 052717 (2002)

hν + **He**	Photoionization	139.00 eV	E/T

338. S. Freund, R. Ubert, E. Floethmann, K. Welge, D. M. Wang, J. B. Delos
Absorption and recurrence spectra of hydrogen in crossed electric and magnetic fields.
Phys. Rev. A **65**, 053408 (2002)

hν + **H**	Total Absor., Scat.	3.40 eV	E/T

339. J. L. Sanz-Vicario, E. Lindroth
Resonant triply excited states in the photodetachment of He^{-} 1s2s2p ^{4}P^{o}.
Phys. Rev. A **65**, 060703 (2002)

hν + $\mathbf{He}^{-1+}$	Photodetachment	37.00-45.00 eV	Th

340. P.-A. Raboud, M. Berset, J.-Cl. Dousse, Y.-P. Maillard, O. Mauron, J. Hoszowska, M. Polasik, J. Rzadkjewicz
Energy-dependent KL double photoexcitation of argon.
Phys. Rev. A **65**, 062503 (2002)

hν + **Ar**	Photoionization	3.46-6.54 keV	Ex
hν + **Ar**	Photoexcitation	3.46-6.54 keV	Ex

341. H. W. Van der Hart, C. H. Greene
Excitation of the 3p^{4}(4s,3d,4p) Ar^{+} states during Ar photoionization: Intensity, alignment, and orientation.
Phys. Rev. A **65**, 062509 (2002)

hν + **Ar**	Photoionization	35.00-37.00 eV	Th
hν + **Ar**	Photoexcitation	35.00-37.00 eV	Th

342. M. Ya. Amusia, L. V. Chernysheva, Z. Felfli, A. Z. Msezane
Cross sections of discrete-level excitation of noble-gas atoms in Compton scattering.
Phys. Rev. A **65**, 062705 (2002)

hν + **Ne**	Photoexcitation	0.67-1.60 Ry	Th
hν + **Ar**	Photoexcitation	0.67-1.60 Ry	Th
hν + **Kr**	Photoexcitation	0.67-1.60 Ry	Th
hν + **Xe**	Photoexcitation	0.67-1.60 Ry	Th

343. H. Yamaoka, M. Oura, K. Takahiro, N. Takeshima, K. Kawatsura, M. Mizumaki, U. Kleiman, N. M. Kabachnik, T. Mukoyama
Angular distribution of Au and Pb L x rays following photoionization by synchrotron radiation.
Phys. Rev. A **65**, 062713 (2002)

hν + **Au**	Fluorescence	12.20-16.70 keV	Ex
hν + **Pb**	Fluorescence	12.20-16.70 keV	Ex
hν + **Au**	Photoionization	12.20-16.70 keV	Ex
hν + **Pb**	Photoionization	12.20-16.70 keV	Ex

344. A. Reber, F. Martin, H. Bachau, R. S. Berry
Two-photon above-threshold ionization of magnesium.
Phys. Rev. A **65**, 063413 (2002)

hν + **Mg**	Photoionization	0.28-0.30 a.u.	Th

345. K. Sandig, H. Figger, T. W. Hansch
Dissociation dynamics of $H_2{}^-$ in intense laser fields: investigation of photofragments from single vibrational levels.
Phys. Rev. Lett. **85**, 4876 (2000)

hν + $\mathbf{H_2}^{1+}$	Photodissociation	1.58 eV	Ex

346. B.L.G. Bakker, D. H. Parker, W. J. Van der Zande
Observation of direct dissociative ionization in molecular hydrogen.
Phys. Rev. Lett. **86**, 3272 (2001)

hν + $\mathbf{H_2}$	Photodissociation	6.42 eV	Ex

347. H.-L. Zhou, S. T. Manson, L. Voky, N. Feautrier, A. Hibbert
Dramatic structure in the photodetachment of inner shells of negative ions: Li^-.
Phys. Rev. Lett. **87**, 023001 (2001)

hν + $\mathbf{Li}^{-1+}$	Photodetachment	56.00-64.00 eV	Th

348. R. Reichle, H. Helm, I. Yu. Kiyan
Photodetachment of H^- in a strong infrared laser field.
Phys. Rev. Lett. **87**, 243001 (2001)

hν + $\mathbf{H}^{-1+}$	Photodetachment	2.15 μm	Ex

349. A. M. Covington, A. Aguilar, I. R. Covington, M. Gharaibeh, C. A. Shirley, R. A. Phaneuf, I. Alvarez, C. Cisneros, G. Hinojosa, J. D. Bozek, I. Dominguez, M. M. Sant'Anna, A. S. Schlachter, N. Berrah, S. N. Nahar, B. M. McLaughlin
Photoionization of metastable O^+ ions: experiment and theory.
Phys. Rev. Lett. **87**, 243002 (2001)

hν + $\mathbf{O}^{1+}$	Photoionization	30.00-35.00 eV	Ex

350. N. Berrah, J. D. Bozek, A. A. Wills, G. Turri, H.-L. Zhou, S. T. Manson, G. Akerman, B. Rude, N. D. Gibson, C. W. Walter, L. Voky, A. Hibbert, S. M. Ferguson
K-shell photodetachment of Li^-: Experiment and theory.
Phys. Rev. Lett. **87**, 253002 (2001)

hν + $\mathbf{Li}^{-1+}$	Photodetachment	56.00-65.00 eV	E/T

351. S. Ivarsson, U. Litzen, G. M. Wahlgren
Accurate wavelengths, oscillator strengths and hyperfine structure in selected praseodymium lines of astrophysical interest.
Phys. Scr. **64**, 455 (2001)

hν + $\mathbf{Pr}^{1+}$	Photoexcitation	2.00-6.00 eV	Ex

352. N. Singh, M. Mohan, W. Eissner
Photoionisation of ground state of Mg III using a relativistic Breit-Pauli approximation.
Phys. Scr. **65**, 233 (2002)

hν + $\mathbf{Mg}^{2+}$	Photoionization	5.80-5.90 Ry	Th

353. M. Ertugrul
Measurement of L X-ray production cross-sections at 5.96 keV and average L and M shell fluorescence yields of elements in the atomic number range 40¡Z¡55.
Phys. Scr. **65**, 323 (2002)

hν + **Zr**	Photoionization	6.00 keV	Ex
hν + **Nb**	Photoionization	6.00 keV	Ex
hν + **Mo**	Photoionization	6.00 keV	Ex
hν + **Pd**	Photoionization	6.00 keV	Ex
hν + **Ag**	Photoionization	6.00 keV	Ex
hν + **Cd**	Photoionization	6.00 keV	Ex
hν + **In**	Photoionization	6.00 keV	Ex
hν + **Sn**	Photoionization	6.00 keV	Ex
hν + **Sb**	Photoionization	6.00 keV	Ex
hν + **Te**	Photoionization	6.00 keV	Ex
hν + **I**	Photoionization	6.00 keV	Ex
hν + **Cs**	Photoionization	6.00 keV	Ex

354. D. V. Rao, T. Takeda, Y. Itai, T. Akatsuka, S. M. Seltzer, J. H. Hubbell, R. Cesareo, A. Brunetti, G. E. Gigante
Measurements of atomic Rayleigh scattering cross-sections: A new approach based on solid angle approximation and geometrical efficiency.
Phys. Scr. **65**, 398 (2002)

hν + **Co**	Elastic Scattering	15.00-22.00 keV	Ex
hν + **Ni**	Elastic Scattering	15.00-22.00 keV	Ex
hν + **Cu**	Elastic Scattering	15.00-22.00 keV	Ex
hν + **Zn**	Elastic Scattering	15.00-22.00 keV	Ex
hν + **Nb**	Elastic Scattering	15.00-22.00 keV	Ex
hν + **Mo**	Elastic Scattering	15.00-22.00 keV	Ex
hν + **Pd**	Elastic Scattering	15.00-22.00 keV	Ex
hν + **Ag**	Elastic Scattering	15.00-22.00 keV	Ex
hν + **Cd**	Elastic Scattering	15.00-22.00 keV	Ex
hν + **In**	Elastic Scattering	15.00-22.00 keV	Ex
hν + **Sn**	Elastic Scattering	15.00-22.00 keV	Ex

355. G. P. Gupta, A. Z. Msezane
Excitation energies, oscillator strengths and radiative rates in triply ionised phosphorous.
Phys. Scr. **66**, 43 (2002)

hν + $\mathbf{P}^{3+}$	Photoexcitation		Th

356. J. Migdalek
Model potential approach to core polarisation in SCF calculations.
Phys. Scr. **T100**, 47 (2002)

hν + **Cu**	Photoexcitation		Th
hν + **Rb**	Photoexcitation		Th
hν + **Ag**	Photoexcitation		Th

hν + **Cd**	Photoexcitation		Th
hν + **Cs**	Photoexcitation		Th
hν + **Au**	Photoexcitation		Th
hν + **Hg**	Photoexcitation		Th
hν + **Ag Seq.**	Photoexcitation		Th
hν + **Au Seq.**	Photoexcitation		Th
hν + **Hg Seq.**	Photoexcitation		Th
hν + **Cd Seq.**	Photoexcitation		Th

357. K. L. Bell
Photoionization of ions of astrophysical interest: Theoretical survey.
Phys. Scr. **T100**, 64 (2002)

hν + $\mathbf{N^{2+}}$	Photoionization		Th
hν + $\mathbf{N^{3+}}$	Photoionization		Th
hν + $\mathbf{O^{3+}}$	Photoionization		Th
hν + $\mathbf{O^{4+}}$	Photoionization		Th

358. S. Johansson, A. Derkatch, M. P. Donnelly, H. Hartman, A. Hibbert, H. Karlsson, M. Kock, Z. S. Li, D. S. Leckrone, U. Litzen, H. Lundberg, S. Mannervik, L.-O. Norlin, H. Nilsson, J. Pickering, T. Raassen, D. Rostohar, P. Royen, A. Schmitt, M. Johanning, C. M. Sikstrom, P. L. Smith, S. Svanberg, G. M. Wahlgren
The FERRUM project: New f-value data for Fe II and astrophysical applications.
Phys. Scr. **T100**, 71 (2002)

hν + $\mathbf{Fe^{1+}}$	Photoexcitation		Th

359. I. D. Williams, B. Srigengan, P. McKenna, W. R. Newell, J. H. Sanderson, W. A. Bryan, A. El-Zein, P. F. Taday, A. J. Langley
Short pulse laser interaction with positive ions.
Phys. Scr. **T80**, 534 (1999)

hν + $\mathbf{H_2}^{1+}$	Photodissociation	1.57 eV	Ex

360. D. C. Ionescu, A. H. Sorensen, A. Balkacem
Photoionization at relativistic energies.
Phys. Scr. **T92**, 330 (2001)

hν + $\mathbf{Ca^{19+}}$	Photoionization	0.00-100.00 GeV	Th

361. M. Sato, X.-M. Tong, A. Watanabe
Giant resonance in 4d photoionization of Xe-like iso-electronic sequence.
Phys. Scr. **T92**, 388 (2001)

hν + **Xe**	Photoionization	90.00-160.00 eV	Th
hν + $\mathbf{Cs^{1+}}$	Photoionization	90.00-160.00 eV	Th
hν + $\mathbf{Ba^{2+}}$	Photoionization	90.00-160.00 eV	Th

3.2.2 Electron Collisions

362. M. A. Bautista
Atomic data from the Iron Project. XLVII. Electron impact excitation of Ni III.
Astron. Astrophys. **365**, 268 (2001)

e + $\mathbf{Ni^{2+}}$	Excitation	5.00-60.00 K	Th

363. K. Butler, C. J. Zeippen
Atomic data from the IRON Project. XLIX. Electron impact excitation of Fe XX.
Astron. Astrophys. **372**, 1078 (2001)

e + $\mathbf{Fe^{19+}}$	Excitation	290.00 Ry	Th

364. K. Butler, C. J. Zeippen
Atomic data from the IRON Project. L. Electron impact excitation of Fe XIX.
Astron. Astrophys. **372**, 1083 (2001)

e + Fe^{18+}	Excitation	300.00 Ry	Th

365. R. Kisielius, P. J. Storey
Effective recombination coefficients for N II lines at nebular temperatures and densities.
Astron. Astrophys. **387**, 1135 (2002)

e + N^{2+}	Recombination	1.00-20.00 kK	Th

366. S. Schippers, A. Mueller, G. Gwinner, J. Linkemann, A. A. Saghiri, A. Wolf
Storage ring measurement of the C IV recombination rate coefficient.
Astrophys. J., Part 1 **555**, 1027 (2001)

e + C^{3+}	Recombination	8.00 eV	Ex

367. A. K. Bhatia, J. L. Saba
Resonance scattering of Fe XVII x-ray and extreme-ultraviolet lines.
Astrophys. J., Part 1 **563**, 434 (2001)

e + Fe^{16+}	Excitation	450.00 Ry	Th

368. M. F. Gu, S. M. Kahn, D. W. Savin, E. Behar, P. Beiersdorfer, G. V. Brown, D. A. Liedahl, K. J. Reed
Laboratory measurements of iron L-shell emission: 3-¿2 transitions of Fe XXI-XXIV between 10.5 and 12.5 Å.
Astrophys. J., Part 1 **563**, 462 (2001)

e + Fe^{20+}	Excitation	3.00 keV	E/T
e + Fe^{21+}	Excitation	3.00 keV	E/T
e + Fe^{22+}	Excitation	3.00 keV	E/T
e + Fe^{23+}	Excitation	3.00 keV	E/T

369. M. Niimura, S. J. Smith, A. Chutjian
Electron excitation cross sections for the $2p^2 2p^2$ ^3P -¿ $2s^2 2p^2$ ^1D transition in O^{2+}.
Astrophys. J., Part 1 **565**, 645 (2002)

e + O^{2+}	Excitation	1.80-5.35 eV	Ex

370. D. W. Savin, S. M. Kahn, J. Linkemann, A. A. Saghiri, M. Schmitt, M. Grieser, R. Repnow, D. Schwalm, A. Wolf, T. Bartsch, A. Mueller, S. Schippers, M. H. Chen, N. R. Badnell, T. W. Gorczyca, O. Zatsarinny
Dielectronic recombination of Fe XIX forming Fe XVIII: Laboratory measurements and theoretical calculations.
Astrophys. J., Part 1 **576**, 1098 (2002)

e + Fe^{18+}	Recombination	0.00-1.00 keV	E/T

371. M. Bhattacharya, N. C. Deb, A. Z. Msezane, P. S. Mazumdar
Electron impact ionization of the ground state of singly ionized helium.
Can. J. Phys. **78**, 901 (2000)

e + He^{1+}	Ionization	50.00-900.00 eV	Th

372. B. Wallbank, J. K. Holmes
Laser-assisted elastic electron scattering from helium.
Can. J. Phys. **79**, 1237 (2001)

e + He	Angular Scattering	1.00-20.00 eV	Ex
e + He	Elastic Scattering	1.00-20.00 eV	Ex

373. R. Srivastava, R. P. McEachran, A. D. Stauffer
Electron excitation of the Group IV elements.
Can. J. Phys. **80**, 687 (2002)

e + **C**	Angular Scattering	25.00-40.00 eV	Th
e + **Si**	Angular Scattering	25.00-40.00 eV	Th
e + **Ge**	Angular Scattering	25.00-40.00 eV	Th
e + **Sn**	Angular Scattering	25.00-40.00 eV	Th
e + **C**	Excitation	25.00-40.00 eV	Th
e + **Si**	Excitation	25.00-40.00 eV	Th
e + **Ge**	Excitation	25.00-40.00 eV	Th
e + **Sn**	Excitation	25.00-40.00 eV	Th

374. H. Deutsch, K. Hilpert, K. Becker, M. Probst, T. D. Maerk
Calculated absolute electron-impact ionization cross sections for AlO, Al_2O, and WO_x (x = 1-3).
J. Appl. Phys. **89**, 1915 (2001)

e + **WO**	Ionization	0.01-1.00 keV	Th
e + $\mathbf{WO_2}$	Ionization	0.01-1.00 keV	Th
e + $\mathbf{WO_3}$	Ionization	0.01-1.00 keV	Th
e + **O Al**	Ionization	0.01-1.00 keV	Th
e + $\mathbf{Al_2O}$	Ionization	0.01-1.00 keV	Th

375. C. Tang, Z. An, Z. Luo, M. Liu
Measurements of germanium K-shell ionization cross sections and tin L-shell x-ray production cross sections by electron impact.
J. Appl. Phys. **91**, 6739 (2002)

e + **Ge**	Excitation	5.00-65.00 keV	E/T
e + **Sn**	Excitation	5.00-65.00 keV	E/T
e + **Ge**	Ionization	5.00-65.00 keV	E/T
e + **Sn**	Ionization	5.00-65.00 keV	E/T

376. R. Peverall, S. Rosen, J. R. Peterson, M. Larsson, A. Al-Khalili, L. Vikor, J. Semaniak, R. Bobbenkamp, A. Le Padellec, A. N. Maurellis, W. J. Van der Zande
Dissociative recombination and excitation of $O_2{}^+$: Cross sections, product yields and implications for studies of ionospheric airglows.
J. Chem. Phys. **114**, 6679 (2001)

e + $\mathbf{O_2}^{1+}$	Dissociation	0.00-3.00 eV	Ex
e + $\mathbf{O_2}^{1+}$	Recombination	0.00-3.00 eV	Ex
e + $\mathbf{O_2}^{1+}$	Excitation	0.00-3.00 eV	Ex

377. A. Le Padellec, F. Rabilloud, D. Pegg, A. Neau, F. Heilberg, R. V. Thomas, H. T. Schmidt, M. O. Larsson, H. Danared, A. Kaelberg, K. Andersson, D. Hanstorp
Electron-impact detachment and dissociation of $C_4{}^-$ ions.
J. Chem. Phys. **115**, 10671 (2001)

e + $\mathbf{C_4}^{-1+}$	Ionization	40.00 eV	Ex

378. L. H. Andersen, J. Bak, S. Boye, M. Clausen, M. Hovgaard, M. J. Jensen, A. Lapierre, K. Seiersen
Resonant and nonresonant electron impact detachment of CH^- and BO^-.
J. Chem. Phys. **115**, 3566 (2001)

e + $\mathbf{BO}^{-1+}$	Detachment	40.00 eV	Ex
e + $\mathbf{CN}^{-1+}$	Detachment	40.00 eV	Ex
e + $\mathbf{BO}^{-1+}$	Ionization	40.00 eV	Ex
e + $\mathbf{CN}^{-1+}$	Ionization	40.00 eV	Ex
e + $\mathbf{BO}^{-1+}$	Dissociation	40.00 eV	Ex
e + $\mathbf{CN}^{-1+}$	Dissociation	40.00 eV	Ex

379. I. Torres, R. Martinez, M. N. Sanchez Rayo, F. Castano
Evaluation of the computational methods for electron-impact total ionization cross sections: Fluoromethanes as benchmarks.
J. Chem. Phys. **115**, 4041 (2001)

e + CF_4	Ionization	500.00 eV	Th
e + CHF_3	Ionization	500.00 eV	Th
e + CH_2F_2	Ionization	500.00 eV	Th
e + CH_3F	Ionization	500.00 eV	Th

380. R. Rejoub, B. G. Lindsay, R. F. Stebbings
Electron-impact ionization of NH_3 and ND_3.
J. Chem. Phys. **115**, 5053 (2001)

e + NH_3	Ionization	1.00 keV	Ex
e + ND_3	Ionization	1.00 keV	Ex

381. T. Harb, W. Kedzierski, J. W. McConkey
Production of ground state OH following electron impact on H_2O.
J. Chem. Phys. **115**, 5507 (2000)

e + H_2O	Dissociation	300.00 eV	E/T

382. C. Winstead, V. McKoy
Low-energy electron collisions with tetrafluoroethene, C_2F_4.
J. Chem. Phys. **116**, 1380 (2002)

e + C_2F_4	Excitation	50.00 eV	Th
e + C_2F_4	Elastic Scattering	50.00 eV	Th

383. G. Hanel, B. Gstir, T. Fiegele, F. Hagelberg, K. Becker, P. Scheier, A. Snegursky, T. D. Maerk
Isotope effects in the electron impact ionization of H_2/D_2, H_2O/D_2O, and C_6H_6/C_6D_6 near threshold.
J. Chem. Phys. **116**, 2456 (2002)

e + H_2	Ionization	20.00 eV	E/T
e + H_2O	Ionization	20.00 eV	E/T
e + D_2	Ionization	20.00 eV	E/T
e + D_2O	Ionization	20.00 eV	E/T
e + C_6H_6	Ionization	20.00 eV	E/T
e + C_6D_6	Ionization	20.00 eV	E/T

384. C. Q. Jiao, C. A. DeJoseph, A. Garscadden
Absolute cross sections for electron impact ionization of NO_2.
J. Chem. Phys. **117**, 161 (2002)

e + NO_2	Ionization	200.00 eV	Ex

385. C. Champion, J. Hanssen, P. A. Hervieux
Electron impact ionization of water molecule.
J. Chem. Phys. **117**, 197 (2002)

e + H_2O	Ionization	0.01-10.00 keV	Th

386. C. Mair, H. Deutsch, K. H. Becker, T. D. Maerk, E. Vietzke
Detection of sputtered and evaporated carbon aggregates: relative and absolute electron ionization fragmentation yields.
J. Nucl. Mater. **290-293**, 291 (2001)

e + C_2	Dissociation	70.00-250.00 eV	Ex
e + C_3	Dissociation	70.00-250.00 eV	Ex
e + C_2	Ionization	70.00-250.00 eV	Ex
e + C_3	Ionization	70.00-250.00 eV	Ex

387. G.G.B de Souza, M.L.M Rocco, H. M. Boechat-Roberty, C. A. Lucas, Jr. Borges, I., E. Hollauer
Valence electronic excitation of the SiF_4 molecule: generalized oscillator strength for the $5t_2$ -¿ $6a_1$ transition and ab initio calculation.
J. Phys. B **34**, 1005 (2001)

e + SiF_4	Angular Scattering	1.00 keV	Ex
e + SiF_4	Excitation	1.00 keV	Ex

388. H. Cho, R. J. Gulley, K. Sunohara, M. Kitajima, L. J. Uhlmann, H. Tanaka, S. J. Buckman
Elastic electron scattering from C_6H_6 and C_6F_6.
J. Phys. B **34**, 1019 (2001)

e + C_6H_6	Angular Scattering	1.10-100.00 eV	Ex
e + C_6F_6	Angular Scattering	1.10-100.00 eV	Ex
e + C_6H_6	Elastic Scattering	1.10-100.00 eV	Ex
e + C_6F_6	Elastic Scattering	1.10-100.00 eV	Ex

389. K. A. Stockman, V. Karaganov, I. Bray, P.J.O. Teubner
Electron scattering from laser excited states of potassium at 3-100 eV.
J. Phys. B **34**, 1105 (2001)

e + K^*	Angular Scattering	4.00-80.00 eV	E/T
e + K	Angular Scattering	4.00-80.00 eV	E/T
e + K^*	Elastic Scattering	4.00-80.00 eV	E/T
e + K	Elastic Scattering	4.00-80.00 eV	E/T

390. L. Campbell, M. J. Brunger, A. M. Nolan, L. J. Kelly, A. B. Wedding, J. Harrison, P.J.O. Teubner, D. C. Cartwright, B. M. McLaughlin
Integral cross sections for electron impact excitation of electronic states of N_2.
J. Phys. B **34**, 1185 (2001)

e + $N_2{}^*$	Angular Scattering	15.00-50.00 eV	E/T
e + N_2	Angular Scattering	15.00-50.00 eV	E/T
e + $N_2{}^*$	Excitation	15.00-50.00 eV	E/T
e + N_2	Excitation	15.00-50.00 eV	E/T

391. M. Mattioli, K. B. Fournier, L. Carraro, I. H. Coffey, C. Giroud, K. D. Lawson, P. Monier-Garbet, M. O'Mullane, J. Ongena, M. E. Puiatti, F. Sattin, P. Scarin, M. Valisa
Experimental and simulated argon spectra in the 2.3-3.4 nm region from tokamak plasmas.
J. Phys. B **34**, 127 (2001)

e + Ar^{11+}	Line Broadening	0.20-3.00 keV	E/T
e + Ar^{12+}	Line Broadening	0.20-3.00 keV	E/T
e + Ar^{13+}	Line Broadening	0.20-3.00 keV	E/T
e + Ar^{14+}	Line Broadening	0.20-3.00 keV	E/T
e + Ar^{15+}	Line Broadening	0.20-3.00 keV	E/T
e + Ar^{11+}	De-excitation	0.20-3.00 keV	E/T
e + Ar^{12+}	De-excitation	0.20-3.00 keV	E/T
e + Ar^{13+}	De-excitation	0.20-3.00 keV	E/T
e + Ar^{14+}	De-excitation	0.20-3.00 keV	E/T
e + Ar^{15+}	De-excitation	0.20-3.00 keV	E/T
e + Ar^{11+}	Excitation	0.20-3.00 keV	E/T
e + Ar^{12+}	Excitation	0.20-3.00 keV	E/T
e + Ar^{13+}	Excitation	0.20-3.00 keV	E/T
e + Ar^{14+}	Excitation	0.20-3.00 keV	E/T
e + Ar^{15+}	Excitation	0.20-3.00 keV	E/T

392. R. Rejoub, D. R. Sieglaff, B. G. Lindsay, R. F. Stebbings
Absolute partial cross sections for electron-impact ionization of SF_6 from threshold to 1000 eV.
J. Phys. B **34**, 1289 (2001)

e + SF_6	Ionization	0.02-1.00 keV	Ex

393. O. Zatsarinny, S. S. Tayal
Low-energy electron collisions with atomic oxygen: R-matrix calculation with non-orthogonal orbitals.
J. Phys. B **34**, 1299 (2001)

e + O^*	Excitation	2.00-30.00 eV	Th
e + O	Excitation	2.00-30.00 eV	Th
e + O^*	Elastic Scattering	2.00-30.00 eV	Th
e + O	Elastic Scattering	2.00-30.00 eV	Th

394. H. Drexel, G. Senn, T. Fiegele, P. Scheier, A. Stamatovic, N. J. Mason, T. D. Mark
Dissociative electron attachment to hydrogen.
J. Phys. B **34**, 1415 (2001)

e + H_2	Dissociation	3.75-5.00 eV	Ex
e + H_2	Attachment	3.75-5.00 eV	Ex

395. N. C. Deb, D.S.F Crothers
Electron impact ionization of He above the threshold.
J. Phys. B **34**, 143 (2001)

e + He	Ionization	25.00 eV	Th

396. A. K. Edwards, Q. Zheng
Excitation of the $Q_1{}^1\Sigma_g{}^+$ doubly excited state of H_2 by electron impact.
J. Phys. B **34**, 1539 (2001)

e + H_2	Ionization	400.00 eV	Ex
e + H_2	Excitation	400.00 eV	Ex

397. P. W. Zetner, P. V. Johnson, Y. Li, G. Csanak, R.E.H. Clark, Jr. Abdallah, J.
Electron impact excitation of the (6s6p ^3P_J) levels in ytterbium.
J. Phys. B **34**, 1619 (2001)

e + Yb	Excitation	60.00 eV	E/T

398. I. Kanik, P. V. Johnson, G. K. James
Electron-impact-induced emission and excitation cross sections of xenon at low energies.
J. Phys. B **34**, 1685 (2001)

e + Xe	Excitation	10.00-100.00 eV	Ex

399. F. A. Gianturco, T. Stoecklin
Low-energy electron scattering from CO_2 molecules: elastic channel calculations revisited.
J. Phys. B **34**, 1695 (2001)

e + CO_2	Angular Scattering	0.01-100.00 eV	Th
e + CO_2	Elastic Scattering	0.01-100.00 eV	Th

400. M. Khouilid, S. Cherkani-Hassani, S. Rachafi, H. Teng, P. Defrance
Electron-impact single ionization of krypton ions (q=12-18).
J. Phys. B **34**, 1727 (2001)

e + Kr^{12+}	Ionization	5.50 keV	Ex
e + Kr^{13+}	Ionization	5.50 keV	Ex
e + Kr^{14+}	Ionization	5.50 keV	Ex
e + Kr^{15+}	Ionization	5.50 keV	Ex
e + Kr^{16+}	Ionization	5.50 keV	Ex
e + Kr^{17+}	Ionization	5.50 keV	Ex
e + Kr^{18+}	Ionization	5.50 keV	Ex

401. A. Riahi, K. Laghdas, R.H.G. Reid, S. Rachafi, C. J. Joachain, P. Defrance
Electron-impact ionization of Ne^{7+}.
J. Phys. B **34**, 175 (2001)

e + Ne^{7+}	Ionization	10.00-80.00 a.u.	Th

402. E. M. Bahati, J. J. Jureta, D. S. Belic, S. Rachafi, P. Defrance
Electron impact ionization and dissociation of $CO_2{}^+$ to C^+ and O^+.
J. Phys. B **34**, 1757 (2001)

e + CO_2^{1+}	Dissociation	2.50 keV	Ex
e + CO_2^{1+}	Ionization	2.50 keV	Ex

403. T. Kroin, S. E. Michelin, M.-T. Lee
A distorted-wave study for core-excitation processes in CO by electron impact.
J. Phys. B **34**, 1829 (2001)

e + CO	Angular Scattering	297.00-900.00 eV	Th
e + CO	Excitation	297.00-900.00 eV	Th

404. M. Kitajima, S. Watanabe, H. Tanaka, M. Takekawa, M. Kimura, Y. Itikawa
Differential cross sections for vibrational excitation of CO_2 by 1.5-30 eV electrons.
J. Phys. B **34**, 1929 (2001)

e + CO_2	Excitation	1.50-30.00 eV	Ex
e + CO_2	Angular Scattering	1.50-30.00 eV	Ex
e + CO_2	Elastic Scattering	1.50-30.00 eV	Ex

405. A. Cionga, F. Ehlotzky, G. Zloh
Coherent phase control in electron scattering by hydrogen atoms in a bichromatic laser field.
J. Phys. B **34**, 2057 (2001)

e + H	Angular Scattering	100.00 eV	Th

406. R. Srivastava, R. P. McEachran, A. D. Stauffer
Excitation of the D states of magnesium.
J. Phys. B **34**, 2071 (2001)

e + Mg	Excitation	20.00-40.00 eV	Ex

407. B. M. McLaughlin, K. P. Kirby
Electron collisional excitation of the $1s^2 2s^2 2p^3$ ($^4S^0{}_{3/2}$, $^2D^0{}_{5/2,3/2}$, $^2P^0{}_{3/2,1/2}$) fine-structure levels in Fe^{19+} ions.
J. Phys. B **34**, 2255 (2001)

e + Fe^{19+}	Excitation	0.10-100.00 K	Th

408. N. Igual-Ruiz, B. P. Donnelly, D. T. McLaughlin, D. Cvejanovic, A. Crowe, D. V. Fursa, K. Bartschat, I. Bray
Experimental and theoretical study of electron impact excitation of the 3 ^{3}P state of helium.
J. Phys. B **34**, 2289 (2001)

e + He	Excitation	55.00-60.00 eV	E/T

409. X.-D. Li, C. Wang, S.-S. Han, Z.-Z. Xu, Z.-H. Zhu, M.-L. Tan
Calculation of the relative abundance between He-like and Li-like Cr under coronal conditions.
J. Phys. B **34**, 2537 (2001)

e + Cr^{21+}	Recombination	20.00 keV	Th
e + Cr^{22+}	Recombination	20.00 keV	Th
e + Cr^{21+}	Ionization	20.00 keV	Th

410. A. L. Godunov, H. Merabet, J. H. McGuire, R. F. Bruch, J. Hanni, V. S. Schipakov
Magnetic sublevel population in 1s-2p excitation of helium by fast electrons and protons.
J. Phys. B **34**, 2575 (2001)

e + He	Excitation	3.00-8.50 a.u.	E/T

411. I. Kanik, P. V. Johnson, M. B. Das, M. A. Khakoo, S. S. Tayal
Electron-impact studies of atomic oxygen: I. Differential and integral cross sections; experiment and theory.
J. Phys. B **34**, 2647 (2001)

e + O	Angular Scattering	30.00-100.00 eV	E/T
e + O	Excitation	30.00-100.00 eV	E/T

412. C. Noren, I. Kanik, P. V. Johnson, P. McCartney, G. K. James, J. M. Ajello
Electron-impact studies of atomic oxygen: II. Emission cross section measurements of the O I ^{3}S^0 -¿ ^{3}P transition (130.4 nm).
J. Phys. B **34**, 2667 (2001)

e + O	Fluorescence	0.01-1.00 keV	Ex
e + O	Excitation	0.01-1.00 keV	Ex

413. M. Musigmann, K. Blum, D. G. Thompson
Scattering of polarized electrons from anisotropic chiral ensembles.
J. Phys. B **34**, 2679 (2001)

e + H_2S_2	Angular Scattering	5.00 eV	Th
e + H_2S_2	Elastic Scattering	5.00 eV	Th

414. Y. Fang, K. Bartschat
Resonance effects in electron-impact ionization of helium.
J. Phys. B **34**, 2747 (2001)

e + He	Ionization	100.00-400.00 eV	Th

415. K. L. Baluja, N. J. Mason, L. A. Morgan, J. Tennyson
Electron collisions with Cl_2O using the R-matrix method.
J. Phys. B **34**, 2807 (2001)

e + Cl_2O	Excitation	100.00 eV	Th
e + Cl_2O	Elastic Scattering	100.00 eV	Th

416. C. S. Trevisan, J. Tennyson
Differential cross sections for near-threshold electron impact dissociation of molecular hydrogen.
J. Phys. B **34**, 2935 (2001)

e + H_2	Angular Scattering	7.50-14.50 eV	Th
e + H_2	Excitation	7.50-14.50 eV	Th
e + H_2	Dissociation	7.50-14.50 eV	Th

417. E. M. Bahati, J. J. Jureta, D. S. Belic, H. Cherkani-Hassani, M. O. Abdellahi, P. Defrance
Electron impact dissociation and ionization of $N_2{}^+$.
J. Phys. B **34**, 2963 (2001)

e + $N_2{}^{1+}$	Ionization	2.50 keV	Ex
e + $N_2{}^{1+}$	Dissociation	2.50 keV	Ex

418. K. Muktavat, M. K. Srivastava
A comparative study of the (e,3e) process on H^-, He and Li^+.
J. Phys. B **34**, 2975 (2001)

e + H^{-1+}	Angular Scattering	5.60 keV	Th
e + He	Angular Scattering	5.60 keV	Th
e + Li^{1+}	Angular Scattering	5.60 keV	Th
e + H^{-1+}	Ionization	5.60 keV	Th
e + He	Ionization	5.60 keV	Th
e + Li^{1+}	Ionization	5.60 keV	Th

419. J. E. Hudson, C. Vallance, M. Bart, P. W. Harland
Absolute electron-impact ionization cross sections for a range of C_1 to C_5 chlorocarbons.
J. Phys. B **34**, 3025 (2001)

e + C_2HCl_3	Ionization	220.00 eV	Ex
e + C_2HCl_5	Ionization	220.00 eV	Ex
e + $C_2H_2Cl_2$	Ionization	220.00 eV	Ex
e + $C_2H_2Cl_4$	Ionization	220.00 eV	Ex
e + $C_2H_3Cl_3$	Ionization	220.00 eV	Ex
e + $C_2H_4Cl_2$	Ionization	220.00 eV	Ex
e + C_2H_5Cl	Ionization	220.00 eV	Ex
e + C_3H_7Cl	Ionization	220.00 eV	Ex
e + C_4H_9Cl	Ionization	220.00 eV	Ex
e + C_2Cl_2	Ionization	220.00 eV	Ex
e + C_2Cl_4	Ionization	220.00 eV	Ex
e + C_2Cl_6	Ionization	220.00 eV	Ex
e + C_2Cl_6	Ionization	220.00 eV	Ex
e + CCl_4	Ionization	220.00 eV	Ex
e + CH_3Cl	Ionization	220.00 eV	Ex

420. P. V. Johnson, I. Kanik
Inelastic differential electron scattering cross sections of molecular oxygen (O_2) in the 20-100 eV impact energy range.
J. Phys. B **34**, 3041 (2001)

e + O_2	Angular Scattering	20.00-100.00 eV	Ex
e + O_2	Ionization	20.00-100.00 eV	Ex
e + O_2	Excitation	20.00-100.00 eV	Ex

421. K. L. Baluja, A. Z. Msezane
Electron collisions with methylidyne (CH) radical using the R-matrix method.
J. Phys. B **34**, 3057 (2001)

e + CH	Excitation	10.00 eV	Th
e + CH	Elastic Scattering	10.00 eV	Th

422. A. Lahmam-Bennani, A. Duguet, M. N. Gaboriaud, I. Taouil, M. Lecas, A. Kheifets, J. Berakdar, C. Dal Cappello
Complete experiments for the double ionization of He: (e,3e) cross sections at 1 keV impact energy and small momentum transfer.
J. Phys. B **34**, 3073 (2001)

e + He	Angular Scattering	1.10 keV	Ex
e + He	Ionization	1.10 keV	Ex

423. A. D. Whiteford, N. R. Badnell, C. P. Ballance, M. G. O'Mullane, H. P. Summers, A. L. Thomas
A radiation-damped R-matrix approach to the electron-impact excitation of helium-like ions for diagnostic application to fusion and astrophysical plasmas.
J. Phys. B **34**, 3179 (2001)

e + Fe^{24+}	Excitation	$10^{5.5}$-10^9 K	Th
e + A^{16+}	Excitation	$10^{5.5}$-10^9 K	Th

424. M. Khouilid, S. Cherkani-Hassani, N. Adimi, S. Rachafi, P. Defrance
Electron impact double ionization of krypton ions (q=14-17).
J. Phys. B **34**, 3239 (2001)

e + Kr^{14+}	Ionization	5.00 keV	Ex
e + Kr^{15+}	Ionization	5.00 keV	Ex
e + Kr^{16+}	Ionization	5.00 keV	Ex
e + Kr^{17+}	Ionization	5.00 keV	Ex

425. C. P. Ballance, N. R. Badnell, K. A. Berrington
Inner-shell processes of Li- and Be-like Fe.
J. Phys. B **34**, 3287 (2001)

e + Fe^{22+}	Excitation	138.00-800.00 Ry	Th
e + Fe^{23+}	Excitation	138.00-800.00 Ry	Th

426. W. Kedzierski, A. Abdellatif, J. W. McConkey, K. Bartschat, D. V. Fursa, I. Bray
Polarization of Balmer-α radiation following electron impact on atomic hydrogen.
J. Phys. B **34**, 3367 (2001)

e + H	Excitation	0.01-1.00 keV	E/T

427. B. Gstir, H. Deutsch, K. H. Becker, T. D. Mark
Calculated cross sections for the K-shell ionization of chromium, nickel, copper, scandium and vanadium using the DM formalism.
J. Phys. B **34**, 3377 (2001)

e + Sc	Ionization	1-7 E/E_1s	E/T
e + V	Ionization	1-7 E/E_1s	E/T
e + Cr	Ionization	1-7 E/E_1s	E/T
e + Ni	Ionization	1-7 E/E_1s	E/T
e + Cu	Ionization	1-7 E/E_1s	E/T

428. O. Zatsarinny, S. S. Tayal
Low-energy electron collisions with atomic sulfur: R-matrix calculation with non-orthogonal orbitals.
J. Phys. B **34**, 3383 (2001)

e + S	Angular Scattering	0.25-3.50 Ry	Th
e + S	Excitation	0.25-3.50 Ry	Th

429. T. Beyer, B. M. Nestmann, S. D. Peyerimhoff
Resonant features of inelastic electron scattering off CF_3Cl in the low-energy region.
J. Phys. B **34**, 3703 (2001)

e + CF_3Cl	Attachment	3.00 eV	Th
e + CF_3Cl	Excitation	3.00 eV	Th
e + CF_3Cl	Dissociation	3.00 eV	Th

430. Ol. Moreira, D. G. Thompson, B. M. McLaughlin
Vibrational excitation of H_2O by electron impact.
J. Phys. B **34**, 3737 (2001)

e + H_2O	Angular Scattering	1.00-7.80 eV	Th
e + H_2O	Excitation	1.00-7.80 eV	Th

431. C. P. Ballance, K. A. Berrington, B. M. McLaughlin
Rydberg structure associated with core-excited autoionizing states of the LiH radical.
J. Phys. B **34**, 3775 (2001)

e + LiH^{1+}	Excitation	52.00-65.00 eV	Th

432. G. Poparic, M. Vicic, D. S. Belic
Near-threshold excitation of the b $^3\Sigma^+$ state of carbon-monoxide by electron impact.
J. Phys. B **34**, 381 (2001)

e + CO	Angular Scattering	10.00-15.00 eV	Ex
e + CO	Excitation	10.00-15.00 eV	Ex

433. D. Klar, M.-W. Ruf, I. I. Fabrikant, H. Hotop
Dissociative electron attachment to dipolar molecules at low energies with meV resolution: $CFCl_3$, 1,1,1-$C_2Cl_3F_3$, and HI.
J. Phys. B **34**, 3855 (2001)

e + HI	Dissociation	0.00-4.00 eV	E/T
e + $CFCl_3$	Dissociation	0.00-4.00 eV	E/T
e + $C_2Cl_3F_3$	Dissociation	0.00-4.00 eV	E/T
e + HI	Attachment	0.00-4.00 eV	E/T
e + $CFCl_3$	Attachment	0.00-4.00 eV	E/T
e + $C_2Cl_3F_3$	Attachment	0.00-4.00 eV	E/T

434. D. H. Yu, L. Pravica, J. F. Williams, N. Warrington, P. A. Hayes
Polarized electron inner-shell ionization-with-excitation of zinc atoms.
J. Phys. B **34**, 3899 (2001)

e + Zn	Ionization	17.00-23.00 eV	Ex
e + Zn	Excitation	17.00-23.00 eV	Ex

435. M. R. Tarbutt, R. Barnsley, N. J. Peacock, J. D. Silver
Wavelength measurements of the satellite transitions to the n = 2 resonance lines of helium-like argon.
J. Phys. B **34**, 3979 (2001)

e + Ar^{15+}	De-excitation	2.24-4.10 keV	E/T
e + Ar^{15+}	Recombination	2.24-4.10 keV	E/T
e + Ar^{15+}	Excitation	2.24-4.10 keV	E/T

436. B. O'Rourke, F. J. Currell, H. Kuramoto, Y. M. Li, S. Ohtani, X. M. Tong, H. Watanabe
Electron-impact ionization of hydrogen-like iron ions.
J. Phys. B **34**, 4003 (2001)

e + Fe^{25+}	Ionization	10.00-50.00 keV	E/T

437. W. Kedzierski, J. Borbely, J. W. McConkey
Electron impact dissociation of OCS.
J. Phys. B **34**, 4027 (2001)

e + OCS	Dissociation	10.00-400.00 eV	Ex

438. K. Aichele, M. Steidl, U. Hartenfeller, D. Hathiramani, F. Scheuermann, M. Westermann, E. Salzborn, M. S. Pindzola
Electron-impact single ionization of multiply charged aluminium ions.
J. Phys. B **34**, 4113 (2001)

e + Al^{3+}	Ionization	5.50 keV	E/T
e + Al^{4+}	Ionization	5.50 keV	E/T
e + Al^{5+}	Ionization	5.50 keV	E/T
e + Al^{6+}	Ionization	5.50 keV	E/T
e + Al^{7+}	Ionization	5.50 keV	E/T

439. H. Kuest, W. Mehlhorn
Alignment after L_3 ionization of Xe atoms by electron impact near threshold.
J. Phys. B **34**, 4155 (2001)

e + Xe	Excitation	5.00-6.00 keV	Ex
e + Xe	Ionization	5.00-6.00 keV	Ex

440. P. V. Johnson, C. Spanu, P. W. Zetner
Transferred orbital angular momentum in the low-energy electron impact excitation of the $^1S_0$-$^1P_1$ transition in barium.
J. Phys. B **34**, 4311 (2001)

e + Ba	De-excitation	7.00-16.00 eV	Ex
e + Ba^*	De-excitation	7.00-16.00 eV	Ex

441. D. C. Griffin, D. M. Mitnik, N. R. Badnell
Electron-impact excitation of Ne^+.
J. Phys. B **34**, 4401 (2001)

e + $\mathbf{Ne}^{1+}$	Excitation	60.00 eV	Th

442. D. M. Mitnik, D. C. Griffin, N. R. Badnell
Electron-impact excitation of $\mathbf{Ne}^{5+}$**.**
J. Phys. B **34**, 4455 (2001)

e + $\mathbf{Ne}^{5+}$	Excitation	15.00 Ry	Th

443. B. M. McLaughlin, K. P. Kirby, R. Smith, N. Brickhouse, D. A. Liedahl
Electron collisional excitation of the low-lying fine-structure levels in oxygen-like $\mathbf{Fe}^{18+}$**.**
J. Phys. B **34**, 4521 (2001)

e + $\mathbf{Fe}^{18+}$	Excitation	1.00 Ry	Th

444. T. Odagiri, K. Takahashi, K. Yoshikawa, N. Kouchi, Y. Hatano
Forbidden doubly excited states of molecular nitrogen dissociating into two neutral atoms in electron collisions.
J. Phys. B **34**, 4889 (2001)

e + $\mathbf{N}_2$	Dissociation	80.00-150.00 eV	Ex
e + $\mathbf{N}_2$	Excitation	80.00-150.00 eV	Ex

445. P. Defrance, T. M. Kereselidze, I. L. Noselidze, M. F. Tzulukidze
Asymptotic behaviour of the total cross section for double ionization of helium-like ions by electrons.
J. Phys. B **34**, 4957 (2001)

e + He	Ionization	0.50-10.00 keV	E/T
e + $\mathbf{Li}^{1+}$	Ionization	0.50-10.00 keV	E/T
e + $\mathbf{Be}^{2+}$	Ionization	0.50-10.00 keV	E/T
e + $\mathbf{Be}^{2+}$	Ionization	0.50-10.00 keV	E/T
e + $\mathbf{B}^{3+}$	Ionization	0.50-10.00 keV	E/T
e + $\mathbf{C}^{4+}$	Ionization	0.50-10.00 keV	E/T
e + $\mathbf{N}^{5+}$	Ionization	0.50-10.00 keV	E/T

446. A. L. Godunov, J. H. McGuire, P. B. Ivanov, V. A. Shipakov, H. Merabet, R. Bruch, J. Hanni, Kh. Kh. Shakov
Spatial and temporal correlation in dynamic, multi-electron quantum systems.
J. Phys. B **34**, 5055 (2001)

e + He	Ionization	2.00-8.00 a.u.	Th
e + He	Excitation	2.00-8.00 a.u.	Th

447. N. R. Badnell, D. C. Griffin, D. M. Mitnik
Electron-impact excitation of $\mathbf{Fe}^{21+}$**, including n = 4 levels.**
J. Phys. B **34**, 5071 (2001)

e + $\mathbf{Fe}^{21+}$	Excitation	30.00 Ry	Th

448. K. N. Joshipura, M. Vinodkumar, U. M. Patel
Electron impact total cross sections of $\mathbf{CH}_x$**,** $\mathbf{NH}_x$ **and OH radicals vis-vis their parent molecules.**
J. Phys. B **34**, 509 (2001)

e + CH	Ionization	0.01-2.00 keV	Th
e + $\mathbf{CH}_2$	Ionization	0.01-2.00 keV	Th
e + $\mathbf{CH}_3$	Ionization	0.01-2.00 keV	Th
e + $\mathbf{CH}_4$	Ionization	0.01-2.00 keV	Th
e + NH	Ionization	0.01-2.00 keV	Th
e + $\mathbf{NH}_2$	Ionization	0.01-2.00 keV	Th
e + $\mathbf{NH}_3$	Ionization	0.01-2.00 keV	Th
e + OH	Ionization	0.01-2.00 keV	Th
e + CH	Excitation	0.01-2.00 keV	Th

e + CH_2	Excitation	0.01-2.00 keV	Th
e + CH_3	Excitation	0.01-2.00 keV	Th
e + CH_4	Excitation	0.01-2.00 keV	Th
e + NH	Excitation	0.01-2.00 keV	Th
e + NH_2	Excitation	0.01-2.00 keV	Th
e + NH_3	Excitation	0.01-2.00 keV	Th
e + OH	Excitation	0.01-2.00 keV	Th
e + CH	Elastic Scattering	0.01-2.00 keV	Th
e + CH_2	Elastic Scattering	0.01-2.00 keV	Th
e + CH_3	Elastic Scattering	0.01-2.00 keV	Th
e + CH_4	Elastic Scattering	0.01-2.00 keV	Th
e + NH	Elastic Scattering	0.01-2.00 keV	Th
e + NH_2	Elastic Scattering	0.01-2.00 keV	Th
e + NH_3	Elastic Scattering	0.01-2.00 keV	Th
e + OH	Elastic Scattering	0.01-2.00 keV	Th

449. H. Watanabe, F. J. Currell, H. Kuramoto, Y. M. Li, S. Ohtani, B. O'Rourke, X. M. Tong
The measurement of the dielectronic recombination in He-like Fe ions.
J. Phys. B **34**, 5095 (2001)

e + Fe^{24+}	Recombination	4.50-8.00 keV	Ex

450. R. Curik, F. A. Gianturco, R. R. Lucchese, N. Sanna
Low-energy electron scattering and resonant states of $NO_2(X\ ^2A_1)$.
J. Phys. B **34**, 59 (2001)

e + NO_2	Elastic Scattering	1.00-20.00 eV	Th

451. Cz. Szmytkowski, P. Mozejko, G. Kasperski
Electron scattering from disilane (Si_2H_6) molecules. Absolute total cross section measurements from 1 to 370 eV.
J. Phys. B **34**, 605 (2001)

e + Si_2H_6	Ionization	1.00-370.00 eV	Ex
e + Si_2H_6	Excitation	1.00-370.00 eV	Ex
e + Si_2H_6	Elastic Scattering	1.00-370.00 eV	Ex

452. N. R. Badnell, D. C. Griffin
Electron-impact excitation of Fe $^{20+}$, including n = 4 levels.
J. Phys. B **34**, 681 (2001)

e + Fe^{20+}	Excitation	$8x10^4$-$8x10^7$ K	Th

453. M. Cascella, R. Curik, F. A. Gianturco
Vibrational excitation in electron-CH_4 collisions: exchange interaction effects.
J. Phys. B **34**, 705 (2001)

e + CH_4	Excitation	15.00 eV	E/T

454. D. R. Sieglaff, R. Rejoub, B. G. Lindsay, R. F. Stebbings
Absolute partial cross sections for electron-impact ionization of CF_4 from threshold to 1000 eV.
J. Phys. B **34**, 799 (2001)

e + CF_4	Ionization	1.00 keV	E/T

455. X. W. Fan, K. T. Leung
Momentum-transfer dependence of Fano parameters for the $(1s^2)^1S$ -¿ $(2s2p)^1P$ doubly excited transition in helium.
J. Phys. B **34**, 811 (2001)

e + He	Excitation	2.50 eV	Th

456. T. Kerkau, V. Schmidt
CO^{2+} fragmentation studied by Auger electron-ion coincidences.
J. Phys. B **34**, 839 (2001)

e + CO	Ionization	2.00 keV	Ex
e + CO	Dissociation	2.00 keV	Ex

457. M. A. Haynes, B. Lohmann
Coplanar symmetric (e,2e) cross sections for argon 3s ionization.
J. Phys. B **34**, L131 (2001)

e + Ar	Ionization	37.00-129.00 eV	Ex

458. H. W. Van der Hart
Electron-impact ionization of He^+: consequences of double ionization of He in strong laser fields.
J. Phys. B **34**, L147 (2001)

e + He^{1+}	Ionization	50.00-175.00 eV	Th
e + He^{1+}	Excitation	50.00-175.00 eV	Th

459. M. A. Green, P.J.O. Teubner, M. J. Brunger, D. C. Cartwright, L. Campbell
Integral cross sections for electron impact excitation of the Herzberg pseudocontinuum of molecular oxygen.
J. Phys. B **34**, L157 (2001)

e + O_2	Excitation	9.00-20.00 eV	Ex

460. Y. Fang, K. Bartschat
Convergent second-order calculations for simultaneous electron-impact ionization-excitation of helium.
J. Phys. B **34**, L19 (2001)

e + He	Ionization	0.60-1.58 keV	Th
e + He	Excitation	0.60-1.58 keV	Th

461. C. Bahrim, U. Thumm, I. I. Fabrikant
$^3S^e$ and $^1S^e$ scattering lengths for e^- + Rb, Cs, and Fr collisions.
J. Phys. B **34**, L195 (2001)

e + Rb	Elastic Scattering	0.01-0.50 meV	Th
e + Cs	Elastic Scattering	0.01-0.50 meV	Th
e + Fr	Elastic Scattering	0.01-0.50 meV	Th

462. M. Terao-Dunseath, K. M. Dunseath, D. Charlo, A. Hibbert, R. J. Allan
Electron-helium scattering in a Nd-YAG laser field at collision energies near the He(1s2l) thresholds.
J. Phys. B **34**, L263 (2001)

e + He	Excitation	0.65-0.78 a.u.	Th

463. P. Van Reeth, J. W. Humberston, G. Laricchia
Correlations between ionization cross sections and threshold energies in electron-, positron-, proton- and antiproton-atom collisions.
J. Phys. B **34**, L271 (2001)

e + He	Ionization	0.1-5 keV; 30-2.00 MeV	Th
e + Ne	Ionization	0.1-5 keV; 0.30-2.00 MeV	Th
e + Kr	Ionization	0.1-5 keV; 0.30-2.00 MeV	Th
e + Xe	Ionization	0.1-5 keV; 0.30-2.00 MeV	Th

464. J. E. Sienkiewicz, V. Konopinska, S. Telega, P. Syty
Critical minima in elastic electron scattering from argon.
J. Phys. B **34**, L409 (2001)

e + **Ar**	Angular Scattering	3.00-160.00 eV	Th
e + **Ar**	Elastic Scattering	3.00-160.00 eV	Th

465. T. Geyer, J. M. Rost
A quasi-classical approach to fully differential ionization cross sections.
J. Phys. B **34**, L47 (2001)

e + **H**	Ionization	54.40-250.00 eV	Th

466. J. Glosik, R. Plasil, V. Poterya, P. Kudrna, M. Tichy, A. Pysanenko
Experimental study of recombination of H_3^+ ions with electrons relevant for interstellar and planetary plasmas.
J. Phys. B **34**, L485 (2001)

e + $\mathbf{H_3}^{1+}$	Recombination	230.00-290.00 K	Ex
e + $\mathbf{H_3}^{1+}$	Dissociation	230.00-290.00 K	Ex

467. A.C.H Smith, M. E. Bannister, Y.-S. Chung, N. Djuric, G. H. Dunn, A. Neau, D. Popovic, M. Stepanovic, B. Wallbank
Excitation of He^+ to the 2 ^{2}S and 2 ^{2}P states by electron impact.
J. Phys. B **34**, L571 (2001)

e + $\mathbf{He}^{1+}$	Excitation	40.00-42.00 eV	E/T

468. J.D.M. Vianna, M.G.R. Martins, A. M. Maniero, E.M.S. Ribeiro, L. E. Machado
A theoretical procedure to treat elastic electron-molecule collision using the configuration-interaction method.
J. Phys. B **34**, L617 (2001)

e + $\mathbf{H_2}$	Angular Scattering	0.50-20.00 eV	Th
e + $\mathbf{CH_4}$	Angular Scattering	0.50-20.00 eV	Th
e + $\mathbf{H_2}$	Elastic Scattering	0.50-20.00 eV	Th
e + $\mathbf{CH_4}$	Elastic Scattering	0.50-20.00 eV	Th

469. Y. Hahn
Optimal enhancement of recombination processes in a cold plasma.
J. Phys. B **34**, L701 (2001)

e + $\mathbf{Ne}^{10+}$	Recombination	0.00-10.00 eV	Th
e + $\mathbf{Bi}^{83+}$	Recombination	0.00-10.00 eV	Th

470. A. N. Grum-Grzhimailo, K. Bartschat
Benchmark comparisons for near-threshold electron-impact excitation of Ar metastable levels.
J. Phys. B **34**, L727 (2001)

e + **Ar**	Angular Scattering	11.50-14.00 eV	Th
e + **Ar**	Excitation	11.50-14.00 eV	Th
e + $\mathbf{Ar}^*$	Angular Scattering	11.50-14.00 eV	Th
e + $\mathbf{Ar}^*$	Excitation	11.50-14.00 eV	Th

471. K. M. Aggarwal, F. P. Keenan, A. Z. Msezane
Effective collision strengths for transitions among the 3s^2, 3s3p and 3p^2 configurations of Fe XV.
J. Phys. B **34**, L757 (2001)

e + $\mathbf{Fe}^{14+}$	Excitation	0.10-10.00 K	Th

472. P. Golecki, H. Klar
Exploration of the He Bethe ridge for double ionization.
J. Phys. B **34**, L779 (2001)

e + **He**	Angular Scattering	2.00 keV	Th
e + **He**	Ionization	2.00 keV	Th

473. K. Furuya, K. Matsuo, E. Koto, K. Maruyama, Y. Hatano, T. Ogawa
Fragment ion-photon coincidence investigation of trifluoromethane by controlled electron impact.
J. Phys. B **35**, 1015 (2002)

e + CHF_3	Fluorescence	120.00 eV	Ex
e + CHF_3	Dissociation	120.00 eV	Ex

474. M. Allan, I. I. Fabrikant
Threshold peaks and structures in vibrational excitation of CH_3I by electron impact.
J. Phys. B **35**, 1025 (2002)

e + CH_3I	Excitation	0.80 eV	Ex

475. C. P. Ballance, N. R. Badnell, K. A. Berrington
Electron-impact excitation of H-like Fe at high temperatures.
J. Phys. B **35**, 1095 (2002)

e + Fe^{25+}	Excitation	10^6-$10^{8.5}$ K	Th

476. C. C. Jia, A. Lahmam-Bennani, A. Duguet, L. Avaldi, M. Lecas, C. Dal Cappello
Dynamics of the double ionization process by electron impact: Ar (e,3e) experiments at low collision energy.
J. Phys. B **35**, 1103 (2002)

e + Ar	Angular Scattering	561.40 eV	Ex
e + Ar	Ionization	561.40 eV	Ex

477. H. K. Tseng
Relativistic calculation of the unpolarized triple-differential cross section and the polarization correlation of the electron bremsstrahlung from atoms.
J. Phys. B **35**, 1129 (2002)

e + H	Bremsstrahlung	180.00-300.00 keV	Th
e + Ag	Bremsstrahlung	180.00-300.00 keV	Th
e + Au	Bremsstrahlung	180.00-300.00 keV	Th

478. J. N. Das
Triple differential cross sections for the (e,2e) reaction of atomic hydrogen in hyperspherical partial wave theory at low energies for asymmetric geometries.
J. Phys. B **35**, 1165 (2002)

e + H	Ionization	27.20 eV	E/T

479. A. V. Korol, A. G. Lyalin, A. V. Solovy'ov, N. B. Avdonina, R. H. Pratt
On the stripping approximation in the bremsstrahlung process.
J. Phys. B **35**, 1197 (2002)

e + Ar	Bremsstrahlung	5.00-50.00 keV	E/T
e + Kr	Bremsstrahlung	5.00-50.00 keV	E/T
e + Xe	Bremsstrahlung	5.00-50.00 keV	E/T
e + Au	Bremsstrahlung	5.00-50.00 keV	E/T

480. H. M. Boechat-Roberty, J. D. Freitas, D. P. Almeida, G.G.B de Souza
Generalized oscillator strength and inelastic cross sections for the Xe 4d resonances.
J. Phys. B **35**, 1409 (2002)

e + Xe	Angular Scattering	1.04 keV	Ex
e + Xe	Excitation	1.04 keV	Ex

481. T. Geyer, J. M. Rost
A quasiclassical approach to electron impact ionization.
J. Phys. B **35**, 1479 (2002)

e + H	Angular Scattering	17.60-250.00 eV	Th
e + H	Ionization	17.60-250.00 eV	Th

482. I. Rozum, N. J. Mason, J. Tennyson
Electron collisions with the CF_2 radical using the R-matrix method.
J. Phys. B **35**, 1583 (2002)

e + $\mathbf{CF_2}$	Excitation	0.10-10.00 eV	Th
e + $\mathbf{CF_2}$	Elastic Scattering	0.10-10.00 eV	Th

483. A. Faure, J. Tennyson
R-matrix calculations for polyatomic molecular ions: electron scattering by $H_3{}^+$ and H_3O^+.
J. Phys. B **35**, 1865 (2002)

e + $\mathbf{H_3{}^{1+}}$	Excitation	1.00-22.00 eV	Th
e + $\mathbf{H_3O^{1+}}$	Excitation	1.00-22.00 eV	Th
e + $\mathbf{H_3{}^{1+}}$	Elastic Scattering	1.00-22.00 eV	Th
e + $\mathbf{H_3O^{1+}}$	Elastic Scattering	1.00-22.00 eV	Th

484. A. Kobayashi, G. Fujiki, A. Okaji, T. Masuoka
Ionization cross section ratios of rare-gas atoms (Ne, Ar, Kr and Xe) by electron impact from threshold to 1 keV.
J. Phys. B **35**, 2087 (2002)

e + Ne	Ionization	1.00 keV	Ex
e + Ar	Ionization	1.00 keV	Ex
e + Kr	Ionization	1.00 keV	Ex
e + Xe	Ionization	1.00 keV	Ex

485. J. E. Kontros, L. Szoter, I. V. Chernyshova, O. B. Shpenik
Cross sections of slow electron scattering by cadmium atoms.
J. Phys. B **35**, 2195 (2002)

e + Cd	Ionization	16.00 eV	Ex
e + Cd	Excitation	16.00 eV	Ex
e + Cd	Elastic Scattering	16.00 eV	Ex

486. K. A. Berrington, C. P. Ballance
Partitioned R-matrix theory.
J. Phys. B **35**, 2275 (2002)

e + $\mathbf{O^{7+}}$	Excitation	0.58-1.16 keV	Th

487. Z. Q. Wu, G. X. Han, J. Yan, J. Q. Pang
Plasma effects on electron impact ionization.
J. Phys. B **35**, 2305 (2002)

e + $\mathbf{Ge^{1+}}$	Ionization	2.00-40.00 keV	Th
e + $\mathbf{Au^{48+}}$	Ionization	2.00-40.00 keV	Th

488. M. Kampp, P.J.P. Roche, C. T. Whelan, D. H. Madison, J. Rasch, H.R.J Walters
The electron impact ionization of magnesium (2p).
J. Phys. B **35**, 2325 (2002)

e + Mg	Angular Scattering	0.40-1.50 keV	Th
e + Mg	Ionization	0.40-1.50 keV	Th

489. O. Zatsarinny, S. S. Tayal
R-matrix calculation with non-orthogonal orbitals for electron-impact excitation of atomic oxygen .
J. Phys. B **35**, 241 (2002)

e + O	Excitation	10.00-100.00 eV	Th

490. O. Zatsarinny, S. S. Tayal
Electron impact collision strengths and rates for neutral sulphur using the B-spline R-matrix approach.
J. Phys. B **35**, 2493 (2002)

e + S	Excitation	0.50-5.00 Ry	Th

491. L. A. Bureyeva, V. S. Lisitsa, C. Namba, D. A. Shuvaev
Radiative cascade following dielectronic recombination.
J. Phys. B **35**, 2505 (2002)

e + $\mathbf{Zn}^{27+}$	Recombination	E inf ℏW_c	Th

492. B. M. McLaughlin, M. P. Scott, A. G. Sunderland, C. J. Noble, V. M. Burke, P. G. Burke
Electron impact excitation of Fe III: forbidden transitions.
J. Phys. B **35**, 2755 (2002)

e + $\mathbf{Fe}^{2+}$	Excitation	$2x10^3$-$2x10^6$ K	Th

493. M. Dogan, A. Crowe
Coincidence studies of the influence of resonances on simultaneous ionization-excitation of helium by electron impact.
J. Phys. B **35**, 2773 (2002)

e + He	Ionization	100.00-400.00 eV	Ex
e + He	Excitation	100.00-400.00 eV	Ex

494. B. M. McLaughlin, A. Daw, K. L. Bell
Electron impact excitation of the $\mathbf{2s^2 2p^3[^4S^o]3s\ ^5S_2{}^o\text{-}2s^2 2p^4\ ^3P_{2,1,0}}$ **intercombination lines and of other observationally important extreme-ultraviolet lines in Ne III.**
J. Phys. B **35**, 283 (2002)

e + $\mathbf{Ne}^{2+}$	Excitation	0.00-1.00 K	Th

495. D. A. Biava, H. P. Saha, E. Engel, R. M. Dreizler, R. P. McEachran, M. A. Haynes, B. Lohmann, C. T. Whelan
Exchange effects in low energy electron impact ionization of the inner and outer shells of argon.
J. Phys. B **35**, 293 (2002)

e + Ar	Ionization	2.00-113.50 eV	Th

496. K. L. Baluja, A. Z. Msezane
Electron collisions with the SH radical using the R-matrix method.
J. Phys. B **35**, 437 (2002)

e + SH	Excitation	10.00 eV	Th
e + SH	Elastic Scattering	10.00 eV	Th

497. M. Allan, N. C. Craig, L. V. McCarty
Vibrational excitation of cis- and trans-1, 2-difluoroethenes by electron impact: effect of dipole moment on the threshold peaks.
J. Phys. B **35**, 523 (2002)

e + $\mathbf{C_2H_3F_2}$	Excitation	4.20 eV	Ex

498. M. A. Green, P.J.O. Teubner, L. Campbell, M. J. Brunger, M. Hoshino, T. Ishikawa, M. Kitajima, H. Tanaka, Y. Itikawa, M. Kimura, R. J. Buenker
Absolute differential cross sections for electron impact excitation of the 10.8-11.5 eV energy-loss states of $\mathbf{CO_2}$**.**
J. Phys. B **35**, 567 (2002)

e + $\mathbf{CO_2}$	Excitation	20.00-200.00 eV	Ex

499. G. Hanel, J. Fedor, B. Gstir, M. Probst, P. Scheier, T. D. Maerk, P. Tegeder, N. J. Mason
Ionization energy studies for Cl_2O monomers and dimers.
J. Phys. B **35**, 589 (2002)

e + Cl_2O	Ionization	8.00-20.00 eV	E/T

500. R. D. White, M. A. Morrison, B. A. Mason
On the use of classical transport analysis to determine cross-sections for low-energy e-H_2 vibrational excitation.
J. Phys. B **35**, 605 (2002)

e + H_2	Angular Scattering		Th
e + H_2	Total Scattering		Th
e + H_2	Elastic Scattering		Th

501. R. Curik, F. A. Gianturco
A computational analysis of low-energy electron scattering from gaseous cyclopropane.
J. Phys. B **35**, 717 (2002)

e + C_3H_6	Elastic Scattering	1.00-15.00 eV	Th

502. E. Joucoski, M.H.F. Bettega
Elastic scattering of low-energy electrons by NF_3.
J. Phys. B **35**, 783 (2002)

e + NF_3	Angular Scattering	60.00 eV	Th
e + NF_3	Elastic Scattering	60.00 eV	Th

503. J. B. Qi, C. Y. Chen, H. N. Xia, Y. Zhao, Y. S. Wang
Contributions of resonant excitation double autoionization to the electron-impact ionization of Ti^{11+}.
J. Phys. B **35**, 829 (2002)

e + Ti^{11+}	Ionization	300.00-800.00 eV	Th

504. C. Zhou, Z. An, Z. Luo
Measurement of K-shell production cross sections for Ga, Ge and Zr elements by electron impact.
J. Phys. B **35**, 841 (2002)

e + Ga	Ionization	12.00-34.00 keV	Ex
e + Ge	Ionization	12.00-34.00 keV	Ex
e + Zr	Ionization	12.00-34.00 keV	Ex

505. J. L. de Pablos, P. A. Kendall, P. Tegeder, A. Williart, F. Blanco, G. Garcia, N. J. Mason
Total and elastic electron scattering cross sections from ozone at intermediate and high energies.
J. Phys. B **35**, 865 (2002)

e + O_3	Angular Scattering	0.35-5.00 keV	E/T
e + O_3	Ionization	0.35-5.00 keV	E/T
e + O_3	Dissociation	0.35-5.00 keV	E/T
e + O_3	Excitation	0.35-5.00 keV	E/T
e + O_3	Elastic Scattering	0.35-5.00 keV	E/T

506. A. Makhoute, D. Khalil, M. Zitane, M. Bouzidi
The second Born approximation in electron-atom collisions in the presence of a laser field.
J. Phys. B **35**, 957 (2002)

e + H	Angular Scattering	200.00 eV	Th
e + H	Excitation	200.00 eV	Th
e + H	Elastic Scattering	200.00 eV	Th

507. X. Llovet, C. Merlet, F. Salvat
Measurements of absolute cross sections for K-shell ionization of Fe and Mn by electron impact.
J. Phys. B **35**, 973 (2002)

e + Mn	Ionization	6.50-40.00 keV	Ex
e + Fe	Ionization	6.50-40.00 keV	Ex

508. K. M. Aggarwal, F. P. Keenan, P. H. Norrington, G. J. Pert, S. J. Rose
Excitation rate coefficients for transitions from the ground level of Gd XXXVII.
J. Phys. B **35**, L127 (2002)

e + Gd^{36+}	Excitation	75.00-400.00 Ry	Th

509. A. Lahmam-Bennani, C. C. Jia, A. Duguet, L. Avaldi
Signature of the target two-electron momentum space wavefunction in the (e, 3e) angular distributions from the double ionization of helium and argon.
J. Phys. B **35**, L215 (2002)

e + He	Angular Scattering	601.00 eV	Ex
e + Ar	Angular Scattering	601.00 eV	Ex
e + He	Ionization	601.00 eV	Ex
e + Ar	Ionization	601.00 eV	Ex

510. A. L. Godunov, J. H. McGuire, V. S. Schipakov, A. Crowe
Excitation of the $(2p^2)^1D$ and $(2s2p)^1P$ autoionizing states of helium by 200 eV electron impact.
J. Phys. B **35**, L245 (2002)

e + He	Angular Scattering	200.00 eV	Th
e + He	Ionization	200.00 eV	Th
e + He	Excitation	200.00 eV	Th

511. A. Lahmam-Bennani, A. Duguet, S. Roussin
Observation of non-first-order effects in an (e, 3-1e) investigation of the double ionization of helium and molecular hydrogen.
J. Phys. B **35**, L59 (2002)

e + H_2	Ionization	600.00 eV	Ex
e + He	Ionization	600.00 eV	Ex

512. H. Deutsch, K. Becker, P. Defrance, U. Onthong, R. Parajuli, M. Probst, S. Matt, T. D. Maerk
Calculated absolute cross section for the electron-impact ionization of CO_2^+ and N_2^+.
J. Phys. B **35**, L65 (2002)

e + CO_2^{1+}	Ionization	5.00 keV	Th
e + N_2^{1+}	Ionization	5.00 keV	Th

513. C. Herting, G. F. Hanne
Light polarization of mercury 6s6p $^1P_1$ and 6s6p $^3P_1$ resonant transitions excited by electron impact.
J. Phys. B **35**, L91 (2002)

e + Hg	Excitation	5.50 eV	Ex

514. R. W. van Boeyen, J. P. Doering, J. H. Moore, M. A. Coplan, J. W. Cooper
An investigation of basic symmetries in electron-impact ionization of magnesium.
J. Phys. B **35**, L97 (2002)

e + Mg	Angular Scattering	0.40-1.50 keV	E/T
e + Mg	Ionization	0.40-1.50 keV	E/T

515. S. Lepp, P. C. Stancil, A. Dalgarno
Atomic and molecular processes in the early Universe.
J. Phys. B **35**, R57 (2002)

e + H	Recombination	0.10-1.00 K	Th
e + D	Recombination	0.10-1.00 K	Th
e + He	Recombination	0.10-1.00 K	Th
e + $\mathbf{He^{1+}}$	Recombination	0.10-1.00 K	Th
e + $\mathbf{He^{2+}}$	Recombination	0.10-1.00 K	Th
e + Li	Recombination	0.10-1.00 K	Th
e + $\mathbf{Li^{1+}}$	Recombination	0.10-1.00 K	Th
e + $\mathbf{Li^{2+}}$	Recombination	0.10-1.00 K	Th
e + $\mathbf{Li^{3+}}$	Recombination	0.10-1.00 K	Th
e + H	Ionization	0.10-1.00 K	Th
e + D	Ionization	0.10-1.00 K	Th
e + He	Ionization	0.10-1.00 K	Th
e + $\mathbf{He^{1+}}$	Ionization	0.10-1.00 K	Th
e + $\mathbf{He^{2+}}$	Ionization	0.10-1.00 K	Th
e + Li	Ionization	0.10-1.00 K	Th
e + $\mathbf{Li^{1+}}$	Ionization	0.10-1.00 K	Th
e + $\mathbf{Li^{2+}}$	Ionization	0.10-1.00 K	Th
e + $\mathbf{Li^{3+}}$	Ionization	0.10-1.00 K	Th

516. E. M. Bahati, J. J. Jureta, H. Cherkani-Hassani, P. Defrance
Electron impact single ionization and dissociative excitation of $\mathbf{H_3O^+}$**,** $\mathbf{HD_2O^+}$ **and** $\mathbf{D_3O^+}$**.**
J. Phys. B **64**, L333 (2001)

e + $\mathbf{H_3O^{1+}}$	Dissociation	0.01-2.50 keV	Ex
e + $\mathbf{HD_2O^{1+}}$	Dissociation	0.01-2.50 keV	Ex
e + $\mathbf{D_3O^{1+}}$	Dissociation	0.01-2.50 keV	Ex
e + $\mathbf{H_3O^{1+}}$	Excitation	0.01-2.50 keV	Ex
e + $\mathbf{HD_2O^{1+}}$	Excitation	0.01-2.50 keV	Ex
e + $\mathbf{D_3O^{1+}}$	Excitation	0.01-2.50 keV	Ex
e + $\mathbf{H_3O^{1+}}$	Recombination	0.01-2.50 keV	Ex
e + $\mathbf{HD_2O^{1+}}$	Recombination	0.01-2.50 keV	Ex
e + $\mathbf{D_3O^{1+}}$	Recombination	0.01-2.50 keV	Ex

517. V. Dose, P. Pecher, R. Preuss
Formulas for cross sections and rate coefficients for partial electron impact ionization of $\mathbf{CH_4}$ **and** $\mathbf{H_2}$**.**
J. Phys. Chem. Ref. Data **29**, 1157 (2000)

e + $\mathbf{H_2}$	Ionization		Th
e + $\mathbf{CH_4}$	Ionization		Th
e + $\mathbf{CH_4}$	Dissociation		Th

518. S. Yagi, T. Nagata
Absolute total and partial cross sections for ionization of free lanthanide atoms by electron impact.
J. Phys. Soc. Jpn. **70**, 2559 (2001)

e + Ce	Ionization	4.00-900.00 eV	Ex
e + Nd	Ionization	4.00-900.00 eV	Ex
e + Sm	Ionization	4.00-900.00 eV	Ex
e + Gd	Ionization	4.00-900.00 eV	Ex
e + Dy	Ionization	4.00-900.00 eV	Ex
e + Er	Ionization	4.00-900.00 eV	Ex
e + Yb	Ionization	4.00-900.00 eV	Ex

519. E. Benedito, J. M. Fernandez-Varea, F. Salvat
Mixed simulation of the multiple elastic scattering of electrons and positrons using partial-wave differential cross-sections.
Nucl. Instrum. Methods Phys. Res. B **174**, 91 (2001)

e + Al	Elastic Scattering	0.00-1.00 GeV	Th
e + Au	Elastic Scattering	0.00-1.00 GeV	Th

520. A. C. Roy
Singly differential cross-sections for electron-impact ionization of atomic hydrogen.
Nucl. Instrum. Methods Phys. Res. B **179**, 163 (2001)

e + H	Angular Scattering	100.00-250.00 eV	Th
e + H	Ionization	100.00-250.00 eV	Th

521. D. L. Moores
Calculations of integral cross-sections for electron and positron impact of rare gas atoms.
Nucl. Instrum. Methods Phys. Res. B **179**, 316 (2001)

e + He	Ionization	0.02-1.00 keV	Th
e + Ne	Ionization	0.02-1.00 keV	Th
e + Ar	Ionization	0.02-1.00 keV	Th
e + Kr	Ionization	0.02-1.00 keV	Th
e + Xe	Ionization	0.02-1.00 keV	Th

522. K. An, Z. M. Luo, C. Tang
Study of cross-sections for the K-shell ionization of atoms by electron and positron impact.
Nucl. Instrum. Methods Phys. Res. B **179**, 334 (2001)

e + Sc	Ionization	50.00 keV	E/T
e + Ti	Ionization	50.00 keV	E/T
e + V	Ionization	50.00 keV	E/T
e + Cr	Ionization	50.00 keV	E/T
e + Mn	Ionization	50.00 keV	E/T
e + Fe	Ionization	50.00 keV	E/T
e + Co	Ionization	50.00 keV	E/T
e + Ni	Ionization	50.00 keV	E/T
e + Cu	Ionization	50.00 keV	E/T
e + Ag	Ionization	50.00 keV	E/T

523. Yu. M. Smirnov
Excitation of a singly charged barium ion in electron-atom collisions.
Opt. Spectrosc. **89**, 169 (2000)

e + Ba	Ionization	8.00-200.00 eV	Ex
e + Ba	Excitation	8.00-200.00 eV	Ex

524. A. I. Imre, A. N. Gomonai, V. S. Vukstich, A. N. Nemet
Excitation of resonance lines of a Zn^+ ion by electron impact.
Opt. Spectrosc. **89**, 179 (2000)

e + Zn^{1+}	Excitation	5.00-200.00 eV	Ex

525. Yu. M. Smirnov
Excitation of quintet levels of MnII in electron collisions with manganese atoms.
Opt. Spectrosc. **89**, 185 (2000)

e + Mn	Ionization	12.00-200.00 eV	Ex
e + Mn	Excitation	12.00-200.00 eV	Ex

526. Yu. M. Smirnov
Excitation cross sections for odd triplet levels of LaII in e-La collisions.
Opt. Spectrosc. **89**, 336 (2000)

e + La	Ionization	7.00-200.00 eV	Ex
e + La	Excitation	7.00-200.00 eV	Ex

527. O. I. Zatsarinnyi, L. A. Bandurina
R-matrix calculations of the electron-impact excitation cross sections for the Cd^+ ion.
Opt. Spectrosc. **89**, 498 (2000)

e + Cd^{1+}	Excitation	5.00-50.00 eV	Th

528. Yu. M. Smirnov
Slow-electron excitation of ^{3}S, ^{3}P, and $^3P^0$ levels of the strontium atom.
Opt. Spectrosc. **90**, 332 (2001)

e + Sr	Excitation	2.00-200.00 eV	Ex

529. Yu. M. Smirnov
On the cross sections for excitation of the Europium atom by slow electrons.
Opt. Spectrosc. **91**, 184 (2001)

e + Eu	Excitation	3.00-200.00 eV	Ex

530. I. I. Shafranyosh, V. I. Marushka
Spectroscopic study of the decay of negative ions formed through electron interaction with metastable magnesium atoms.
Opt. Spectrosc. **91**, 557 (2001)

e + Mg	Attachment	0.20-2.00 eV	Ex
e + Mg^*	Attachment	0.20-2.00 eV	Ex

531. A. A. Mityureva, V. V. Smirnov, G. A. Ponomarenko
Approximation of the electron excitation cross sections for triplet states excited from the 2^3S_1 metastable state in helium.
Opt. Spectrosc. **92**, 325 (2002)

e + He	Excitation	1.00-40.00 Threshold	E/T
e + He^*	Excitation	1.00-40.00 Threshold	E/T

532. Yu. M. Smirnov
Behavior of the excitation cross sections of the perturbed series of the xenon atom.
Opt. Spectrosc. **92**, 357 (2002)

e + Xe	Excitation	10.00-250.00 eV	E/T

533. G. Garcia, F. Blanco
Energy dependence of the total cross section for electron scattering by N_2 and CO molecules at energies above 1 keV.
Phys. Lett. A **279**, 61 (2001)

e + CO	Angular Scattering	0.50-2.00 keV	Th
e + N_2	Angular Scattering	0.50-2.00 keV	Th
e + CO	Elastic Scattering	0.50-2.00 keV	Th
e + N_2	Elastic Scattering	0.50-2.00 keV	Th

534. D. Raj, A. Kumar
Elastic scattering of electrons by molecular oxygen.
Phys. Lett. A **282**, 284 (2001)

e + O_2	Angular Scattering	0.30-1.00 keV	Th
e + O_2	Elastic Scattering	0.30-1.00 keV	Th

535. K. N. Joshipura, B. K. Antony
Total (including ionization) cross sections of electron impact on ground state and metastable Ne atoms.
Phys. Lett. A **289**, 323 (2001)

e + Ne*	Elastic Scattering	0.01-3.00 keV	Th
e + Ne	Elastic Scattering	0.01-3.00 keV	Th
e + Ne*	Ionization	0.01-3.00 keV	Th
e + Ne	Ionization	0.01-3.00 keV	Th
e + Ne*	Total Scattering	0.01-3.00 keV	Th
e + Ne	Total Scattering	0.01-3.00 keV	Th

536. J. E. Sienkiewicz, S. Telega, P. Syty, S. Fritzsche
Differential cross section minima in elastic scattering of electrons from zinc.
Phys. Lett. A **293**, 183 (2002)

e + Zn	Angular Scattering	10.00-40.00 eV	Th
e + Zn	Elastic Scattering	10.00-40.00 eV	Th

537. C. Guo-xin, P. P. Ong
Relativistic calculations for Fe XXIII: Electron-impact excitation.
Phys. Rev. A **58**, 1183 (1998)

e + Fe^{22+}	Excitation	0.05-1.00 Ry	Th

538. V. Zeman, K. Bartschat, C. Noren, J. W. McConkey
Near-threshold electron-impact excitation of the vacuum-ultraviolet resonance transitions in Ne, Ar, Kr, and Xe.
Phys. Rev. A **58**, 1275 (1998)

e + Ne	Excitation	8.00-16.00 eV	Th
e + Ar	Excitation	8.00-16.00 eV	Th
e + Kr	Excitation	8.00-16.00 eV	Th
e + Xe	Excitation	8.00-16.00 eV	Th

539. W. A. Isaacs, M. Baertschy, C. W. McCurdy, T. N. Rescigno
Doubly differential cross sections for the electron impact ionization of hydrogen.
Phys. Rev. A **63**, 030704 (2001)

e + H	Angular Scattering	17.60-30.00 eV	Th
e + H	Ionization	17.60-30.00 eV	Th

540. A. M. Machado, M. M. Fujimoto, A.M.A. Taveira, L. M. Brescansin, M.-T. Lee
Application of the method of continued fractions to multichannel studies on electronic excitation of H_2 by electron impact.
Phys. Rev. A **63**, 032707 (2001)

e + H_2	Excitation	15.00-40.00 eV	Th

541. D. V. Fursa, I. Bray
Excitation of the 3^1P state of magnesium by electron impact from the ground state.
Phys. Rev. A **63**, 032708 (2001)

e + Mg	Excitation	1.00 keV	Th

542. J. A. Shaw, M. S. Pindzola, M. Steidl, K. Aichele, U. Hartenfeller, D. Hathiramani, F. Scheuermann, M. Westermann, E. Salzborn
Electron-impact single ionization of atomic ions in the Ga isonuclear sequence.
Phys. Rev. A **63**, 032709 (2001)

e + Ga^{1+}	Ionization	5.50 keV	Th
e + Ga^{2+}	Ionization	5.50 keV	Th
e + Ga^{3+}	Ionization	5.50 keV	Th
e + Ga^{4+}	Ionization	5.50 keV	Th
e + Ga^{5+}	Ionization	5.50 keV	Th
e + Ga^{6+}	Ionization	5.50 keV	Th
e + Ga^{7+}	Ionization	5.50 keV	Th
e + Ga^{8+}	Ionization	5.50 keV	Th
e + Ga^{9+}	Ionization	5.50 keV	Th

543. J. Yang, J. P. Doering
Asymmetric (e,2e) study of the 100-eV ionization of the $1\pi_g$, $1\pi_u$, and $3\sigma_g$ molecular orbitals of O_2.
Phys. Rev. A **63**, 032717 (2001)

e + O_2	Angular Scattering	100.00 eV	Ex
e + O_2	Ionization	100.00 eV	Ex

544. H. B. Pederson, R. Bilodeau, M. J. Jensen, I. V. Makassiouk, C. P. Safvan, L. H. Andersen
Electron collisions with the diatomic fluorine anion.
Phys. Rev. A **63**, 032718 (2001)

e + $F_2{}^{-1+}$	Detachment	27.00 eV	Ex
e + $F_2{}^{-1+}$	Dissociation	27.00 eV	Ex

545. G. V. Brown, P. Beiersdorfer, K. Widmann
Systematic measurement of the relative electron-impact excitation cross section of the 3d -¿ 2p $^1P_1$ resonance and $^3D_1$ intercombination lines in mid-Z neonlike ions.
Phys. Rev. A **63**, 032719 (2001)

e + Cr^{14+}	Excitation	1.00-4.00 keV	Ex
e + Mn^{15+}	Excitation	1.00-4.00 keV	Ex
e + Fe^{16+}	Excitation	1.00-4.00 keV	Ex
e + Co^{17+}	Excitation	1.00-4.00 keV	Ex
e + Ni^{18+}	Excitation	1.00-4.00 keV	Ex
e + Cu^{19+}	Excitation	1.00-4.00 keV	Ex
e + Zn^{21+}	Excitation	1.00-4.00 keV	Ex
e + Br^{35+}	Excitation	1.00-4.00 keV	Ex
e + Kr^{36+}	Excitation	1.00-4.00 keV	Ex

546. L. Zhengming, T. Changhuan, A. Zhu, H. Fuqing, P. Xiufeng, L. Xianguan
Selenium and yttrium K-shell ionization cross-sections by electron impact.
Phys. Rev. A **63**, 034702 (2001)

e + Se	Ionization	13.00-40.00 keV	Ex
e + Y	Ionization	13.00-40.00 keV	Ex

547. A. Le Padellec, N. L. Djuric, A. Al-Khalili, H. Danared, A. M. Derkatch, A. Neau, D. B. Popovic, S. Rosen, J. Semaniak, R. Thomas, M. af Ugglas, W. Zong, M. Larsson
Resonant ion-pair formation in the recombination of NO^+ with electrons: Cross-section determination.
Phys. Rev. A **64**, 012702 (2001)

e + NO^{1+}	Attachment	8.00-18.00 eV	Ex
e + NO^{1+}	Recombination	8.00-18.00 eV	Ex

548. S. A. Rangwala, S.V.K Kumar, E. Krishnakumar
Dissociative electron attachment to electronically excited CS_2.
Phys. Rev. A **64**, 012707 (2001)

e + $CS_2{}^*$	Dissociation	10.00 eV	Ex
e + CS_2	Dissociation	10.00 eV	Ex

549. H. Merabet, M. Bailey, R. Bruch, J. Hanni, S. Bliman, D. V. Fursa, I. Bray, K. Bartschat, H. C. Tseng, C. D. Lin
Cross sections and collision dynamics of the excitation of (1snp) $^1P^0$ levels of helium, n = 2-5, by intermediate- and high-velocity electron, proton, and molecular-ion ($H_2{}^+$ and $H_3{}^+$) impact.
Phys. Rev. A **64**, 012712 (2001)

e + He	Excitation	0.05-1.40 keV	E/T

550. W. R. Johnson, C. Guet
Erratum: Elastic scattering of electrons from Xe, Cs^+, and Ba^{2+} [Phys. Rev. A 49, 1041 (1994)].
Phys. Rev. A **64**, 019901 (2001)

e + Xe	Angular Scattering	10.00 eV	Th
e + $\mathbf{Cs^{1+}}$	Angular Scattering	10.00 eV	Th
e + $\mathbf{Ba^{2+}}$	Angular Scattering	10.00 eV	Th
e + Xe	Elastic Scattering	10.00 eV	Th
e + $\mathbf{Cs^{1+}}$	Elastic Scattering	10.00 eV	Th
e + $\mathbf{Ba^{2+}}$	Elastic Scattering	10.00 eV	Th

551. C. Plottke, I. Bray
e-H scattering S-wave model for initial excited states.
Phys. Rev. A **64**, 022704 (2001)

e + H	Angular Scattering	1.00-7.00 Ry	Th
e + H	Elastic Scattering	1.00-7.00 Ry	Th

552. M. Baertschy, T. N. Rescigno, C. W. McCurdy
Accurate amplitudes for electron-impact ionization.
Phys. Rev. A **64**, 022709 (2001)

e + H	Ionization	15.60-54.40 eV	Th

553. N. Djuric, G. H. Dunn, A. Al-Khalili, A. M. Derkatch, A. Neau, S. Rosen, W. Shi, L. Vikor, W. Zong, M. Larsson, A. Le Padellec, H. Danared, M. af Ugglas
Resonant ion-pair formation and dissociative recombination in electron collisions with ground-state HF^+ ions.
Phys. Rev. A **64**, 022713 (2001)

e + $\mathbf{HF^{1+}}$	Recombination	0.00-1.00 eV	Ex
e + $\mathbf{HF^{1+}}$	Dissociation	0.00-1.00 eV	Ex

554. C. Bahrim, U. Thumm
Angle-differential and momentum-transfer cross sections for e^- + Tb, Cs, and Fr collisions at low energies: $^3F^0$ shape resonances in Rb^-, Cs^-, and Fr^- ions.
Phys. Rev. A **64**, 022716 (2001)

e + Rb	Total Scattering	0.00-3.00 eV	Th
e + Cs	Total Scattering	0.00-3.00 eV	Th
e + Fr	Total Scattering	0.00-3.00 eV	Th
e + Rb	Angular Scattering	0.00-3.00 eV	Th
e + Cs	Angular Scattering	0.00-3.00 eV	Th
e + Fr	Angular Scattering	0.00-3.00 eV	Th
e + Rb	Elastic Scattering	0.00-3.00 eV	Th
e + Cs	Elastic Scattering	0.00-3.00 eV	Th
e + Fr	Elastic Scattering	0.00-3.00 eV	Th

555. D. Hammer, L. Frommhold
Polarization bremsstrahlung spectra of electron – rare-gas atom collisions at temperatures from 5 to 40 kK.
Phys. Rev. A **64**, 024705 (2001)

e + He	Bremsstrahlung	5.00-40.00 K	Th
e + Ne	Bremsstrahlung	5.00-40.00 K	Th
e + Ar	Bremsstrahlung	5.00-40.00 K	Th
e + Kr	Bremsstrahlung	5.00-40.00 K	Th
e + Xe	Bremsstrahlung	5.00-40.00 K	Th

556. C. J. Sweeney, A. Grafe, T. W. Shyn
Measurement of absolute differential cross sections for the excitation of atomic hydrogen to its n=3 and 4 levels by electron impact.
Phys. Rev. A **64**, 032704 (2001)

e + H	Excitation	20.00-30.00 eV	Ex

557. S. Boehm, S. Schippers, W. Shi, A. Mueller, N. Djuric, G. H. Dunn, W. Zong, B. Jelenkovic, H. Danared, N. Ekloew, P. Glans, R. Schuch
Influence of electromagnetic fields on the dielectronic recombination of Ne^{7+} ions.
Phys. Rev. A **64**, 032707 (2001)

e + Ne^{7+}	Recombination	18.00 eV	Ex

558. J. B. Boffard, M. L. Keeler, G. A. Piech, L. W. Anderson, C. C. Lin
Measurement of electron-impact excitation cross sections out of the neon $^3P_2$ metastable level.
Phys. Rev. A **64**, 032708 (2001)

e + Ne^*	Excitation	450.00 eV	Ex
e + Ne	Excitation	450.00 eV	Ex

559. T.-Y. Kuo, K.-N. Huang
Relativistic cross sections of the electron-impact ionization of heliumlike ions.
Phys. Rev. A **64**, 032710 (2001)

e + He	Ionization	10.00 Threshold	Th
e + Li^{1+}	Ionization	10.00 Threshold	Th
e + B^{3+}	Ionization	10.00 Threshold	Th
e + C^{4+}	Ionization	10.00 Threshold	Th
e + N^{5+}	Ionization	10.00 Threshold	Th
e + Na^{9+}	Ionization	10.00 Threshold	Th
e + Fe^{24+}	Ionization	10.00 Threshold	Th
e + Ag^{45+}	Ionization	10.00 Threshold	Th

560. Y.-K. Kim
Scaling of plane-wave Born cross sections for electron-impact excitation of neutral atoms.
Phys. Rev. A **64**, 032713 (2001)

e + H	Excitation	5.00 keV	Th
e + He	Excitation	5.00 keV	Th
e + Li	Excitation	5.00 keV	Th
e + Be	Excitation	5.00 keV	Th
e + Na	Excitation	5.00 keV	Th
e + Mg	Excitation	5.00 keV	Th
e + K	Excitation	5.00 keV	Th
e + Ca	Excitation	5.00 keV	Th
e + Rb	Excitation	5.00 keV	Th
e + Sr	Excitation	5.00 keV	Th
e + Cs	Excitation	5.00 keV	Th
e + Ba	Excitation	5.00 keV	Th
e + Hg	Excitation	5.00 keV	Th
e + Tl	Excitation	5.00 keV	Th

561. D. C. Griffin, D. M. Mitnik, J. Colgan, M. S. Pindzola
Electron-impact excitation of lithium.
Phys. Rev. A **64**, 032718 (2001)

e + Li	Excitation	25.00 eV	Th

562. H. L. Zhang, S. N. Nahar, A. K. Pradhan
Relativistic close-coupling calculations for photoionization and recombination of Ne-like Fe XVII.
Phys. Rev. A **64**, 032719 (2001)

e + Fe^{17+}	Recombination	100.00 eV	Th
e + Fe^{17+}	Recombination	100.00 eV	Th

563. C. Wesdorp, F. Robicheaux, L. D. Noordam
Pulsed field recombination.
Phys. Rev. A **64**, 033414 (2001)

e + Li^{1+}	Recombination	100.00 K	E/T

564. N. C. Deb, D.S.F Crothers
Semiclassical-quantal approach to the near-threshold ionization of hydrogen.
Phys. Rev. A **64**, 034701 (2001)

e + H	Ionization	16.00-18.00 eV	Th

565. R. K. Nesbet, S. Mazevet, M. A. Morrison
Procedure for correcting variational R-matrix calculations for polarization response.
Phys. Rev. A **64**, 034702 (2001)

e + CO_2	Elastic Scattering	1.00 eV	Th

566. S. Mazevet, M. A. Morrison, L. A. Morgan, R. K. Nesbet
Virtual-state effects on elastic scattering and vibrational excitation of CO_2 by electron impact.
Phys. Rev. A **64**, 040701 (2001)

e + CO_2	Excitation	1.00 eV	Th
e + CO_2	Elastic Scattering	1.00 eV	Th

567. J. Lower, E. Weigold, J. Berakdar, S. Mazevet
Orbital and spin-polarization transfer in ionizing electron-atom collisions.
Phys. Rev. A **64**, 042701 (2001)

e + Na	Angular Scattering	64.00-151.00 eV	Ex
e + Na	Ionization	64.00-151.00 eV	Ex

568. K. T. Mazon, R. Fujiwara, M.-T. Lee
Exact exchange effects on vibrational excitation of H_2 by electron impact.
Phys. Rev. A **64**, 042705 (2001)

e + H_2	Angular Scattering	1.50-100.00 eV	Th
e + H_2	Excitation	1.50-100.00 eV	Th

569. P.-T. Howe, A. Kortyna, M. Darrach, A. Chutjian
Low-energy electron attachment to SF_6 at sub-meV resolution using a tunable laser photoelectron method.
Phys. Rev. A **64**, 042706 (2001)

e + SF_6	Attachment	127.00 meV	Ex

570. A. Dutta, B. Nath, C. Sinha
Inner-shell ionization of a neon atom by electron impact.
Phys. Rev. A **64**, 042714 (2001)

e + Ne	Angular Scattering	2.70 keV	Th
e + Ne	Ionization	2.70 keV	Th

571. W. M. Huo
Convergent series representation for the generalized oscillator strength of electron-impact ionization and an improved binary-encounter-dipole model.
Phys. Rev. A **64**, 042719 (2001)

e + H_2O	Ionization	0.01-1.00 keV	Th
e + CH_4	Ionization	0.01-1.00 keV	Th
e + CO_2	Ionization	0.01-1.00 keV	Th
e + N_2	Ionization	0.01-1.00 keV	Th
e + CF_4	Ionization	0.01-1.00 keV	Th

572. A. Cionga, F. Ehlotzky, G. Zloh
Elastic electron scattering by excited hydrogen atoms in a laser field.
Phys. Rev. A **64**, 043401 (2001)

e + H*	Elastic Scattering	100.00-500.00 eV	Th
e + H	Elastic Scattering	100.00-500.00 eV	Th

573. P. Glans, E. Lindroth, N. R. Badnell, N. Eklow, W. Zong, E. Justiniano, R. Schuch
Dielectronic recombination of N^{4+}.
Phys. Rev. A **64**, 043609 (2001)

e + N^{4+}	Recombination	1.60 eV	E/T

574. M. A. Haynes, B. Lohmann
Comparative study of argon 3p electron-impact ionization at low energies.
Phys. Rev. A **64**, 044701 (2001)

e + Ar	Angular Scattering	113.50 eV	E/T
e + Ar	Ionization	113.50 eV	E/T

575. L.-B. Zhao, T. Shirai
Theoretical study on dielectronic recombination of O^{6+} ions in metastable states.
Phys. Rev. A **64**, 052704 (2001)

e + O^{6+}	Recombination	10.00 eV	E/T

576. K. Aichele, W. Arnold, D. Hathiramani, F. Scheuermann, E. Salzborn, D. M. Mitnik, D. C. Griffin, J. Colgan, M. S. Pindzola
Experimental and theoretical study of electron-impact ionization of atomic ions in the Sm isonuclear sequence.
Phys. Rev. A **64**, 052706 (2001)

e + Sm^{1+}	Ionization	0.01-1.00 keV	E/T
e + Sm^{2+}	Ionization	0.01-1.00 keV	E/T
e + Sm^{3+}	Ionization	0.01-1.00 keV	E/T
e + Sm^{4+}	Ionization	0.01-1.00 keV	E/T
e + Sm^{5+}	Ionization	0.01-1.00 keV	E/T
e + Sm^{6+}	Ionization	0.01-1.00 keV	E/T
e + Sm^{7+}	Ionization	0.01-1.00 keV	E/T
e + Sm^{8+}	Ionization	0.01-1.00 keV	E/T
e + Sm^{9+}	Ionization	0.01-1.00 keV	E/T
e + Sm^{10+}	Ionization	0.01-1.00 keV	E/T
e + Sm^{11+}	Ionization	0.01-1.00 keV	E/T
e + Sm^{12+}	Ionization	0.01-1.00 keV	E/T

577. Y.-K. Kim, P. M. Stone
Ionization of boron, aluminum, gallium, and indium by electron impact.
Phys. Rev. A **64**, 052707 (2001)

e + B	Ionization	0.01-4.00 keV	E/T
e + Al	Ionization	0.01-4.00 keV	E/T
e + Ga	Ionization	0.01-4.00 keV	E/T
e + In	Ionization	0.01-4.00 keV	E/T

578. D. B. Popovic, N. L. Djuric, K. Holmberg, A. Neau, G. H. Dunn
Absolute cross sections for H^+ formation from electron-impact dissociation of C_2H^+ and $C_2H_2{}^+$.
Phys. Rev. A **64**, 052709 (2001)

e + $C_2H_2{}^{1+}$	Dissociation	50.00 eV	Ex
e + C_2H^{1+}	Dissociation	50.00 eV	Ex

579. A. Dasgupta, K. Bartschat, D. Vaid, A. N. Grum-Grzhimailo, D. H. Madison, M. Blaha, J. L. Giuliani
Electron-impact excitation to the $4p^5 5s$ and $4p^5 5p$ levels of Kr I using different distorted-wave and close-coupling methods.
Phys. Rev. A **64**, 052710 (2001)

e + Kr	Excitation	10.00-50.00 eV	E/T

580. J. N. Das
Electron-hydrogen-atom ionization study of a hyperspherical partial-wave ab initio approach for equal-energy-sharing constant-Θ_{12} geometry.
Phys. Rev. A **64**, 054703 (2001)

e + H	Ionization	30.00 eV	E/T

581. D. Hammer, L. Frommhold
Erratum: Polarization bremsstrahlung spectra of electron–rare-gas atom collisions at temperatures from 5 to 40 kK [Phys. Rev. A 64, 024705 (2001)].
Phys. Rev. A **64**, 059901 (2001)

e + Ar	Bremsstrahlung	5.00-40.00 K	Th

582. A. Larson, A. E. Orel
Ion-pair formation and product branching ratios in dissociative recombination of HD^+.
Phys. Rev. A **64**, 062701 (2001)

e + H_2^{1+}	Recombination	0.10-8.00 eV	Th
e + H_2^{1+}	Dissociation	0.10-8.00 eV	Th
e + HD^{1+}	Recombination	0.10-8.00 eV	Th
e + HD^{1+}	Dissociation	0.10-8.00 eV	Th

583. J. G. Childers, D. B. Thompson, N.L.S. Martin
(e,2e) experiments on the autoionizing levels of Xe between the $^2P_{3/2}$ and $^2P_{1/2}$ ionic limits.
Phys. Rev. A **64**, 062703 (2001)

e + Xe	Ionization	150.00-350.00 eV	Ex

584. D. M. Mitnik, D. C. Griffin, J. Colgan, M. S. Pindzola, K. Aichele, W. Arnold, D. Hathiramani, F. Scheuermann, E. Salzborn
Electron-impact ionization of Sm^{12+} ions: Resonances far beyond threshold.
Phys. Rev. A **64**, 062705 (2001)

e + Sm^{12+}	Ionization	0.20-1.02 keV	E/T

585. M. T. do N. Varella, C. Winstead, V. McKoy, M. Kitajima, H. Tanaka
Low-energy electron scattering by CH_3F, CH_2F_2, CHF_3, and CF_4.
Phys. Rev. A **65**, 022702 (2002)

e + CF_4	Elastic Scattering	1.50-30.00 eV	E/T
e + CHF_3	Elastic Scattering	1.50-30.00 eV	E/T
e + CH_2F_2	Elastic Scattering	1.50-30.00 eV	E/T
e + CH_3F	Elastic Scattering	1.50-30.00 eV	E/T

586. Y.-K. Kim
Scaling of Coulomb Born cross sections for electron-impact excitation of singly charged ions.
Phys. Rev. A **65**, 022705 (2002)

e + He^{1+}	Excitation	0.01-5.00 keV	Th
e + Mg^{1+}	Excitation	0.01-5.00 keV	Th
e + Zn^{1+}	Excitation	0.01-5.00 keV	Th

587. C. Champion, J. Hanssen, P. A. Hervieux
Theoretical differential and total cross sections of water-molecule ionization by electron impact.
Phys. Rev. A **65**, 022710 (2002)

e + H_2O	Ionization	0.02-2.00 keV	Th

588. P.-A. Hervieux, M. E. Madjet, H. Benali
Capture of low-energy electrons by simple closed-shell metal clusters.
Phys. Rev. A **65**, 023202 (2002)

e + Na_{20}	Attachment	3.00 eV	Th
e + Na_{40}	Attachment	3.00 eV	Th
e + Na_{58}	Attachment	3.00 eV	Th

589. S. Madzunkov, E. Lindroth, N. Ekloew, M. Tokman, A. Paal, R. Schuch
QED effects in lithiumlike krypton.
Phys. Rev. A **65**, 032505 (2002)

e + Kr^{34+}	Recombination	4.50-14.00 eV	E/T

590. L. A. Bureyeva, T. Kato, V. S. Lisitsa, C. Namba
Quasiclassical theory of dielectronic recombination in plasmas.
Phys. Rev. A **65**, 032702 (2002)

e + C^{3+}	Recombination	100.00 K	Th
e + Mg^{1+}	Recombination	100.00 K	Th
e + Zn^{27+}	Recombination	100.00 K	Th

591. Jr. Stewart, M. D., J. E. Chilton, J. B. Boffard, C. C. Lin
Use of radiation trapping for measuring electron-impact excitation cross sections for higher resonance levels of rare-gas atoms.
Phys. Rev. A **65**, 032704 (2002)

e + Ne	Excitation	225.00 eV	Th
e + Ar	Excitation	225.00 eV	Th
e + Kr	Excitation	225.00 eV	Th

592. A. Dorn, A. Kheifets, C. D. Schroeter, B. Najjari, C. Hoehr, R. Moshammer, J. Ullrich
Double ionization of helium by electron impact in the impulsive regime.
Phys. Rev. A **65**, 032709 (2002)

e + He	Ionization	2.00 keV	Ex

593. T. N. Rescigno, W. A. Isaacs, A. E. Orel, H.-D. Meyer, C. W. McCurdy
Theoretical study of resonant vibrational excitation of CO_2 by electron impact.
Phys. Rev. A **65**, 032716 (2002)

e + CO_2	Excitation	8.00 eV	Th

594. J. B. Qi, C. Y. Chen, Y. Zhao, H. N. Xia, Y. S. Wang
Resonant contributions to the electron-impact ionization of sodiumlike chromium.
Phys. Rev. A **65**, 032720 (2002)

e + Cr^{13+}	Ionization	0.40-1.10 keV	Th

595. D. V. Fursa, I. Bray, G. Csanak, R.E.H. Clark, Jr. Abdallah, J., I. Kanik, S. Trajmar
Electron-impact excitation of excited atomic barium.
Phys. Rev. A **65**, 032723 (2002)

e + Ba^*	Ionization	100.00 eV	Th
e + Ba	Ionization	100.00 eV	Th
e + Ba^*	Excitation	100.00 eV	Th
e + Ba	Excitation	100.00 eV	Th

596. M. K. Inal, H. L. Zhang, D. H. Sampson, C. J. Fontes
Effect of inner-shell ionization on the circular polarization of the Fe^{24+} $(1s2s)_1$ -¿ $(1s^2)_0$ line produced by collisions with a longitudinally polarized electron beam.
Phys. Rev. A **65**, 032727 (2002)

e + Fe^{24+}	Ionization	0.50-2.00 keV	Th

597. S. Vucic
e-H collisions in a resonant monochromatic or bichromatic laser field.
Phys. Rev. A **65**, 033521 (2002)

e + H	Excitation	10^9-10^{11} W/cm2	Th
e + H	Elastic Scattering	10^9-10^{11} W/cm2	Th

598. D. B. Popovic, M. E. Bannister, R.E.H. Clark, Y.-S. Chung, N. Djuric, F. W. Meyer, A. Mueller, A. Neau, M. S. Pindzola, A.C.H Smith, B. Wallbank, G. H. Dunn
Absolute cross sections for electron-impact excitation of the $3d^2$ ^3F -¿ 3d4p ^3D, ^3F transitions in Ti^{2+}.
Phys. Rev. A **65**, 034704 (2002)

e + Ti^{2+}	Excitation	9.00-10.00 eV	Ex

599. D. H Jakubassa-Amundsen
Spin asymmetry in weakly relativistic (e,2e) collisions.
Phys. Rev. A **65**, 034706 (2002)

e + Ag	Ionization	300.00 keV	Th

600. A. Dasgupta, M. Blaha, J. L. Giuliani
Erratum: Electron-impact excitation from the ground and the metastable levels of Ar I [Phys. Rev. A 61, 012703 (2000)].
Phys. Rev. A **65**, 039905 (2002)

e + Ar^*	Excitation	120.00 eV	Th
e + Ar	Excitation	120.00 eV	Th

601. D. B. Milosevicand, F. Ehlotzky
Rescattering effects in soft-x-ray generation by laser-assisted electron-ion recombination.
Phys. Rev. A **65**, 042504 (2002)

e + H	Recombination	500.00 eV	Th
e + He	Recombination	500.00 eV	Th

602. R. S. Schappe, R. J. Edgell, E. Urban
Electron-impact excitation of nitric oxide (A $^2\Sigma^+$ - X $^2\Pi$).
Phys. Rev. A **65**, 042701 (2002)

e + NO	Excitation	10.00-740.00 eV	Ex

603. Y. Khajuria, L. Q. Chen, X. J. Chen, K. Z. Xu
(e,2e) triple-differential cross sections of helium and argon at 64.6 eV.
Phys. Rev. A **65**, 042706 (2002)

e + He	Angular Scattering	64.60 eV	Th
e + Ar	Angular Scattering	64.60 eV	Th
e + He	Ionization	64.60 eV	Th
e + Ar	Ionization	64.60 eV	Th

604. A. S. Alnaser, A. L. Landers, D. J. Pole, S. Hossain, O. A. Haija, T. W. Gorczyca, J. A. Tanis, H. Knutson
Superelastic scattering of electrons from metastable He-like C^{4+} and O^{6+} ions.
Phys. Rev. A **65**, 042709 (2002)

e + C^{4+}	Angular Scattering	0.50-1.10 MeV/amu	E/T
e + O^{6+}	Angular Scattering	0.50-1.10 MeV/amu	E/T
e + F^{7+}	Angular Scattering	0.50-1.10 MeV/amu	E/T
e + C^{4+}	De-excitation	0.50-1.10 MeV/amu	E/T
e + O^{6+}	De-excitation	0.50-1.10 MeV/amu	E/T
e + F^{7+}	De-excitation	0.50-1.10 MeV/amu	E/T

e + C^{4+*}	Angular Scattering	0.50-1.10 MeV/amu	E/T
e + O^{6+*}	Angular Scattering	0.50-1.10 MeV/amu	E/T
e + F^{7+*}	Angular Scattering	0.50-1.10 MeV/amu	E/T
e + C^{4+*}	De-excitation	0.50-1.10 MeV/amu	E/T
e + O^{6+*}	De-excitation	0.50-1.10 MeV/amu	E/T
e + F^{7+*}	De-excitation	0.50-1.10 MeV/amu	E/T

605. R. Rejoub, B. G. Lindsay, R. F. Stebbings
Determination of the absolute partial and total cross sections for electron-impact ionization of the rare gases.
Phys. Rev. A **65**, 042713 (2002)

e + He	Ionization	1.00 keV	Ex
e + Ne	Ionization	1.00 keV	Ex
e + Ar	Ionization	1.00 keV	Ex
e + Kr	Ionization	1.00 keV	Ex
e + Xe	Ionization	1.00 keV	Ex

606. C. W. McCurdy, D. A. Horner, T. N. Rescigno
Time-dependent approach to collisional ionization using exterior complex scaling.
Phys. Rev. A **65**, 042714 (2002)

e + H	Angular Scattering	40.80 eV	Th
e + H	Ionization	40.80 eV	Th

607. M. M. Tabanli, J. L. Peacher, D. H. Madison
Electron-cadmium ionization for energies near overlapping autoionizing resonances.
Phys. Rev. A **65**, 042718 (2002)

e + Cd	Angular Scattering	150.00 eV	Th
e + Cd	Ionization	150.00 eV	Th

608. M.-T. Lee, K. T. Mazon
Electron scattering by vibrationally excited H_2 in the low-energy range.
Phys. Rev. A **65**, 042720 (2002)

e + H_2	De-excitation	1.00-10.00 eV	Th
e + H_2	Excitation	1.00-10.00 eV	Th
e + H_2	Angular Scattering	1.00-10.00 eV	Th
e + H_2	Elastic Scattering	1.00-10.00 eV	Th
e + H_2^*	De-excitation	1.00-10.00 eV	Th
e + H_2^*	Excitation	1.00-10.00 eV	Th
e + H_2^*	Angular Scattering	1.00-10.00 eV	Th
e + H_2^*	Elastic Scattering	1.00-10.00 eV	Th

609. J. Colgan, M. S. Pindzola, F. J. Robicheaux, D. C. Griffin, M. Baertschy
Time-dependent close-coupling calculations of the triple-differential cross section for electron-impact ionization of hydrogen.
Phys. Rev. A **65**, 042721 (2002)

e + H	Angular Scattering	54.40 eV	Th
e + H	Ionization	54.40 eV	Th

610. S. Schippers, S. Kieslich, A. Mueller, G. Gwinner, M. Schnell, A. Wolf, A. Covington, M. E. Bannister, L.-B. Zhao
Interference effects in the photorecombination of argonlike Sc^{3+} ions: Storage-ring experiment and theory.
Phys. Rev. A **65**, 042723 (2002)

e + Sc^{3+}	Recombination	45.00 eV	E/T

611. A. Dasgupta, K. Bartschat, D. Vaid, A. N. Grum-Grzhimailo, D. H. Madison, M. Blaha, J. L. Giuliani
Electron-impact excitation from the ($4p^5 5s$) metastable states of krypton.
Phys. Rev. A **65**, 042724 (2002)

e + Kr	Excitation	50.00 eV	Th
e + Kr*	Excitation	50.00 eV	Th

612. A. Neau, A. Derkatch, F. Hellberg, S. Rosen, R. Thomas, M. Larsson, N. Djuric, D. B. Popovic, G. H. Dunn, J. Semaniak
Resonant ion pair formation of HD^+: Absolute cross sections for the H^- + D^+ channel.
Phys. Rev. A **65**, 044701 (2002)

e + $H_2{}^{1+}$	Dissociation	1.00-16.00 eV	Ex
e + $H_2{}^{1+}$	Recombination	1.00-16.00 eV	Ex
e + HD^{1+}	Dissociation	1.00-16.00 eV	Ex
e + HD^{1+}	Recombination	1.00-16.00 eV	Ex

613. A. Z. Msezane, Z. Felfli, D. Bessis
Angle-optimized energy-variable method for electron differential cross-section measurements.

Phys. Rev. A **65**, 050701 (2002)

e + H	Excitation	0-∞ eV	Th
e + H	Angular Scattering	0-∞ eV	Th

614. C. Tang, Z. Luo, Z. An, F. He, X. Peng, X. Long
L-shell ionization study of indium, tin, and rhenium by low-energy electron impact.
Phys. Rev. A **65**, 052707 (2002)

e + In	Ionization	4.00-50.00 keV	E/T
e + Sn	Ionization	4.00-50.00 keV	E/T
e + Re	Ionization	4.00-50.00 keV	E/T

615. N. Djuric, M. E. Bannister, A. M. Derkatch, D. C. Griffin, H. F. Krause, D. B. Popovic, A.C.H Smith, B. Wallbank, G. H. Dunn
Absolute cross sections for near-threshold electron-impact excitation of the dipole-allowed transitions $3s^2\ {}^1S$ -¿ $3s3p\ {}^1P$ in CL^{5+} and $3s\ {}^2S$ -¿ $3p\ {}^2P$ in Cl^{6+}.
Phys. Rev. A **65**, 052711 (2002)

e + Cl^{5+}	Excitation	14.00-180.00 eV	E/T
e + Cl^{6+}	Excitation	14.00-180.00 eV	E/T
e + Cl^{5+}	Ionization	14.00-180.00 eV	E/T
e + Cl^{6+}	Ionization	14.00-180.00 eV	E/T

616. N. C. Deb, D.S.F Crothers
Electron-impact ionization of atomic hydrogen close to threshold.
Phys. Rev. A **65**, 052721 (2002)

e + H	Ionization	0.30-31.00 eV	E/T

617. S. Boehm, S. Schippers, W. Shi, A. Mueller, N. Ekloew, R. Schuch, H. Danared, N. R. Badnell, D. M. Mitnik, D. C. Griffin
Measurement of the field-induced dielectronic-recombination-rate enhancement of O^{5+} ions differential in the Rydberg quantum number n.
Phys. Rev. A **65**, 052728 (2002)

e + O^{5+}	Recombination	2.00-12.00 eV	E/T

618. K. Bartschat, S. Riordan, G. Ver Steeg
Extraction of energy-differential ionization cross sections in time-dependent calculations.
Phys. Rev. A **65**, 060701 (2002)

e + H	Ionization	20.00-40.80 eV	Th

619. J. B. Boffard, Jr. Stewart, M. D., C. C. Lin
Excitation transfer cross sections for levels of the Ne 2p^{5}3d configuration.
Phys. Rev. A **65**, 062701 (2002)

e + Ne	Excitation	10.00-180.00 eV	Ex

620. M.-T. Lee, I. Iga, M.G.P. Homem, L. E. Machado, L. M. Brescansin
Elastic and absorption cross sections for electron-nitrous oxide collisions.
Phys. Rev. A **65**, 062702 (2002)

e + N_2O	Total Scattering	20.00-800.00 eV	E/T
e + N_2O	Angular Scattering	20.00-800.00 eV	E/T
e + N_2O	Elastic Scattering	20.00-800.00 eV	E/T

621. T. W. Gorczyca, N. R. Badnell, D. W. Savin
Shortcomings of the R-matrix method for treating dielectronic recombination.
Phys. Rev. A **65**, 062707 (2002)

e + Fe^{17+}	Recombination	0.10-135.00 eV	Th

622. V. V. Serov, B. B. Joulakian, D. V. Pavlov, I. V. Puzynin, S. I. Vinitsky
(e,2e) ionization of $H_2{}^+$ by fast electron impact: Application of the exact nonrelativistic two-center continuum wave.
Phys. Rev. A **65**, 062708 (2002)

e + $H_2{}^{1+}$	Angular Scattering	2.00 keV	Th
e + $H_2{}^{1+}$	Ionization	2.00 keV	Th

623. M. A. Khakoo, J. Wrkich, M. Larsen, G. Kleiban, I. Kanik, S. Trajmar, M. J. Brunger, P.J.O. Teubner, A. Crowe, C. J. Fontes, R.E.H. Clark, V. Zeman, K. Bartschat, D. H. Madison, R. Srivastava, A. D. Stauffer
Differential cross sections and cross-section ratios for the electron-impact excitation of the neon 2p^{5}3s configuration.
Phys. Rev. A **65**, 062711 (2002)

e + Ne	Angular Scattering	20.00-100.00 eV	Ex
e + Ne	Excitation	20.00-100.00 eV	Ex

624. K. Bartschart, M. P. Scott, P. G. Burke, T. Stitt, N. S. Scott, A. N. Grum-Grzhimailo, S. Riordan, G. Ver Steeg, S. I. Strakhova
Convergence of energy-differential ionization cross sections obtained from a T-matrix approach with R-matrix wave functions.
Phys. Rev. A **65**, 062715 (2002)

e + H	Excitation	20.00 eV	Th

625. M. L. Keeler, L. W. Anderson, C. C. Lin
Electron-impact ionization cross section measurements out of the 5^{2}P excited state of rubidium.
Phys. Rev. Lett. **85**, 3353 (2000)

e + Rb	Ionization	40.00-300.00 eV	Ex
e + Rb^*	Ionization	40.00-300.00 eV	Ex

626. A. Dorn, A. S. Kheifets, C. D. Schroeter, B. Najjari, C. Hoehr, R. Moshammer, J. Ullrich
Double ionization of helium by electron-impact: Complete pictures of the four-body breakup dynamics.
Phys. Rev. Lett. **86**, 3755 (2001)

e + He	Ionization	2.00 keV	Ex

627. D. Strasser, L. Lammich, S. Krohn, M. Lange, H. Kreckel, J. Levin, D. Schwalm, Z. Vager, R. Wester, A. Wolf, D. Zajfman
Two- and three-body kinematical correlation in the dissociative recombination of $H_3{}^+$.
Phys. Rev. Lett. **86**, 779 (2000)

e + $\mathbf{H_3}^{1+}$	Recombination	6.00 meV	Ex

628. P. A. Zavodszky, H. Aliabadi, C. P. Bhalla, P. Richard, G. Toth, J. A. Tanis
Superelastic scattering of electrons from highly charged ions with inner shell vacancies.
Phys. Rev. Lett. **87**, 033202 (2001)

e + $\mathbf{F}^{7+}$	De-excitation	0.80-4.00 keV	Ex

629. M. J. Brunger, S. J. Buckman
Electron-molecule scattering cross-sections. I. Experimental techniques and data for diatomic molecules.
Phys. Rep. **357**, 215 (2002)

e + perturbation	Electron Collisions		E/T

630. M. F. Gadi, P. Defrance, A. Makhoute, M. H. Cherkani
Application of the semi-classical approximation to the single electron-impact ionization of helium-like ions.
Phys. Scr. **63**, 462 (2001)

e + $\mathbf{C}^{4+}$	Ionization	0.40-7.00 keV	Th
e + $\mathbf{N}^{5+}$	Ionization	0.40-7.00 keV	Th
e + $\mathbf{O}^{6+}$	Ionization	0.40-7.00 keV	Th
e + $\mathbf{Ne}^{8+}$	Ionization	0.40-7.00 keV	Th

631. D. Tankosic, L. C. Popovic, M. S. Dimitrijevic
Electron-impact broadening parameters for Ra II spectral lines.
Phys. Scr. **63**, 54 (2001)

e + $\mathbf{Ra}^{1+}$	Line Broadening	5.00-50.00 K	Th

632. K. M. Aggarwal, F. P. Keenan, S. J. Rose
Electron impact excitation of Al XIII: Collision strengths and rate coefficients.
Phys. Scr. **63**, 95 (2001)

e + $\mathbf{Al}^{12+}$	Excitation	0.01-10.00 K	Th

633. N. Rakstikas, A. Kupliauskiene
The influence of valence electron state on the 2p ionization of atomic sodium by electrons.
Phys. Scr. **64**, 230 (2001)

e + Na	Excitation	0.05-1.00 keV	Th
e + Na	Ionization	0.05-1.00 keV	Th

634. R. Celiberto, R. K. Janev, A. Laricchiuta
Total and dissociative electron-impact cross sections for $\mathbf{X}^1\Sigma_g{}^+$ **-¿** $\mathbf{B}^1\Sigma_u{}^+$ **and** $\mathbf{X}^1\Sigma_g{}^+$ **-¿** $\mathbf{C}^1\Pi_u$ **transitions of vibrationally excited tritium and neuterium-tritium molecules.**
Phys. Scr. **64**, 26 (2001)

e + $\mathbf{H_2}$	Dissociation	200.00 eV	Th
e + DT	Dissociation	200.00 eV	Th
e + $\mathbf{T_2}$	Dissociation	200.00 eV	Th
e + $\mathbf{H_2}$	Excitation	200.00 eV	Th
e + DT	Excitation	200.00 eV	Th
e + $\mathbf{T_2}$	Excitation	200.00 eV	Th

635. A. Williart, G. Garcia
Analytical formulae for total cross sections for electron scattering by atoms (N, O, F, Ne, P, S, Cl, Ar, As, Se, Br, Kr) between 0.5-10 keV.
Phys. Scr. **64**, 343 (2001)

e + Ne	Ionization	0.50-10.00 keV	Th
e + Ar	Ionization	0.50-10.00 keV	Th
e + Kr	Ionization	0.50-10.00 keV	Th
e + Ne	Excitation	0.50-10.00 keV	Th
e + Ar	Excitation	0.50-10.00 keV	Th
e + Kr	Excitation	0.50-10.00 keV	Th
e + Ne	Elastic Scattering	0.50-10.00 keV	Th
e + Ar	Elastic Scattering	0.50-10.00 keV	Th
e + Kr	Elastic Scattering	0.50-10.00 keV	Th

636. K. M. Aggarwal, F. P. Keenan
Effective collision strengths for transitions within the ground configuration of Fe XXI.
Phys. Scr. **64**, 439 (2001)

e + Fe^{21+}	Excitation	0.10-10.00 K	Th

637. C. Blancard, M. Cornille, J. Dubau
Radiative and collisional atomic data for neon-like copper.
Phys. Scr. **64**, 452 (2001)

e + Cu^{19+}	Excitation	140.00 eV	Th

638. A. Le Padellec, K. Andersson, D. Hanstorp, F. Hellberg, M. Larsson, A. Neau, S. Rosen, H. T. Schmidt, R. Thomas, J. Semaniak, D. J. Pegg, F. Osterdahl, H. Dananred, A. Kallberg
Electron scattering on CN^-.
Phys. Scr. **64**, 467 (2001)

e + CN^{-1+}	Detachment	60.00 eV	Ex

639. P. Kolorenc, M. Cizek, J. Horacek, G. Mil'nikov, H. Nakamura
Study of dissociative electron attachment to HI molecule by using R-matrix representation for Green's function.
Phys. Scr. **65**, 328 (2002)

e + HI	Attachment	1.00 eV	Th
e + HI	Dissociation	1.00 eV	Th

640. K. M. Aggarwal, F. P. Keenan
Electron impact excitation of carbon-like calcium.
Phys. Scr. **65**, 383 (2002)

e + Ca^{14+}	Excitation	50.00-300.00 Ry	Th

641. S.Y.Y. Al-Mulla, L. Joensson
Local-density approximations to the elastic scattering of electrons from Mg and Ba atoms.
Phys. Scr. **65**, 387 (2002)

e + Mg	Angular Scattering	10.00-100.00 eV	Th
e + Ba	Angular Scattering	10.00-100.00 eV	Th
e + Mg	Elastic Scattering	10.00-100.00 eV	Th
e + Ba	Elastic Scattering	10.00-100.00 eV	Th

642. P. G. Burke, C. J. Noble, A. G. Sunderland, V. M. Burke
Electron collisions with iron peak elements: A computational grand challenge.
Phys. Scr. **T100**, 55 (2002)

e + Fe^{1+}	Excitation	0.00-10.00 K	Th
e + Ni^{4+}	Excitation	0.00-10.00 K	Th

643. S. Schippers
Recombination of HCI with electrons – fundamental atomic physics and applications.
Phys. Scr. **T80**, 158 (1999)

e + $\mathbf{Cl}^{14+}$	Recombination	170.00 eV	Ex
e + $\mathbf{Sc}^{3+}$	Recombination	170.00 eV	Ex
e + $\mathbf{Au}^{76+}$	Recombination	170.00 eV	Ex
e + $\mathbf{U}^{88+}$	Recombination	170.00 eV	Ex
e + $\mathbf{U}^{89+}$	Recombination	170.00 eV	Ex

644. B. Srigengan, P. McKenna, P. McGuinness, I. D. Williams
Elastic scattering of electrons from argon ions.
Phys. Scr. **T80**, 272 (1999)

e + $\mathbf{Ar}^{2+}$	Elastic Scattering	16.00 eV	Ex
e + $\mathbf{Ar}^{3+}$	Elastic Scattering	16.00 eV	Ex

645. J. Matsumoto, Z. Wang, H. Tanuma, A. Danjo, M. Yoshino, N. Kobayashi
Angular distribution of elastically scattered electrons from $\mathbf{Ar}^{7+}$.
Phys. Scr. **T80**, 274 (1999)

e + $\mathbf{Ar}^{7+}$	Elastic Scattering	100.00 eV	Ex

646. J. B. Greenwood, S. J. Smith, A. Chutjian
Absolute measurements of electron excitation cross sections in $\mathbf{C}^{3+}$.
Phys. Scr. **T80**, 281 (1999)

e + $\mathbf{C}^{3+}$	Excitation	6.00-13.00 eV	Ex

647. A.C.H Smith, M. E. Bannister, Y.-S. Chung, N. L. Djuric, G. H. Dunn, B. Wallbank, O. Woitke
Near-threshold electron-impact excitation of multiply-charged Be-like ions.
Phys. Scr. **T80**, 283 (1999)

e + $\mathbf{C}^{2+}$	Excitation	12.00-21.00 eV	Ex
e + $\mathbf{N}^{3+}$	Excitation	12.00-21.00 eV	Ex
e + $\mathbf{O}^{4+}$	Excitation	12.00-21.00 eV	Ex

648. M. Westermann, F. Scheuermann, K. Aichele, U. Hartenfeller, D. Hathiramani, M. Steidl, E. Salzborn
Multiple ionization of $\mathbf{C}^{q+}$, $\mathbf{N}^{q+}$ and $\mathbf{O}^{q+}$ ions by electron impact.
Phys. Scr. **T80**, 285 (1999)

e + $\mathbf{C}^{1+}$	Ionization	0.05-10.00 keV	Ex
e + $\mathbf{O}^{1+}$	Ionization	0.05-10.00 keV	Ex
e + $\mathbf{O}^{2+}$	Ionization	0.05-10.00 keV	Ex
e + $\mathbf{O}^{3+}$	Ionization	0.05-10.00 keV	Ex
e + $\mathbf{O}^{4+}$	Ionization	0.05-10.00 keV	Ex

649. M. Steidl, K. Aichele, U. Hartenfeller, D. Hathiramani, F. Scheuermann, M. Westermann, E. Salzborn
Electron impact ionization of gallium ions.
Phys. Scr. **T80**, 287 (1999)

e + $\mathbf{Ga}^{1+}$	Ionization	0.01-2.00 keV	Ex
e + $\mathbf{Ga}^{3+}$	Ionization	0.01-2.00 keV	Ex

650. E. Sokell, F. J. Currell, H. Shimizu, S. Ohtani
On the measurement of electron impact ionisation cross-sections for highly charged ions using an electron beam ion trap (EBIT).
Phys. Scr. **T80**, 289 (1999)

e + $\mathbf{Ar}^{16+}$	Ionization	30.00 keV	Ex
e + $\mathbf{Ar}^{17+}$	Ionization	30.00 keV	Ex

651. S. Cherkani-Hassani, P. Defrance, E. M. Oualim
Electron impact ionization of nickel multiply-charged ions.
Phys. Scr. **T80**, 292 (1999)

e + $\mathbf{Ni}^{12+}$	Ionization	0.20-5.00 keV	Ex
e + $\mathbf{Ni}^{14+}$	Ionization	0.20-5.00 keV	Ex

652. T. Pattard, J. M. Rost
Cross sections for (multiple) ionization of ions in collisions with electrons.
Phys. Scr. **T80**, 295 (1999)

e + H	Ionization	0.40-10.00 keV	Th
e + He^{1+}	Ionization	0.40-10.00 keV	Th
e + Li^{2+}	Ionization	0.40-10.00 keV	Th
e + Be^{3+}	Ionization	0.40-10.00 keV	Th
e + B^{4+}	Ionization	0.40-10.00 keV	Th
e + C^{5+}	Ionization	0.40-10.00 keV	Th
e + N^{6+}	Ionization	0.40-10.00 keV	Th
e + O^{7+}	Ionization	0.40-10.00 keV	Th
e + F^{8+}	Ionization	0.40-10.00 keV	Th
e + Ne^{9+}	Ionization	0.40-10.00 keV	Th

653. A. Hoffknecht, T. Bartsch, S. Schippers, A. Mueller, N. Eklow, P. Glans, M. Beutelspacher, M. Grieser, G. Gwinner, A. A. Saghiri, A. Wolf
Recombination of F^{6+} **with free electrons at very low energies.**
Phys. Scr. **T80**, 298 (1999)

e + F^{6+}	Recombination	15.00 eV	Ex

654. C. Biedermann, T. Fuchs, P. Liebisch, R. Radtke, E. Behar, R. Doron
X-ray spectroscopic measurements of dielectronic recombination of highly charged krypton ions.
Phys. Scr. **T80**, 303 (1999)

e + Kr^{32+}	Recombination	8.00-10.00 keV	Ex
e + Kr^{33+}	Recombination	8.00-10.00 keV	Ex
e + Kr^{34+}	Recombination	8.00-10.00 keV	Ex

655. T. Bartsch, A. Mueller, W. Spies, J. Linkemann, S. Schippers, C. Brandau, H. Danared, D. R. DeWitt, H. Gao, W. Zong, R. Schuch, A. Wolf, G. Gwinner, A. A. Saghiri, M. Schmitt, M. Beutelspacher, M. Grieser, G. H. Dunn
Field enhanced dielectronic recombination of Si^{11+} **and Cl**$^{14+}$ **ions.**
Phys. Scr. **T80**, 305 (1999)

e + Si^{11+}	Recombination	35.00 eV	Ex
e + Cl^{14+}	Recombination	35.00 eV	Ex

656. M. F. Gu, P. Beiersdorfer, G. V. Brown, S. M. Kahn, D. A. Liedahl, K. J. Reed, D. W. Savin
Laboratory measurements of resonant contributions to Fe XXIV line emission.
Phys. Scr. **T80**, 310 (1999)

e + Fe^{25+}	Excitation	0.70-3.00 keV	Ex

657. S. Schippers, T. Bartsch, C. Brandau, A. Mueller, G. Gwinner, J. Linkemann, A. A. Saghiri, A. Wolf
Photorecombination of Sc^{3+} **and Ti**$^{4+}$ **ions: search for interference effects and recombination at low energies.**
Phys. Scr. **T80**, 314 (1999)

e + Ti^{4+}	Recombination	0.00-1.00 eV	Ex

658. A. Hoffknecht, O. Uwira, S. Schennach, A. Frank, J. Haselbauer, W. Spies, N. Angert, P. H. Mokler, R. L. Becker, M. Kleinod, S. Schippers, A. Mueller
Influence of magnetic fields on recombination rates of Au^{25+}**.**
Phys. Scr. **T80**, 316 (1999)

e + Au^{25+}	Recombination	0.00-1.00 eV	Ex

659. C. Brandau, T. Bartsch, C. Boehme, F. Bosch, G. H. Dunn, B. Franzke, A. Hoffknecht, C. Knocke, H. Knopp, C. Kozhuharov, A. Kraemer, P. H. Mokler, A. Mueller, F. Nolden, S. Schippers, Z. Stachura, M. Steck, T. Stoehlker, T. Winkler, A. Wolf
Recombination measurements of the heaviest ions.
Phys. Scr. **T80**, 318 (1999)

e + $\mathbf{Au}^{76+}$	Recombination	3.00-100.00 eV	Ex
e + $\mathbf{Pb}^{79+}$	Recombination	3.00-100.00 eV	Ex
e + $\mathbf{U}^{89+}$	Recombination	3.00-100.00 eV	Ex
e + $\mathbf{Bi}^{80+}$	Recombination	3.00-100.00 eV	Ex
e + $\mathbf{Bi}^{82+}$	Recombination	3.00-100.00 eV	Ex
e + $\mathbf{Bi}^{83+}$	Recombination	3.00-100.00 eV	Ex

660. T. Steih, K. Kollmar, N. Gruen, W. Scheid
Dielectronic recombination on highly charged ions.
Phys. Scr. **T80**, 321 (1999)

e + $\mathbf{Au}^{75+}$	Recombination	8.00-60.00 eV	Th
e + $\mathbf{Au}^{76+}$	Recombination	8.00-60.00 eV	Th

661. O. Brinzanescu, J. Eichler, A. Ichihara, T. Stoehlker
Comparison between the nonrelativistic dipole approximation and the exact relativistic theory for radiative recombination.
Phys. Scr. **T80**, 324 (1999)

e + $\mathbf{Ne}^{10+}$	Recombination	0.06-37.00 keV	Th
e + $\mathbf{U}^{92+}$	Recombination	0.06-37.00 keV	Th

662. P. Richard, C. Bhalla, S. Hagmann, P. Zavodsky
Quasi-free electron-ion scattering in ion-atom collisions.
Phys. Scr. **T80**, 87 (1999)

e + $\mathbf{C}^{6+}$	Elastic Scattering	0.55-3.00 keV	Th
e + $\mathbf{F}^{4+}$	Elastic Scattering	0.55-3.00 keV	Th
e + $\mathbf{F}^{9+}$	Elastic Scattering	0.55-3.00 keV	Th

663. K. Aichele, W. Arnold, D. Hathiramani, F. Scheuermann, E. Salzborn
Electron-impact ionization of Samarium ions.
Phys. Scr. **T92**, 262 (2001)

e + $\mathbf{Sm}^{1+}$	Ionization	0.01-1.00 keV	Ex
e + $\mathbf{Sm}^{2+}$	Ionization	0.01-1.00 keV	Ex
e + $\mathbf{Sm}^{3+}$	Ionization	0.01-1.00 keV	Ex

664. S. Cherkani-Hassani, M. Khouilid, P. Defrance
Electron impact single and double ionization of $\mathbf{Ni}^{q+}$ ions (q=10, 11, 13 and 15).
Phys. Scr. **T92**, 287 (2001)

e + $\mathbf{Ni}^{10+}$	Ionization	0.20-5.00 keV	Ex
e + $\mathbf{Ni}^{11+}$	Ionization	0.20-5.00 keV	Ex
e + $\mathbf{Ni}^{13+}$	Ionization	0.20-5.00 keV	Ex
e + $\mathbf{Ni}^{15+}$	Ionization	0.20-5.00 keV	Ex

665. C. R. Stia, O. A. Fojon, R. D. Rivarola
(e,2e) reactions for $\mathbf{He}^{+}$ and $\mathbf{Li}^{2+}$ ions from their excited states. Scaling law.
Phys. Scr. **T92**, 303 (2001)

e + $\mathbf{He}^{1+}$	Ionization	5.00-500.00 eV	Th
e + $\mathbf{Li}^{2+}$	Ionization	5.00-500.00 eV	Th

666. G. Gwinner, D. W. Savin, D. Schwalm, A. Wolf, S. Schippers, A. Mueller, N. R. Badnell, M. H. Chen
Dielectronic recombination of iron L-shell ions.
Phys. Scr. **T92**, 319 (2001)

e + $\mathbf{Fe}^{17+}$	Recombination	120.00 eV	Ex
e + $\mathbf{Fe}^{18+}$	Recombination	120.00 eV	Ex
e + $\mathbf{Fe}^{19+}$	Recombination	120.00 eV	Ex
e + $\mathbf{Fe}^{20+}$	Recombination	120.00 eV	Ex
e + $\mathbf{Fe}^{21+}$	Recombination	120.00 eV	Ex

667. S. Madzunkov, N. Ekloew, E. Lindroth, M. Tokman, R. Schuch
Dielectronic recombination resonances in $\mathbf{Kr^{33+}}$.
Phys. Scr. **T92**, 357 (2001)

e + $\mathbf{Kr^{33+}}$	Recombination	3.00-14.00 eV	Ex

668. J. Matsumoto, Z. Wang, A. Danjo, M. Yoshino, H. Tanuma, N. Kobayashi
Differential cross section measurements in electron-ion collisions using a toroidal analyzer.
Phys. Scr. **T92**, 367 (2001)

e + $\mathbf{Ar^{7+}}$	Angular Scattering	100.00 eV	Ex
e + $\mathbf{Ar^{8+}}$	Angular Scattering	100.00 eV	Ex
e + $\mathbf{Ar^{7+}}$	Elastic Scattering	100.00 eV	Ex
e + $\mathbf{Ar^{8+}}$	Elastic Scattering	100.00 eV	Ex

669. P. McKenna, I. D. Williams
Differential cross section measurements for elastic scattering of electrons from $\mathbf{Ar^{2+}}$ and $\mathbf{Xe^{2+}}$.
Phys. Scr. **T92**, 370 (2001)

e + $\mathbf{Ar^{2+}}$	Angular Scattering	16.00 eV	Ex
e + $\mathbf{Xe^{2+}}$	Angular Scattering	16.00 eV	Ex
e + $\mathbf{Ar^{2+}}$	Elastic Scattering	16.00 eV	Ex
e + $\mathbf{Xe^{2+}}$	Elastic Scattering	16.00 eV	Ex

670. S. Kieslich, S. Boehm, A. Mueller, S. Schippers, W. Shi, G. Gwinner, M. Schnell, A. Wolf, E. Lindroth, M. Tokman
Photorecombination of lithium-like $\mathbf{Sc^{18+}}$ at threshhold: a challenge for atomic structure theory.
Phys. Scr. **T92**, 376 (2001)

e + $\mathbf{Sc^{18+}}$	Recombination	50.00 eV	Ex

671. H. Knopp, H. Teng, S. Ricz, S. Schippers, A. Mueller
Interference in electron-impact ionization of $\mathbf{C^{3+}}$ ions: unified R-matrix calculation and experiment.
Phys. Scr. **T92**, 379 (2001)

e + $\mathbf{C^{3+}}$	Ionization	0.05-1.00 keV	Th

672. S. Schippers, T. Bartsch, S. Boehm, G. Gwinner, D. Schwalm, A. Wolf, R. A. Phaneuf, R. H. Schuch, A. Mueller
Field enhanced dielectronic recombination of lithiumlike $\mathbf{Ti^{19+}}$ and $\mathbf{Ni^{25+}}$ ions.
Phys. Scr. **T92**, 391 (2001)

e + $\mathbf{Ti^{19+}}$	Recombination		Ex
e + $\mathbf{Ni^{25+}}$	Recombination		Ex

673. S. Boehm, S. Schippers, W. Shi, A. Mueller, N. Djuric, G. H. Dunn, W. Zong, B. Jelencovic, N. Eklow, P. Glans, R. Schuch, H. Dananred, N. R. Badnell
Influence of electromagnetic fields on the dielectronic recombination of $\mathbf{Ne^{7+}}$ and $\mathbf{O^{5+}}$ ions.
Phys. Scr. **T92**, 395 (2001)

e + $\mathbf{O^{5+}}$	Recombination		Ex
e + $\mathbf{Ne^{7+}}$	Recombination		Ex

674. A. Hoffknecht, C. Brandau, T. Bartsch, C. Coehme, H. Knopp, S. Schippers, A. Mueller, C. Kozhuharov, K. Beckert, F. Bosch, B. Franzke, A. Kraemer, P. H. Mokler, F. Nolden, M. Steck, Th. Stoehlker, Z. Stachura
Recombination of bare $\mathbf{Bi^{83+}}$ ions with electrons.
Phys. Scr. **T92**, 398 (2001)

e + $\mathbf{Bi^{83+}}$	Recombination	0.00-100.00 eV	Ex

675. A. Hoffknecht, S. Schippers, A. Mueller, G. Gwinner, D. Schwalm, A. Wolf
Recombination of bare Cl^{17+} ions in an electron cooler.
Phys. Scr. **T92**, 402 (2001)

e + Cl^{17+}	Recombination	0.00-0.01 eV	Ex

676. M. Tokman, P. Glans, E. Lindroth, R. Schuch, M. Bjoerkhage, H. Danared, A. Kaellberg, M. Pajek, L.-O. Norlin
Towards a determination of QED effects in Cu-like Pb recombination resonances near threshold.
Phys. Scr. **T92**, 406 (2001)

e + Pb^{53+}	Recombination	0.06 eV	Th

677. H. Teng, A. Mueller, G. Hofmann, E. Salzborn, R. A. Phaneuf
Autoionizing resonances in electron-impact ionization of O^{5+} ions.
Phys. Scr. **T92**, 441 (2001)

e + O^{5+}	Ionization	400.00-750.00 eV	Ex

678. A. Yu. Pigarov
Collisional radiative kinetics of molecular assisted recombination in edge plasmas.
Phys. Scr. **T96**, 16 (2002)

e + ${H_2}^{1+}$	Recombination	0.10-10.00 eV	Th
e + H_2	Excitation	0.10-10.00 eV	Th
e + ${H_2}^{1+}$	Excitation	0.10-10.00 eV	Th
e + H_2	Dissociation	0.10-10.00 eV	Th
e + ${H_2}^{1+}$	Dissociation	0.10-10.00 eV	Th
e + H_2	Ionization	0.10-10.00 eV	Th

679. R. Celiberto, M. Capitelli, A. Laricchiuta
Towards a cross section database of excited atomic and molecular hydrogen.
Phys. Scr. **T96**, 32 (2002)

e + H_2	Excitation	100.00 eV	Th
e + H_2	Ionization	100.00 eV	Th
e + H_2	Dissociation	100.00 eV	Th

680. I. I. Fabrikant, J. M. Wadehra, Y. Xu
Resonance processes in e-H_2 collisions: Dissociative attachment and dissociation from vibrationally and rotationally excited states.
Phys. Scr. **T96**, 45 (2002)

e + H_2	Attachment	5.00 eV	Th
e + H_2	Dissociation	5.00 eV	Th

681. H. Takagi
Dissociative recombination and excitation of ${H_2}^+$, HD^+, and ${D_2}^+$ with electrons for various vibrational states.
Phys. Scr. **T96**, 52 (2002)

e + ${H_2}^{1+}$	Recombination	12.00 eV	Th
e + HD^{1+}	Recombination	12.00 eV	Th
e + ${D_2}^{1+}$	Recombination	12.00 eV	Th
e + ${H_2}^{1+}$	Dissociation	12.00 eV	Th
e + HD^{1+}	Dissociation	12.00 eV	Th
e + ${D_2}^{1+}$	Dissociation	12.00 eV	Th

682. S. I. Krasheninnikov
Molecule assisted recombination (MAR): Mechanisms and plasma conditions for effective operation.
Phys. Scr. **T96**, 7 (2002)

e + H_2^{1+}	Recombination		Th
e + H_2	Dissociation		Th
e + H_2^{1+}	Dissociation		Th
e + H_2^{1+}	Dissociation		Th
e + H_3^{1+}	Dissociation		Th

683. R. K. Janev
Alternative mechanisms for divertor plasma recombination.
Phys. Scr. **T96**, 94 (2002)

e + CH_4^{1+}	Recombination	0.10-30.00 eV	Th
e + $C_2H_4^{1+}$	Recombination	0.10-30.00 eV	Th
e + $C_2H_6^{1+}$	Recombination	0.10-30.00 eV	Th
e + $C_3H_8^{1+}$	Recombination	0.10-30.00 eV	Th
e + CH_4^{1+}	Dissociation	0.10-30.00 eV	Th
e + $C_2H_4^{1+}$	Dissociation	0.10-30.00 eV	Th
e + $C_2H_6^{1+}$	Dissociation	0.10-30.00 eV	Th
e + $C_3H_8^{1+}$	Dissociation	0.10-30.00 eV	Th
e + H^{1+}	Recombination	0.10-30.00 eV	Th
e + H_2	Excitation	0.10-30.00 eV	Th

3.2.3 Heavy Particle Collisions

684. M.-L. Dubernet, A. Grosjean
Collisional excitation rates of H_2O with H_2. I. Pure rotational excitation rates with para-H_2 at very low temperatures.
Astron. Astrophys. **390**, 793 (2002)

H_2 + H_2O	Interchange reaction	5.00-20.00 K	Th

685. H. Gao, V.H.S Kwong
Charge transfer of O^{5+} and O^{4+} with CO at keV energies.
Astrophys. J., Part 1 **567**, 1272 (2002)

O^{4+} + CO	Charge Transfer	6.80-8.50 keV	Ex
O^{5+} + CO	Charge Transfer	6.80-8.50 keV	Ex

686. N. Balakrishnan, M. Yan, A. Dalgarno
Quantum-mechanical study of rotational and vibrational transitions in CO induced by H atoms.
Astrophys. J., Part 1 **568**, 443 (2002)

H + CO	Excitation	0.01-3.00 K	Th

687. C. Cecchi-Pestellini, E. Bodo, N. Balakrishnan, A. Dalgarno
Rotational and vibrational excitation of CO molecules by collisions with ^4He atoms.
Astrophys. J., Part 1 **571**, 1015 (2002)

He + CO	Excitation	0.00-0.07 eV	Th

688. A. Ekers, M. Glodz, V. Grushevsky, J. Klavins, J. Szonert
Energy transfer between the ^2S and ^2D states in alkalis: experiments and theory.
Can. J. Phys. **79**, 1039 (2001)

Li + Li	Energy Transfer		E/T
Li* + Li	Energy Transfer		E/T
Na + Na	Energy Transfer		E/T
Na* + Na	Energy Transfer		E/T
Na + Rb	Energy Transfer		E/T
Na* + Rb	Energy Transfer		E/T

K + Na	Energy Transfer		E/T
K* + Na	Energy Transfer		E/T
K + K	Energy Transfer		E/T
K* + K	Energy Transfer		E/T
K + Rb	Energy Transfer		E/T
K* + Rb	Energy Transfer		E/T
Rb + Rb	Energy Transfer		E/T
Rb* + Rb	Energy Transfer		E/T
Cs + Cs	Energy Transfer		E/T
Cs* + Cs	Energy Transfer		E/T

689. A. A. Vasilyev, H. Tawara, P. Richard, U. I. Safronova
Observation and analysis (synthesis) of X-ray spectrum originated from electron capture of low-energy, highly charged Xe^{q+} (q = 26-43) ions in single collisions with Ar atom.
Can. J. Phys. **80**, 65 (2002)

Xe^{26+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{27+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{28+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{29+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{30+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{31+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{32+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{33+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{34+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{35+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{36+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{37+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{38+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{39+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{40+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{41+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{42+} + Ar	Charge Transfer	0.74 keV/amu	Ex
Xe^{43+} + Ar	Charge Transfer	0.74 keV/amu	Ex

690. E. Traebert, H.-P. Garnir, P.-D. Dumont, T. Bastin
Singlet-triplet excitation ratios in Ne III, Ar III and N II under ion impact.
Eur. Phys. J. D **15**, 25 (2001)

H^{1+} + N$_2$	Excitation	0.01-1.00 MeV/amu	Ex
H^{1+} + Ne	Excitation	0.01-1.00 MeV/amu	Ex
H^{1+} + Ar	Excitation	0.01-1.00 MeV/amu	Ex
H$_2$$^{1+}$ + N$_2$	Excitation	0.01-1.00 MeV/amu	Ex
H$_2$$^{1+}$ + N$_2$	Excitation	0.01-1.00 MeV/amu	Ex
H$_2$$^{1+}$ + Ne	Excitation	0.01-1.00 MeV/amu	Ex
H$_2$$^{1+}$ + Ar	Excitation	0.01-1.00 MeV/amu	Ex
H$_2$$^{1+}$ + Ar	Excitation	0.01-1.00 MeV/amu	Ex
He^{1+} + N$_2$	Excitation	0.01-1.00 MeV/amu	Ex
He^{1+} + Ne	Excitation	0.01-1.00 MeV/amu	Ex
He^{1+} + Ar	Excitation	0.01-1.00 MeV/amu	Ex
He^{2+} + Ne	Excitation	0.01-1.00 MeV/amu	Ex
N$_2$$^{1+}$ + N$_2$	Excitation	0.01-1.00 MeV/amu	Ex
N$_2$$^{1+}$ + Ne	Excitation	0.01-1.00 MeV/amu	Ex
N$_2$$^{1+}$ + Ar	Excitation	0.01-1.00 MeV/amu	Ex
Ne^{1+} + N$_2$	Excitation	0.01-1.00 MeV/amu	Ex
Ne^{1+} + Ne	Excitation	0.01-1.00 MeV/amu	Ex
Ne^{1+} + Ar	Excitation	0.01-1.00 MeV/amu	Ex
Ar^{1+} + N$_2$	Excitation	0.01-1.00 MeV/amu	Ex
Ar^{1+} + Ne	Excitation	0.01-1.00 MeV/amu	Ex

$\mathbf{Ar^{1+} + Ar}$	Excitation	0.01-1.00 MeV/amu	Ex

691. D. C. Ionescu, A. Belkacem
Dynamics of ionization mechanisms in relativistic collisions involving heavy and highly-charged ions.
Eur. Phys. J. D **18**, 301 (2002)

$\mathbf{Au^{79+} + U^{91+}}$	Ionization	100.00 MeV/amu	Th

692. J. F. Kielkopf, N. F. Allard, A. Decrette
Study of the far wing of the Balmer α line of hydrogen perturbed by collisions with protons. Balmer α.
Eur. Phys. J. D **18**, 51 (2002)

$\mathbf{H^{1+} + H}$	Line Broadening	4.00-10.00 K	E/T
$\mathbf{H^{1+} + H^*}$	Line Broadening	4.00-10.00 K	E/T

693. A. Nurmela, P. Pusa, E. Rauhala, J. Raeisaenen
^{4}He+Ni elastic scattering near the Coulomb barrier and optical model parameters.
J. Appl. Phys. **91**, 2438 (2002)

$\mathbf{He^{1+} + Ni}$	Total Scattering	3.90-14.30 MeV	E/T
$\mathbf{He^{1+} + Ni}$	Elastic Scattering	3.90-14.30 MeV	E/T

694. J. S. Miller, S. H. Pullins, D. J. Levandier, Y.-H. Chiu, R. A. Dressler
Xenon charge exchange cross sections for electrostatic thruster models.
J. Appl. Phys. **91**, 984 (2002)

$\mathbf{Xe^{1+} + Xe}$	Interaction Potentials	1.00-300.00 eV	E/T
$\mathbf{Xe^{2+} + Xe}$	Interaction Potentials	1.00-300.00 eV	E/T
$\mathbf{Xe^{1+} + Xe}$	Charge Transfer	1.00-300.00 eV	E/T
$\mathbf{Xe^{2+} + Xe}$	Charge Transfer	1.00-300.00 eV	E/T

695. E. M. Goldfield, A.J.H.M. Meijer
Time-dependent quantum mechanical calculations on H+O$_2$ for total angular momentum J¿0. III. Total cross sections.
J. Chem. Phys. **113**, 11055 (2000)

$\mathbf{H + O_2}$	Interchange reaction	9.04 keV	Th

696. F. J. Aoiz, L. Banares, J. F. Castillo
On the existence of resonances in the H + D$_2$ -¿ HD(v' = 0,j' = 7) + D reaction at collision energies 0.6-1.3 eV.
J. Chem. Phys. **114**, 8237 (2001)

$\mathbf{H + H_2}$	Interchange reaction	0.60-1.30 eV	Th
$\mathbf{H + D_2}$	Interchange reaction	0.60-1.30 eV	Th

697. B. K. Kendrick
Quantum reactive scattering calculations for the H+D$_2$ -¿ HD+D reaction.
J. Chem. Phys. **114**, 8796 (2001)

$\mathbf{H + H_2}$	Interchange reaction	0.50-1.90 eV	Th
$\mathbf{H + D_2}$	Interchange reaction	0.50-1.90 eV	Th

698. B. Bussery-Honvault, P. Honvault, J.-M. Launay
A study of the C(^{1}D) + H$_2$ -¿ CH + H reaction: Global potential energy surface and quantum dynamics.
J. Chem. Phys. **115**, 10701 (2001)

$\mathbf{C + H_2}$	Interchange reaction	12.00 kcal/mol	Th
$\mathbf{C^* + H_2}$	Interchange reaction	12.00 kcal/mol	Th

699. F. J. Aoiz, L. Banares, J. F. Castillo, M. Menendez
A quantum mechanical and quasi-classical trajectory study of the Cl + H_2 reaction and its isotopic variants: Dependence of the integral cross section on the collision energy and reagent rotation.
J. Chem. Phys. **115**, 2074 (2001)

Cl + H_2	Interchange reaction	0.10-0.40 eV	Th

700. M. Tsuji, T. Tsuji, T. Hamagami, K. Nakano
Effects of vibrational excitation of target N_2 molecule in charge-transfer reaction of He^+ with N_2 at thermal energy.
J. Chem. Phys. **115**, 6811 (2001)

He^{1+} + N_2	Charge Transfer	0.10 eV	Ex

701. D. di Domenico, M. I. Hernandez, J. C. Martinez
Wave packet calculations for $H_2(v_1=10\text{-}14)$ + $H_2(v_2=0\text{-}2)$: Reaction and dissociation mechanisms.
J. Chem. Phys. **115**, 7897 (2001)

H_2 + H_2	Interchange reaction	5.00 eV	Th

702. S. Sukiasyan, H.-D. Meyer
Reaction cross sections for the H + $D_2(v_0=1)$ -¿ HD+D and D+$H_2(v_0=1)$ -¿ DH+H systems. A multiconfiguration time-dependent Hartree (MCTDH) wave packet propagation study.
J. Chem. Phys. **116**, 10641 (2002)

H + H_2	Interchange reaction	1.60 eV	Th
H + D_2	Interchange reaction	1.60 eV	Th
D + H_2	Interchange reaction	1.60 eV	Th

703. A. P. Palov, P. Jimeno, M. D. Gray, D. Field, G. G. Balint-Kurti
Vibrationally-rotationally inelastic cross sections for H+SiO collisions.
J. Chem. Phys. **116**, 1388 (2002)

H + SiO	Excitation	0.20-9.60 K	Th

704. D. H. Zhang, M. Yang, S.-Y. Lee
Quantum dynamics of the D_2 + OH reaction.
J. Chem. Phys. **116**, 2388 (2002)

H_2 + OH	Interchange reaction	0.50 eV	Th
D_2 + OH	Interchange reaction	0.50 eV	Th

705. T. Takayanagi
Nonadiabatic quantum reactive scattering calculations for the $O(^1D)$+H_2, D_2, and HD reactions on the lowest three potential energy surfaces.
J. Chem. Phys. **116**, 2439 (2002)

O + H_2	Interchange reaction	0.50 eV	Th

706. R. Cabrera-Trujillo, Y. Ohrn, E. Deumens, J. R. Sabin
Trajectory and molecular binding effects in stopping cross section for hydrogen beams on H_2.
J. Chem. Phys. **116**, 2783 (2002)

H + H_2	Charge Transfer	0.01-25.00 keV	Th
H^{1+} + H	Charge Transfer	0.01-25.00 keV	Th
H^{1+} + H_2	Charge Transfer	0.01-25.00 keV	Th

707. S. A. Harich, D. Dai, X. Yang, S. Der Chao, R. T. Skodje
State-to-state dynamics of H + HD -¿ H_2 + D at 0.5 eV: A combined theoretical and experimental study.
J. Chem. Phys. **116**, 4769 (2002)

$H + H_2$	Interchange reaction	0.50 eV	Ex
$H + HD$	Interchange reaction	0.50 eV	Ex

708. B. D. Bean, J. D. Ayers, F. Fernandez-Alonso, R. N. Zare
State-resolved differential and integral cross sections for the reaction H + D_2 -¿ HD (v' = 3,j = 0-7) + D at 1.64 eV collision energy.
J. Chem. Phys. **116**, 6634 (2002)

$H + H_2$	Interchange reaction	1.64 eV	Ex
$H + D_2$	Interchange reaction	1.64 eV	Ex

709. F. J. Aoiz, L. Banares, J. F. Castillo
Energy dependence of forward scattering in the differential cross section of the H + D_2 -¿ HD (v'=3,j'=0) + D reaction.
J. Chem. Phys. **117**, 2546 (2002)

$H + H_2$	Interchange reaction	1.39-2.20 eV	Th
$H + D_2$	Interchange reaction	1.39-2.20 eV	Th

710. S. Y. Lin, H. Guo
Full-dimensional quantum wave packet study of rotationally inelastic transitions in H_2 + H-2 collision.
J. Chem. Phys. **117**, 5183 (2002)

$H_2 + H_2$	De-excitation	1.20 eV	Th

711. D. Voulot, D. R. Gillen, D. M. Kearns, R. W. McCullough, H. B. Gilbody
State-selective one-electron capture by slow state-prepared $N^{2+}(^2P)$ ground-state ions in collisions with hydrogen atoms.
J. Phys. B **34**, 1039 (2001)

$N^{2+} + H$	Charge Transfer	0.80-6.00 keV	Ex

712. I. Ben-Itzhak, E. Wells, D. Studanski, V. Krishnamurthi, K. D. Carnes, H. Knudsen
Double and single ionization of hydrogen molecules by fast-proton impact.
J. Phys. B **34**, 1143 (2001)

$H^{1+} + H_2$	Ionization	4.00-24.00 a.u.	Ex
$H^{1+} + HD$	Ionization	4.00-24.00 a.u.	Ex

713. R. E. Olson, C. R. Feeler
Double-electron removal from H_2 by slow, highly charged Xe^{23+} ions.
J. Phys. B **34**, 1163 (2001)

$Xe^{23+} + H_2$	Total Scattering	0.00-2.60 keV/amu	Th
$Xe^{23+} + H_2$	Charge Transfer	0.00-2.60 keV/amu	Th

714. D. Rabli, M. Gargaud, R. McCarroll
Electron capture in low-energy collisions of Si^{3+} with He.
J. Phys. B **34**, 1395 (2001)

$Si^{3+} + He$	Charge Transfer	1.58-250.00 eV/amu	Th

715. L. Gulyas, P. D. Fainstein, T. Shirai
Multiple-scattering analysis of triply differential cross sections for electron emission in energetic ion-atom collisions.
J. Phys. B **34**, 1473 (2001)

$H^{1+} + H$	Charge Transfer	5.00 MeV	Th
$H^{1+} + H$	Ionization	5.00 MeV	Th

716. P. G. Reyes, F. Castillo, H. Martinez
Experimental study of single-electron loss by Ar^+ ions in rare-gas atoms.
J. Phys. B **34**, 1485 (2001)

Ar^{1+} + Ne	Ionization	1.50-5.00 keV	Ex
Ar^{1+} + Ar	Ionization	1.50-5.00 keV	Ex
Ar^{1+} + Kr	Ionization	1.50-5.00 keV	Ex
Ar^{1+} + Xe	Ionization	1.50-5.00 keV	Ex

717. J. Fu, M. J. Fitzpatrick, J. F. Reading, R. Gayet
Finite Hilbert basis set calculations of the ejected electron energy spectrum for an ion-atom collision illustrated for proton-hydrogen scattering at 48 and 114 keV.
J. Phys. B **34**, 15 (2001)

H^{1+} + H	Total Scattering	48.00-114.00 keV	Th
H^{1+} + H	Ionization	48.00-114.00 keV	Th

718. J.-M. Zhu, B.-L. Zhou, Z.-C. Yan
Long-range interactions for H(1s)-He($n^{1,3}$P), H(1s)-Li(N^2P) and He(1 ^{1}S)-Li(n ^{2}P) systems.
J. Phys. B **34**, 1535 (2001)

H + He	Interaction Potentials		Th
H + Li	Interaction Potentials		Th
He + Li	Interaction Potentials		Th

719. M. J. Frost, S. Himmelmann, D. D. Palmer
Laser-induced fluorescence studies of elementary processes in a helium plasma following He 3 ^{3}P-2 ^{3}S and 3 ^{1}P-2 ^{1}S excitation.
J. Phys. B **34**, 1569 (2001)

He + He	Association	300.00 K	Ex
He + He	De-excitation	300.00 K	Ex
He + He	Energy Transfer	300.00 K	Ex
He + He	Excitation	300.00 K	Ex

720. S. Demianiuk, K. Kolwas
Dynamics of spontaneous growth of light-induced sodium droplets from the vapour phase.
J. Phys. B **34**, 1651 (2001)

Na + Na	Association	663.00-723.00 K	Ex

721. A. B. Voitkiv, J. Ullrich
Binary-encounter electron emission in fast atomic collisions in the presence of coherent electromagnetic radiation.
J. Phys. B **34**, 1673 (2001)

He^{2+} + H	Ionization		Th

722. A. M. Paterson, D. J. Smith, I. S. Borthwick, R. S. Stewart
Investigation of the neon 2p collisional excitation transfer processes via CW laser collisionally induced fluorescence.
J. Phys. B **34**, 1815 (2001)

Ne + Ne	Energy Transfer	1.00-10.00 Torr	Ex

723. B. G. Lindsay, R. Rejoub, D. R. Sieglaff, R. F. Stebbings
Charge transfer of keV O^+ ions with CO and H_2O.
J. Phys. B **34**, 2159 (2001)

O^{1+} + H_2O	Charge Transfer	0.50-5.00 keV	Ex
O^{1+} + CO	Charge Transfer	0.50-5.00 keV	Ex

724. E. Bichoutskaia, A. Z. Devdariani, K. Ohmori, O. Misaki, K. Ueda, Y. Sato
Spectroscopy of quasimolecular optical transitions: Ca(4s^2 $^1S_0$¡–¿4s4p ^{1}P,4s3d $^1D_2$)-He. The influence of radiation width.
J. Phys. B **34**, 2301 (2001)

Ca^* + He	Excitation	2.61-2.78 eV	Th
Ca + He	Excitation	2.61-2.78 eV	Th

725. T. Grycuk, W. Behmenburg, V. Staemmler
Quantum calculation of the excitation spectra of Li*He probing interaction potentials and dipole moments.
J. Phys. B **34**, 245 (2001)

Li + He	Interaction Potentials	0.50-0.99 eV	Th

726. P. C. Stancil, A. R. Turner, D. L. Cooper, D. R. Schultz, M. J. Rakovic, W. Fritsch, B. Zygelman
Electron capture in collisions of S^{4+} with atomic hydrogen.
J. Phys. B **34**, 2481 (2001)

S^{4+} + H	Charge Transfer	0.00-10.00 MeV/amu	Th

727. A. L. Godunov, H. Merabet, J. H. McGuire, R. F. Bruch, J. Hanni, V. S. Schipakov
Magnetic sublevel population in 1s-2p excitation of helium by fast electrons and protons.
J. Phys. B **34**, 2575 (2001)

H^{1+} + He	Excitation	3.00-8.50 a.u.	E/T

728. M. I. Chibisov, R. K. Janev, X. Urbain, F. Brouillard
Electron capture and excitation in slow H^+ + He^* (n=3) collisions.
J. Phys. B **34**, 2631 (2001)

H^{1+} + He^*	Excitation	$2x10^6$-$1.3x10^8$ cm/s	Th
H^{1+} + He	Excitation	$2x10^6$-$1.3x10^8$ cm/s	Th
H^{1+} + He^*	Charge Transfer	$2x10^6$-$1.3x10^8$ cm/s	Th
H^{1+} + He	Charge Transfer	$2x10^6$-$1.3x10^8$ cm/s	Th

729. A. B. Voitkiv, N. Gruen
Electron cusp from projectiles in ultrarelativistic collisions with atoms.
J. Phys. B **34**, 267 (2001)

S^{15+} + Al	Ionization	33.00 TeV	Th
Pb^{81+} + Al	Ionization	33.00 TeV	Th

730. D. Azinovic, S. Milosevic, G. Pichler
Resonance 2s-2p excitation of lithium in the Li + Cd system.
J. Phys. B **34**, 2715 (2001)

Li + Cd	Excitation	965.00 K	Ex

731. D. R. Flower
The rotational excitation of CO by H_2.
J. Phys. B **34**, 2731 (2001)

CO + H_2	Energy Transfer	6.00-100.00 K	Th
CO + H_2	Excitation	6.00-100.00 K	Th

732. D. R. Schultz, P. C. Stancil, M. J. Rakovic
Classical/quantal correspondence in state-selective charge transfer for partially stripped ion impact on atomic hydrogen: improvements to the CTMC method.
J. Phys. B **34**, 2739 (2001)

O^{1+} + H	Charge Transfer	5.00-500.00 keV/amu	Th

733. X. Flechard, C. Harel, H. Jouin, B. Pons, L. Adoui, F. Fremont, A. Cassimi, D. Hennecart
Single- and double-electron capture in low-energy Ne^{10+}-He collisions.
J. Phys. B **34**, 2759 (2001)

Ne^{10+} + He	Charge Transfer	50.00-150.00 keV	E/T

734. E. Paul-Kwiek
Quantum close-coupling calculations of the differential cross-sections for Ba(^{1}P$_1$) + Ar -¿ Ba(^{3}P$_2$) + Ar inelastic collisions.
J. Phys. B **34**, 285 (2001)

Ba + Ar	Total Scattering	0.50 eV	Th
Ba + Ar	Excitation	0.50 eV	Th

735. P. D. Fainstein, L. Gulyas
State-selective multiple electron emission from argon by 1 MeV proton impact.
J. Phys. B **34**, 3003 (2001)

$\mathbf{H^{1+}}$ **+ Ar**	Ionization	1.00 MeV	Th

736. C. Jupen, E. Traebert
The 2p^{4}3s, 3p and 3d configurations in K XI.
J. Phys. B **34**, 3053 (2001)

$\mathbf{K^{3+}}$ **+ C**	Excitation	12.80 MeV	Ex
$\mathbf{K^{3+}}$ **+ C**	Ionization	12.80 MeV	Ex

737. J. A. Perez, R. E. Olson, P. Beiersdorfer
Charge transfer and x-ray emission reactions involving highly charged ions and neutral hydrogen.
J. Phys. B **34**, 3063 (2001)

$\mathbf{Ne^{10+}}$ **+ H**	Charge Transfer	0.00-100.00 keV/amu	Th
$\mathbf{Ar^{18+}}$ **+ H**	Charge Transfer	0.00-100.00 keV/amu	Th
$\mathbf{Fe^{26+}}$ **+ H**	Charge Transfer	0.00-100.00 keV/amu	Th
$\mathbf{Kr^{36+}}$ **+ H**	Charge Transfer	0.00-100.00 keV/amu	Th
$\mathbf{Xe^{54+}}$ **+ H**	Charge Transfer	0.00-100.00 keV/amu	Th

738. S. Kitazawa, H. Ida, Y. Matsui, T. Takayanagi, K. Wakiya, K. Iemura, S. Ohtani, H. Suzuki, Y. Kanai, U. I. Safronova
Electron spectra from singlet and triplet states of Ne^{6+} produced by low energy Ne^{8+} + He, Ne and Ar collisions.**
J. Phys. B **34**, 3205 (2001)

$\mathbf{Ne^{8+}}$ **+ He**	Charge Transfer	80.00 keV	Ex
$\mathbf{Ne^{8+}}$ **+ Ne**	Charge Transfer	80.00 keV	Ex
$\mathbf{Ne^{8+}}$ **+ Ar**	Charge Transfer	80.00 keV	Ex

739. A. B. Voitkiv, N. Gruen
Radiative electron capture as a collision-stimulated transition between electron states dressed by the radiation field.
J. Phys. B **34**, 321 (2001)

$\mathbf{Be^{4+}}$ **+ H**	Charge Transfer	15.00-30.00 a.u.	Th

740. H. Rothard, G. Lanzano, D. H Jakubassa-Amundsen, E. De Filippo, D. Mahboub
Theory and measurement of absolute doubly differential cross sections of binary encounter electron ejection in collisions of swift heavy ions with solids.
J. Phys. B **34**, 3261 (2001)

$\mathbf{Ni^{28+}}$ **+ C**	Ionization	45.00 MeV/amu	E/T

741. D. M. Kearns, D. R. Gillen, D. Voulot, J. B. Greenwood, R. W. McCullough, H. B. Gilbody
The role of dissociative electron capture in collisions of slow He^{2+} ions with CO.
J. Phys. B **34**, 3401 (2001)

$\mathbf{He^{2+}}$ **+ CO**	Charge Transfer	0.20-1.20 keV/amu	Ex
$\mathbf{He^{2+}}$ **+ CO**	Dissociation	0.20-1.20 keV/amu	Ex

742. M. Korek, A. R. Allouche
Theoretical study of the low-lying electronic states of the $RbCs^{+}$ molecular ion.
J. Phys. B **34**, 3689 (2001)

$\mathbf{Rb^{1+} + Cs}$	Interaction Potentials	6.00-60.00 a_0	Th
$\mathbf{Cs^{1+} + Rb}$	Interaction Potentials	6.00-60.00 a_0	Th

743. S. S. Harilal, C. V. Bindhu, V. P. Shevelko, H.-J. Kunze
XUV diagnostics of colliding laser-produced magnesium plasmas.
J. Phys. B **34**, 3717 (2001)

$\mathbf{Mg^{4+} + Mg^{9+}}$	Charge Transfer	0.00-3.00 MeV/amu	Ex

744. G. Maroulis
Static electric polarizability and hyperpolarizability of BCl(X $^1\Sigma^+$).
J. Phys. B **34**, 3727 (2001)

B + Cl	Interaction Potentials	0.40 a_0	Th

745. E. R. Marquina, A. Amaya-Tapia, R. Hernandez-Lamoneda, H. Martinez
Experimental and theoretical investigations of single-electron capture and loss in He^{+}-Ar collisions.
J. Phys. B **34**, 3751 (2001)

$\mathbf{He^{1+} + Ar}$	Ionization	1.50-5.00 keV	E/T
$\mathbf{He^{1+} + Ar}$	Excitation	1.50-5.00 keV	E/T

746. C. Koncz
Double scattered electrons in ion-atom collisions: an impulse approximation.
J. Phys. B **34**, 3879 (2001)

$\mathbf{U^{28+} + Xe}$	Ionization	3.60-5.88 MeV	Th
$\mathbf{U^{28+} + Xe}$	Ionization	3.60-5.88 MeV	Th
$\mathbf{U^{29+} + Ne}$	Ionization	3.60-5.88 MeV	Th
$\mathbf{U^{29+} + Ne}$	Ionization	3.60-5.88 MeV	Th
$\mathbf{U^{28+} + Xe}$	Excitation	3.60-5.88 MeV	Th
$\mathbf{U^{29+} + Ne}$	Excitation	3.60-5.88 MeV	Th
$\mathbf{Xe^{40+} + Xe}$	Ionization	3.60-5.88 MeV	Th
$\mathbf{Xe^{40+} + Xe}$	Ionization	3.60-5.88 MeV	Th
$\mathbf{Xe^{40+} + Xe}$	Excitation	3.60-5.88 MeV	Th

747. P. Graham, K.W.D. Ledingham, R. P. Singhai, S. M. Hankin, T. McCanny, X. Fang, C. Kosmidis, P. Tzallas, P. F. Taday, A. J. Langley
On the fragment ion angular distributions arising from the tetrahedral molecule CH_3I.
J. Phys. B **34**, 4015 (2001)

$\mathbf{h\nu + CH_3I}$	Ionization		Ex
$\mathbf{h\nu + CH_3I}$	Excitation		Ex
$\mathbf{h\nu + CH_3I}$	Heavy Particle Collisions		Ex

748. A. Diehl, H. Braeuning, R. Trassl, D. Hathiramani, A. Theiss, H. Kern, E. Salzborn, I. Hofmann
Charge transfer and ionization in collisions between multiply charged noble gas ions.
J. Phys. B **34**, 4073 (2001)

$\mathbf{Ar^{4+} + Ar^{4+}}$	Ionization	10.00-60.00 keV	Ex
$\mathbf{Kr^{4+} + Kr^{4+}}$	Ionization	10.00-60.00 keV	Ex
$\mathbf{Xe^{4+} + Xe^{4+}}$	Ionization	10.00-60.00 keV	Ex
$\mathbf{Pb^{4+} + Pb^{4+}}$	Ionization	10.00-60.00 keV	Ex
$\mathbf{Bi^{4+} + Bi^{4+}}$	Ionization	10.00-60.00 keV	Ex
$\mathbf{Ar^{4+} + Ar^{4+}}$	Charge Transfer	10.00-60.00 keV	Ex
$\mathbf{Kr^{4+} + Kr^{4+}}$	Charge Transfer	10.00-60.00 keV	Ex
$\mathbf{Xe^{4+} + Xe^{4+}}$	Charge Transfer	10.00-60.00 keV	Ex
$\mathbf{Pb^{4+} + Pb^{4+}}$	Charge Transfer	10.00-60.00 keV	Ex
$\mathbf{Bi^{4+} + Bi^{4+}}$	Charge Transfer	10.00-60.00 keV	Ex

749. V. Venturi, M. J. Jamieson, R. Cote
Scattering lengths for collisions between sodium and potassium atoms.
J. Phys. B **34**, 4339 (2001)

Na + K	Interaction Potentials		Th

750. A. B. Voitkiv, J. Ullrich
Modification of energy and angular spectra of binary-encounter emission in fast ion-atom collisions assisted by a low-frequency electromagnetic field.
J. Phys. B **34**, 4383 (2001)

$\mathbf{He^{2+} + H}$	Ionization	12.00 a.u.	Th

751. A. B. Voitkiv, J. Ullrich
On the inter-relation between ionization of light atoms by virtual and real photons.
J. Phys. B **34**, 4513 (2001)

$\mathbf{H^{1+} + H}$	Total Scattering	1.00 GeV/amu	Th
$\mathbf{H^{1+} + H}$	Ionization	1.00 GeV/amu	Th

752. C. Y. Chen, C. L. Cocke, J. P. Giese, F. Melchert, I. Reiser, M. Stoeckli, E. Sidky, C. D. Lin
Studies of charge exchange in symmetric ion-ion collisions.
J. Phys. B **34**, 469 (2001)

$\mathbf{He^{2+} + He^{1+}}$	Charge Transfer	1.80-14.80 keV	E/T
$\mathbf{Ne^{2+} + Ne^{1+}}$	Charge Transfer	1.80-14.80 keV	E/T
$\mathbf{Ar^{2+} + Ar^{1+}}$	Charge Transfer	1.80-14.80 keV	E/T

753. P. S. Barklem, B. J. O'Mara
Comments on alternative calculations of the broadening of spectral lines of neutral sodium by H-atom collisions.
J. Phys. B **34**, 4785 (2001)

H + Na	Line Broadening		Th

754. T. Kusakabe, H. Nakanishi, A. Iida, K. Hosomi, H. Tawara, M. Sasao, Y. Nakai
Charge transfer cross sections in collisions of ground state $\mathbf{O^{+}(^4S)}$ ions with $\mathbf{H_2}$ and various carbon-containing molecules in the low-energy region.
J. Phys. B **34**, 4809 (2001)

$\mathbf{O^{1+} + H_2}$	Charge Transfer	0.20-4.50 keV	E/T
$\mathbf{O^{1+} + CH_4}$	Charge Transfer	0.20-4.50 keV	E/T
$\mathbf{O^{1+} + CO}$	Charge Transfer	0.20-4.50 keV	E/T
$\mathbf{O^{1+} + CO_2}$	Charge Transfer	0.20-4.50 keV	E/T
$\mathbf{O^{1+} + C_2H_2}$	Charge Transfer	0.20-4.50 keV	E/T
$\mathbf{O^{1+} + C_2H_6}$	Charge Transfer	0.20-4.50 keV	E/T
$\mathbf{O^{1+} + C_3H_8}$	Charge Transfer	0.20-4.50 keV	E/T

755. D. H Jakubassa-Amundsen
Asymmetry in the low-energy electron ejection from colliding neutral atoms.
J. Phys. B **34**, 4865 (2001)

C + He	Ionization	0.10-0.15 MeV/amu	Th
C + He	Ionization	0.10-0.15 MeV/amu	Th
Ne + He	Ionization	0.10-0.15 MeV/amu	Th
Ne + He	Ionization	0.10-0.15 MeV/amu	Th

756. L. Sarkadi, L. Lugosi, K. Tokesi, L. Gulyas, A. Koever
Study of the transfer ionization process by observing the electron cusp in 100-300 keV $\mathbf{He^{2+}}$ + He collisions.
J. Phys. B **34**, 4901 (2001)

$\mathbf{He^{2+} + He}$	Charge Transfer	100.00-300.00 keV	E/T
$\mathbf{He^{2+} + He}$	Ionization	100.00-300.00 keV	E/T

757. G. Correge, M. Ben Arfa, P. Descourt, C. Tannous, E. Kassab, F.M.E. Tuffin
Penning and associative ionization of argon atoms by excited metastable neon.
J. Phys. B **34**, 4997 (2001)

Ne* + **Ar**	Association	0.01-1.00 keV	Th
Ne + **Ar**	Association	0.01-1.00 keV	Th
Ne* + **Ar**	Ionization	0.01-1.00 keV	Th
Ne + **Ar**	Ionization	0.01-1.00 keV	Th

758. A. L. Godunov, J. H. McGuire, P. B. Ivanov, V. A. Shipakov, H. Merabet, R. Bruch, J. Hanni, Kh. Kh. Shakov
Spatial and temporal correlation in dynamic, multi-electron quantum systems.
J. Phys. B **34**, 5055 (2001)

$\mathbf{H^{1+}}$ + **He**	Ionization	2.00-8.00 a.u.	Th
$\mathbf{H^{1+}}$ + **He**	Excitation	2.00-8.00 a.u.	Th

759. M. Glass-Maujean, S. Lauer, H. Liebel, H. Schmoranzer
Direct evidence of collisional disalignment decay time: the case of H(3l) + $\mathbf{H_2}$.
J. Phys. B **34**, 5121 (2001)

H* + $\mathbf{H_2}$	Energy Transfer	2.00-7.00 km/s	Ex
H + $\mathbf{H_2}$	Energy Transfer	2.00-7.00 km/s	Ex
H* + $\mathbf{H_2}$	Excitation	2.00-7.00 km/s	Ex
H + $\mathbf{H_2}$	Excitation	2.00-7.00 km/s	Ex

760. J. Kobus, D. Moncrieff, S. Wilson
Comparison of the polarizabilities and hyperpolarizabilities obtained from finite basis set and finite difference Hartree-Fock calculations for diatomic molecules.
J. Phys. B **34**, 5127 (2001)

H + **H**	Interaction Potentials		Th
Li + **H**	Interaction Potentials		Th
B + **H**	Interaction Potentials		Th
F + **H**	Interaction Potentials		Th

761. T. Bove, B. D. DePaola, T. Ehrenreich, E. Hordsal-Pedersen, L. Kristensen, K. B. MacAdam, O. E. Povlsen
The n-dependence of electron capture from Rydberg states.
J. Phys. B **34**, 579 (2001)

$\mathbf{Na^{1+}}$ + **Li**	Charge Transfer	7.5x10^4-1.85x10^5 m/s	Ex
$\mathbf{Na^{1+}}$ + **Li***	Charge Transfer	7.5x10^4-1.85x10^5 m/s	Ex

762. L. G. Gerchikov, S. A. Sheinerman
Electron correlation in double ionization of helium by fast ion impact.
J. Phys. B **34**, 647 (2001)

$\mathbf{C^{6+}}$ + **He**	Ionization	100.00 MeV/amu	Th

763. M. Purkait, A. K. Dhara, S. Sounda, C. R. Mandal
Inelastic processes in the interactions of partially stripped ions of carbon, nitrogen and oxygen with atomic hydrogen at intermediate and high energies.
J. Phys. B **34**, 755 (2001)

$\mathbf{C^{1+}}$ + **H**	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{C^{2+}}$ + **H**	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{C^{3+}}$ + **H**	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{C^{4+}}$ + **H**	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{C^{5+}}$ + **H**	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{N^{1+}}$ + **H**	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{N^{2+}}$ + **H**	Ionization	10.00-200.00 keV/amu	E/T

$\mathbf{N^{3+} + H}$	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{N^{4+} + H}$	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{N^{5+} + H}$	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{O^{1+} + H}$	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{O^{2+} + H}$	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{O^{3+} + H}$	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{O^{4+} + H}$	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{O^{5+} + H}$	Ionization	10.00-200.00 keV/amu	E/T
$\mathbf{C^{1+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{C^{2+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{C^{3+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{C^{4+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{C^{5+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{N^{1+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{N^{2+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{N^{3+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{N^{4+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{N^{5+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{O^{1+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{O^{2+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{O^{3+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{O^{4+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T
$\mathbf{O^{5+} + H}$	Charge Transfer	10.00-200.00 keV/amu	E/T

764. A. Amaya-Tapia, R. Hernandez-Lamoneda, H. Martinez
Single-electron capture cross section in 1-500 keV H^+-Mg collisions.
J. Phys. B **34**, 769 (2001)

$\mathbf{H^{1+} + Mg}$	Charge Transfer	1.00-500.00 keV	E/T

765. A. Lafosse, J. C. Houver, D. Dowek
Vector correlations in dissociative charge transfer induced in He^+-O_2, N_2 collisions at medium energies.
J. Phys. B **34**, 819 (2001)

$\mathbf{He^{1+} + N_2}$	Charge Transfer	1.50-3.00 keV	Ex
$\mathbf{He^{1+} + O_2}$	Charge Transfer	1.50-3.00 keV	Ex
$\mathbf{He^{1+} + N_2}$	Dissociation	1.50-3.00 keV	Ex
$\mathbf{He^{1+} + O_2}$	Dissociation	1.50-3.00 keV	Ex

766. J. Fiol, V. D. Rodriguez, R. O. Barrachina
Electron capture to the continuum by proton and positron impact.
J. Phys. B **34**, 933 (2001)

$\mathbf{H^{1+} + Ar}$	Ionization	75.00 keV	E/T

767. M. Cizek, J. Horacek, F.A.U. Thiel, H. Hotop
Associative detachment in low-energy collisions between hydrogen atoms and atomic halogen anions.
J. Phys. B **34**, 983 (2001)

$\mathbf{H + F^{-1+}}$	Interaction Potentials	2.00 eV	Th
$\mathbf{H + Cl^{-1+}}$	Interaction Potentials	2.00 eV	Th
$\mathbf{H + Br^{-1+}}$	Interaction Potentials	2.00 eV	Th
$\mathbf{H + F^{-1+}}$	Detachment	2.00 eV	Th
$\mathbf{H + Cl^{-1+}}$	Detachment	2.00 eV	Th
$\mathbf{H + Br^{-1+}}$	Detachment	2.00 eV	Th
$\mathbf{H + F^{-1+}}$	Association	2.00 eV	Th
$\mathbf{H + Cl^{-1+}}$	Association	2.00 eV	Th
$\mathbf{H + Br^{-1+}}$	Association	2.00 eV	Th

768. E. Y. Sidky, C. Illescas, C. D. Lin
The role of the potential saddle in He^{2+} + H impact ionization.
J. Phys. B **34**, L163 (2001)

He^{2+} + H	Ionization	0.50-3.00 a.u.	Th

769. B. M. McLaughlin, C. P. Ballance, K. A. Berrington
$^3\Delta$ bound and continuum states of the TiO molecule.
J. Phys. B **34**, L179 (2001)

Ti^{1+} + O	Interaction Potentials	2.00-5.00 a_0	Th
Ti^{1+} + O^{1+}	Interaction Potentials	2.00-5.00 a_0	Th

770. A. L. Godunov, J. H. McGuire
Independent time approximation for dynamically interacting multi-electron systems.
J. Phys. B **34**, L223 (2001)

H^{1+} + He	Ionization	100.00 keV	Th
H^{1+} + He	Excitation	100.00 keV	Th

771. P. Van Reeth, J. W. Humberston, G. Laricchia
Correlations between ionization cross sections and threshold energies in electron-, positron-, proton- and antiproton-atom collisions.
J. Phys. B **34**, L271 (2001)

H^{1+} + He	Ionization	0.30-2.00 MeV	Th
H^{1+} + Ne	Ionization	0.30-2.00 MeV	Th
H^{1+} + Kr	Ionization	0.30-2.00 MeV	Th
H^{1+} + Xe	Ionization	0.30-2.00 MeV	Th

772. M. Schulz, R. Moshammer, D. H. Madison, R. E. Olson, P. Marchalant, C. T. Whelan, H.R.J Walters, S. Jones, M. Foster, H. Kollmus, A. Cassimi, J. Ullrich
Triply differential single ionization cross sections in coplanar and non-coplanar geometry for fast heavy ion-atom collisions.
J. Phys. B **34**, L305 (2001)

C^{6+} + He	Ionization	100.00 MeV/amu	E/T

773. H. Brauning, I. Reiser, A. Diehl, A. Theiss, C. L. Cocke, E. Salzborn
Charge transfer in collisions of $H_2{}^+$ ions with He^{2+} and Ar^{2+}.
J. Phys. B **34**, L321 (2001)

$H_2{}^{1+}$ + He^{2+}	Charge Transfer	6.10-21.20 keV/amu	Ex
$H_2{}^{1+}$ + Ar^{2+}	Charge Transfer	6.10-21.20 keV/amu	Ex

774. P. Sobocinski, J. Rangama, J.-Y. Chesnel, M. Tarisien, L. Adoui, A. Cassimi, X. Husson, F. Fremont
Inner-shell electron capture mechanisms in slow He^{2+} + CO and O^{7+} + CO collisions.
J. Phys. B **34**, L367 (2001)

He^{2+} + CO	Ionization	14.00-70.00 keV	Ex
O^{7+} + CO	Ionization	14.00-70.00 keV	Ex
He^{2+} + CO	Charge Transfer	14.00-70.00 keV	Ex
O^{7+} + CO	Charge Transfer	14.00-70.00 keV	Ex

775. T. Morishita, K.-I. Hino, T. Edamura, D. Kato, S. Watanabe, M. Matsuzawa
Hyperspherical L^2-integrable basis method for energetic proton and anti-proton impact autoionization.
J. Phys. B **34**, L475 (2001)

H^{1+} + He	Ionization	2.00 MeV	Th
H^{1+} + He	Excitation	2.00 MeV	Th

776. J. Fiol, R. E. Olson, A.C.F Santos, G. M. Sigaud, E. C. Montenegro
Simultaneous projectile and target ionization in He^+ + Ne collisions.
J. Phys. B **34**, L503 (2001)

$\mathbf{He^{1+} + Ne}$	Ionization	1.00-4.00 MeV	E/T
$\mathbf{He^{1+} + Ne}$	Ionization	1.00-4.00 MeV	E/T

777. B. Siegmann, U. Werner, H. O. Lutz, R. Mann
Multiple ionization and fragmentation of H_2O in collisions with fast highly charged Xe ions.
J. Phys. B **34**, L587 (2001)

$\mathbf{Xe^{17+} + H_2O}$	Ionization	5.90 MeV/amu	Ex
$\mathbf{Xe^{18+} + H_2O}$	Ionization	5.90 MeV/amu	Ex
$\mathbf{Xe^{43+} + H_2O}$	Ionization	5.90 MeV/amu	Ex
$\mathbf{Xe^{17+} + H_2O}$	Dissociation	5.90 MeV/amu	Ex
$\mathbf{Xe^{18+} + H_2O}$	Dissociation	5.90 MeV/amu	Ex
$\mathbf{Xe^{43+} + H_2O}$	Dissociation	5.90 MeV/amu	Ex

778. P. Moretto-Capelle, D. Bordenave-Montesquieu, A. Rentenier, A. Bordenave-Montesquieu
Interaction of protons with the C_{60} molecule: calculation of deposited energies and electronic stopping cross sections (v¡5 au).
J. Phys. B **34**, L611 (2001)

$\mathbf{H^{1+} + C_{60}}$	Energy Transfer	0.10-5.00 a.u.	Th

779. R. E. Olson, J. Fiol
Mapping of the Bethe surface in single-ionization ion-atom collisions.
J. Phys. B **34**, L625 (2001)

$\mathbf{C^{6+} + He}$	Ionization	3.60-100.00 MeV/amu	Th
$\mathbf{Au^{53+} + He}$	Ionization	3.60-100.00 MeV/amu	Th

780. G. V. Mil'nikov, H. Nakamura
Regularization of scattering calculations at R-matrix poles.
J. Phys. B **34**, L791 (2001)

$\mathbf{H + H_2}$	Interchange reaction	1.50 eV	Th

781. M. Schulz, R. Moshammer, L. G. Gerchikov, S. A. Sheinerman, J. Ullrich
Mapping of many-electron bound states using the correlation function.
J. Phys. B **34**, L795 (2001)

$\mathbf{Au^{53+} + He}$	Ionization	3.60 MeV/amu	Th
$\mathbf{Au^{53+} + Ne}$	Ionization	3.60 MeV/amu	Th

782. K. von Diemar, F. Melchert, K. Huber, R. Trassl, E. Salzborn, L. Opradolce, R. D. Piacentini
Total and differential charge transfer cross sections in $He^{2+} + N^{4+}$ collisions.
J. Phys. B **34**, L93 (2001)

$\mathbf{He^{2+} + N^{4+}}$	Total Scattering	8.00-200.00 keV	E/T
$\mathbf{He^{2+} + N^{4+}}$	Charge Transfer	8.00-200.00 keV	E/T

783. A. W. Kleyn, A.M.C Moutinho
Negative ion formation in alkali-atom-molecule collisions.
J. Phys. B **34**, R1 (2001)

$\mathbf{Na + I}$	Charge Transfer	5.00-87.00 eV	E/T
$\mathbf{K + O_2}$	Charge Transfer	5.00-87.00 eV	E/T
$\mathbf{K + SnCl_4}$	Charge Transfer	5.00-87.00 eV	E/T
$\mathbf{K + CCl_4}$	Charge Transfer	5.00-87.00 eV	E/T
$\mathbf{K + CF_3Br}$	Charge Transfer	5.00-87.00 eV	E/T
$\mathbf{Cs + O_2}$	Charge Transfer	5.00-87.00 eV	E/T
$\mathbf{Cs + Ar}$	Charge Transfer	5.00-87.00 eV	E/T

784. P. Sobocinski, J. Rangama, G. Laurent, L. Adoui, A. Cassimi, J.-Y. Chesnel, A. Dubois, D. Hennecart, X. Husson, F. Fremont
Evidence for highly energetic fragments following electron capture in $O^{5+} + H_2$ collisions at low impact velocities.
J. Phys. B **35**, 1353 (2002)

$\mathbf{O^{5+} + H_2}$	Dissociation	0.50-105.00 keV	E/T
$\mathbf{O^{5+} + H_2}$	Charge Transfer	0.50-105.00 keV	E/T

785. D. Fischer, B. Feuerstein, R. D. DuBois, R. Moshammer, J. R. Crespo Lopez-Urrutia, I. Draganic, H. Loerch, A. N. Perumal, J. Ullrich
State-resolved measurements of single-electron capture in slow Ne^{7+}- and Ne^{8+}-helium collisions.
J. Phys. B **35**, 1369 (2002)

$\mathbf{Ne^{7+} + He}$	Charge Transfer	56.00-72.00 keV	E/T
$\mathbf{Ne^{8+} + He}$	Charge Transfer	56.00-72.00 keV	E/T

786. R. E. Olson, R. L. Watson, V. Horvat, K. E. Zaharakis
Projectile and target ionization in MeV u^{-1} collisions of Xe ions with N_2.
J. Phys. B **35**, 1893 (2002)

$\mathbf{Xe^{1+} + N_2}$	Ionization	2.00-20.00 MeV/amu	Ex
$\mathbf{Xe^{1+} + N_2}$	Ionization	2.00-20.00 MeV/amu	Ex
$\mathbf{Xe^{8+} + N_2}$	Ionization	2.00-20.00 MeV/amu	Ex
$\mathbf{Xe^{8+} + N_2}$	Ionization	2.00-20.00 MeV/amu	Ex
$\mathbf{Xe^{18+} + N_2}$	Ionization	2.00-20.00 MeV/amu	Ex
$\mathbf{Xe^{18+} + N_2}$	Ionization	2.00-20.00 MeV/amu	Ex

787. A. Morozov, B. Krylov, G. Gerasimov, A. Arnesen, R. Hallin
A study of atomic and molecular energy transfer channels in Kr-Xe gas mixtures excited with radio frequency discharges.
J. Phys. B **35**, 1929 (2002)

Xe + Kr	Energy Transfer		Ex
$\mathbf{Xe + Kr_2}$	Energy Transfer		Ex

788. S. Grego, J. Salgado, P. Borel, S. E. Nielsen, N. Andersen
P-state-to-P-state transitions in optically prepared atomic collisions: II. Alignment propensity for Na(3p) -¿ Li(2p) electron transfer.
J. Phys. B **35**, 2035 (2002)

$\mathbf{Li^{1+} + Na}$	Charge Transfer	0.10-0.40 a.u.	E/T

789. D. Dowek, I. Reiser, S. Grego, N. Andersen, A. Dubois, J. C. Houver, S. E. Nielsen, C. Richter, J. Salgado, A. Svensson, J. W. Thomsen
P-state-to-P-state transitions in optically prepared atomic collisions: III. A complete analysis of Li^+ + Na(3p) -¿ Li(2p) + Na^+ differential scattering.
J. Phys. B **35**, 2051 (2002)

$\mathbf{Li^{1+} + Na}$	Total Scattering	1.00 keV	E/T
$\mathbf{Li^{1+} + Na}$	Charge Transfer	1.00 keV	E/T

790. A. N. Perumal, R. Moshammer, M. Schulz, J. Ullrich
Dynamics of He double ionization in the non-perturbative regime: the reduction to an effective three-particle problem.
J. Phys. B **35**, 2133 (2002)

$\mathbf{Au^{53+} + He}$	Ionization	3.60 MeV/amu	Ex

791. G. Gasaneo, J. H. Macek
Hyperspherical adiabatic eigenvalues for zero-range potentials.
J. Phys. B **35**, 2239 (2002)

He + He + He	Association		Th
He + He + He	Interaction Potentials		Th

792. S. Martinez, G. Bernardi, P. Focke, A. D. Gonzalez, S. Suarez
Transfer ionization and total electron emission for 25 keV amu^{-1} He^{2+} colliding on He and H_2.
J. Phys. B **35**, 2261 (2002)

$\mathbf{He^{2+} + H_2}$	Total Scattering	25.00 keV/amu	Ex
$\mathbf{He^{2+} + He}$	Total Scattering	25.00 keV/amu	Ex
$\mathbf{He^{2+} + H_2}$	Ionization	25.00 keV/amu	Ex
$\mathbf{He^{2+} + He}$	Ionization	25.00 keV/amu	Ex
$\mathbf{He^{2+} + H_2}$	Charge Transfer	25.00 keV/amu	Ex
$\mathbf{He^{2+} + He}$	Charge Transfer	25.00 keV/amu	Ex

793. K. Gao, M. Yan, M. Feng, X. Zhu
Measurement of charge-transfer rate coefficients between Co^{3+} and Ar, N_2 at electron-volt energy.
J. Phys. B **35**, 233 (2002)

$\mathbf{Co^{3+} + N_2}$	Charge Transfer	5.60 eV	Ex
$\mathbf{Co^{3+} + Ar}$	Charge Transfer	5.60 eV	Ex

794. E. Bodo, F. A. Gianturco, A. Dalgarno
The reaction of F + D_2 at ultra-low temperatures: the effect of rotational excitation.
J. Phys. B **35**, 2391 (2002)

$\mathbf{F + H_2}$	Association	0.00-0.30 eV	Th
$\mathbf{F + D_2}$	Association	0.00-0.30 eV	Th

795. A. L. Godunov, P. B. Ivanov, V. A. Schipakov, M. Schulz
Differential cross sections for double excitation of the autoionizing states of helium by 100-150 keV proton impact.
J. Phys. B **35**, 2477 (2002)

$\mathbf{H^{1+} + He}$	Ionization	100.00-150.00 keV	E/T
$\mathbf{H^{1+} + He}$	Excitation	100.00-150.00 keV	E/T

796. I. Cadez, J. B. Greenwood, A. Chutjian, R. J. Mawhorter, S. J. Smith, M. Nimura
Absolute cross sections for charge-exchange in $^3He^{2+}$ and H^+ impact on CO.
J. Phys. B **35**, 2515 (2002)

$\mathbf{H^{1+} + CO}$	Charge Transfer	1.00-14.00 keV	Ex
$\mathbf{He^{2+} + CO}$	Charge Transfer	1.00-14.00 keV	Ex

797. C. Diaz, F. Martin, A. Salin
Time-dependent close-coupling calculations of double ionization of helium by protons and antiprotons.
J. Phys. B **35**, 2555 (2002)

$\mathbf{H^{1+} + He}$	Ionization	0.20-4.00 MeV	E/T

798. A. B. Voitkiv, N. Gruen
Radiative electron capture with Coulomb boundary conditions.
J. Phys. B **35**, 2593 (2002)

$\mathbf{H^{1+} + Li^{2+}}$	Charge Transfer	31.00-151.00 a.u.	Th
$\mathbf{H^{1+} + Be^{3+}}$	Charge Transfer	31.00-151.00 a.u.	Th
$\mathbf{Be^{4+} + H}$	Charge Transfer	31.00-151.00 a.u.	Th

799. E. Edgu-Fry, C. L. Cocke, E. Sidky, C. D. Lin, M. Abdallah
Intermediate energy ionization of helium by proton impact.
J. Phys. B **35**, 2603 (2002)

$\mathbf{H^{1+} + He}$	Ionization	70.00-100.00 keV	E/T

800. C. Di Paola, F. A. Gianturco, F. Paesani, G. Delgado-Barrio, S. Miret-Artes, P. Villarreal, I. Baccarelli, T. Gonzalez-Lezana
Ground states of weakly bound three-atom systems: energies and shapes of ^{4}He$_2$X clusters from Monte Carlo calculations.
J. Phys. B **35**, 2643 (2002)

He + H^{-1+}	Interaction Potentials	123.98 eV	Th
He + He	Interaction Potentials	123.98 eV	Th
He + Li	Interaction Potentials	123.98 eV	Th
He + Na	Interaction Potentials	123.98 eV	Th
He$_2$ + H^{-1+}	Interaction Potentials	123.98 eV	Th
He$_2$ + Li	Interaction Potentials	123.98 eV	Th
He$_2$ + Na	Interaction Potentials	123.98 eV	Th

801. G. E. Ntamack, B. A. Huber, F. Chandezon, M. G. Kwato Njock, C. Guet
Simulation of mass spectra produced in collisions of highly charged ions with sodium clusters.
J. Phys. B **35**, 2729 (2002)

Xe^{28+} + Na$_n$	Dissociation	560.00 keV	Ex
Xe^{28+} + Na	Ionization	560.00 keV	Ex
Xe^{28+} + Na$_n$	Ionization	560.00 keV	Ex

802. L. G. Gerchikov, S. A. Sheinerman, M. Schulz, R. Moshammer, J. Ullrich
Electron correlation in double ionization of excited helium by fast ion impact.
J. Phys. B **35**, 2783 (2002)

C^{6+} + He*	Total Scattering	100.00 MeV/amu	Th
C^{6+} + He	Total Scattering	100.00 MeV/amu	Th
C^{6+} + He*	Ionization	100.00 MeV/amu	Th
C^{6+} + He	Ionization	100.00 MeV/amu	Th

803. M. E. Henry, R. M. Herman
Collisional broadening of Rydberg-atom transitions by ground-state alkali atoms.
J. Phys. B **35**, 357 (2002)

K + K	Line Broadening	0.02 eV	Th
K + Rb	Line Broadening	0.02 eV	Th
Rb + Rb	Line Broadening	0.02 eV	Th

804. M. E. Henry, R. M. Herman
Collisional broadening of Rydberg atom transitions by rare gas perturbers.
J. Phys. B **35**, 373 (2002)

Na + He	Line Broadening	0.05 eV	Th
Na + Ne	Line Broadening	0.05 eV	Th
Na + Ar	Line Broadening	0.05 eV	Th
Na + Kr	Line Broadening	0.05 eV	Th
Na + Xe	Line Broadening	0.05 eV	Th
Rb + He	Line Broadening	0.05 eV	Th
Rb + Ne	Line Broadening	0.05 eV	Th
Rb + Ar	Line Broadening	0.05 eV	Th
Rb + Kr	Line Broadening	0.05 eV	Th
Rb + Xe	Line Broadening	0.05 eV	Th
Na + He	Excitation	0.05 eV	Th
Na + Ne	Excitation	0.05 eV	Th
Na + Ar	Excitation	0.05 eV	Th
Na + Kr	Excitation	0.05 eV	Th
Na + Xe	Excitation	0.05 eV	Th
Rb + He	Excitation	0.05 eV	Th
Rb + Ne	Excitation	0.05 eV	Th

Rb + **Ar**	Excitation	0.05 eV	Th
Rb + **Kr**	Excitation	0.05 eV	Th
Rb + **Xe**	Excitation	0.05 eV	Th
Na + **He**	Heavy Particle Collisions	0.05 eV	Th
Na + **Ne**	Heavy Particle Collisions	0.05 eV	Th
Na + **Ar**	Heavy Particle Collisions	0.05 eV	Th
Na + **Kr**	Heavy Particle Collisions	0.05 eV	Th
Na + **Xe**	Heavy Particle Collisions	0.05 eV	Th
Rb + **He**	Heavy Particle Collisions	0.05 eV	Th
Rb + **Ne**	Heavy Particle Collisions	0.05 eV	Th
Rb + **Ar**	Heavy Particle Collisions	0.05 eV	Th
Rb + **Kr**	Heavy Particle Collisions	0.05 eV	Th
Rb + **Xe**	Heavy Particle Collisions	0.05 eV	Th

805. L. Nagy, A. Benedek
An improved calculation for the ionization-excitation of helium.
J. Phys. B **35**, 491 (2002)

$\mathbf{H}^{1+}$ + **He**	Ionization	1.00-80.00 a.u.	Th
$\mathbf{H}^{1+}$ + **He**	Excitation	1.00-80.00 a.u.	Th

806. B. Najjari, A. B. Voitkiv, J. Ullrich
On the application of Lorentz and Coulomb gauges for calculations of ionization of light targets by relativistic charged projectiles.
J. Phys. B **35**, 533 (2002)

perturbation + **He**	Ionization		Th

807. S.-M. Li, J. Chen, Z.-F. Zhou
Ionization of atomic hydrogen by protons in the presence of a laser field.
J. Phys. B **35**, 557 (2002)

$\mathbf{H}^{1+}$ + **H**	Ionization	0.00-1.00 MeV	Th

808. B. Brehm, P. Wilhelms
Associative ionization in hydrogen atom-rare gas collisions between 10 and 100 eV.
J. Phys. B **35**, 691 (2002)

H + **Ar**	Association	10.00-100.00 eV	Ex
H + **Kr**	Association	10.00-100.00 eV	Ex
H + **Xe**	Association	10.00-100.00 eV	Ex
H + **Ar**	Ionization	10.00-100.00 eV	Ex
H + **Kr**	Ionization	10.00-100.00 eV	Ex
H + **Xe**	Ionization	10.00-100.00 eV	Ex

809. W. Behmenburg, A. Kaiser, H. Bettermann, T. Grycuk, V. Staemmler
The near UV emission spectra of the Li*He excimers: experimental and theoretical studies.
J. Phys. B **35**, 747 (2002)

Li + **He**	Fluorescence	720.00 K	E/T
Li + **He**	Interaction Potentials	720.00 K	E/T
$\mathbf{Li}^*$ + **He**	Fluorescence	720.00 K	E/T
$\mathbf{Li}^*$ + **He**	Interaction Potentials	720.00 K	E/T

810. W. S. Melo, A.C.F Santos, M. M. Sant'Anna, G. M. Sigaud, E. C. Montenegro
Multiple ionization of noble gases by 2.9 MeV proton impact: comparison with equi-velocity electron impact ionization.
J. Phys. B **35**, L187 (2002)

$\mathbf{H}^{1+}$ + **He**	Ionization	2.00 MeV	Ex
$\mathbf{H}^{1+}$ + **Ne**	Ionization	2.00 MeV	Ex
$\mathbf{H}^{1+}$ + **Ar**	Ionization	2.00 MeV	Ex
$\mathbf{H}^{1+}$ + **Kr**	Ionization	2.00 MeV	Ex
$\mathbf{H}^{1+}$ + **Xe**	Ionization	2.00 MeV	Ex

811. M. I. Chibisov, A. A. Khuskivadze, I. I. Fabrikant
Energies and dipole moments of long-range molecular Rydberg states.
J. Phys. B **35**, L193 (2002)

Rb + Rb	Interaction Potentials	Th
$\mathbf{Rb^* + Rb}$	Interaction Potentials	Th

812. E. L. Hamilton, C. H. Greene, H. R. Sadeghpour
J. Phys. B **35**, L199 (2002)

Rb + Rb	Interaction Potentials	Th
$\mathbf{Rb^* + Rb}$	Interaction Potentials	Th

813. F. Afaneh, R. Doerner, L. Schmidt, Th. Weber, K. E. Stiebing, O. Jagutzki, H. Schmidt-Boecking
Must saddle point electrons always ride on the saddle?
J. Phys. B **35**, L229 (2002)

$\mathbf{He^{2+} + H_2}$	Ionization	0.81 a.u.	E/T
$\mathbf{He^{2+} + He}$	Ionization	0.81 a.u.	E/T
$\mathbf{He^{2+} + H_2}$	Charge Transfer	0.81 a.u.	E/T
$\mathbf{He^{2+} + He}$	Charge Transfer	0.81 a.u.	E/T

814. S. Lepp, P. C. Stancil, A. Dalgarno
Atomic and molecular processes in the early Universe.
J. Phys. B **35**, R57 (2002)

$\mathbf{H^{1+} + H^{-1+}}$	Association	0.10-1.00 K	Th
$\mathbf{H^{1+} + D^{-1+}}$	Association	0.10-1.00 K	Th
$\mathbf{H^{1+} + Li^{-1+}}$	Association	0.10-1.00 K	Th
$\mathbf{H_2 + D^{1+}}$	Association	0.10-1.00 K	Th
$\mathbf{H_2{}^{1+} + H^{-1+}}$	Association	0.10-1.00 K	Th
$\mathbf{D^{1+} + H^{-1+}}$	Association	0.10-1.00 K	Th
$\mathbf{D^{1+} + D^{-1+}}$	Association	0.10-1.00 K	Th
$\mathbf{D^{1+} + Li^{-1+}}$	Association	0.10-1.00 K	Th
$\mathbf{Li^{1+} + H^{-1+}}$	Association	0.10-1.00 K	Th
$\mathbf{Li^{1+} + D^{-1+}}$	Association	0.10-1.00 K	Th
$\mathbf{H^{1+} + H^{-1+}}$	Recombination	0.10-1.00 K	Th
$\mathbf{H^{1+} + D^{-1+}}$	Recombination	0.10-1.00 K	Th
$\mathbf{H^{1+} + Li^{-1+}}$	Recombination	0.10-1.00 K	Th
$\mathbf{H_2 + D^{1+}}$	Recombination	0.10-1.00 K	Th
$\mathbf{H_2{}^{1+} + H^{-1+}}$	Recombination	0.10-1.00 K	Th
$\mathbf{D^{1+} + H^{-1+}}$	Recombination	0.10-1.00 K	Th
$\mathbf{D^{1+} + D^{-1+}}$	Recombination	0.10-1.00 K	Th
$\mathbf{D^{1+} + Li^{-1+}}$	Recombination	0.10-1.00 K	Th
$\mathbf{Li^{1+} + H^{-1+}}$	Recombination	0.10-1.00 K	Th
$\mathbf{Li^{1+} + D^{-1+}}$	Recombination	0.10-1.00 K	Th
$\mathbf{H^{1+} + H^{-1+}}$	Charge Transfer	0.10-1.00 K	Th
$\mathbf{H^{1+} + D^{-1+}}$	Charge Transfer	0.10-1.00 K	Th
$\mathbf{H^{1+} + Li^{-1+}}$	Charge Transfer	0.10-1.00 K	Th
$\mathbf{H_2 + D^{1+}}$	Charge Transfer	0.10-1.00 K	Th
$\mathbf{H_2{}^{1+} + H^{-1+}}$	Charge Transfer	0.10-1.00 K	Th
$\mathbf{D^{1+} + H^{-1+}}$	Charge Transfer	0.10-1.00 K	Th
$\mathbf{D^{1+} + D^{-1+}}$	Charge Transfer	0.10-1.00 K	Th
$\mathbf{D^{1+} + Li^{-1+}}$	Charge Transfer	0.10-1.00 K	Th
$\mathbf{Li^{1+} + H^{-1+}}$	Charge Transfer	0.10-1.00 K	Th
$\mathbf{Li^{1+} + D^{-1+}}$	Charge Transfer	0.10-1.00 K	Th

815. R. Trassl, H. Brauning, K. v. Diemar, F. Melchert, E. Salzborn, I. Hofmann
Ion-ion charge exchange cross-sections for heavy ion fusion.
Nucl. Instrum. Methods Phys. Res. A **464**, 80 (2001)

$\mathbf{Xe^{4+}}$ + $\mathbf{Xe^{4+}}$	Charge Transfer	2.00-70.00 keV	Ex
$\mathbf{Bi^{4+}}$ + $\mathbf{Bi^{4+}}$	Charge Transfer	2.00-70.00 keV	Ex

816. R. E. Olson
Stripping cross-sections for fast, low charge state ions.
Nucl. Instrum. Methods Phys. Res. A **464**, 93 (2001)

$\mathbf{Xe^{1+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Xe^{2+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Xe^{3+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Xe^{4+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Xe^{5+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Xe^{6+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Xe^{7+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Xe^{8+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Xe^{9+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Xe^{10+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Xe^{11+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Xe^{12+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{U^{10+}}$ + $\mathbf{H_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{U^{10+}}$ + $\mathbf{N_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{1+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{2+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{3+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{4+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{5+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{6+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{7+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{8+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{9+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{10+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{11+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th
$\mathbf{Bi^{12+}}$ + $\mathbf{BeF_2}$	Ionization	2.60-8.40 GeV	Th

817. A. P. Jesus, B. Braizinha, J. Cruz, J. P. Ribeiro
Influence of target thickness on resonant elastic scattering of protons by ^{19}F.
Nucl. Instrum. Methods Phys. Res. B **174**, 229 (2001)

$\mathbf{H^{1+}}$ + **F**	Elastic Scattering	0.70-2.80 MeV	Ex

818. I. Bogdanovic Radovic, O. Benka
Determination of H recoil cross-sections for He ions incident at 2.5-4.5 MeV and recoil angles from 30^o to 60^o.
Nucl. Instrum. Methods Phys. Res. B **174**, 25 (2001)

$\mathbf{H^{1+}}$ + **He**	Elastic Scattering	2.50-4.50 MeV	Ex

819. M. Chiari, L. Giuntini, P. A. Mando, N. Taccetti
Proton elastic scattering cross-section on aluminium from 0.8 to 3 MeV.
Nucl. Instrum. Methods Phys. Res. B **174**, 259 (2001)

$\mathbf{H^{1+}}$ + **Al**	Elastic Scattering	0.80-3.00 MeV	Ex

820. S. K. Kim, H. D. Choi
Analysis of proton elastic recoil cross section by using R-matrix theory.
Nucl. Instrum. Methods Phys. Res. B **174**, 33 (2001)

$\mathbf{H^{1+}}$ + **He**	Elastic Scattering	0.10-10.00 MeV	Th

821. O. Schmelmer, G. Dollinger, G. Datzmann, A. Hauptner, H. J. Koerner, P. Maier-Komor, P. Reichart
Particle-induced X-ray emission using high energy ions with respect to microprobe application.
Nucl. Instrum. Methods Phys. Res. B **179**, 469 (2001)

H^{1+} + C	Ionization	16.00-70.00 MeV	Ex
H^{1+} + Au	Ionization	16.00-70.00 MeV	Ex
H^{1+} + perturbation	Ionization	16.00-70.00 MeV	Ex
C^{1+} + C	Ionization	16.00-70.00 MeV	Ex
C^{1+} + Au	Ionization	16.00-70.00 MeV	Ex
C^{1+} + perturbation	Ionization	16.00-70.00 MeV	Ex

822. D. Mitra, A. C. Mandal, M. Sarkar, D. Bhattacharya, P. Sen, G. Lapicki
M X-ray production cross-sections of gold and lead by 4 to 12 MeV carbon ions.
Nucl. Instrum. Methods Phys. Res. B **183**, 171 (2001)

C^{2+} + Au	Excitation	4.00-12.00 MeV	E/T
C^{2+} + Pb	Excitation	4.00-12.00 MeV	E/T
C^{3+} + Au	Excitation	4.00-12.00 MeV	E/T
C^{3+} + Pb	Excitation	4.00-12.00 MeV	E/T
C^{4+} + Au	Excitation	4.00-12.00 MeV	E/T
C^{4+} + Pb	Excitation	4.00-12.00 MeV	E/T
C^{2+} + Au	Ionization	4.00-12.00 MeV	E/T
C^{2+} + Pb	Ionization	4.00-12.00 MeV	E/T
C^{3+} + Au	Ionization	4.00-12.00 MeV	E/T
C^{3+} + Pb	Ionization	4.00-12.00 MeV	E/T
C^{4+} + Au	Ionization	4.00-12.00 MeV	E/T
C^{4+} + Pb	Ionization	4.00-12.00 MeV	E/T

823. V. P. Shevelko, I. Yu Tolstikhina, Th. Stoehlker
Stripping of fast heavy low-charged ions in gaseous targets.
Nucl. Instrum. Methods Phys. Res. B **184**, 295 (2001)

H + H	Ionization	1.00-100.00 MeV/amu	Th
Xe + H	Ionization	1.00-100.00 MeV/amu	Th
Xe + He	Ionization	1.00-100.00 MeV/amu	Th
Xe + Li	Ionization	1.00-100.00 MeV/amu	Th
Xe + Be	Ionization	1.00-100.00 MeV/amu	Th
Xe + N	Ionization	1.00-100.00 MeV/amu	Th
Xe + F	Ionization	1.00-100.00 MeV/amu	Th
Xe + Ar	Ionization	1.00-100.00 MeV/amu	Th
Xe + Xe	Ionization	1.00-100.00 MeV/amu	Th
Au^{52+} + H_2	Ionization	1.00-100.00 MeV/amu	Th
Au^{52+} + N_2	Ionization	1.00-100.00 MeV/amu	Th
Pb + H	Ionization	1.00-100.00 MeV/amu	Th
Pb + He	Ionization	1.00-100.00 MeV/amu	Th
Pb + Li	Ionization	1.00-100.00 MeV/amu	Th
Pb + Be	Ionization	1.00-100.00 MeV/amu	Th
Pb + N	Ionization	1.00-100.00 MeV/amu	Th
Pb + F	Ionization	1.00-100.00 MeV/amu	Th
Pb + Ar	Ionization	1.00-100.00 MeV/amu	Th
Pb + Xe	Ionization	1.00-100.00 MeV/amu	Th
U^{1+} + H	Ionization	1.00-100.00 MeV/amu	Th
U^{1+} + He	Ionization	1.00-100.00 MeV/amu	Th
U^{1+} + Li	Ionization	1.00-100.00 MeV/amu	Th
U^{1+} + Be	Ionization	1.00-100.00 MeV/amu	Th
U^{1+} + N	Ionization	1.00-100.00 MeV/amu	Th
U^{1+} + F	Ionization	1.00-100.00 MeV/amu	Th
U^{1+} + Ar	Ionization	1.00-100.00 MeV/amu	Th
U^{1+} + Xe	Ionization	1.00-100.00 MeV/amu	Th
U^{4+} + H	Ionization	1.00-100.00 MeV/amu	Th
U^{4+} + He	Ionization	1.00-100.00 MeV/amu	Th
U^{4+} + Li	Ionization	1.00-100.00 MeV/amu	Th
U^{4+} + Be	Ionization	1.00-100.00 MeV/amu	Th

$\mathbf{U^{4+} + N}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{4+} + F}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{4+} + Ar}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{4+} + Xe}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{7+} + H}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{7+} + He}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{7+} + Li}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{7+} + Be}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{7+} + N}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{7+} + F}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{7+} + Ar}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{7+} + Xe}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{10+} + H}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{10+} + He}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{10+} + Li}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{10+} + Be}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{10+} + N}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{10+} + F}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{10+} + Ar}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{10+} + Xe}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{28+} + H}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{28+} + He}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{28+} + Li}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{28+} + Be}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{28+} + N}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{28+} + F}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{28+} + Ar}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{U^{28+} + Xe}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{Bi^{1+} + H}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{Bi^{1+} + He}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{Bi^{1+} + Li}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{Bi^{1+} + Be}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{Bi^{1+} + N}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{Bi^{1+} + F}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{Bi^{1+} + Ar}$	Ionization	1.00-100.00 MeV/amu	Th
$\mathbf{Bi^{1+} + Xe}$	Ionization	1.00-100.00 MeV/amu	Th

824. M. Chiari, L. Giutini, P. A. Mando, N. Taccetti
Proton elastic scattering cross-section on boron from 0.5 to 3.3 MeV.
Nucl. Instrum. Methods Phys. Res. B **184**, 309 (2001)

$\mathbf{H^{1+} + B}$	Elastic Scattering	0.50-3.30 MeV	Ex

825. Z. Smit
Theoretical ionization cross-sections in the K-shell – Hydrogenic model and beyond.
Nucl. Instrum. Methods Phys. Res. B **189**, 1 (2002)

$\mathbf{H^{1+} + Al}$	Ionization		Th
$\mathbf{H^{1+} + Ti}$	Ionization		Th
$\mathbf{H^{1+} + Cu}$	Ionization		Th
$\mathbf{H^{1+} + Au}$	Ionization		Th

826. J. Miranda, C. Romo-Kroeger, M. Lugo-Licona
Effect of atomic parameters on L-shell X-ray production cross-sections by proton impact with energies below 1 MeV.
Nucl. Instrum. Methods Phys. Res. B **189**, 21 (2002)

$\mathbf{H^{1+}}$ + **perturbation**	Ionization	1.00 MeV	E/T
$\mathbf{H^{1+}}$ + **perturbation**	Excitation	1.00 MeV	E/T

827. L. Rodriguez-Fernandez, J. Miranda, J. L. Ruvalcaba-Sil, E. Segundo, A. Oliver
Measurement of M-shell X-ray production induced by protons of 0.3-0.7 MeV on W, Au, Pb, Bi, Th and U.
Nucl. Instrum. Methods Phys. Res. B **189**, 27 (2002)

$\mathbf{H^{1+} + W}$	Excitation	0.30-0.70 MeV	Ex
$\mathbf{H^{1+} + Au}$	Excitation	0.30-0.70 MeV	Ex
$\mathbf{H^{1+} + Pb}$	Excitation	0.30-0.70 MeV	Ex
$\mathbf{H^{1+} + Th}$	Excitation	0.30-0.70 MeV	Ex
$\mathbf{H^{1+} + U}$	Excitation	0.30-0.70 MeV	Ex
$\mathbf{H^{1+} + Bi}$	Excitation	0.30-0.70 MeV	Ex
$\mathbf{H^{1+} + W}$	Ionization	0.30-0.70 MeV	Ex
$\mathbf{H^{1+} + Au}$	Ionization	0.30-0.70 MeV	Ex
$\mathbf{H^{1+} + Pb}$	Ionization	0.30-0.70 MeV	Ex
$\mathbf{H^{1+} + Th}$	Ionization	0.30-0.70 MeV	Ex
$\mathbf{H^{1+} + U}$	Ionization	0.30-0.70 MeV	Ex
$\mathbf{H^{1+} + Bi}$	Ionization	0.30-0.70 MeV	Ex

828. G. Lapicki
The status of theoretical L-subshell ionization cross sections for protons.
Nucl. Instrum. Methods Phys. Res. B **189**, 8 (2002)

$\mathbf{H^{1+} + Ti}$	Ionization	0.30-3.50 MeV	Th
$\mathbf{H^{1+} + Rb}$	Ionization	0.30-3.50 MeV	Th
$\mathbf{H^{1+} + Gd}$	Ionization	0.30-3.50 MeV	Th
$\mathbf{H^{1+} + W}$	Ionization	0.30-3.50 MeV	Th
$\mathbf{H^{1+} + U}$	Ionization	0.30-3.50 MeV	Th
$\mathbf{H^{1+} + Bi}$	Ionization	0.30-3.50 MeV	Th

829. I. Bogdanovic Radovic, M. Jaksic, O. Benka, A. F. Gurbich
Helium elastic scattering from carbon for 30^o to 150^o in the energy region from 2 to 4.8 MeV.
Nucl. Instrum. Methods Phys. Res. B **190**, 100 (2002)

$\mathbf{He^{1+} + C}$	Total Scattering	2.00-4.80 MeV	Ex
$\mathbf{He^{1+} + C}$	Elastic Scattering	2.00-4.80 MeV	Ex

830. D. Strivay, G. Weber
An empirical formula for L line X-ray production cross-section of elements from Ag to U for protons below 3.5 MeV.
Nucl. Instrum. Methods Phys. Res. B **190**, 112 (2002)

$\mathbf{H^{1+} + Ag}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Cd}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + In}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Sn}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Sn}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Sb}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Te}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + I}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Cs}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Ba}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + La}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Ce}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Pr}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Nd}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Eu}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Gd}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Tb}$	Ionization	0.50-3.50 MeV	Th
$\mathbf{H^{1+} + Tb}$	Ionization	0.50-3.50 MeV	Th

$\mathbf{H}^{1+}$ + **Dy**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Ho**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Er**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Tm**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Yb**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Lu**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Hf**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Ta**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **W**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Ir**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Pt**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Au**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Hg**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Tl**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Pb**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **U**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Bi**	Ionization	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Ag**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Cd**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **In**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Sn**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Sn**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Sb**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Te**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **I**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Cs**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Ba**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **La**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Ce**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Pr**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Nd**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Eu**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Gd**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Tb**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Tb**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Dy**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Ho**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Er**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Tm**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Yb**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Lu**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Hf**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Ta**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **W**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Ir**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Pt**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Au**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Hg**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Tl**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Pb**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **U**	Excitation	0.50-3.50 MeV	Th
$\mathbf{H}^{1+}$ + **Bi**	Excitation	0.50-3.50 MeV	Th

831. R. Mateus, A. P. Jesus, B. Braizinha, J. Cruz, J. V. Pinto, J. P. Ribeiro
Proton-induced γ-ray analysis of lithium in thick samples.
Nucl. Instrum. Methods Phys. Res. B **190**, 117 (2002)

$\mathbf{H}^{1+}$ + **Li**	Ionization	0.70-2.27 MeV	Ex

$\mathbf{H^{1+} + Li}$	Excitation	0.70-2.27 MeV	Ex

832. A. R. Ramos, A. Paul, L. Rijniers, M. F. dea Silva, J. C. Soares
Measurement of (p,p) elastic differential cross-sections for carbon, nitrogen, oxygen, aluminum and silicon in the 500-2500 keV range at 140^o and 178^o laboratory scattering angles.
Nucl. Instrum. Methods Phys. Res. B **190**, 95 (2002)

$\mathbf{H^{1+} + C}$	Total Scattering	0.50-2.50 MeV	Ex
$\mathbf{H^{1+} + N}$	Total Scattering	0.50-2.50 MeV	Ex
$\mathbf{H^{1+} + O}$	Total Scattering	0.50-2.50 MeV	Ex
$\mathbf{H^{1+} + Al}$	Total Scattering	0.50-2.50 MeV	Ex
$\mathbf{H^{1+} + Si}$	Total Scattering	0.50-2.50 MeV	Ex
$\mathbf{H^{1+} + C}$	Elastic Scattering	0.50-2.50 MeV	Ex
$\mathbf{H^{1+} + N}$	Elastic Scattering	0.50-2.50 MeV	Ex
$\mathbf{H^{1+} + O}$	Elastic Scattering	0.50-2.50 MeV	Ex
$\mathbf{H^{1+} + Al}$	Elastic Scattering	0.50-2.50 MeV	Ex
$\mathbf{H^{1+} + Si}$	Elastic Scattering	0.50-2.50 MeV	Ex

833. W. Berky, U. C. Steinbauer, H. Baumann, A. G. Balogh
Measurement of non-Rutherford cross sections of ^{4}He ions on ^{14}N at a laboratory backscattering angle of 171^o between 7.5 and 9.8 MeV.
Nucl. Instrum. Methods Phys. Res. B **192**, 249 (2002)

$\mathbf{He^{1+} + N}$	Total Scattering	7.50-9.80 MeV	Ex
$\mathbf{He^{1+} + N}$	Elastic Scattering	7.50-9.80 MeV	Ex

834. R. K. Tripathi, J. W. Wilson, F. A. Cucinotta
A method for calculating proton-nucleus elastic cross-sections.
Nucl. Instrum. Methods Phys. Res. B **194**, 229 (2002)

$\mathbf{H^{1+} + Be}$	Elastic Scattering	0.01-10.00 GeV	Th
$\mathbf{H^{1+} + C}$	Elastic Scattering	0.01-10.00 GeV	Th
$\mathbf{H^{1+} + Al}$	Elastic Scattering	0.01-10.00 GeV	Th
$\mathbf{H^{1+} + Fe}$	Elastic Scattering	0.01-10.00 GeV	Th
$\mathbf{H^{1+} + Pb}$	Elastic Scattering	0.01-10.00 GeV	Th
$\mathbf{H^{1+} + U}$	Elastic Scattering	0.01-10.00 GeV	Th

835. A. I. Panin, A. V. Tulub
X-OH$_2$$^+$ (X = C,O) cations: vibrational spectra, stability, and electron capture reactions.
Opt. Spectrosc. **89**, 706 (2000)

$\mathbf{C + OH_2{}^{1+}}$	Interaction Potentials		Th
$\mathbf{O + OH_2{}^{1+}}$	Interaction Potentials		Th

836. A. Z. Devdariani, A. L. Zagrebin, M. G. Lednev, A. B. Alekseyev, H.-P. Liebermann, R. J. Buenker
Interaction potentials of Hg* + He at moderate interatomic separations and the radiative decay of the Hg(6 ^{3}P$_2$) metastable state in collisions with He atoms.
Opt. Spectrosc. **91**, 833 (2001)

$\mathbf{He + He}$	Interaction Potentials		Th
$\mathbf{He + He^*}$	Interaction Potentials		Th

837. H. Liebel, S. Lauer, F. Vollweiler, R. Mueller-Albrecht, A. Ehresmann, H. Schmoranzer, G. Mentzel, K.-H. Schartner, O. Wilhelmi
Neutral photodissociation of O$_2$ Rydberg states accompanied by changes of the Rydberg electron's quantum numbers n and l.
Phys. Lett. A **267**, 357 (2000)

$\mathbf{O + O}$	Interaction Potentials	22.70-24.80 eV	E/T
$\mathbf{O + O^{1+}}$	Interaction Potentials	22.70-24.80 eV	E/T

838. J. Anton, K. Schulze, D. Geschke, W.-D. Sepp, B. Fricke
A unified time-dependent description of ion-atom collisions.
Phys. Lett. A **268**, 85 (2000)

$\mathbf{H^{1+} + He}$	Ionization	0.01-1.00 keV	Th

839. H. J. Bulten, Z.-L. Zhou, J.F.J. van den Brand, M. Ferro-Luzzi, J. Lang
Spin-exchange effects on tensor polarization of deuterium atoms.
Phys. Rev. A **58**, 1146 (1998)

$\mathbf{H + H}$	Heavy Particle Collisions		Ex
$\mathbf{H + H}$	Elastic Scattering		Ex
$\mathbf{D + D}$	Heavy Particle Collisions		Ex
$\mathbf{D + D}$	Elastic Scattering		Ex

840. M.-C. Bacchus-Montabonel, P. Ceyzeriat
Ab initio molecular treatment of charge transfer by Si^{4+} ions in helium.
Phys. Rev. A **58**, 1162 (1998)

$\mathbf{Si^{4+} + He}$	Charge Transfer	0.00-60.00 keV	Th

841. M. M. Sant'Anna, W. S. Melo, A.C.F Santos, G. M. Sigaud, E. C. Montenergro, M. B. Shah, W. E. Meyerhof
Absolute measurements of electron-loss cross sections of He^{+} and C^{3+} with atomic hydrogen at intermediate velocities.
Phys. Rev. A **58**, 1204 (1998)

$\mathbf{He^{1+} + H}$	Ionization	0.50-3.50 MeV	Ex
$\mathbf{He^{1+} + H_2}$	Ionization	0.50-3.50 MeV	Ex
$\mathbf{C^{3+} + H}$	Ionization	0.50-3.50 MeV	Ex
$\mathbf{C^{3+} + H_2}$	Ionization	0.50-3.50 MeV	Ex

842. L. An, Kh. Khayyat, M. Schulz
Fully differential cusp electron production cross sections for 75-keV $H_2{}^{+}$ + He collisions.
Phys. Rev. A **63**, 030703 (2001)

$\mathbf{H_2{}^{1+} + He}$	Ionization	75.00 keV	Ex

843. D. Mathur
Irradiation of benzene molecules by ion-induced and light-induced intense fields.
Phys. Rev. A **63**, 032502 (2001)

$\mathbf{Si^{8+} + C_6H_6}$	Ionization		Ex
$\mathbf{Si^{8+} + C_6H_6}$	Dissociation		Ex

844. R. Baranowski, M. Thachuk
Simply analytic form for the velocity–angular-momentum distribution function of drifting linear ions.
Phys. Rev. A **63**, 032503 (2001)

$\mathbf{NO^{1+} + He}$	Excitation	300.00 K	Th
$\mathbf{NO^{1+} + He}$	Elastic Scattering	300.00 K	Th

845. G. Lanzano, E. De Filippo, D. Mahboub, H. Rothard, S. Aiello, A. Anzalone, S. Cavallaro, A. Elanique, E. Geraci, M. Geraci, F. Giustolisi, A. Pagano, G. Politi
Ejection of fast electrons following the impact of 45 MeV/u $^{58}Ni^{q+}$ (q=19,28) on solid-foil targets.
Phys. Rev. A **63**, 032702 (2001)

$\mathbf{Ni^{19+} + C}$	Ionization	45.00 MeV/amu	Ex
$\mathbf{Ni^{19+} + Al}$	Ionization	45.00 MeV/amu	Ex
$\mathbf{Ni^{19+} + Au}$	Ionization	45.00 MeV/amu	Ex
$\mathbf{Ni^{28+} + C}$	Ionization	45.00 MeV/amu	Ex
$\mathbf{Ni^{28+} + Al}$	Ionization	45.00 MeV/amu	Ex
$\mathbf{Ni^{28+} + Ni}$	Ionization	45.00 MeV/amu	Ex
$\mathbf{Ni^{28+} + Ag}$	Ionization	45.00 MeV/amu	Ex
$\mathbf{Ni^{28+} + Au}$	Ionization	45.00 MeV/amu	Ex

846. H. Gao, Z. Fang, V.H.S Kwong
Absolute total one- and two-electron-transfer cross sections of O^{3+} and O^{2+} with CO at kilo-electron-volt energies.
Phys. Rev. A **63**, 032704 (2001)

$\mathbf{O^{2+} + H_2}$	Charge Transfer	188.00-304.00 eV/amu	Ex
$\mathbf{O^{2+} + CO}$	Charge Transfer	188.00-304.00 eV/amu	Ex
$\mathbf{O^{3+} + H_2}$	Charge Transfer	188.00-304.00 eV/amu	Ex
$\mathbf{O^{3+} + CO}$	Charge Transfer	188.00-304.00 eV/amu	Ex

847. J. Buldyreva, S. Benec'h, M. Chrysos
Oxygen-broadened and air-broadened linewidths for the NO infrared absorption bands by means of the exact-trajectory approach.
Phys. Rev. A **63**, 032705 (2001)

$\mathbf{N_2 + NO}$	Line Broadening	163.00-299.00 K	Th
$\mathbf{O_2 + NO}$	Line Broadening	163.00-299.00 K	Th

848. S. Bliman, M. Cornille, B. A. Huber, J. Nordgren, J. E. Rubensson
Electron capture by a metastable ion in the collision of Ar^{8+} $(2p^5 3s)^3P_{0,2}$ + H_2 at low velocity.
Phys. Rev. A **63**, 032710 (2001)

$\mathbf{Ar^{8+*} + H_2}$	Charge Transfer	10.00 keV/q	E/T
$\mathbf{Ar^{8+} + H_2}$	Charge Transfer	10.00 keV/q	E/T

849. O. Hadjar, R. Hoekstra, R. Morgenstern, T. Schlathoelter
Projectile atomic-number effect on ion-induced fragmentation and ionization of fullerenes.
Phys. Rev. A **63**, 033201 (2001)

$\mathbf{He^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{B^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{B^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{C^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{C^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{N^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{N^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{O^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{O^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{F^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{F^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{Ne^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{Ne^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{Na^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{Na^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{S^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{S^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{Cl^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{Cl^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{Ar^{2+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T
$\mathbf{Ar^{3+} + C_{60}}$	Dissociation	0.20-0.25 a.u.	E/T

850. F. Gobet, B. Farizon, M. Farizon, M. J. Gaillard, J. P. Buchet, M. Carre, P. Scheier, T. D. Maerk
Cluster multifragmentation and percolation transition: A quantitative comparison for two systems of the same size.
Phys. Rev. A **63**, 033202 (2001)

$\mathbf{{H_{27}}^{1+} + He}$	Dissociation	60.00 keV/amu	Ex

851. B. Gao
Angular-momentum-insensitive quantum-defect theory for diatomic systems.
Phys. Rev. A **64**, 010701 (2001)

Rb + Rb	Elastic Scattering	0.00-10^{-3} K	Th

852. A. Derevianko, R. Cote, A. Dalgarno, G.-H. Jeung
Enhanced cooling of hydrogen by a buffer gas of alkali-metal atoms.
Phys. Rev. A **64**, 011404 (2001)

Na + H	Elastic Scattering	3x10^{-11}-2.72 eV	Th
K + H	Elastic Scattering	0.00-2.72 eV	Th
Rb + H	Elastic Scattering	0.00-2.72 eV	Th
Cs + H	Elastic Scattering	0.00-2.72 eV	Th

853. X. Ma, Th. Stohlker, F. Bosch, O. Brinzanescu, S. Fritzsche, C. Kozhuharov, T. Ludziejewski, P. H. Mokler, Z. Stachura, A. Warczak
State-selective electron capture into He-like U^{90+} ions in collisions with gaseous targets.
Phys. Rev. A **64**, 012704 (2001)

$\mathbf{U^{90+} + N_2}$	Charge Transfer	223.00 MeV/amu	E/T
$\mathbf{U^{90+}}$ + **Ar**	Charge Transfer	223.00 MeV/amu	E/T
$\mathbf{U^{90+}}$ + **Kr**	Charge Transfer	223.00 MeV/amu	E/T
$\mathbf{U^{90+}}$ + **Xe**	Charge Transfer	223.00 MeV/amu	E/T

854. M. R. Fiori, G. Jalbert, C. E. Bielschowsky, W. Cravero
Ionization of lithium by impact of fast bare ions.
Phys. Rev. A **64**, 012705 (2001)

$\mathbf{H^{1+}}$ + **Li**	Total Scattering	0.20-95.00 MeV	Th
$\mathbf{He^{2+}}$ + **Li**	Total Scattering	0.20-95.00 MeV	Th
$\mathbf{N^{7+}}$ + **Li**	Total Scattering	0.20-95.00 MeV	Th
$\mathbf{Ar^{18+}}$ + **Li**	Total Scattering	0.20-95.00 MeV	Th
$\mathbf{H^{1+}}$ + **Li**	Ionization	0.20-95.00 MeV	Th
$\mathbf{He^{2+}}$ + **Li**	Ionization	0.20-95.00 MeV	Th
$\mathbf{N^{7+}}$ + **Li**	Ionization	0.20-95.00 MeV	Th
$\mathbf{Ar^{18+}}$ + **Li**	Ionization	0.20-95.00 MeV	Th

855. I. Mancev
Single-electron capture and transfer ionization in collisions of Li^{3+} ions with helium.
Phys. Rev. A **64**, 012708 (2001)

$\mathbf{Li^{3+}}$ + **He**	Ionization	0.05-5.00 MeV/amu	Th
$\mathbf{Li^{3+}}$ + **He**	Charge Transfer	0.05-5.00 MeV/amu	Th

856. T. Kirchner, M. Horbatsch, H. J. Ludde
Nonperturbative calculation of charge-changing processes in C^{4+} scattering from neon atoms.

Phys. Rev. A **64**, 012711 (2001)

$\mathbf{C^{4+}}$ + **Ne**	Ionization	0.02-2.00 MeV/amu	Th
$\mathbf{C^{4+}}$ + **Ne**	Charge Transfer	0.02-2.00 MeV/amu	Th

857. H. Merabet, M. Bailey, R. Bruch, J. Hanni, S. Bliman, D. V. Fursa, I. Bray, K. Bartschat, H. C. Tseng, C. D. Lin
Cross sections and collision dynamics of the excitation of (1snp) $^1P^0$ levels of helium, n = 2-5, by intermediate- and high-velocity electron, proton, and molecular-ion ($H_2{}^+$ and $H_3{}^+$) impact.
Phys. Rev. A **64**, 012712 (2001)

$\mathbf{H^{1+}}$ + **He**	Excitation	0.05-1.40 keV	E/T
$\mathbf{H_2{}^{1+}}$ + **He**	Excitation	0.05-1.40 keV	E/T
$\mathbf{H_3{}^{1+}}$ + **He**	Excitation	0.05-1.40 keV	E/T

858. H. Zhang, X. Flechard, A. Cassimi, L. Adoui, G. Cremer, F. Fremont, D. Hennecart
Experimental study of single, double, and multiple electron capture in slow $^{15}N^{7+}$ + Ne collisions using recoil-ion momentum spectroscopy.
Phys. Rev. A **64**, 012715 (2001)

$\mathbf{N^{7+} + Ne}$	Ionization	105.00 keV	Ex
$\mathbf{N^{7+} + Ne}$	Charge Transfer	105.00 keV	Ex

859. B. C. Saha, A. Kumar
Slow electron capture by H^{+} from initially excited p states of alkali-metal atoms: Effects of alignment and orientation.
Phys. Rev. A **64**, 012721 (2001)

$\mathbf{H^{1+} + Na^{*}}$	Charge Transfer	0.01-1.00 keV/amu	Th
$\mathbf{H^{1+} + Na}$	Charge Transfer	0.01-1.00 keV/amu	Th
$\mathbf{H^{1+} + K^{*}}$	Charge Transfer	0.01-1.00 keV/amu	Th
$\mathbf{H^{1+} + K}$	Charge Transfer	0.01-1.00 keV/amu	Th

860. R. C. Forrey, N. Balakrishnan, A. Dalgarno, M. R. Haggarty, E. J. Heller
Effect of quasiresonant dynamics on the predissociation of van der Waals molecules.
Phys. Rev. A **64**, 022706 (2001)

$\mathbf{He + H_2}$	Energy Transfer	10^{-5} a.u.	Th

861. D. Rabli, M. Gargaud, R. McCarroll
Electron capture and excitation in low-energy collisions of He^{2+} with metastable 2 ^{1}S and 2 ^{3}S He.
Phys. Rev. A **64**, 022707 (2001)

$\mathbf{He^{2+} + He}$	Excitation	1.36-400.00 eV/amu	Th
$\mathbf{He^{2+} + He}$	Charge Transfer	1.36-400.00 eV/amu	Th

862. I. Ali, R. D. DuBois, C. L. Cocke, S. Hagmann, C. R. Feeler, R. E. Olson
Dynamics of the fragmentation of D_2 by fast protons and slow highly charged Xe^{26+}.
Phys. Rev. A **64**, 022712 (2001)

$\mathbf{H^{1+} + H_2}$	Dissociation	0.19-50.00 keV/amu	Ex
$\mathbf{H^{1+} + D_2}$	Dissociation	0.19-50.00 keV/amu	Ex
$\mathbf{Xe^{26+} + H_2}$	Dissociation	0.19-50.00 keV/amu	Ex
$\mathbf{Xe^{26+} + D_2}$	Dissociation	0.19-50.00 keV/amu	Ex

863. A. Reinkoester, U. Werner, N. M. Kabachnik, H. O. Lutz
Experimental and theoretical study of ionization and fragmentation of C_{60} by fast-proton impact.
Phys. Rev. A **64**, 023201 (2001)

$\mathbf{H^{1+} + C_{60}}$	Ionization	1.00-3.50 a.u.	Ex
$\mathbf{H^{1+} + C_{60}}$	Dissociation	1.00-3.50 a.u.	Ex

864. L. Chen, S. Martin, R. Bredy, J. Bernard, J. Desequelles
Dynamical fragmentation processes of ${C_{60}}^{5+}$ ions in Ar^{8+}-C_{60} collisions.
Phys. Rev. A **64**, 031201 (2001)

$\mathbf{Ar^{8+} + C_{60}}$	Dissociation	56.00 keV	Ex

865. F. Zappa, L.F.S Coelho, S. D. Magalhaes, J. C. Acquadro, T. S. Cabral, G. Jalbert, N. V. de Castro Faria
Collisional destruction of anionic carbon and silicon clusters by helium, neon, and argon atoms at intermediate velocities.
Phys. Rev. A **64**, 032701 (2001)

$\mathbf{He + {Si_2}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex
$\mathbf{He + {Si_3}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex
$\mathbf{He + {Si_4}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex
$\mathbf{He + {C_2}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex
$\mathbf{He + {C_3}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex
$\mathbf{He + {C_4}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex
$\mathbf{Ne + {Si_2}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex
$\mathbf{Ne + {Si_3}^{-1+}}$	Detachment	0.10-1.20 a.u.	Ex

Ne + $\mathbf{Si}_4{}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex
Ne + $\mathbf{C}_2{}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex
Ne + $\mathbf{C}_3{}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex
Ne + $\mathbf{C}_4{}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex
Ar + $\mathbf{Si}_2{}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex
Ar + $\mathbf{Si}_3{}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex
Ar + $\mathbf{Si}_4{}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex
Ar + $\mathbf{C}_2{}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex
Ar + $\mathbf{C}_3{}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex
Ar + $\mathbf{C}_4{}^{-1+}$	Detachment	0.10-1.20 a.u.	Ex
He + $\mathbf{Si}_2{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
He + $\mathbf{Si}_3{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
He + $\mathbf{Si}_4{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
He + $\mathbf{C}_2{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
He + $\mathbf{C}_3{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
He + $\mathbf{C}_4{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ne + $\mathbf{Si}_2{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ne + $\mathbf{Si}_3{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ne + $\mathbf{Si}_4{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ne + $\mathbf{C}_2{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ne + $\mathbf{C}_3{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ne + $\mathbf{C}_4{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ar + $\mathbf{Si}_2{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ar + $\mathbf{Si}_3{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ar + $\mathbf{Si}_4{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ar + $\mathbf{C}_2{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ar + $\mathbf{C}_3{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
Ar + $\mathbf{C}_4{}^{-1+}$	Ionization	0.10-1.20 a.u.	Ex
He + $\mathbf{Si}_2{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
He + $\mathbf{Si}_3{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
He + $\mathbf{Si}_4{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
He + $\mathbf{C}_2{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
He + $\mathbf{C}_3{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
He + $\mathbf{C}_4{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ne + $\mathbf{Si}_2{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ne + $\mathbf{Si}_3{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ne + $\mathbf{Si}_4{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ne + $\mathbf{C}_2{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ne + $\mathbf{C}_3{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ne + $\mathbf{C}_4{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ar + $\mathbf{Si}_2{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ar + $\mathbf{Si}_3{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ar + $\mathbf{Si}_4{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ar + $\mathbf{C}_2{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ar + $\mathbf{C}_3{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex
Ar + $\mathbf{C}_4{}^{-1+}$	Dissociation	0.10-1.20 a.u.	Ex

866. A. Itoh, H. Tsuchida, K. Miyabe, T. Majima, Y. Nakai
Fragment ion distribution in charge-changing collisions of 2-MeV Si ions with $\mathbf{C}_{60}$.
Phys. Rev. A **64**, 032702 (2001)

S + $\mathbf{C}_{60}$	Ionization	2.00 MeV	Ex
$\mathbf{S}^{1+}$ + $\mathbf{C}_{60}$	Ionization	2.00 MeV	Ex
$\mathbf{S}^{2+}$ + $\mathbf{C}_{60}$	Ionization	2.00 MeV	Ex
$\mathbf{S}^{4+}$ + $\mathbf{C}_{60}$	Ionization	2.00 MeV	Ex
S + $\mathbf{C}_{60}$	Charge Transfer	2.00 MeV	Ex
$\mathbf{S}^{1+}$ + $\mathbf{C}_{60}$	Charge Transfer	2.00 MeV	Ex
$\mathbf{S}^{2+}$ + $\mathbf{C}_{60}$	Charge Transfer	2.00 MeV	Ex

$\mathbf{S^{4+} + C_{60}}$	Charge Transfer	2.00 MeV	Ex
$\mathbf{S + C_{60}}$	Dissociation	2.00 MeV	Ex
$\mathbf{S^{1+} + C_{60}}$	Dissociation	2.00 MeV	Ex
$\mathbf{S^{2+} + C_{60}}$	Dissociation	2.00 MeV	Ex
$\mathbf{S^{4+} + C_{60}}$	Dissociation	2.00 MeV	Ex

867. M. J. Jamieson, B. Zygelman
Mass dependence of scattering lengths for hydrogen atoms.
Phys. Rev. A **64**, 032703 (2001)

$\mathbf{H + H}$	Elastic Scattering		Th
$\mathbf{He + He}$	Elastic Scattering		Th

868. F. A. Rajgara, M. Krishnamurthy, D. Mathur, T. Nishide, T. Kitamura, H. Shiromaru, Y. Achiba, N. Kobayashi
Fragmentation dynamics of $\mathbf{CS_2}^{q+}$ (q=3-10) molecular ions.
Phys. Rev. A **64**, 032712 (2001)

$\mathbf{Ar^{8+} + CS_2}$	Dissociation	120.00 keV	Ex

869. A. Watanabe, H. Sato, J. P. Gu, G. Hirsch, R. J. Buenker, M. Kimura
Electron capture in collisions of $\mathbf{Al^{2+}}$ ions with He atoms at intermediate energies.
Phys. Rev. A **64**, 032717 (2001)

$\mathbf{Al^{2+} + He}$	Charge Transfer	0.00-1.00 MeV/amu	Th

870. R. Vandenbosch
Collisionally induced multifragmentation of $\mathbf{C_{60}}$.
Phys. Rev. A **64**, 033201 (2001)

$\mathbf{C_{60}}^{-1+} + \mathbf{Ar}$	Dissociation	45.00 keV	Ex

871. B. E. Granger, E. L. Hamilton, C. H. Greene
Quantum and semiclassical analysis of long-range Rydberg molecules.
Phys. Rev. A **64**, 042508 (2001)

$\mathbf{H + Rb}$	Interaction Potentials		Th
$\mathbf{H^{*} + Rb}$	Interaction Potentials		Th
$\mathbf{Rb + Rb}$	Interaction Potentials		Th
$\mathbf{Rb^{*} + Rb}$	Interaction Potentials		Th

872. A. N. Perumal, D. N. Tripathi
Unexplained features of capture and ionization for ionaligned-Rydberg-atom collisions.
Phys. Rev. A **64**, 042709 (2001)

$\mathbf{Na^{1+} + Na}$	Ionization	0.03 a.u.	Th
$\mathbf{Na^{1+} + Na}$	Charge Transfer	0.03 a.u.	Th
$\mathbf{Na^{1+} + Na^{*}}$	Ionization	0.03 a.u.	Th
$\mathbf{Na^{1+} + Na^{*}}$	Charge Transfer	0.03 a.u.	Th

873. P. J. Leo, V. Venturi, I. B. Whittingham, J. F. Babb
Ultracold collisions of metastable helium atoms.
Phys. Rev. A **64**, 042710 (2001)

$\mathbf{He + He}$	Excitation	1.00-500.00 μK	Th
$\mathbf{He + He}$	Elastic Scattering	1.00-500.00 μK	Th
$\mathbf{He + He}$	Interaction Potentials	1.00-500.00 μK	Th
$\mathbf{He^{*} + He^{*}}$	Excitation	1.00-500.00 μK	Th
$\mathbf{He^{*} + He^{*}}$	Elastic Scattering	1.00-500.00 μK	Th
$\mathbf{He^{*} + He^{*}}$	Interaction Potentials	1.00-500.00 μK	Th

874. H. Tawara, P. Richard, U. I. Safronova, P. C. Stancil
K x-ray production in H-like Si^{13+}, S^{15+}, and Ar^{17+} ions colliding with various atom and molecule gas targets at low collision energies.
Phys. Rev. A **64**, 042712 (2001)

$Si^{13+} + H_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Si^{13+} + D_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Si^{13+} + He$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Si^{13+} + CH_4$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Si^{13+} + CO$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Si^{13+} + CO_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Si^{13+} + N_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Si^{13+} + O_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Si^{13+} + Ne$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Si^{13+} + Ar$	Charge Transfer	1.00-70.00 keV/amu	E/T
$S^{15+} + H_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$S^{15+} + D_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$S^{15+} + He$	Charge Transfer	1.00-70.00 keV/amu	E/T
$S^{15+} + CH_4$	Charge Transfer	1.00-70.00 keV/amu	E/T
$S^{15+} + CO$	Charge Transfer	1.00-70.00 keV/amu	E/T
$S^{15+} + CO_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$S^{15+} + N_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$S^{15+} + O_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$S^{15+} + Ne$	Charge Transfer	1.00-70.00 keV/amu	E/T
$S^{15+} + Ar$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Ar^{17+} + H_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Ar^{17+} + D_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Ar^{17+} + He$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Ar^{17+} + CH_4$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Ar^{17+} + CO$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Ar^{17+} + CO_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Ar^{17+} + N_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Ar^{17+} + O_2$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Ar^{17+} + Ne$	Charge Transfer	1.00-70.00 keV/amu	E/T
$Ar^{17+} + Ar$	Charge Transfer	1.00-70.00 keV/amu	E/T

875. Y. S. Tergiman, M.-C. Bacchus-Montabonel
State-selective single and double electron capture in the collision of N^{4+} with He.
Phys. Rev. A **64**, 042721 (2001)

$N^{4+} + He$	Charge Transfer	1.00-50.00 keV	Th

876. J. R. Stallcop, H. Partridge, E. Levin
Effective potential energies and transport cross sections for atom-molecule interactions of nitrogen and oxygen.
Phys. Rev. A **64**, 042722 (2001)

$H_2 + N$	Interaction Potentials	0.10-10.00 K	Th
$N_2 + N$	Interaction Potentials	0.10-10.00 K	Th
$O_2 + O$	Interaction Potentials	0.10-10.00 K	Th
$H_2 + N$	Elastic Scattering	0.10-10.00 K	Th
$N_2 + N$	Elastic Scattering	0.10-10.00 K	Th
$O_2 + O$	Elastic Scattering	0.10-10.00 K	Th

877. A. K. Belyaev, D. Egorova, J. Grosser, T. Menzel
Electron translation and asymptotic couplings in low-energy atomic collisions.
Phys. Rev. A **64**, 052701 (2001)

$H + He$	Excitation	50.00 eV	Th
$H + Na$	Excitation	50.00 eV	Th

878. M. Zamkov, H. Aliabadi, E. P. Benis, P. Richard, H. Tawara, T.J.M. Zouros
Energy dependence of the metastable fraction in B^{3+} ($1s^2\ ^1S$,$1s2s\ ^3S$) beams produced in collisions with thin-foil and gas targets.
Phys. Rev. A **64**, 052702 (2001)

$\mathbf{B^{3+} + N_2}$	Excitation	0.85-9.00 MeV	E/T
$\mathbf{B^{3+} + H_2}$	Charge Transfer	0.85-9.00 MeV	E/T
$\mathbf{B^{3+}}$ **+ He**	Charge Transfer	0.85-9.00 MeV	E/T

879. A. V. Avdeenkov, J. L. Bohn
Ultracold collisions of oxygen molecules.
Phys. Rev. A **64**, 052703 (2001)

$\mathbf{O_2 + O_2}$	Interaction Potentials	1.00 K	Th
$\mathbf{O_2 + O_2}$	Excitation	1.00 K	Th
$\mathbf{O_2 + O_2}$	Elastic Scattering	1.00 K	Th

880. S. R. Lundeen, R. A. Komara, C. W. Fehrenbach, B. D. DePaola
Experimental study of L distributions from charge capture by Si^{3+} on Rydberg atoms.
Phys. Rev. A **64**, 052714 (2001)

$\mathbf{Si^{3+}}$ **+ Rb**	Charge Transfer	12.00 keV	Ex

881. B. L. Tolra, C. Drag, P. Pillet
Observation of cold state-selected cesium molecules formed by stimulated Raman photoassociation.
Phys. Rev. A **64**, 061401 (2001)

Cs + Cs	Association	0.13 mK	Ex

882. K. Iemura, S. Ohtani, H. Suzuki, J. Takeda, S. Machida, K. Tanabe, T. Takayanagi, K. Wakiya, M. Sekiguchi, Y. Kanai, S. Kitazawa, X. M. Tong, D. Kato, S. Sakaguchi, T. Watanabe, F. J. Currell
Electron spectroscopy of doubly excited states in He produced by slow collisions of He^{2+} ions with Ba atoms.
Phys. Rev. A **64**, 062709 (2001)

$\mathbf{He^{2+}}$ **+ Ba**	Charge Transfer	20.00-40.00 keV	Ex
$\mathbf{He^{2+}}$ **+ Ba**	Excitation	20.00-40.00 keV	Ex

883. V. L. Kravchuk, A. M. van den Berg, F. Fleurot, M. A. de Huu, H. Loehner, H. W. Wilschut, M. Polasik, M. Lewandowska-Robak, K. Slabkowska
K- and L-shell ionization of heavy targets by various 20- and 80-MeV/u projectiles.
Phys. Rev. A **64**, 062710 (2001)

$\mathbf{He^{1+}}$ **+ Ta**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{He^{1+}}$ **+ Pb**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{He^{1+}}$ **+ Th**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{He^{2+}}$ **+ Pb**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{C^{3+}}$ **+ Ta**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{C^{3+}}$ **+ Pb**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{C^{3+}}$ **+ Th**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{C^{6+}}$ **+ Pb**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{O^{4+}}$ **+ Ta**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{O^{4+}}$ **+ Pb**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{O^{4+}}$ **+ Th**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{O^{8+}}$ **+ Pb**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{Ne^{5+}}$ **+ Ta**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{Ne^{5+}}$ **+ Pb**	Ionization	20.00-80.00 MeV/amu	E/T
$\mathbf{Ne^{5+}}$ **+ Th**	Ionization	20.00-80.00 MeV/amu	E/T

884. C. McGrath, M. B. Shah, P.C.E McCartney, J. W. McConkey
H_2^+ (20-100-keV) collisions with H: Dissociative and nondissociative capture and ionization and pure-H-target ionization.
Phys. Rev. A **64**, 062712 (2001)

$\mathbf{H_2}^{1+}$ + **H**	Ionization	20.00-100.00 keV	Ex
$\mathbf{H_2}^{1+}$ + **H**	Charge Transfer	20.00-100.00 keV	Ex
$\mathbf{H_2}^{1+}$ + **H**	Dissociation	20.00-100.00 keV	Ex

885. Y. Arimoto, N. Shimakura, T. Yamagata, K. Yonehara, M. Tanaka
Spin-exchange cross section for a $^3He^+$ ion incident on a Rb atom.
Phys. Rev. A **64**, 062714 (2001)

$\mathbf{He}^{1+}$ + **Rb**	Charge Transfer	0.01-10.00 keV/amu	Th
$\mathbf{He}^{1+}$ + **Rb**	Excitation	0.01-10.00 keV/amu	Th

886. S. G. Porsev, A. Derevianko
High-accuracy relativistic many-body calculations of van der Waals coefficients C_6 for alkaline-earth-metal atoms.
Phys. Rev. A **65**, 020701 (2002)

Be + Be	Interaction Potentials		Th
Mg + Mg	Interaction Potentials		Th
Ca + Ca	Interaction Potentials		Th
Sr + Sr	Interaction Potentials		Th
Ba + Ba	Interaction Potentials		Th

887. N. V. Dobrodey, A. I. Streltsov, L. S. Cederbaum
Core-ionized states and spectra of Be and Mg dimers.
Phys. Rev. A **65**, 022501 (2002)

Be + Be	Interaction Potentials		Th
Mg + Mg	Interaction Potentials		Th

888. L. F. Errea, C. Harel, H. Jouin, L. Mendez, B. Pons, A. Riera, I. Sevila
Description of ionization in the molecular approach to atomic collisions. II.
Phys. Rev. A **65**, 022711 (2002)

$\mathbf{He}^{2+}$ + **H**	Ionization	64.00-225.00 keV/amu	Th

889. R. Cabrera-Trujillo, Y. Ohrn, J. R. Sabin, E. Deumens
Molecular target and projectile angular scattering effects in stopping power and charge exchange at low-to-intermediate projectile energies.
Phys. Rev. A **65**, 024901 (2002)

H + H	Total Scattering	0.00-1.00 MeV	Th
H + H	Total Scattering	0.00-1.00 MeV	Th
H + $\mathbf{H_2}$	Total Scattering	0.00-1.00 MeV	Th
H + $\mathbf{H_2}$	Total Scattering	0.00-1.00 MeV	Th
H + N	Total Scattering	0.00-1.00 MeV	Th
H + N	Total Scattering	0.00-1.00 MeV	Th
H + $\mathbf{N_2}$	Total Scattering	0.00-1.00 MeV	Th
H + $\mathbf{N_2}$	Total Scattering	0.00-1.00 MeV	Th
$\mathbf{H}^{1+}$ + **H**	Total Scattering	0.00-1.00 MeV	Th
$\mathbf{H}^{1+}$ + **H**	Total Scattering	0.00-1.00 MeV	Th
$\mathbf{H}^{1+}$ + $\mathbf{H_2}$	Total Scattering	0.00-1.00 MeV	Th
$\mathbf{H}^{1+}$ + $\mathbf{H_2}$	Total Scattering	0.00-1.00 MeV	Th
H + H	Charge Transfer	0.00-1.00 MeV	Th
H + $\mathbf{H_2}$	Charge Transfer	0.00-1.00 MeV	Th
H + N	Charge Transfer	0.00-1.00 MeV	Th
H + $\mathbf{N_2}$	Charge Transfer	0.00-1.00 MeV	Th
$\mathbf{H}^{1+}$ + **H**	Charge Transfer	0.00-1.00 MeV	Th
$\mathbf{H}^{1+}$ + $\mathbf{H_2}$	Charge Transfer	0.00-1.00 MeV	Th
H + H	Heavy Particle Collisions	0.00-1.00 MeV	Th
H + $\mathbf{H_2}$	Heavy Particle Collisions	0.00-1.00 MeV	Th
H + N	Heavy Particle Collisions	0.00-1.00 MeV	Th

$\mathbf{H + N_2}$	Heavy Particle Collisions	0.00-1.00 MeV	Th
$\mathbf{H^{1+} + H}$	Heavy Particle Collisions	0.00-1.00 MeV	Th
$\mathbf{H^{1+} + H_2}$	Heavy Particle Collisions	0.00-1.00 MeV	Th

890. M. Ehrich, U. Werner, H. O. Lutz, T. Kaneyasu, K. Ishii, K. Okuno, U. Saalmann
Simultaneous charge polarization and fragmentation of N_2 molecules in slow keV collisions with Kr^{8+} ions.
Phys. Rev. A **65**, 030702 (2002)

$\mathbf{Kr^{8+} + N_2}$	Dissociation	19.00-171.00 eV/amu	Ex

891. C. Illescas, B. Pons, A. Riera
Classical description of the electron capture to the continuum cusp formation in ion-atom collisions.
Phys. Rev. A **65**, 030703 (2002)

$\mathbf{H^{1+} + H}$	Total Scattering	0.89-2.00 a.u.	Th
$\mathbf{H^{1+} + H}$	Ionization	0.89-2.00 a.u.	Th

892. M. Zamkov, H. Aliabadi, E. P. Benis, P. Richard, H. Tawara, T.J.M. Zouros
Absolute cross sections and decay rates for the triply excited B^{2+} ($2s2p^2\ ^2D$) resonance in electron-metastable-ion collisions.
Phys. Rev. A **65**, 032705 (2002)

$\mathbf{B^{2+} + H_2}$	Charge Transfer	4.00 MeV	Ex
$\mathbf{B^{2+*} + H_2}$	Charge Transfer	4.00 MeV	Ex
$\mathbf{B^{2+} + H_2}$	Excitation	4.00 MeV	Ex
$\mathbf{B^{2+*} + H_2}$	Excitation	4.00 MeV	Ex
$\mathbf{B^{2+*} + H_2}$	Excitation	4.00 MeV	Ex
$\mathbf{B^{2+*} + B^{2+}}$	Excitation	4.00 MeV	Ex

893. A. B. Voitkiv, B. Najjari, R. Moshammer, J. Ullrich
Helium single ionization in relativistic collisions with highly charged ions.
Phys. Rev. A **65**, 032707 (2002)

$\mathbf{U^{92+} + He}$	Ionization	1.00 GeV/amu	E/T

894. A. Andalkar, R. B. Warrington
High-resolution measurement of the pressure broadening and shift of the Cs D1 and D2 lines by N_2 and He buffer gases.
Phys. Rev. A **65**, 032708 (2002)

$\mathbf{Cs + He}$	Line Broadening	294.00 K	Ex
$\mathbf{Cs + N_2}$	Line Broadening	294.00 K	Ex

895. J. C. Flasher, R. C. Forrey
Cold collisions between argon atoms and hydrogen molecules.
Phys. Rev. A **65**, 032710 (2002)

$\mathbf{Ar + H_2}$	Interaction Potentials		Th
$\mathbf{Ar + H_2}$	Energy Transfer		Th
$\mathbf{Ar + H_2}$	Excitation		Th

896. V. Bazin, P. Boduch, M. Chantepie, E. Jacquet, H. Kucal, D. Lecler, J. Pascale
Excitation and alignment effects in Ar^{8+}-Cs(6s,6p) collisions at low energies.
Phys. Rev. A **65**, 032712 (2002)

$\mathbf{Ar^{8+} + Cs}$	Interaction Potentials	0.40-4.00 keV/amu	E/T
$\mathbf{Ar^{8+} + Cs}$	Excitation	0.40-4.00 keV/amu	E/T

897. I. Yu. Yurova
Theory of fine-structure effects in thermal collisions of 3p-excited sodium atoms: Combined quasiclassical approximation.
Phys. Rev. A **65**, 032726 (2002)

Na + Na	Energy Transfer	0.30-2.20 K	Th

898. B. Zarour, J. Hanssen, P. A. Hervieux, M. F. Politis, F. Martin
Charge dependence of electron capture and excitation cross sections in collisions of protons with closed-shell $\mathbf{Na_{20+q}}^{q+}$ clusters.
Phys. Rev. A **65**, 033201 (2002)

$\mathbf{H}^{1+}$ + $\mathbf{Na_{20}}$	Excitation	0.04-0.16 a.u.	Th
$\mathbf{H}^{1+}$ + $\mathbf{Na_{21}}^{1+}$	Excitation	0.04-0.16 a.u.	Th
$\mathbf{H}^{1+}$ + $\mathbf{Na_{19}}^{-1+}$	Excitation	0.04-0.16 a.u.	Th
$\mathbf{H}^{1+}$ + $\mathbf{Na_{20}}$	Charge Transfer	0.04-0.16 a.u.	Th
$\mathbf{H}^{1+}$ + $\mathbf{Na_{21}}^{1+}$	Charge Transfer	0.04-0.16 a.u.	Th
$\mathbf{H}^{1+}$ + $\mathbf{Na_{19}}^{-1+}$	Charge Transfer	0.04-0.16 a.u.	Th

899. C. Zhu, A. Dalgarno, A. Derevianko
van der Waals interactions between molecular hydrogen and alkali-metal atoms.
Phys. Rev. A **65**, 034708 (2002)

$\mathbf{H_2}$ + **Li**	Line Broadening		Th
$\mathbf{H_2}$ + **Na**	Line Broadening		Th
$\mathbf{H_2}$ + **K**	Line Broadening		Th
$\mathbf{H_2}$ + **Rb**	Line Broadening		Th
$\mathbf{H_2}$ + **Cs**	Line Broadening		Th
$\mathbf{H_2}$ + **Fr**	Line Broadening		Th
$\mathbf{H_2}$ + **Li**	Elastic Scattering		Th
$\mathbf{H_2}$ + **Na**	Elastic Scattering		Th
$\mathbf{H_2}$ + **K**	Elastic Scattering		Th
$\mathbf{H_2}$ + **Rb**	Elastic Scattering		Th
$\mathbf{H_2}$ + **Cs**	Elastic Scattering		Th
$\mathbf{H_2}$ + **Fr**	Elastic Scattering		Th

900. S. Jonsell, A. Saenz, P. Froelich, R. C. Forrey, R. Cote, A. Dalgarno
Long-range interactions between two 2s excited hydrogen atoms.
Phys. Rev. A **65**, 042501 (2002)

H + H	Interaction Potentials		Th
$\mathbf{H}^*$ + $\mathbf{H}^*$	Interaction Potentials		Th

901. H. Tawara, P. Richard, U. I. Safronova, A. A. Vasilyev, S. Hansen, A. S. Shlyaptseva
L x rays from low-energy (2 keV/u) ions with L-shell vacancies produced in single collisions with atoms and molecules.
Phys. Rev. A **65**, 042509 (2002)

$\mathbf{Kr}^{27+}$ + **He**	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{27+}$ + $\mathbf{CH_4}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{27+}$ + $\mathbf{N_2}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{27+}$ + **Ne**	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{27+}$ + **Ar**	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{28+}$ + **He**	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{28+}$ + $\mathbf{CH_4}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{28+}$ + $\mathbf{N_2}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{28+}$ + **Ne**	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{28+}$ + **Ar**	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{29+}$ + **He**	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{29+}$ + $\mathbf{CH_4}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{29+}$ + $\mathbf{N_2}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{29+}$ + **Ne**	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{29+}$ + **Ar**	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{30+}$ + **He**	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr}^{30+}$ + $\mathbf{CH_4}$	Charge Transfer	2.00 keV/amu	E/T

$\mathbf{Kr^{30+} + N_2}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{30+} + Ne}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{30+} + Ar}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{31+} + He}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{31+} + CH_4}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{31+} + N_2}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{31+} + Ne}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{31+} + Ar}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{32+} + He}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{32+} + CH_4}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{32+} + N_2}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{32+} + Ne}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{32+} + Ar}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{33+} + He}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{33+} + CH_4}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{33+} + N_2}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{33+} + Ne}$	Charge Transfer	2.00 keV/amu	E/T
$\mathbf{Kr^{33+} + Ar}$	Charge Transfer	2.00 keV/amu	E/T

902. N. Khelifi, W. Zrafi, B. Oujia, F. X. Gadea
Ab initio adiabatic and diabatic energies and dipole moments of the RbH molecule.
Phys. Rev. A **65**, 042513 (2002)

Rb + H	Interaction Potentials		Th

903. A. S. Alnaser, A. L. Landers, D. J. Pole, S. Hossain, O. A. Haija, T. W. Gorczyca, J. A. Tanis, H. Knutson
Superelastic scattering of electrons from metastable He-like $\mathbf{C^{4+}}$ and $\mathbf{O^{6+}}$ ions.
Phys. Rev. A **65**, 042709 (2002)

$\mathbf{C^{4+} + H_2}$	Total Scattering	0.50-1.10 MeV/amu	E/T
$\mathbf{O^{6+} + H_2}$	Total Scattering	0.50-1.10 MeV/amu	E/T
$\mathbf{F^{7+} + H_2}$	Total Scattering	0.50-1.10 MeV/amu	E/T
$\mathbf{C^{4+} + H_2}$	De-excitation	0.50-1.10 MeV/amu	E/T
$\mathbf{O^{6+} + H_2}$	De-excitation	0.50-1.10 MeV/amu	E/T
$\mathbf{F^{7+} + H_2}$	De-excitation	0.50-1.10 MeV/amu	E/T
$\mathbf{C^{4+*} + H_2}$	Total Scattering	0.50-1.10 MeV/amu	E/T
$\mathbf{O^{6+*} + H_2}$	Total Scattering	0.50-1.10 MeV/amu	E/T
$\mathbf{F^{7+*} + H_2}$	Total Scattering	0.50-1.10 MeV/amu	E/T
$\mathbf{C^{4+*} + H_2}$	De-excitation	0.50-1.10 MeV/amu	E/T
$\mathbf{O^{6+*} + H_2}$	De-excitation	0.50-1.10 MeV/amu	E/T
$\mathbf{F^{7+*} + H_2}$	De-excitation	0.50-1.10 MeV/amu	E/T

904. W. Wolff, I. Ben-Itzhak, H. E. Wolf, C. L. Cocke, M. A. Abdallah, M. Stoeckli
Comparative study of the ground-state dissociation of $\mathbf{H_2}^+$ and $\mathbf{D_2}^+$ induced by ionizing and electron-capture collisions with $\mathbf{He^+}$ at velocities of 0.25 and 0.5 a.u.
Phys. Rev. A **65**, 042710 (2002)

$\mathbf{He^{1+} + H_2}$	Total Scattering	0.25-0.50 a.u.	Ex
$\mathbf{He^{1+} + D_2}$	Total Scattering	0.25-0.50 a.u.	Ex
$\mathbf{He^{1+} + H_2}$	Charge Transfer	0.25-0.50 a.u.	Ex
$\mathbf{He^{1+} + D_2}$	Charge Transfer	0.25-0.50 a.u.	Ex
$\mathbf{He^{1+} + H_2}$	Ionization	0.25-0.50 a.u.	Ex
$\mathbf{He^{1+} + D_2}$	Ionization	0.25-0.50 a.u.	Ex

905. C. S. Lee, C. H. Lin
Light emission induced from prpojectiles of $\mathbf{H^+}$, $\mathbf{H_2}^+$, and $\mathbf{H_3}^+$ interacting with $\mathbf{N_2}$, $\mathbf{N_2O}$, and $\mathbf{O_2}$.
Phys. Rev. A **65**, 042712 (2002)

$\mathbf{H^{1+} + N_2}$	Dissociation	3.00-10.00 keV	Ex
$\mathbf{H^{1+} + N_2O}$	Dissociation	3.00-10.00 keV	Ex
$\mathbf{H^{1+} + O_2}$	Dissociation	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + N_2}$	Dissociation	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + N_2O}$	Dissociation	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + O_2}$	Dissociation	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + N_2}$	Dissociation	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + N_2O}$	Dissociation	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + O_2}$	Dissociation	3.00-10.00 keV	Ex
$\mathbf{H^{1+} + N_2}$	Excitation	3.00-10.00 keV	Ex
$\mathbf{H^{1+} + N_2O}$	Excitation	3.00-10.00 keV	Ex
$\mathbf{H^{1+} + O_2}$	Excitation	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + N_2}$	Excitation	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + N_2O}$	Excitation	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + O_2}$	Excitation	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + N_2}$	Excitation	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + N_2O}$	Excitation	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + O_2}$	Excitation	3.00-10.00 keV	Ex
$\mathbf{H^{1+} + N_2}$	Charge Transfer	3.00-10.00 keV	Ex
$\mathbf{H^{1+} + N_2O}$	Charge Transfer	3.00-10.00 keV	Ex
$\mathbf{H^{1+} + O_2}$	Charge Transfer	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + N_2}$	Charge Transfer	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + N_2O}$	Charge Transfer	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + O_2}$	Charge Transfer	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + N_2}$	Charge Transfer	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + N_2O}$	Charge Transfer	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + O_2}$	Charge Transfer	3.00-10.00 keV	Ex
$\mathbf{H^{1+} + N_2}$	Fluorescence	3.00-10.00 keV	Ex
$\mathbf{H^{1+} + N_2O}$	Fluorescence	3.00-10.00 keV	Ex
$\mathbf{H^{1+} + O_2}$	Fluorescence	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + N_2}$	Fluorescence	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + N_2O}$	Fluorescence	3.00-10.00 keV	Ex
$\mathbf{H_2{}^{1+} + O_2}$	Fluorescence	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + N_2}$	Fluorescence	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + N_2O}$	Fluorescence	3.00-10.00 keV	Ex
$\mathbf{H_3{}^{1+} + O_2}$	Fluorescence	3.00-10.00 keV	Ex

906. E. Tiesinga, S. Kotochigova, P. S. Julienne
Scattering length of the ground-state Mg + Mg collision.
Phys. Rev. A **65**, 042722 (2002)

Mg + Mg	Elastic Scattering		Th
Mg + Mg	Interaction Potentials		Th

907. H. Suno, B. D. Esry, C. H. Greene, Jr. Burke, J. P.
Three-body recombination of cold helium atoms.
Phys. Rev. A **65**, 042725 (2002)

He + He + He	Interaction Potentials	0.00-10.00 mK	Th
He + He + He	Association	0.00-10.00 mK	Th

908. T. Kirchner, L. Gulyas, R. Moshammer, M. Schulz, J. Ullrich
Doubly differential electron-emission spectra in single and multiple ionization of noble-gas atoms by fast highly-charged-ion impact.
Phys. Rev. A **65**, 042727 (2002)

$\mathbf{Au^{53+} + Ne}$	Total Scattering	3.60 MeV/amu	Ex
$\mathbf{Au^{53+} + Ar}$	Total Scattering	3.60 MeV/amu	Ex
$\mathbf{Au^{53+} + Ne}$	Ionization	3.60 MeV/amu	Ex
$\mathbf{Au^{53+} + Ar}$	Ionization	3.60 MeV/amu	Ex

909. M. Sataka, M. Imai, K. Kawatsura, K. Komaki, H. Tawara, A. Visilyev, U. I. Safronova
Comprehensive theoretical and experimental analysis of Coster-Kronig electron spectra from 64-MeV S^{12+} ions excited through He gas and C-foil targets.
Phys. Rev. A **65**, 052704 (2002)

$\mathbf{S^{12+} + He}$	Ionization	64.00 MeV	E/T
$\mathbf{S^{12+} + C}$	Ionization	64.00 MeV	E/T
$\mathbf{S^{12+} + He}$	Excitation	64.00 MeV	E/T
$\mathbf{S^{12+} + C}$	Excitation	64.00 MeV	E/T

910. A. Volpi, J. L. Bohn
Magnetic-field effects in ultracold molecular collisions.
Phys. Rev. A **65**, 052712 (2002)

$\mathbf{He + O_2}$	Excitation	0.00-5.00 K	Th
$\mathbf{He + O_2}$	Elastic Scattering	0.00-5.00 K	Th

911. L. Sarkadi, L. Gulyas, L. Lugosi
Postcollision interaction and two-center effects in ionizing collisions.
Phys. Rev. A **65**, 052715 (2002)

$\mathbf{H_2{}^{1+} + He}$	Ionization	75.00 keV	E/T

912. J. Eichler, A. Ichihara
Polarization of photons emitted in radiative electron capture by bare high-Z ions.
Phys. Rev. A **65**, 052716 (2002)

$\mathbf{Ar^{18+} + C}$	Charge Transfer	0.00-1.00 GeV/amu	Th
$\mathbf{Kr^{36+} + C}$	Charge Transfer	0.00-1.00 GeV/amu	Th
$\mathbf{Xe^{54+} + C}$	Charge Transfer	0.00-1.00 GeV/amu	Th
$\mathbf{Dy^{66+} + C}$	Charge Transfer	0.00-1.00 GeV/amu	Th
$\mathbf{Au^{79+} + C}$	Charge Transfer	0.00-1.00 GeV/amu	Th
$\mathbf{Pb^{82+} + C}$	Charge Transfer	0.00-1.00 GeV/amu	Th
$\mathbf{U^{92+} + C}$	Charge Transfer	0.00-1.00 GeV/amu	Th

913. L. Gulyas, P. D. Fainstein, T. Shirai
Extended description for electron capture in ion-atom collisions: Application of model potentials within the framework of the continuum-distorted-wave theory.
Phys. Rev. A **65**, 052720 (2002)

$\mathbf{H^{1+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T
$\mathbf{He^{2+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T
$\mathbf{Li^{2+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T
$\mathbf{Li^{3+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T
$\mathbf{Be^{2+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T
$\mathbf{B^{2+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T
$\mathbf{C^{2+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T
$\mathbf{O^{2+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T
$\mathbf{Mg^{2+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T
$\mathbf{Si^{2+} + He}$	Charge Transfer	0.05-1.00 MeV/amu	E/T

914. D. R. Schultz, C. O. Reinhold, P. S. Krstic, M. R. Strayer
Ejected-electron spectrum in low-energy proton-hydrogen collisions.
Phys. Rev. A **65**, 052722 (2002)

$\mathbf{H^{1+} + H}$	Ionization	1.00-25.00 keV	Th

915. F. B. Yousif, J. I. Dominguez
Dissociative excitation and fragmentation cross section of HeH^+ molecular ions in collision with He.
Phys. Rev. A **65**, 052723 (2002)

$\mathbf{HeH^{1+} + He}$	Dissociation	5.00-400.00 keV	Ex
$\mathbf{HeH^{1+} + He}$	Excitation	5.00-400.00 keV	Ex

916. H. Martinez
He^{2+} formation in collisions between He^{+} ions and Ne atoms.
Phys. Rev. A **65**, 054702 (2002)

$\mathbf{He^{1+} + Ne}$	Ionization	0.00-10.00 MeV	E/T

917. H. Tawara, P. Richard, U. I. Safronova, P. C. Stancil
Erratum: K x-ray production in H-like Si^{13+}, S^{15+}, and Ar^{17+} ions colliding with various atom and molecule gas targets at low collision energies [Phys. Rev. A 64, 042714 (2001)].
Phys. Rev. A **65**, 059901 (2002)

$\mathbf{Si^{13+} + H_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Si^{13+} + D_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Si^{13+} + He}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Si^{13+} + CH_4}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Si^{13+} + CO}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Si^{13+} + CO_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Si^{13+} + N_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Si^{13+} + Ne}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Si^{13+} + Ar}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Si^{13+} + Ar}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{S^{15+} + H_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{S^{15+} + D_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{S^{15+} + He}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{S^{15+} + CH_4}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{S^{15+} + CO}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{S^{15+} + CO_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{S^{15+} + N_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{S^{15+} + Ne}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{S^{15+} + Ar}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{S^{15+} + Ar}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Ar^{17+} + H_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Ar^{17+} + D_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Ar^{17+} + He}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Ar^{17+} + CH_4}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Ar^{17+} + CO}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Ar^{17+} + CO_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Ar^{17+} + N_2}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Ar^{17+} + Ne}$	Charge Transfer	1.00-100.00 keV/amu	E/T
$\mathbf{Ar^{17+} + Ar}$	Charge Transfer	1.00-100.00 keV/amu	E/T

918. V. Kokoouline, C. Drag, P. Pillet, F. Masnou-Seeuws
Lu-Fano plot for interpretation of the photoassociation spectra.
Phys. Rev. A **65**, 062710 (2002)

Cs + Cs	Association		Th

919. D. Vrinceanu, H. R. Sadeghpour
He(1 ^{1}S)-He(2 ^{3}S) collision and radiative transition at low temperatures.
Phys. Rev. A **65**, 062712 (2002)

$\mathbf{He + He^*}$	Excitation	0.02 eV	Th
$\mathbf{He + He^*}$	Elastic Scattering	0.02 eV	Th
$\mathbf{He + He^*}$	Interaction Potentials	0.02 eV	Th

920. E. Y. Kamber, O. Abu-Haija, S. M. Ferguson
Competition between dissociative and nondissociative single-electron capture in He^{2+}-O_2 collisions.
Phys. Rev. A **65**, 062717 (2002)

$\mathbf{He^{2+} + O_2}$	Charge Transfer	0.10-1.00 keV	Ex
$\mathbf{He^{2+} + O_2}$	Dissociation	0.10-1.00 keV	Ex

921. W. R. Anderson, M. P. Robinson, J.D.D. Martin, T. F. Gallagher
Dephasing of resonant energy transfer in a cold Rydberg gas.
Phys. Rev. A **65**, 063404 (2002)

$\mathbf{Rb^* + Rb^*}$	Excitation	3.00-3.40 V/cm	Ex
Rb + Rb	Excitation	3.00-3.40 V/cm	Ex

922. D. V. Kupriyanov, I. M. Sokolov, A. V. Slavgorodskii
Polarization-sensitive coherent control of atomic collisions with nonclassical light.
Phys. Rev. A **65**, 063412 (2002)

Mg + Ne	Excitation		Th

923. E. P. Benis, M. Zamkov, P. Richard, T.J.M. Zouros
Technique for the determination of the 1s2s ^{3}S metastable fraction in two-electron ion beams.
Phys. Rev. A **65**, 064701 (2002)

$\mathbf{B^{3+} + H_2}$	Ionization	4.00-4.50 MeV	Ex

924. A. Volpi, J. L. Bohn
Molecular vibration in cold-collision theory.
Phys. Rev. A **65**, 064702 (2002)

$\mathbf{He + O_2}$	Excitation	0.00-10.00 K	Th
$\mathbf{He + O_2}$	Elastic Scattering	0.00-10.00 K	Th

925. A. Bordenave-Montesquieu, P. Moretto-Capelle, D. Bordenave-Montesquieu
Comment on "experimental study of single- and double-electron transfer in slow Ne^{8+} + He collisions using photon and electron spectroscopy."
Phys. Rev. A **65**, 066701 (2002)

$\mathbf{Ne^{8+} + He}$	Charge Transfer	80.00 keV	Ex

926. R. C. Forrey, R. Cote, A. Dalgarno, S. Jonsell, A. Saenz, P. Froelich
Collisions between metastable hydrogen atoms at thermal energies.
Phys. Rev. Lett. **85**, 4245 (2000)

H + H	Energy Transfer		Th
H + H	Fluorescence		Th
$\mathbf{H^* + H^*}$	Elastic Scattering		Th
$\mathbf{H^* + H^*}$	Energy Transfer		Th
$\mathbf{H^* + H^*}$	Fluorescence		Th
H + H	Elastic Scattering		Th

927. P. Beiersdorfer, R. E. Olson, G. V. Brown, H. Chen, C. L. Harris, P. A. Neill, L. Schweikhard, S. B. Utter, K. Widmann
X-ray emission following low-energy charge exchange collisions of highly charged ions.
Phys. Rev. Lett. **85**, 5090 (2000)

$\mathbf{Ar^{17+} + H}$	Fluorescence	0.80-11.00 eV/amu	E/T
$\mathbf{Ar^{17+} + Ar}$	Fluorescence	0.80-11.00 eV/amu	E/T
$\mathbf{Ar^{17+}}$ **+ Ar Seq.**	Fluorescence	0.80-11.00 eV/amu	E/T

928. F. Gobet, B. Farizon, M. Farison, M. J. Gaillard, M. Carre, M. Lezius, P. Scheier, T. D. Maerk
Total, partial, and electron-capture cross sections for ionization of water vapor by 20-150 keV protons.
Phys. Rev. Lett. **86**, 3751 (2001)

$\mathbf{H^{1+} + H_2O}$	Dissociation	20.00-50.00 keV	Ex
$\mathbf{H^{1+} + H_2O}$	Ionization	20.00-50.00 keV	Ex

929. B. R. Strazisar, C. Lin, H. F. Davis
Vibrationally inelastic scattering of high-n Rydberg H atoms from N_2 and O_2.
Phys. Rev. Lett. **86**, 3997 (2001)

H + $\mathbf{N_2}$	De-excitation	1.84 eV	Ex
H + $\mathbf{O_2}$	De-excitation	1.84 eV	Ex
H + $\mathbf{N_2}$	Excitation	1.84 eV	Ex
H + $\mathbf{O_2}$	Excitation	1.84 eV	Ex
$\mathbf{H^*}$ + $\mathbf{N_2}$	De-excitation	1.84 eV	Ex
$\mathbf{H^*}$ + $\mathbf{O_2}$	De-excitation	1.84 eV	Ex
$\mathbf{H^*}$ + $\mathbf{N_2}$	Excitation	1.84 eV	Ex
$\mathbf{H^*}$ + $\mathbf{O_2}$	Excitation	1.84 eV	Ex

930. E. Wells, K. D. Carnes, B. D. Esry, I. Ben-Itzhak
Charge transfer and elastic scattering in very slow H^+ + D(1s) half collisions.
Phys. Rev. Lett. **86**, 4803 (2001)

$\mathbf{H^{1+}}$ + **H**	Elastic Scattering	0.01-1.00 eV	Ex
$\mathbf{H^{1+}}$ + **H**	Charge Transfer	0.01-1.00 eV	Ex
$\mathbf{H^{1+}}$ + **D**	Elastic Scattering	0.01-1.00 eV	Ex
$\mathbf{H^{1+}}$ + **D**	Charge Transfer	0.01-1.00 eV	Ex

931. N. Stolterfoht, B. Sulik, V. Hoffmann, B. Skogvall, J. Y. Chesnel, J. Rangama, F. Fremont, D. Hennecart, A. Cassimi, X. Husson, A. L. Landers, J. A. Tanis, M. E. Galassi, R. D. Rivarola
Evidence for interference effects in electron emission from H_2 colliding with 60 MeV/u Kr^{34+} ions.
Phys. Rev. Lett. **87**, 023201 (2001)

$\mathbf{Kr^{34+}}$ + $\mathbf{H_2}$	Ionization	60.00 meV/amu	Ex

932. D.S.F Crothers, D. M. McSherry, S.F.C. O'Rourke, M. B. Shah, C. McGrath, H. B. Gilbody
Magnetically quantized continuum distorted waves.
Phys. Rev. Lett. **88**, 053201 (2002)

$\mathbf{H^{1+}}$ + **H**	Ionization	50.00-100.00 keV	E/T
$\mathbf{H^{1+}}$ + $\mathbf{H_2}$	Ionization	50.00-100.00 keV	E/T

933. B. Sulik, C. Koncz, K. Tokesi, A. Orban, D. Berenyi
Evidence for Fermi-shuttle ionization in intermediate velocity C^+ + Xe collisions.
Phys. Rev. Lett. **88**, 073201 (2002)

$\mathbf{C^{1+}}$ + **Xe**	Ionization	150.00-233.00 keV/amu	Ex

934. R. S. Tantawi
Coupled-channel calculations of direct excitation in $p\bar{p}$+H(2s) collisions.
Phys. Scr. **64**, 474 (2001)

$\mathbf{H^{1+}}$ + **H**	Excitation	0.00-10.00 keV	Th
$\mathbf{H^{1+}}$ + $\mathbf{H^*}$	Excitation	0.00-10.00 keV	Th

935. P. N. Abufager, H. F. Busnengo, A. E. Martinez, R. D. Rivarola
Electron capture from excited states of hydrogen by impact of bare ions.
Phys. Scr. **66**, 38 (2002)

$\mathbf{H^{1+}}$ + **H**	Charge Transfer	0.00-2.50 MeV	Th
$\mathbf{He^{2+}}$ + **H**	Charge Transfer	0.00-2.50 MeV	Th

936. C. R. Feeler, C. J. Wood, R. E. Olson
Fragmentation of H_2 and HD molecules by C^{6+} impact.
Phys. Scr. **T80**, 106 (1999)

$\mathbf{C^{6+}}$ + $\mathbf{H_2}$	Dissociation	0.00-1.00 MeV/amu	Th
$\mathbf{C^{6+}}$ + **HD**	Dissociation	0.00-1.00 MeV/amu	Th
$\mathbf{C^{6+}}$ + $\mathbf{H_2}$	Charge Transfer	0.00-1.00 MeV/amu	Th
$\mathbf{C^{6+}}$ + **HD**	Charge Transfer	0.00-1.00 MeV/amu	Th

937. H. Shiromaru, T. Nishide, T. Kitamura, J. H. Sanderson, Y. Achiba, N. Kobayashi
Dissociation scheme of highly charged triatomic molecules.
Phys. Scr. **T80**, 110 (1999)

$\mathbf{Ar^{8+} + CO_2}$	Dissociation	120.00 keV	Ex
$\mathbf{Ar^{8+} + N_2O}$	Dissociation	120.00 keV	Ex
$\mathbf{Ar^{8+} + CO_2}$	Ionization	120.00 keV	Ex
$\mathbf{Ar^{8+} + N_2O}$	Ionization	120.00 keV	Ex
$\mathbf{Ar^{8+} + CO_2}$	Charge Transfer	120.00 keV	Ex
$\mathbf{Ar^{8+} + N_2O}$	Charge Transfer	120.00 keV	Ex

938. R. W. McCullough
State selective electron capture studies with slow state prepared ion beams.
Phys. Scr. **T80**, 114 (1999)

$\mathbf{C^{2+} + H_2}$	Charge Transfer	4.00 keV	Ex
$\mathbf{C^{2+} + He}$	Charge Transfer	4.00 keV	Ex
$\mathbf{N^{2+} + H_2}$	Charge Transfer	4.00 keV	Ex
$\mathbf{N^{2+} + He}$	Charge Transfer	4.00 keV	Ex
$\mathbf{O^{2+} + H_2}$	Charge Transfer	4.00 keV	Ex
$\mathbf{O^{2+} + He}$	Charge Transfer	4.00 keV	Ex

939. P. Moretto-Capelle, D. Bordenave-Montesquieu, A. Bordenave-Montesquieu
Multiple capture investigated by coincident electron spectroscopy in $\mathbf{X^{7+} + Ar}$, at 70 keV.
Phys. Scr. **T80**, 118 (1999)

$\mathbf{N^{7+} + Ar}$	Charge Transfer	70.00 keV	Ex
$\mathbf{F^{7+} + Ar}$	Charge Transfer	70.00 keV	Ex

940. P. Beiersdorfer, L. Schweikhard, R. Olson, G. V. Brown, S. B. Utter, J. R. Crespo Lopez-Urrutia, K. Widmann
X-ray measurements of charge transfer reactions involving cold, very highly charged ions.
Phys. Scr. **T80**, 121 (1999)

$\mathbf{Xe^{54+} + H}$	Excitation	0.00-100.00 keV	E/T
$\mathbf{Xe^{54+} + H}$	Charge Transfer	0.00-100.00 keV	E/T

941. A. E. Martinez, R. D. Rivarola, R. Gayet, J. Hanssen
Double electron capture theories: second order contributions.
Phys. Scr. **T80**, 124 (1999)

$\mathbf{He^{2+} + He}$	Charge Transfer	0.10-10.00 MeV	Th

942. U. Brinkmann, A. Reinkoester, B. Siegmann, U. Werner, H. O. Lutz, R. Mann
Ion-impact induced multiple ionization and fragmentation of $\mathbf{N_2}$.
Phys. Scr. **T80**, 171 (1999)

$\mathbf{H^{1+} + N_2}$	Dissociation	0.06-7.00 MeV	Ex
$\mathbf{He^{1+} + N_2}$	Dissociation	0.06-7.00 MeV	Ex
$\mathbf{Bi^{25+} + N_2}$	Dissociation	0.06-7.00 MeV	Ex
$\mathbf{Bi^{57+} + N_2}$	Dissociation	0.06-7.00 MeV	Ex
$\mathbf{H^{1+} + N_2}$	Ionization	0.06-7.00 MeV	Ex
$\mathbf{He^{1+} + N_2}$	Ionization	0.06-7.00 MeV	Ex
$\mathbf{Bi^{25+} + N_2}$	Ionization	0.06-7.00 MeV	Ex
$\mathbf{Bi^{57+} + N_2}$	Ionization	0.06-7.00 MeV	Ex

943. K. Okuno, T. Kaneyasu, K. Ishii, M. Yoshino, N. Kobayashi
Double electron capture processes in collisions of $\mathbf{^3He^{2+}}$ with $\mathbf{N_2}$, $\mathbf{O_2}$ and CO at 1 keV/amu.
Phys. Scr. **T80**, 173 (1999)

$\mathbf{He^{2+} + CO}$	Charge Transfer	1.00 keV/amu	Ex
$\mathbf{He^{2+} + N_2}$	Charge Transfer	1.00 keV/amu	Ex
$\mathbf{He^{2+} + O_2}$	Charge Transfer	1.00 keV/amu	Ex

944. K. Ishii, K. Okuno, N. Kobayashi
Single- and multiple-charge changing cross sections in slow collisions of Kr^{q+} (q=7-9) with Ne, N_2, O_2 and CO.
Phys. Scr. **T80**, 176 (1999)

He^{2+} + CO	Charge Transfer	0.30-1.30 eV/amu	Ex
He^{2+} + N_2	Charge Transfer	0.30-1.30 eV/amu	Ex
He^{2+} + O_2	Charge Transfer	0.30-1.30 eV/amu	Ex
He^{2+} + Ne	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{7+} + CO	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{7+} + N_2	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{7+} + O_2	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{7+} + Ne	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{8+} + CO	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{8+} + N_2	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{8+} + O_2	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{8+} + Ne	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{9+} + CO	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{9+} + N_2	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{9+} + O_2	Charge Transfer	0.30-1.30 eV/amu	Ex
Kr^{9+} + Ne	Charge Transfer	0.30-1.30 eV/amu	Ex

945. C. Caraby, M. Tarisien, A. Cassimi, L. Adoul, J. P. Grandin, D. Lelievre, A. Dubois
Fast ion-induced CO molecule fragmentation.
Phys. Scr. **T80**, 179 (1999)

Xe^{44+} + CO	Ionization	6.70 MeV/amu	Ex
Xe^{44+} + CO	Dissociation	6.70 MeV/amu	Ex

946. M. Tarisien, L. Adoui, F. Fremont, A. Cassimi
RIMS for electron capture and molecular fragmentation study: He^{2+} (11 keV/u) and O^{7+} (4 keV/u) + CO collisions.
Phys. Scr. **T80**, 182 (1999)

He^{2+} + CO	Charge Transfer	4.00-11.00 keV/amu	Ex
O^{7+} + CO	Charge Transfer	4.00-11.00 keV/amu	Ex
He^{2+} + CO	Dissociation	4.00-11.00 keV/amu	Ex
O^{7+} + CO	Dissociation	4.00-11.00 keV/amu	Ex

947. L. F. Errea, J. D. Gorfinkiel, A. Macias, L. Mendez, A. Riera
Charge transfer and dissociation in C^{q+} + H_2 collisions.
Phys. Scr. **T80**, 185 (1999)

C^{2+} + H_2	Charge Transfer	0.05-2.50 keV/amu	Th
C^{3+} + H_2	Charge Transfer	0.05-2.50 keV/amu	Th
C^{4+} + H_2	Charge Transfer	0.05-2.50 keV/amu	Th

948. D. Elizaga, L. F. Errea, A. Macias, L. Mendez, A. Riera, A. Rojas
Simplified strategies to study complex ion - H_2 collisions.
Phys. Scr. **T80**, 187 (1999)

Li^{1+} + H_2	Charge Transfer		Th
N^{5+} + H_2	Charge Transfer		Th

949. A. Ichimura, T. Ohyama-Yamaguchi
Three-center coulombic over-barrier model for multiple electron capture by slow highly charged ions from diatomic molecules.
Phys. Scr. **T80**, 190 (1999)

Ar^{6+} + N_2	Charge Transfer		Th
Ar^{7+} + N_2	Charge Transfer		Th
Ar^{8+} + N_2	Charge Transfer		Th
Ar^{9+} + N_2	Charge Transfer		Th
Ar^{10+} + N_2	Charge Transfer		Th

950. K. von Diemar, F. Melchert, A. Pfeiffer, K. R. Bajajova, K. Huber, E. Salzborn, L. Opradolce, R. D. Piacentini
Electron capture in collisions between multiply charged ions.
Phys. Scr. **T80**, 262 (1999)

$\mathbf{He}^{2+} + \mathbf{N}^{4+}$	Charge Transfer	8.00-200.00 keV	Ex
$\mathbf{He}^{2+} + \mathbf{O}^{5+}$	Charge Transfer	8.00-200.00 keV	Ex

951. H. Tawara, T. Tonuma, H. Kumagai, T. Imai, D. B. Uskov, L. P. Presnyakov
Experimental investigations of single-electron detachment processes from $\mathbf{H}^-$ ions colliding with MeV/u, highly charged ions.
Phys. Scr. **T80**, 264 (1999)

$\mathbf{Ar}^{14+} + \mathbf{H}^{-1+}$	Detachment	1.00-2.00 MeV/amu	Ex

952. A. B. Voitkiv, N. Gruen, W. Scheid
An analytical cross section for $\mathbf{H}^-$ neutralization in collisions with fast highly charged projectiles.
Phys. Scr. **T80**, 267 (1999)

$\mathbf{Ne}^{1+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Ne}^{2+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Ne}^{3+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Ne}^{4+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Ar}^{1+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Ar}^{2+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Ar}^{3+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Ar}^{4+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Ar}^{5+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Ar}^{6+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Ar}^{7+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Ar}^{8+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Xe}^{1+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Xe}^{2+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Xe}^{3+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Xe}^{4+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Xe}^{5+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Xe}^{6+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Xe}^{7+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th
$\mathbf{Xe}^{8+} + \mathbf{H}^{-1+}$	Detachment	200.00 keV	Th

953. T. Kirchner, M. Keim, A. Achenbach, H. J. Luedde, O. J. Kroneisen, R. M. Dreizler
Basis generator method study of collisions between alpha particles and lithium-like ions.
Phys. Scr. **T80**, 270 (1999)

$\mathbf{C}^{3+} + \mathbf{He}^{2+}$	Ionization	1.00-100.00 keV	Th
$\mathbf{N}^{4+} + \mathbf{He}^{2+}$	Ionization	1.00-100.00 keV	Th
$\mathbf{C}^{3+} + \mathbf{He}^{2+}$	Charge Transfer	1.00-100.00 keV	Th
$\mathbf{N}^{4+} + \mathbf{He}^{2+}$	Charge Transfer	1.00-100.00 keV	Th
$\mathbf{C}^{3+} + \mathbf{He}^{2+}$	Excitation	1.00-100.00 keV	Th
$\mathbf{N}^{4+} + \mathbf{He}^{2+}$	Excitation	1.00-100.00 keV	Th

954. C.-Z. Dong, J.-G. Wang, Y.-Z. Qu, J.-M. Li
Dielectronic recombination and resonant transfer excitation for $\mathbf{Ca}^{19+}$ ions.
Phys. Scr. **T80**, 301 (1999)

$\mathbf{Ca}^{19+} + \mathbf{H}_2$	Excitation	100.00-400.00 MeV	Th
$\mathbf{Ca}^{19+} + \mathbf{H}_2$	Charge Transfer	100.00-400.00 MeV	Th

955. S. Hagmann, I. Ali
Momentum profiles for single- and many-electron continua in strongly perturbing collisions of heavy ions with He, Ne and Ar.
Phys. Scr. **T80**, 329 (1999)

$\mathbf{F^{9+} + He}$	Ionization	0.35-1.50 MeV/amu	Ex
$\mathbf{F^{9+} + Ne}$	Ionization	0.35-1.50 MeV/amu	Ex
$\mathbf{F^{9+} + Ar}$	Ionization	0.35-1.50 MeV/amu	Ex
$\mathbf{I^{23+} + He}$	Ionization	0.35-1.50 MeV/amu	Ex
$\mathbf{I^{23+} + Ne}$	Ionization	0.35-1.50 MeV/amu	Ex
$\mathbf{I^{23+} + Ar}$	Ionization	0.35-1.50 MeV/amu	Ex

956. L. C. Tribedi, P. Richard, L. Gulyas, M. E. Rudd
Low energy electron emission in a pure three body collision: $\mathbf{C^{6+} + H}$.
Phys. Scr. **T80**, 333 (1999)

$\mathbf{C^{6+} + H}$	Ionization	2.50 MeV/amu	Ex

957. W. Schmitt, R. Moshammer, H. Kollmus, S. Hagmann, R. Mann, R. E. Olson, S.F.C. O'Rourke, J. Ullrich
Ultra-low energy electrons from fast heavy-ion helium collisions: The target-cusp?
Phys. Scr. **T80**, 335 (1999)

$\mathbf{Au^{53+} + He}$	Ionization	3.60 MeV/amu	Ex

958. B. Sulik, A. Kover, S. Ricz, C. Koncz, K. Toekesi, Gy. Vikor, J.-Y. Chesnel, N. Stolterfoht, D. Berenyi
Projectile and target contributions to the continuous electron spectra from 150 keV/u $\mathbf{C^{+}}$ + He, Ne collisions: Multiple ionization and multiple scattering.
Phys. Scr. **T80**, 338 (1999)

$\mathbf{C^{1+} + He}$	Ionization	150.00 keV/amu	Ex
$\mathbf{C^{1+} + Ne}$	Ionization	150.00 keV/amu	Ex

959. U. Ramm, U. Bechthold, O. Jagutzki, M. Damrau, S. Hagmann, G. Kraft, H. D. Boettcher, H. Schmidt-Boecking
Energy dependence of binary encounter electron emission in collisions of screened heavy $\mathbf{Bi^{26+}}$ ions with He gas targets.
Phys. Scr. **T80**, 341 (1999)

$\mathbf{Bi^{26+} + He}$	Ionization	1.40-3.60 MeV/amu	Ex

960. C. A. Ramirez, V. D. Rodriguez, R. D. Rivarola
Double excitation of helium atoms by impact of protons and highly charged ions.
Phys. Scr. **T80**, 344 (1999)

$\mathbf{H^{1+} + He}$	Excitation	1.50-6.00 MeV/amu	Th
$\mathbf{C^{4+} + He}$	Excitation	1.50-6.00 MeV/amu	Th
$\mathbf{C^{5+} + He}$	Excitation	1.50-6.00 MeV/amu	Th
$\mathbf{C^{6+} + He}$	Excitation	1.50-6.00 MeV/amu	Th
$\mathbf{F^{7+} + He}$	Excitation	1.50-6.00 MeV/amu	Th
$\mathbf{F^{8+} + He}$	Excitation	1.50-6.00 MeV/amu	Th
$\mathbf{F^{9+} + He}$	Excitation	1.50-6.00 MeV/amu	Th

961. B. Bapat, R. Moshammer, W. Schmitt, H. Kollmus, R. Mann, R. Doerner, Th. Weber, K. Khayyat, A. Cassimi
Double ionization of helium by fast fully stripped ions.
Phys. Scr. **T80**, 351 (1999)

$\mathbf{C^{6+} + He}$	Ionization	100.00 MeV/amu	Ex

962. H. Kollmus, W. Schmitt, R. Moshammer, R. Mann, A. Cassimi, J. Ullrich
Ionization of helium and neon by fast ion impact.
Phys. Scr. **T80**, 354 (1999)

$\mathbf{U^{92+} + He}$	Ionization	1.00 GeV/amu	Ex
$\mathbf{U^{92+} + Ne}$	Ionization	1.00 GeV/amu	Ex

963. L. C. Tribedi, P. Richard, C. D. Lin, R. E. Olson, L. Gulyas
Doubly differential recoil-ion longitudinal momentum distributions from electron DDCS measurements in ion-atom ionization.
Phys. Scr. **T80**, 357 (1999)

$\mathbf{C^{6+} + He}$	Ionization		Th

964. E. Y. Kamber, S. M. Ferguson
State-selective single-electron capture in very slow $\mathbf{Ne^{3+,4+}}$ - $\mathbf{N_2}$ and $\mathbf{O_2}$ collisions.
Phys. Scr. **T80**, 359 (1999)

$\mathbf{Ne^{3+} + N_2}$	Charge Transfer	4.75-6.00 keV/amu	Ex
$\mathbf{Ne^{3+} + O_2}$	Charge Transfer	4.75-6.00 keV/amu	Ex
$\mathbf{Ne^{4+} + N_2}$	Charge Transfer	4.75-6.00 keV/amu	Ex
$\mathbf{Ne^{4+} + O_2}$	Charge Transfer	4.75-6.00 keV/amu	Ex

965. W. R. Thompson, D. J. Burns, D. Voulot, R. W. McCullough, J. Geddes, H. B. Gilbody
Low energy electron capture studies with state-prepared multiply charged ions.
Phys. Scr. **T80**, 362 (1999)

$\mathbf{O^{2+} + He}$	Charge Transfer	4.00 keV	Ex
$\mathbf{O^{2+} + Ne}$	Charge Transfer	4.00 keV	Ex
$\mathbf{O^{2+} + Ar}$	Charge Transfer	4.00 keV	Ex

966. P. Boduch, M. Chantepie, G. Cremer, E. Jacquet, H. Kucal, C. Laulhe, D. Lecler, J. Pascale
Velocity dependence of the emitted light polarisation following single electron capture for the $\mathbf{Kr^{8+}}$-Li(2s) collision system between 0.1 and 3 keV/amu.
Phys. Scr. **T80**, 364 (1999)

$\mathbf{Kr^{8+} + Li}$	Charge Transfer	0.10-0.30 keV/amu	Ex
$\mathbf{Kr^{8+} + Li}$	Excitation	0.10-0.30 keV/amu	Ex

967. E. Y. Kamber, M. A. Abdallah, C. L. Cocke, M. Stoeckli
Longitudinal and transverse recoil electron capture processes in 0.5-50 keV/u $\mathbf{C^{5+}}$-He collisions.
Phys. Scr. **T80**, 367 (1999)

$\mathbf{C^{5+} + He}$	Charge Transfer	0.50-50.00 keV/amu	Ex

968. H. Kano, H. Watanabe, H. Tanuma, N. Kobayashi
Polarization spectroscopy of excited states produced by double electron capture in the collisions of $\mathbf{O^{6+}}$ ions with neutral gases.
Phys. Scr. **T80**, 370 (1999)

$\mathbf{O^{6+} + H_2}$	Charge Transfer	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + He}$	Charge Transfer	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + N_2}$	Charge Transfer	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + O_2}$	Charge Transfer	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + Ne}$	Charge Transfer	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + Ar}$	Charge Transfer	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + Kr}$	Charge Transfer	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + Xe}$	Charge Transfer	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + H_2}$	Excitation	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + He}$	Excitation	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + N_2}$	Excitation	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + O_2}$	Excitation	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + Ne}$	Excitation	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + Ar}$	Excitation	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + Kr}$	Excitation	60.00-120.00 keV	Ex
$\mathbf{O^{6+} + Xe}$	Excitation	60.00-120.00 keV	Ex

969. X. Ma, H. Liu, Y. Wang, Z. Yang, D. Yu, X. Chen, Z. Shen, X. Cai, Z. Liu
Multiple electron transfer in collisions of highly charged Ar ions in argon atoms.
Phys. Scr. **T80**, 375 (1999)

$\mathbf{Ar^{8+} + Ar}$	Charge Transfer	80.00-240.00 keV	Ex
$\mathbf{Ar^{9+} + Ar}$	Charge Transfer	80.00-240.00 keV	Ex
$\mathbf{Ar^{10+} + Ar}$	Charge Transfer	80.00-240.00 keV	Ex
$\mathbf{Ar^{11+} + Ar}$	Charge Transfer	80.00-240.00 keV	Ex
$\mathbf{Ar^{11+} + Ar}$	Charge Transfer	80.00-240.00 keV	Ex
$\mathbf{Ar^{12+} + Ar}$	Charge Transfer	80.00-240.00 keV	Ex

970. J. A. Tanis, J.-Y. Chesnel, F. Fremont, D. Hennecart, X. Husson, D. Lecler, A. Cassimi, J.-P. Grandin, B. Skogvall, M. Tscherisch, B. Sulik, J.-H. Bremer, M. Grether, N. Stolterfoht
Excitation of Li by fast (¿10 MeV/u) $\mathbf{N^{7+}}$ and $\mathbf{Ar^{18+}}$ projectile.
Phys. Scr. **T80**, 381 (1999)

$\mathbf{N^{7+} + Li}$	Excitation	10.00-95.00 MeV/amu	Ex
$\mathbf{Ar^{18+} + Li}$	Excitation	10.00-95.00 MeV/amu	Ex
$\mathbf{N^{7+} + Li}$	Ionization	10.00-95.00 MeV/amu	Ex
$\mathbf{Ar^{18+} + Li}$	Ionization	10.00-95.00 MeV/amu	Ex

971. A. K. Saha, L. C. Tribedi, K. V. Thulasi Ram, K. G. Prasad, P. N. Tandon
Projectile 1s electron loss in collision systems $\mathbf{F^{8+} + C}$ and $\mathbf{O^{7+} + C}$.
Phys. Scr. **T80**, 384 (1999)

$\mathbf{O^{7+} + C}$	Ionization	24.00-60.00 MeV	E/T
$\mathbf{F^{8+} + C}$	Ionization	24.00-60.00 MeV	E/T

972. I. Piticu, C. Ciortea, A. Enulescu, D. Fluerasu, S. Z. Szilagyi, D. Dumitriu
Non-equilibrium L-shell vacancies in Fe, Co, Ni, and Cu + Au collisions in solid targets.
Phys. Scr. **T80**, 387 (1999)

$\mathbf{Fe^{1+} + Cu}$	Ionization	0.10-1.50 MeV/amu	Ex
$\mathbf{Co^{1+} + Cu}$	Ionization	0.10-1.50 MeV/amu	Ex
$\mathbf{Ni^{1+} + Cu}$	Ionization	0.10-1.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + Cu}$	Ionization	0.10-1.50 MeV/amu	Ex

973. I. Piticu, C. Ciortea, A. Enulescu, D. Fluerasu, S. Z. Szilagyi, M. Micu, D. Dumitriu
Statistical approach of inner-shell ionization in 0.1-1.625 MeV/u Cu + Bi collisions.
Phys. Scr. **T80**, 389 (1999)

Cu + Bi	Ionization	0.10-1.62 MeV/amu	Ex
Cu + Bi	Ionization	0.10-1.62 MeV/amu	Ex

974. A. K. Saha, L. C. Tribedi, B. B. Dhal, U. Tiwari, P. N. Tandon
Subshell resolved L-K electron transfer and ionization of Yb with Si ion impact.
Phys. Scr. **T80**, 391 (1999)

$\mathbf{Si^{8+} + Yb}$	Ionization	2.00-4.50 MeV/amu	Ex
$\mathbf{Si^{8+} + Yb}$	Charge Transfer	2.00-4.50 MeV/amu	Ex

975. U. Tiwari, A. K. Saha, B. B. Dhal, L. C. Tribedi, M. B. Kurup, P. N. Tandon, L. Gulyas
Saturation in the K-shell excitation of 120 MeV $\mathbf{S^{14+}}$ ions in interaction with gas targets.
Phys. Scr. **T80**, 393 (1999)

$\mathbf{Si^{14+} + He}$	Excitation	120.00 MeV	Ex
$\mathbf{Si^{14+} + N_2}$	Excitation	120.00 MeV	Ex
$\mathbf{Si^{14+} + Ne}$	Excitation	120.00 MeV	Ex
$\mathbf{Si^{14+} + Ar}$	Excitation	120.00 MeV	Ex
$\mathbf{Si^{14+} + Xe}$	Excitation	120.00 MeV	Ex

976. T. Mukoyama, C.-D. Lin
Saturation effect of projectile excitation in ion-atom collisions.
Phys. Scr. **T80**, 396 (1999)

Ca^{18+} + He	Excitation	8.00-40.00 MeV/amu	E/T
Ca^{18+} + N_2	Excitation	8.00-40.00 MeV/amu	E/T
Ca^{18+} + O_2	Excitation	8.00-40.00 MeV/amu	E/T
Ca^{18+} + Ne	Excitation	8.00-40.00 MeV/amu	E/T

977. G. M. Sigaud, W. S. Melo, M. M. Sant'Anna, A.C.F Santos, E. C. Montenegro
Saturation effcts in charge-changing collisions with multiply-charged C and O ions.
Phys. Scr. **T80**, 398 (1999)

C^{3+} + perturbation	Ionization	3.00 MeV	Th
O^{5+} + perturbation	Ionization	3.00 MeV	Th

978. H. T. Schmidt, A. Fardi, K. Haghighat, A. Langereis, J. C. Levin, L. Liljeby, I. A. Sellin, S. H. Schwartz, H. Cederquist
Radiative and nonradiative collisional deexcitation of metastable hydrogen-like ions.
Phys. Scr. **T80**, 403 (1999)

He^{1+*} + Ar	De-excitation	6.60 keV	Ex
He^{1+} + Ar	De-excitation	6.60 keV	Ex
He^{1+*} + Xe	De-excitation	6.60 keV	Ex
He^{1+} + Xe	De-excitation	6.60 keV	Ex

979. K. Toekesi, Y. Awaya, T. Kambara, Y. Kanai, B. Sulik
Double K-shell vacancy production in N^{7+} + Ti collisions.
Phys. Scr. **T80**, 408 (1999)

N^{7+} + Ti	Ionization	50.00-500.00 MeV	Th

980. F. D. Colavecchia, G. Gasaneo, C. R. Garibotti
A continuum correlated wave model for ion-atom collisions.
Phys. Scr. **T80**, 411 (1999)

H^{1+} + H	Ionization	500.00 keV	Th

981. T. Kirchner, H. J. Luedde, R. M. Dreizler
Many electron dynamics in collisions between highly charged ions and neon atoms.
Phys. Scr. **T80**, 416 (1999)

F^{9+} + Ne	Ionization	1.00 MeV/amu	Th

982. V. A. Sidorovich
Use of the operator approach in the collisions of highly-charged ions with few-electron atoms.
Phys. Scr. **T80**, 418 (1999)

Li^{3+} + He	Excitation	1.50 MeV/amu	Th
Be^{4+} + He	Excitation	1.50 MeV/amu	Th
B^{5+} + He	Excitation	1.50 MeV/amu	Th
C^{6+} + He	Excitation	1.50 MeV/amu	Th
N^{7+} + He	Excitation	1.50 MeV/amu	Th
O^{8+} + He	Excitation	1.50 MeV/amu	Th
F^{9+} + He	Excitation	1.50 MeV/amu	Th

983. C. Illescas, A. Riera
Classical calculations of ionization and capture in A^{q+} + H, H_2 collisions at intermediate energies.
Phys. Scr. **T80**, 420 (1999)

H^{1+} + H	Ionization		Th
H^{1+} + H_2	Ionization		Th
He^{2+} + H	Ionization		Th
He^{2+} + H_2	Ionization		Th
Li^{3+} + H	Ionization		Th

$\mathbf{Li^{3+} + H_2}$	Ionization		Th
$\mathbf{C^{6+} + H}$	Ionization		Th
$\mathbf{C^{6+} + H_2}$	Ionization		Th
$\mathbf{H^{1+} + H}$	Charge Transfer		Th
$\mathbf{H^{1+} + H_2}$	Charge Transfer		Th
$\mathbf{He^{2+} + H}$	Charge Transfer		Th
$\mathbf{He^{2+} + H_2}$	Charge Transfer		Th
$\mathbf{Li^{3+} + H}$	Charge Transfer		Th
$\mathbf{Li^{3+} + H_2}$	Charge Transfer		Th
$\mathbf{C^{6+} + H}$	Charge Transfer		Th
$\mathbf{C^{6+} + H_2}$	Charge Transfer		Th

984. S. E. Corchs, O. A. Fojon, R. D. Rivarola
High-order contributions of the Born series with correct boundary conditions.
Phys. Scr. **T80**, 422 (1999)

$\mathbf{H^{1+} + H}$	Total Scattering	5.00 MeV	Th
$\mathbf{H^{1+} + H}$	Charge Transfer	5.00 MeV	Th

985. T. Ludziejewski, T. Stoehlker, H. Beyer, F. Bosch, S. Fritzsche, D. C. Ionescu, C. Kozhuharov, A. Kraemer, D. Liesen, P. H. Mokler, P. Rymuza, Z. Stachura, P. Swiat, A. Warczak
Two-electron processes in relativistic collisions of He-like uranium with gaseous targets.
Phys. Scr. **T80**, 426 (1999)

$\mathbf{U^{90+} + Ar}$	Charge Transfer	223.00 MeV/amu	Ex
$\mathbf{U^{90+} + Kr}$	Charge Transfer	223.00 MeV/amu	Ex
$\mathbf{U^{90+} + Xe}$	Charge Transfer	223.00 MeV/amu	Ex
$\mathbf{U^{90+} + Ar}$	Excitation	223.00 MeV/amu	Ex
$\mathbf{U^{90+} + Kr}$	Excitation	223.00 MeV/amu	Ex
$\mathbf{U^{90+} + Xe}$	Excitation	223.00 MeV/amu	Ex

986. K. Schulze, J. Anton, W.-D. Sepp, B. Fricke
An analysis of the MO x-ray spectra in $\mathbf{U^{92+}}$-Pb collisions.
Phys. Scr. **T80**, 430 (1999)

$\mathbf{U^{92+} + Pb}$	Fluorescence	3.00-100.00 MeV/amu	Th
$\mathbf{U^{92+} + Pb}$	Excitation	3.00-100.00 MeV/amu	Th

987. S. Keller, R. M. Dreizler
Signatures of electron-electron interaction in fast highly charged ion-atom collisions.
Phys. Scr. **T80**, 93 (1999)

$\mathbf{C^{6+} + He}$	Ionization	0.00-1.00 GeV/amu	Th
$\mathbf{Se^{28+} + He}$	Ionization	0.00-1.00 GeV/amu	Th
$\mathbf{U^{92+} + He}$	Ionization	0.00-1.00 GeV/amu	Th

988. A. Pfeiffer, F. Melchert, K. V. Diemar, K. Huber, E. Salzborn
State-selective electron capture in ion-ion collisions.
Phys. Scr. **T80**, 95 (1999)

$\mathbf{Ar^{6+} + He^{1+}}$	Excitation	1.90 keV	Ex
$\mathbf{Ar^{6+} + He^{1+}}$	Charge Transfer	1.90 keV	Ex

989. A. Cassimi
Recoil ion momentum spectroscopy: a microscope for HCI-atom or molecule collisions.
Phys. Scr. **T80**, 98 (1999)

$\mathbf{He^{1+} + N_2}$	Ionization	0.05-100.00 GeV/amu	Ex
$\mathbf{C^{5+} + He}$	Ionization	0.05-100.00 GeV/amu	Ex
$\mathbf{Ne^{10+} + He}$	Ionization	0.05-100.00 GeV/amu	Ex
$\mathbf{Ni^{26+} + He}$	Ionization	0.05-100.00 GeV/amu	Ex
$\mathbf{Se^{28+} + He}$	Ionization	0.05-100.00 GeV/amu	Ex
$\mathbf{Au^{53+} + He}$	Ionization	0.05-100.00 GeV/amu	Ex

990. J. B. Greenwood, I. D. Williams, S. J. Smith, A. Chutjian
X-ray emission from charge exchange of highly-charged ions in atoms and molecules.
Phys. Scr. **T92**, 150 (2001)

$\mathbf{C^{6+} + H_2O}$	Charge Transfer		Th
$\mathbf{N^{4+} + H_2O}$	Charge Transfer		Th
$\mathbf{N^{7+} + H_2O}$	Charge Transfer		Th
$\mathbf{O^{5+} + H_2O}$	Charge Transfer		Th
$\mathbf{O^{7+} + H_2O}$	Charge Transfer		Th
$\mathbf{O^{8+} + H_2O}$	Charge Transfer		Th
$\mathbf{Ne^{9+} + H_2O}$	Charge Transfer		Th

991. L. F. Errea, A. Macias, L. Mendez, I. Rabadan, A. Riera, A. Rojas
State-to-state vibrational cross sections in H^+, C^{2+}-H_2 charge transfer reactions.
Phys. Scr. **T92**, 202 (2001)

$\mathbf{H^{1+} + H_2}$	Excitation	0.20-20.00 keV	Ex
$\mathbf{C^{2+} + H_2}$	Excitation	0.20-20.00 keV	Ex
$\mathbf{H^{1+} + H_2}$	Charge Transfer	0.20-20.00 keV	Ex
$\mathbf{C^{2+} + H_2}$	Charge Transfer	0.20-20.00 keV	Ex

992. M. Seliger, K. Tokesi, C. O. Reinhold, J. Burgdoerfer, Y. Takabayashi, T. Ito, K. Komaki, T. Azuma, Y. Yamazaki
Relativistic electron transport through carbon foils.
Phys. Scr. **T92**, 211 (2001)

$\mathbf{Ar^{17+} + C}$	Charge Transfer	390.00 MeV/amu	Th

993. U. Werner, B. Siegmann, R. Mann, N. M. Kabachnik, H. O. Lutz
Kinetic energy release distributions in the fragmentation of O_2 molecules induced by fast highly charged ions.
Phys. Scr. **T92**, 244 (2001)

$\mathbf{Xe^{18+} + O_2}$	Ionization	5.90 MeV/amu	Ex
$\mathbf{Xe^{43+} + O_2}$	Ionization	5.90 MeV/amu	Ex
$\mathbf{Xe^{18+} + O_2}$	Dissociation	5.90 MeV/amu	Ex
$\mathbf{Xe^{43+} + O_2}$	Dissociation	5.90 MeV/amu	Ex

994. P. N. Abufager, A. E. Martinez, R. D. Rivarola, H. F. Busnengo
Electron capture from H(2s) and H(2p) by H+ and higher charged ions.
Phys. Scr. **T92**, 259 (2001)

$\mathbf{H^{1+} + H}$	Charge Transfer	10.00-100.00 keV	Th
$\mathbf{H^{1+} + H^*}$	Charge Transfer	10.00-100.00 keV	Th
$\mathbf{He^{2+} + H}$	Charge Transfer	10.00-100.00 keV	Th
$\mathbf{He^{2+} + H^*}$	Charge Transfer	10.00-100.00 keV	Th
$\mathbf{Li^{3+} + H}$	Charge Transfer	10.00-100.00 keV	Th
$\mathbf{Li^{3+} + H^*}$	Charge Transfer	10.00-100.00 keV	Th

995. A. S. Al-Naser, A. L. Landers, D. J. Pole, H. Knutson, J. A. Tanis
Double-K-shell vacancy production in Li-like C^{3+} ions colliding with helium.
Phys. Scr. **T92**, 265 (2001)

$\mathbf{C^{3+} + He}$	Excitation	0.50-2.00 MeV/amu	Ex
$\mathbf{C^{3+} + He}$	Ionization	0.50-2.00 MeV/amu	Ex

996. G. Toth, P. Zavodszky, C. P. Bhalla, P. Richard, S. Grabbe, H. Aliabadi
Electron elastic scattering resonances in the collision of fast hydrogenic ions with molecular hydrogen.
Phys. Scr. **T92**, 272 (2001)

$\mathbf{C^{5+} + H_2}$	Ionization	6.70-21.80 MeV	Ex
$\mathbf{N^{6+} + H_2}$	Ionization	6.70-21.80 MeV	Ex
$\mathbf{O^{7+} + H_2}$	Ionization	6.70-21.80 MeV	Ex
$\mathbf{F^{8+} + H_2}$	Ionization	6.70-21.80 MeV	Ex

997. S. Fritzsche, Th. Stoehlker
High-Z projectile ionization: studies on the validity of first-order perturbation theory.
Phys. Scr. **T92**, 311 (2001)

$\mathbf{Au^{78+} + C}$	Ionization	0.22-11.00 GeV/amu	Th
$\mathbf{Au^{78+} + Al}$	Ionization	0.22-11.00 GeV/amu	Th
$\mathbf{Au^{78+} + Ni}$	Ionization	0.22-11.00 GeV/amu	Th
$\mathbf{Au^{78+} + Cu}$	Ionization	0.22-11.00 GeV/amu	Th
$\mathbf{Au^{78+} + Ag}$	Ionization	0.22-11.00 GeV/amu	Th
$\mathbf{Au^{78+} + Au}$	Ionization	0.22-11.00 GeV/amu	Th

998. K. Ishii, T. Tanabe, R. A. Lomsadze, K. Okuno
Charge-changing cross sections in collisions of $\mathbf{C^{q+}}$ (q=2-5) with He and $\mathbf{H_2}$ at energies below 750 eV/u.
Phys. Scr. **T92**, 332 (2001)

$\mathbf{C^{2+} + H_2}$	Charge Transfer	0.00-1.00 MeV/amu	Ex
$\mathbf{C^{2+} + He}$	Charge Transfer	0.00-1.00 MeV/amu	Ex
$\mathbf{C^{3+} + H_2}$	Charge Transfer	0.00-1.00 MeV/amu	Ex
$\mathbf{C^{3+} + He}$	Charge Transfer	0.00-1.00 MeV/amu	Ex
$\mathbf{C^{4+} + H_2}$	Charge Transfer	0.00-1.00 MeV/amu	Ex
$\mathbf{C^{4+} + He}$	Charge Transfer	0.00-1.00 MeV/amu	Ex

999. M. Hoshino, M. Kitajima, Y. Kanai, Y. Nakai, H. Tanaka, Y. Yamazaki
Angular resolved energy gain spectroscopy to study double electron-capture processes in very slow $\mathbf{C^{4+}}$-He collisions.
Phys. Scr. **T92**, 339 (2001)

$\mathbf{C^{4+} + He}$	Charge Transfer	270.00-470.00 eV	Ex

1000. T. Kaneyasu, K. Matsuda, M. Ehrich, M. Yoshino, K. Okuno
Fragmentation of $\mathbf{N_2}$ and post collision effects in slow electron capture collisions of $\mathbf{Kr^{8+}}$ ion below 200 eV/amu.
Phys. Scr. **T92**, 341 (2001)

$\mathbf{Kr^{8+} + N_2}$	Charge Transfer	5.00-200.00 eV/amu	Ex

1001. R. Suzuki, A. Watanabe, H. Sato, J. P. Gu, G. Hirsch, R. J. Buenker, M. Kimura, P. C. Stancil
Charge transfer processes in collisions of $\mathbf{Si^{4+}}$ ions with He atoms at intermediate energies.
Phys. Scr. **T92**, 345 (2001)

$\mathbf{Si^{4+} + He}$	Excitation	0.01-10.00 keV/amu	Th
$\mathbf{Si^{4+} + He}$	Charge Transfer	0.01-10.00 keV/amu	Th

1002. T. Kirchner, L. Gulyas
Differential net- and multiple-ionization cross sections in fast highly-charged ion collisions with atoms.
Phys. Scr. **T92**, 348 (2001)

$\mathbf{Au^{53+} + Ne}$	Ionization	3.60 MeV/amu	Th
$\mathbf{Au^{53+} + Ar}$	Ionization	3.60 MeV/amu	Th

1003. A. L. Landers, D. J. Pole, A. L. Erickcek, S. M. Ferguson, J.-Y. Chesnel, B. Sulik, J. A. Tanis
Coherence in two-electron transfer in $\mathbf{F^{8+}}$ + Ne collisions.
Phys. Scr. **T92**, 354 (2001)

$\mathbf{F^{8+} + Ne}$	Charge Transfer	0.75-1.10 MeV/amu	Ex

1004. X. Ma, Th. Stoehlker, F. Bosch, O. Brinzanescu, S. Fritzsche, C. Kozhuharov, P. Mokler, T. Ludziejewski, A. Warczak
Subshell differential cross sections for electron transfer in collisions of U^{90+} ions with gaseous targets.
Phys. Scr. **T92**, 362 (2001)

$\mathbf{U^{90+} + N_2}$	Charge Transfer	223.00 MeV/amu	Ex
$\mathbf{U^{90+} + Ar}$	Charge Transfer	223.00 MeV/amu	Ex
$\mathbf{U^{90+} + Kr}$	Charge Transfer	223.00 MeV/amu	Ex
$\mathbf{U^{90+} + Xe}$	Charge Transfer	223.00 MeV/amu	Ex

1005. L. F. Errea, A. Macias, L. Mendez, I. Rabadan, A. Riera
Influence of the metastable ion content in the initial beam in C^{2+} + H, H_2 and O^{2+}H collisions.
Phys. Scr. **T92**, 365 (2001)

$\mathbf{C^{2+} + H}$	Charge Transfer	0.50-20.00 keV	Th
$\mathbf{C^{2+} + H_2}$	Charge Transfer	0.50-20.00 keV	Th
$\mathbf{O^{2+} + H}$	Charge Transfer	0.50-20.00 keV	Th
$\mathbf{O^{2+} + H_2}$	Charge Transfer	0.50-20.00 keV	Th

1006. L. F. Errea, J. D. Gorfinkiel, C. Harel, H. Jouin, A. Macias, L. Mendez, B. Pons, A. G. Riera, P. Sanz
Novel model potential treatment of charge transfer cross sections in C^{4+} and N^{5+} collisions with H_2.
Phys. Scr. **T92**, 373 (2001)

$\mathbf{C^{4+} + H_2}$	Charge Transfer	0.05-60.00 keV/amu	Th
$\mathbf{N^{5+} + H_2}$	Charge Transfer	0.05-60.00 keV/amu	Th

1007. G. Rieger, E. H. Pinnington, C. Ciubotariu
Cross sections for photon emission following electron capture by C^{2+}, N^{3+}, N^{4+} and O^{3+} ions in collision with Li(2s) atoms.
Phys. Scr. **T92**, 385 (2001)

$\mathbf{C^{2+} + Li}$	Excitation	18.00-27.00 keV	Ex
$\mathbf{N^{3+} + Li}$	Excitation	18.00-27.00 keV	Ex
$\mathbf{N^{4+} + Li}$	Excitation	18.00-27.00 keV	Ex
$\mathbf{O^{3+} + Li}$	Excitation	18.00-27.00 keV	Ex
$\mathbf{C^{2+} + Li}$	Charge Transfer	18.00-27.00 keV	Ex
$\mathbf{N^{3+} + Li}$	Charge Transfer	18.00-27.00 keV	Ex
$\mathbf{N^{4+} + Li}$	Charge Transfer	18.00-27.00 keV	Ex
$\mathbf{O^{3+} + Li}$	Charge Transfer	18.00-27.00 keV	Ex

1008. N. Shimakura, N. Suzuki, Y. Sakurai, S. Suzuki, M. Kimura, T. Shirai
Molecular-state treatment of electron capture and excitation in collisions of B^{q+} (q = 1-5) ions with He atoms.
Phys. Scr. **T92**, 410 (2001)

$\mathbf{B^{1+} + He}$	Excitation	0.03-20.00 keV/amu	Th
$\mathbf{B^{2+} + He}$	Excitation	0.03-20.00 keV/amu	Th
$\mathbf{B^{3+} + He}$	Excitation	0.03-20.00 keV/amu	Th
$\mathbf{B^{4+} + He}$	Excitation	0.03-20.00 keV/amu	Th
$\mathbf{B^{5+} + He}$	Excitation	0.03-20.00 keV/amu	Th
$\mathbf{B^{1+} + He}$	Charge Transfer	0.03-20.00 keV/amu	Th
$\mathbf{B^{2+} + He}$	Charge Transfer	0.03-20.00 keV/amu	Th
$\mathbf{B^{3+} + He}$	Charge Transfer	0.03-20.00 keV/amu	Th
$\mathbf{B^{4+} + He}$	Charge Transfer	0.03-20.00 keV/amu	Th
$\mathbf{B^{5+} + He}$	Charge Transfer	0.03-20.00 keV/amu	Th

1009. G. M. Sigaud, E. C. Montenegro
Electron loss processes in three- and four-electron systems.
Phys. Scr. **T92**, 420 (2001)

$\mathbf{Li^{1+} + He}$	Ionization	1.00-16.00 MeV	Th
$\mathbf{Li^{2+} + He}$	Ionization	1.00-16.00 MeV	Th

1010. D. Skiera, R. Trassl, K. P. Huber, H. Braeuning, E. Salzborn, M. Keim, A. Achenbach, T. Kirchner, H. J. Luedde, R. M. Dreizler
Charge-changing processes in collisions between Li-like ions and $\mathbf{He^{2+}}$.
Phys. Scr. **T92**, 423 (2001)

$\mathbf{He^{2+} + B^{2+}}$	Ionization	10.00-256.00 keV	Ex
$\mathbf{He^{2+} + B^{2+}}$	Ionization	10.00-256.00 keV	Ex

1011. G. Bednarz, A. Warczak, P. Swiat, Th. Stoehlker, H.-J. Beyer, F. Bosch, R. Dunford, S. Hagmann, E. P. Kanter, C. Kozhuharov, A. Kraemer, D. Liesen, T. Ludziejewski, X. Ma, P. H. Mokler, Z. Stachura
Double electron capture in relativistic $\mathbf{U^{92+}}$ collisions observed at the ESR gas-jet target.
Phys. Scr. **T92**, 429 (2001)

$\mathbf{U^{92+} + N_2}$	Charge Transfer	286.00 MeV/amu	Ex
$\mathbf{U^{92+} + Ar}$	Charge Transfer	286.00 MeV/amu	Ex

1012. Th. Stoehlker, X. Ma, T. Ludziejewski, H. F. Beyer, F. Bosch, O. Brinzanescu, R. W. Dunford, J. Eichler, S. Hagmann, A. Ichihara, C. Kozhuharov, A. Kraemer, D. Liesen, P. H. Mokler, A. Ichihara, Z. Stachura, P. Swait, A. Warczek
Radiative electron capture studied for bare, decelerated uranium ions.
Phys. Scr. **T92**, 432 (2001)

$\mathbf{U^{92+} + N_2}$	Charge Transfer	88.00-310.00 MeV/amu	Ex

1013. N. Suzuki, N. Shimakura, H. Kono
Dynamic study on resonance by using a wave packet propagation method: Electron capture in collision of $\mathbf{N^{5+}}$ ions with H atoms.
Phys. Scr. **T92**, 435 (2001)

$\mathbf{N^{5+} + H}$	Charge Transfer	0.00-0.05 eV/amu	Th

1014. S. Suzuki, T. Shirai, N. Shimakura
Charge transfer in collisions of lithium ions with beryllium through oxygen ions at energies below 32 keVa/mu.
Phys. Scr. **T92**, 438 (2001)

$\mathbf{Li^{1+} + B^{5+}}$	Charge Transfer	0.01-50.00 keV/amu	Th
$\mathbf{Li^{1+} + C^{6+}}$	Charge Transfer	0.01-50.00 keV/amu	Th
$\mathbf{Li^{1+} + N^{5+}}$	Charge Transfer	0.01-50.00 keV/amu	Th
$\mathbf{Li^{1+} + O^{6+}}$	Charge Transfer	0.01-50.00 keV/amu	Th
$\mathbf{Li^{1+} + O^{6+}}$	Charge Transfer	0.01-50.00 keV/amu	Th
$\mathbf{Li^{2+} + Be^{1+}}$	Charge Transfer	0.01-50.00 keV/amu	Th
$\mathbf{Li^{1+} + B^{5+}}$	Excitation	0.01-50.00 keV/amu	Th
$\mathbf{Li^{1+} + C^{6+}}$	Excitation	0.01-50.00 keV/amu	Th
$\mathbf{Li^{1+} + N^{5+}}$	Excitation	0.01-50.00 keV/amu	Th
$\mathbf{Li^{1+} + O^{6+}}$	Excitation	0.01-50.00 keV/amu	Th
$\mathbf{Li^{2+} + Be^{1+}}$	Excitation	0.01-50.00 keV/amu	Th

1015. A. N. Perumal, R. Moshammer, W. Schmitt, H. Kollmlus, R. Mann, S. Hagmann, R. E. Olson, J. Ullrich
Double ionization of helium by 3.6 MeV/u $\mathbf{Au^{53+}}$ impact.
Phys. Scr. **T92**, 457 (2001)

$\mathbf{Au^{53+} + He}$	Ionization	3.60 eV	Ex

1016. R. Schuch, S. Madzunkov, E. Lindroth, D. Fry
X-ray emission by a two-electron process in electron capture with slow highly charged ions.
Phys. Scr. **T92**, 460 (2001)

Ta^{35+} + N_2	Charge Transfer	240.00-400.00 keV	Ex
Ta^{37+} + N_2	Charge Transfer	240.00-400.00 keV	Ex
Ta^{40+} + N_2	Charge Transfer	240.00-400.00 keV	Ex
Ta^{44+} + N_2	Charge Transfer	240.00-400.00 keV	Ex
Ta^{47+} + N_2	Charge Transfer	240.00-400.00 keV	Ex

1017. B. Sulik, K. Toekesi, C. Koncz, A. Koever, S. Ricz, A. Orban, N. Stolterfoht, J.-Y. Chesnel, D. Berenyi
Multiple scattering of the emitted electrons in intermediate velocity C^+ + Ne collisions: Search for Fermi-shuttle acceleration in experiment and CTMC calculations.
Phys. Scr. **T92**, 463 (2001)

C^{1+} + Ne	Ionization	0.02-2.00 keV	E/T
C^{1+} + Ne	Ionization	0.02-2.00 keV	E/T

1018. P. D. Fainstein, R. Moshammer, M. Schulz, W. Schmitt, H. Kollmus, R. Mann, S. Hagmann, J. Ullrich
Low-energy electron emission in fast Au^{53+} - atom collisions.
Phys. Scr. **T92**, 65 (2001)

Au^{53+} + Ne	Ionization	3.60 MeV/amu	Ex
Au^{53+} + Ar	Ionization	3.60 MeV/amu	Ex

1019. S. R. Lundeen, D. S. Fisher, C. W. Fehrenbach, B. D. DePaola
Experimental studies of resonant charge transfer form Rydberg states by highly-charged ions.
Phys. Scr. **T92**, 71 (2001)

C^{6+} + Rb	Charge Transfer		Ex
Xe^{2+} + Rb	Charge Transfer		Ex
Xe^{4+} + Rb	Charge Transfer		Ex
Xe^{8+} + Rb	Charge Transfer		Ex
Xe^{32+} + Rb	Charge Transfer		Ex
Xe^{40+} + Rb	Charge Transfer		Ex

1020. R. W. McCullough, D. R. Gillen, D. Voulot, D. M. Kearns, H. B. Gilbody
State selective electron capture by state prepared beams of multiply charged ions in atomic hydrogen.
Phys. Scr. **T92**, 76 (2001)

C^{2+} + H	Charge Transfer	1.50-6.00 keV	Ex
N^{2+} + H	Charge Transfer	1.50-6.00 keV	Ex
O^{2+} + H	Charge Transfer	1.50-6.00 keV	Ex

1021. R. D. DuBois, I. Ali, C. L. Cocke, C. R. Feeler, R. E. Olson, J. R. Macdonald
Three-body effects in the fragmentation of D_2 by slow, highly-charged xenon.
Phys. Scr. **T92**, 96 (2001)

H^{1+} + H_2	Dissociation	0.03-3.90 MeV	E/T
H^{1+} + D_2	Dissociation	0.03-3.90 MeV	E/T
Xe^{26+} + H_2	Dissociation	0.03-3.90 MeV	E/T
Xe^{26+} + D_2	Dissociation	0.03-3.90 MeV	E/T

1022. A. Yu. Pigarov
Collisional radiative kinetics of molecular assisted recombination in edge plasmas.
Phys. Scr. **T96**, 16 (2002)

${H_2}^{1+}$ + H_2	Excitation	0.10-10.00 eV	Th
H^{1+} + H_2	Dissociation	0.10-10.00 eV	Th
H^{1+} + ${H_2}^{1+}$	Dissociation	0.10-10.00 eV	Th
H^{1+} + H_2	Excitation	0.10-10.00 eV	Th
H^{1+} + ${H_2}^{1+}$	Excitation	0.10-10.00 eV	Th
H^{1+} + H_2	Charge Transfer	0.10-10.00 eV	Th
H^{1+} + ${H_2}^{1+}$	Charge Transfer	0.10-10.00 eV	Th

1023. R. Celiberto, M. Capitelli, A. Laricchiuta
Towards a cross section database of excited atomic and molecular hydrogen.
Phys. Scr. **T96**, 32 (2002)

$\mathbf{H}^{1+} + \mathbf{H}$	Charge Transfer	100.00 eV	Th

1024. P. S. Krstic, D. R. Schultz, R. K. Janev
Charge transfer processes in slow collisions of protons with vibrationally excited hydrogen molecules.
Phys. Scr. **T96**, 61 (2002)

$\mathbf{H}^{1+} + \mathbf{H}_2$	Interchange reaction	10.00 eV	Th
$\mathbf{H}^{1+} + \mathbf{H}_2$	Dissociation	10.00 eV	Th
$\mathbf{H}^{1+} + \mathbf{H}_2$	Excitation	10.00 eV	Th

1025. S. I. Krasheninnikov
Molecule assisted recombination (MAR): Mechanisms and plasma conditions for effective operation.
Phys. Scr. **T96**, 7 (2002)

$\mathbf{H}_2{}^{1+} + \mathbf{H}_2$	Interchange reaction		Th
$\mathbf{H}^{1+} + \mathbf{H}^{-1+}$	Charge Transfer		Th

1026. J. G. Wang, P. C. Stancil
Hydrogen ion-molecule isotopomer collisions: Charge transfer and rearrangement.
Phys. Scr. **T96**, 72 (2002)

$\mathbf{H}^{1+} + \mathbf{H}_2$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{H}^{1+} + \mathbf{HT}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{H}^{1+} + \mathbf{D}_2$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{H}^{1+} + \mathbf{DT}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{H}^{1+} + \mathbf{T}_2$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{H}_2{}^{1+} + \mathbf{H}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{H}_2{}^{1+} + \mathbf{D}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{HD}^{1+} + \mathbf{H}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{HD}^{1+} + \mathbf{D}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{D}^{1+} + \mathbf{H}_2$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{D}^{1+} + \mathbf{HT}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{D}^{1+} + \mathbf{D}_2$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{D}^{1+} + \mathbf{DT}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{D}^{1+} + \mathbf{T}_2$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{D}_2{}^{1+} + \mathbf{H}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{D}_2{}^{1+} + \mathbf{D}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{T}^{1+} + \mathbf{H}_2$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{T}^{1+} + \mathbf{HT}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{T}^{1+} + \mathbf{D}_2$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{T}^{1+} + \mathbf{DT}$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{T}^{1+} + \mathbf{T}_2$	Dissociation	0.00-10.00 keV	E/T
$\mathbf{H}^{1+} + \mathbf{H}_2$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{H}^{1+} + \mathbf{HT}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{H}^{1+} + \mathbf{D}_2$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{H}^{1+} + \mathbf{DT}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{H}^{1+} + \mathbf{T}_2$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{H}_2{}^{1+} + \mathbf{H}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{H}_2{}^{1+} + \mathbf{D}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{HD}^{1+} + \mathbf{H}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{HD}^{1+} + \mathbf{D}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{D}^{1+} + \mathbf{H}_2$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{D}^{1+} + \mathbf{HT}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{D}^{1+} + \mathbf{D}_2$	Interchange reaction	0.00-10.00 keV	E/T

$\mathbf{D^{1+} + DT}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{D^{1+} + T_2}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{D_2{}^{1+} + H}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{D_2{}^{1+} + D}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{T^{1+} + H_2}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{T^{1+} + HT}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{T^{1+} + D_2}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{T^{1+} + DT}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{T^{1+} + T_2}$	Interchange reaction	0.00-10.00 keV	E/T
$\mathbf{H^{1+} + H_2}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{H^{1+} + HT}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{H^{1+} + D_2}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{H^{1+} + DT}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{H^{1+} + T_2}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{H_2{}^{1+} + H}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{H_2{}^{1+} + D}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{HD^{1+} + H}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{HD^{1+} + D}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{D^{1+} + H_2}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{D^{1+} + HT}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{D^{1+} + D_2}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{D^{1+} + DT}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{D^{1+} + T_2}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{D_2{}^{1+} + H}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{D_2{}^{1+} + D}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{T^{1+} + H_2}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{T^{1+} + HT}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{T^{1+} + D_2}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{T^{1+} + DT}$	Charge Transfer	0.00-10.00 keV	E/T
$\mathbf{T^{1+} + T_2}$	Charge Transfer	0.00-10.00 keV	E/T

1027. F. Brouillard, X. Urbain
Associative ionisation in low energy collisions.
Phys. Scr. **T96**, 86 (2002)

$\mathbf{H + H}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{H_2{}^{1+} + H^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{H_2{}^{1+} + D^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{D + D}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{D^{1+} + O^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{D_2{}^{1+} + H^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{D_2{}^{1+} + D^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{He^{1+} + H^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{He^{1+} + D^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{C^{1+} + D^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{C^{1+} + O^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{N^{1+} + O^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{O^{1+} + D^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{O^{1+} + O^{-1+}}$	Ionization	0.05-10.00 eV	E/T
$\mathbf{H + H}$	Association	0.05-10.00 eV	E/T
$\mathbf{H_2{}^{1+} + H^{-1+}}$	Association	0.05-10.00 eV	E/T
$\mathbf{H_2{}^{1+} + D^{-1+}}$	Association	0.05-10.00 eV	E/T
$\mathbf{D + D}$	Association	0.05-10.00 eV	E/T
$\mathbf{D^{1+} + O^{-1+}}$	Association	0.05-10.00 eV	E/T
$\mathbf{D_2{}^{1+} + H^{-1+}}$	Association	0.05-10.00 eV	E/T
$\mathbf{D_2{}^{1+} + D^{-1+}}$	Association	0.05-10.00 eV	E/T
$\mathbf{He^{1+} + H^{-1+}}$	Association	0.05-10.00 eV	E/T
$\mathbf{He^{1+} + D^{-1+}}$	Association	0.05-10.00 eV	E/T

$\mathbf{C^{1+} + D^{-1+}}$	Association	0.05-10.00 eV	E/T
$\mathbf{C^{1+} + O^{-1+}}$	Association	0.05-10.00 eV	E/T
$\mathbf{N^{1+} + O^{-1+}}$	Association	0.05-10.00 eV	E/T
$\mathbf{O^{1+} + D^{-1+}}$	Association	0.05-10.00 eV	E/T
$\mathbf{O^{1+} + O^{-1+}}$	Association	0.05-10.00 eV	E/T

1028. R. K. Janev
Alternative mechanisms for divertor plasma recombination.
Phys. Scr. **T96**, 94 (2002)

$\mathbf{H^{1+} + CH_4}$	Interchange reaction	0.10-30.00 eV	Th
$\mathbf{H^{1+} + C_2H_4}$	Interchange reaction	0.10-30.00 eV	Th
$\mathbf{H^{1+} + C_2H_6}$	Interchange reaction	0.10-30.00 eV	Th
$\mathbf{H^{1+} + C_3H_8}$	Interchange reaction	0.10-30.00 eV	Th
$\mathbf{H^{1+} + CH_4}$	Dissociation	0.10-30.00 eV	Th
$\mathbf{H^{1+} + C_2H_4}$	Dissociation	0.10-30.00 eV	Th
$\mathbf{H^{1+} + C_2H_6}$	Dissociation	0.10-30.00 eV	Th
$\mathbf{H^{1+} + C_3H_8}$	Dissociation	0.10-30.00 eV	Th
$\mathbf{H^{1+} + CH_4}$	Charge Transfer	0.10-30.00 eV	Th
$\mathbf{H^{1+} + C_2H_4}$	Charge Transfer	0.10-30.00 eV	Th
$\mathbf{H^{1+} + C_2H_6}$	Charge Transfer	0.10-30.00 eV	Th
$\mathbf{H^{1+} + C_3H_8}$	Charge Transfer	0.10-30.00 eV	Th
$\mathbf{H^{1+} + H^{-1+}}$	Excitation	0.10-30.00 eV	Th
$\mathbf{H^{1+} + H^{-1+}}$	Charge Transfer	0.10-30.00 eV	Th

3.3 Surface Interactions

1029. R. G. Vichev, D. S. Karpuzov
Time-dependent angular and energy distributions of sputtered copper atoms.
Can. J. Phys. **78**, 865 (2000)

$\mathbf{Be^{+} + Cu}$	Sputtering	1.00 keV	Th
$\mathbf{Be^{+} + Cu}$	Sputtering	1.00 keV	Th
$\mathbf{Ne^{+} + Cu}$	Sputtering	1.00 keV	Th
$\mathbf{Ne^{+} + Cu}$	Sputtering	1.00 keV	Th
$\mathbf{Ar^{+} + Cu}$	Sputtering	1.00 keV	Th
$\mathbf{Ar^{+} + Cu}$	Sputtering	1.00 keV	Th
$\mathbf{Cu^{+} + Cu}$	Sputtering	1.00 keV	Th
$\mathbf{Cu^{+} + Cu}$	Sputtering	1.00 keV	Th
$\mathbf{Xe^{+} + Cu}$	Sputtering	1.00 keV	Th
$\mathbf{Xe^{+} + Cu}$	Sputtering	1.00 keV	Th
$\mathbf{Au^{+} + Cu}$	Sputtering	1.00 keV	Th
$\mathbf{Au^{+} + Cu}$	Sputtering	1.00 keV	Th

1030. K. Nobuhara, H. Nakanishi, H. Kasai
Interactions of atomic hydrogen with Cu(111), Pt(111), and Pd(111).
J. Appl. Phys. **88**, 6897 (2000)

H + Cu	Adsorption, Desorption		Th
H + Pd	Adsorption, Desorption		Th
H + Pt	Adsorption, Desorption		Th

1031. W. Yi, S.G. Yu, W. Lee, I. T. Han, T. Jeong, Y. Woo, J. Lee, S. Jin, W. Choi, J. Heo, D. Jeon, J. M. Kim
Secondary electron emission yields from MgO deposited on carbon nanotubes.
J. Appl. Phys. **89**, 4091 (2001)

e + MgO	Second. Elect. Emission	1.00-1.50 keV	Ex

1032. P. Ascarelli, E. Cappelli, F. Pinzari, M. S. Rossi, S. Salvatori, P. G. Merli, A. Migliori
Secondary electron emission from diamond: Physical modeling and application to scanning electron microscopy.
J. Appl. Phys. **89**, 689 (2001)

e + C	Second. Elect. Emission	0.50-15.00 eV	E/T

1033. Z. J. Ding, X. D. Tang
Monte Carlo study of secondary electron emission.
J. Appl. Phys. **89**, 718 (2001)

e + Be	Second. Elect. Emission	0.10-2.00 keV	Th
e + Si	Second. Elect. Emission	0.10-2.00 keV	Th
e + K	Second. Elect. Emission	0.10-2.00 keV	Th
e + V	Second. Elect. Emission	0.10-2.00 keV	Th
e + Fe	Second. Elect. Emission	0.10-2.00 keV	Th
e + Ni	Second. Elect. Emission	0.10-2.00 keV	Th
e + Cu	Second. Elect. Emission	0.10-2.00 keV	Th
e + Rb	Second. Elect. Emission	0.10-2.00 keV	Th
e + Nb	Second. Elect. Emission	0.10-2.00 keV	Th
e + Mo	Second. Elect. Emission	0.10-2.00 keV	Th
e + Ag	Second. Elect. Emission	0.10-2.00 keV	Th
e + Cs	Second. Elect. Emission	0.10-2.00 keV	Th
e + Ta	Second. Elect. Emission	0.10-2.00 keV	Th
e + W	Second. Elect. Emission	0.10-2.00 keV	Th
e + Ir	Second. Elect. Emission	0.10-2.00 keV	Th
e + Pt	Second. Elect. Emission	0.10-2.00 keV	Th
e + Au	Second. Elect. Emission	0.10-2.00 keV	Th

1034. J. E. Yater, A. Shih
Secondary electron emission characteristics of C(111) and the observation of double-peaked emission spectra.
J. Appl. Phys. **90**, 3057 (2001)

e + C	Second. Elect. Emission	3.00 keV	Ex
e + C + Cs	Second. Elect. Emission	3.00 keV	Ex
e + H + C	Second. Elect. Emission	3.00 keV	Ex

1035. T. Ahlgren, E. Rauhala
Steady state oxygen surface content in oxygen sputtered silicon at impact energy of 5 keV per atom.
J. Appl. Phys. **90**, 4456 (2001)

O + Si	Sputtering	5.00 keV	Th

1036. C. Qian, B. Terreault
Blistering of silicon crystals by low keV hydrogen and helium ions.
J. Appl. Phys. **90**, 5152 (2001)

H + Si	Chemical Reactions	5.00-8.00 keV	Ex
He + Si	Chemical Reactions	5.00-8.00 keV	Ex
H + Si	Surface Interactions	5.00-8.00 keV	Ex
He + Si	Surface Interactions	5.00-8.00 keV	Ex

1037. A. Hoffman, A. Laikhtman, S. Ustaze, M. Hadj Hamou, M. N. Hedhili, J.-P. Guillotin, Y. Le Coat, R. Azria
Decay of secondary electron emission and charging of hydrogenated and hydrogen-free diamond film surfaces induced by low energy electrons.
J. Appl. Phys. **91**, 4726 (2002)

e + C	Second. Elect. Emission	5.00-20.00 eV	Ex

1038. H. S. Jung, J.-K. Lee, K. S. Hong, H.-J. Youn
Ion-induced secondary electron emission behavior of sol-gel-derived MgO thin films used for protective layers in alternating current plasma display panels.
J. Appl. Phys. **92**, 2855 (2002)

$\mathbf{He^+ + MgO}$	Second. Elect. Emission	200.00 eV	Ex

1039. V. K. Alimov, K. Ertl, J. Roth, K. Schmid
Retention of ion-implanted deuterium in tungsten pre-irradiated with carbon ions.
J. Nucl. Mater. **282**, 125 (2000)

D + C + W	Trapping, Detrapping	10.00-100.00 keV	Ex
D + W	Trapping, Detrapping	10.00-100.00 keV	Ex
D + WC	Trapping, Detrapping	10.00-100.00 keV	Ex

1040. Y. Ueda, T. Sugai, Y. Ohtsuka, M. Nishikawa
Mechanism of chemical sputtering of graphite under high flux deuterium bombardment.
J. Nucl. Mater. **282**, 216 (2000)

$\mathbf{D_3{}^+ + C}$	Trapping, Detrapping	5.00 keV	Ex
$\mathbf{D_3{}^+ + C}$	Sputtering	5.00 keV	Ex

1041. S. Nagata, K. Takahiro
Deuterium retention in tungsten and molybdenum.
J. Nucl. Mater. **283-287**, 1038 (2000)

D + Mo	Trapping, Detrapping	1.00-10.00 keV	Ex
D + W	Trapping, Detrapping	1.00-10.00 keV	Ex

1042. H. Atsumi, M. Iseki
Hydrogen absorption process into graphite and carbon materials.
J. Nucl. Mater. **283-287**, 1053 (2000)

$\mathbf{H_2 + C}$	Trapping, Detrapping	1.00 K	Ex

1043. M. Balden, M. Mayer
Removal of deuterium from co-deposited carbon-silicon layers.
J. Nucl. Mater. **283-287**, 1057 (2000)

$\mathbf{D_3{}^+ + Si}$	Trapping, Detrapping	3.00 keV	Ex
$\mathbf{D_3{}^+ + Si}$	Desorption	3.00 keV	Ex

1044. M. Poon, J. W. Davis, A. A. Haasz
Effect of carbon pre-implantation on deuterium retention in tungsten.
J. Nucl. Mater. **283-287**, 1062 (2000)

$\mathbf{D_3{}^+ + C}$	Trapping, Detrapping	1.50 keV	Ex
$\mathbf{D_3{}^+ + W}$	Trapping, Detrapping	1.50 keV	Ex

1045. S. Ueda, T. Ohsaka, S. Kuwajima
Sputtering studies of beryllium with helium and deuterium using molecular dynamics approach.
J. Nucl. Mater. **283-287**, 1100 (2000)

D + Be	Sputtering	100.00 eV	Th
He + Be	Sputtering	100.00 eV	Th

1046. V. Dose, R. Preuss, J. Roth
Evaluation of chemical erosion data for carbon materials at high ion fluxes using Bayesian probability theory.
J. Nucl. Mater. **288**, 153 (2000)

D + C	Desorption	15.00-50.00 eV	Th
D + C	Chemical Reactions	15.00-50.00 eV	Th
D + C	Sputtering	15.00-50.00 eV	Th

1047. K. Krieger, J. Roth
Synergistic effects by simultaneous bombardment of tungsten with hydrogen and carbon.
J. Nucl. Mater. **290-293**, 107 (2001)

$\mathbf{H^+ + W}$	Chemical Reactions	2.40-3.00 keV	Ex
$\mathbf{C^+ + W}$	Chemical Reactions	2.40-3.00 keV	Ex
$\mathbf{CH_3{}^+ + W}$	Chemical Reactions	2.40-3.00 keV	Ex
$\mathbf{H^+ + W}$	Sputtering	2.40-3.00 keV	Ex
$\mathbf{C^+ + W}$	Sputtering	2.40-3.00 keV	Ex
$\mathbf{CH_3{}^+ + W}$	Sputtering	2.40-3.00 keV	Ex

1048. V. A. Kurnaev, A. V. Golubeva, A. A. Evanov, D. V. Levchuk, A. A. Pisarev, N. N. Trifonov
Trapping of eV deuterium ions by niobium at glancing incidence.
J. Nucl. Mater. **290-293**, 112 (2001)

$\mathbf{D^+ + Nb}$	Trapping, Detrapping	5.00-120.00 eV	Ex

1049. K. Morita, N. Kishi, A. Grigoriev, S. Masuzaki, T. Muroga
TOF analysis of reflection of low-energy light ions from solid targets using coaxial impact collision ion scattering spectroscopy (CAICISS).
J. Nucl. Mater. **290-293**, 126 (2001)

$\mathbf{D^+ + Si}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{He^+ + Si}$	Reflection	0.50-3.00 keV	Ex

1050. S. Nagata, K. Takahiro
Effect of helium irradiation on trapping and thermal release of deuterium implanted in tungsten.
J. Nucl. Mater. **290-293**, 135 (2001)

$\mathbf{D^+ + W}$	Trapping, Detrapping	1.00 keV	Ex

1051. T. Ono, T. Kawamura, T. Kenmotsu, Y. Yamamura
Simulation study on retention and reflection from tungsten carbide under high fluence of helium ions.
J. Nucl. Mater. **290-293**, 140 (2001)

$\mathbf{He^+ + W}$	Trapping, Detrapping	0.50-5.00 keV	Th
$\mathbf{He^+ + W}$	Reflection	0.50-5.00 keV	Th

1052. E. Salonen, K. Nordlund, J. Keinonen, C. H. Wu
Carbon erosion mechanisms in tokamak divertor materials: insight from molecular dynamics simulations.
J. Nucl. Mater. **290-293**, 144 (2001)

$\mathbf{H^+ + C}$	Chemical Reactions	1.00-10.00 eV	Th
$\mathbf{D^+ + C}$	Chemical Reactions	1.00-10.00 eV	Th
$\mathbf{T^+ + C}$	Chemical Reactions	1.00-10.00 eV	Th
$\mathbf{H^+ + C}$	Sputtering	1.00-10.00 eV	Th
$\mathbf{D^+ + C}$	Sputtering	1.00-10.00 eV	Th
$\mathbf{T^+ + C}$	Sputtering	1.00-10.00 eV	Th

1053. K. Schmid, J. Roth, W. Eckstein
Influence of diffusion on W sputtering by carbon.
J. Nucl. Mater. **290-293**, 148 (2001)

$\mathbf{C^+ + W}$	Chemical Reactions	2.40 keV	Th
$\mathbf{C^+ + W}$	Sputtering	2.40 keV	Th

1054. E. Vietzke
Energy distributions of $\mathbf{CD_4}$ and $\mathbf{CD_3}$ chemically released from graphite by $\mathbf{D^+}$ and $\mathbf{D^0/Ne^+}$ impact.
J. Nucl. Mater. **290-293**, 158 (2001)

D + C	Trapping, Detrapping	400.00 eV	Ex
$\mathbf{D^+}$ **+ C**	Trapping, Detrapping	400.00 eV	Ex
D + C	Chemical Reactions	400.00 eV	Ex
$\mathbf{D^+}$ **+ C**	Chemical Reactions	400.00 eV	Ex
D + C	Sputtering	400.00 eV	Ex
D + C	Sputtering	400.00 eV	Ex
$\mathbf{D^+}$ **+ C**	Sputtering	400.00 eV	Ex
$\mathbf{D^+}$ **+ C**	Sputtering	400.00 eV	Ex

1055. C. Garcia-Rosales, M. Balden
Chemical erosion of doped graphites for fusion devices.
J. Nucl. Mater. **290-293**, 173 (2001)

$\mathbf{D^+}$ **+ C**	Chemical Reactions	0.03-1.00 keV	Ex
$\mathbf{D^+}$ **+ C**	Desorption	0.03-1.00 keV	Ex

1056. J. P. Allain, D. N. Ruzic, M. R. Hendricks
Measurements and modeling of D, He, and Li sputtering of liquid lithium.
J. Nucl. Mater. **290-293**, 180 (2001)

$\mathbf{D^+}$ **+ Li**	Sputtering	0.20-1.00 keV	E/T
$\mathbf{He^+}$ **+ Li**	Sputtering	0.20-1.00 keV	E/T
$\mathbf{Li^+}$ **+ Li**	Sputtering	0.20-1.00 keV	E/T

1057. J. N. Brooks, T. D. Rognlien, D. N. Ruzic, J. P. Allain
Erosion/redeposition analysis of lithium-based liquid surface divertors.
J. Nucl. Mater. **290-293**, 185 (2001)

$\mathbf{D^+}$ **+ Li**	Sputtering	0.03-4.00 keV	Th
$\mathbf{Li^+}$ **+ Li**	Sputtering	0.03-4.00 keV	Th

1058. R. Bastasz, W. Eckstein
Plasma-surface interactions in liquids.
J. Nucl. Mater. **290-293**, 19 (2001)

D + Li	Trapping, Detrapping	0.01-5.00 keV	Th
D + Sn	Trapping, Detrapping	0.01-5.00 keV	Th
T + Li	Trapping, Detrapping	0.01-5.00 keV	Th
T + Sn	Trapping, Detrapping	0.01-5.00 keV	Th
D + Li	Sputtering	0.01-5.00 keV	Th
D + Ga	Sputtering	0.01-5.00 keV	Th
D + Sn	Sputtering	0.01-5.00 keV	Th
T + Li	Sputtering	0.01-5.00 keV	Th
T + Ga	Sputtering	0.01-5.00 keV	Th
He + Li	Sputtering	0.01-5.00 keV	Th
He + Ga	Sputtering	0.01-5.00 keV	Th
Li + Li	Sputtering	0.01-5.00 keV	Th
Li + Ga	Sputtering	0.01-5.00 keV	Th

1059. F. Scaffidi-Argentina, C. Sand, C. H. Wu
Tritium retention in neutron-irradiated low-Z materials for use as plasma facing materials.
J. Nucl. Mater. **290-293**, 211 (2001)

T + Be	Trapping, Detrapping		Ex

1060. R. A. Anderl, R. J. Pawelko, S. T. Schuetz
Deuterium retention in W, W1%La, C-coated W and $\mathbf{W_2C}$.
J. Nucl. Mater. **290-293**, 38 (2001)

D + C	Trapping, Detrapping	0.50 keV	Ex
D + W	Trapping, Detrapping	0.50 keV	Ex
D + $\mathbf{W_2C}$	Trapping, Detrapping	0.50 keV	Ex

1061. M. Balden, S. Picarle, J. Roth
Mechanism of the chemical erosion of SiC under hydrogen irradiation.
J. Nucl. Mater. **290-293**, 47 (2001)

D + SiC	Sputtering	0.01-10.00 keV	Ex
D + SiC	Sputtering	0.01-10.00 keV	Ex

1062. I. Takagi, Y. Koga, H. Fujita, K. Higashi
Influence of hydrogen surface coverage on atomic particle reflection.
J. Nucl. Mater. **290-293**, 501 (2001)

$\mathbf{D^+}$ + **Fe**	Reflection		Th
$\mathbf{D^+}$ + **Ni**	Reflection		Th
$\mathbf{D^+}$ + **Pd**	Reflection		Th
$\mathbf{D^+}$ + **SS**	Reflection		Th

1063. T. Venhaus, R. A. Causey, R. Doerner, T. Abeln
Behavior of tungsten exposed to high fluences of low energy hydrogen isotopes.
J. Nucl. Mater. **290-293**, 505 (2001)

$\mathbf{D^+}$ + **W**	Trapping, Detrapping	100.00 eV	Ex
$\mathbf{T^+}$ + **W**	Trapping, Detrapping	100.00 eV	Ex

1064. R. A. Zuhr, J. Roth, W. Eckstein, U. von Toussaint, J. Luthin
Implantation, erosion, and retention of tungsten in carbon.
J. Nucl. Mater. **290-293**, 505 (2001)

$\mathbf{W^+}$ + **C**	Chemical Reactions	100.00 eV	Ex
$\mathbf{W^+}$ + **C**	Sputtering	100.00 eV	Ex

1065. M. Balden, C. Garcia-Rosales, R. Behrisch, J. Roth, P. Paz, J. Etxeberria
Chemical erosion of carbon doped with different fine-grain carbides.
J. Nucl. Mater. **290-293**, 52 (2001)

D + C	Chemical Reactions	0.03-1.00 keV	Ex
D + SiC	Chemical Reactions	0.03-1.00 keV	Ex
D + TiC	Chemical Reactions	0.03-1.00 keV	Ex
D + $\mathbf{V_8C_7}$	Chemical Reactions	0.03-1.00 keV	Ex
D + WC	Chemical Reactions	0.03-1.00 keV	Ex
D + ZrC	Chemical Reactions	0.03-1.00 keV	Ex
D + C	Trapping, Detrapping	0.03-1.00 keV	Ex
D + SiC	Trapping, Detrapping	0.03-1.00 keV	Ex
D + TiC	Trapping, Detrapping	0.03-1.00 keV	Ex
D + $\mathbf{V_8C_7}$	Trapping, Detrapping	0.03-1.00 keV	Ex
D + WC	Trapping, Detrapping	0.03-1.00 keV	Ex
D + ZrC	Trapping, Detrapping	0.03-1.00 keV	Ex
D + C	Sputtering	0.03-1.00 keV	Ex
D + C	Sputtering	0.03-1.00 keV	Ex
D + SiC	Sputtering	0.03-1.00 keV	Ex
D + SiC	Sputtering	0.03-1.00 keV	Ex
D + TiC	Sputtering	0.03-1.00 keV	Ex
D + TiC	Sputtering	0.03-1.00 keV	Ex
D + $\mathbf{V_8C_7}$	Sputtering	0.03-1.00 keV	Ex
D + $\mathbf{V_8C_7}$	Sputtering	0.03-1.00 keV	Ex
D + WC	Sputtering	0.03-1.00 keV	Ex
D + WC	Sputtering	0.03-1.00 keV	Ex
D + ZrC	Sputtering	0.03-1.00 keV	Ex
D + ZrC	Sputtering	0.03-1.00 keV	Ex

1066. A. Busnyuk, Y. Nakamura, Y. Nakahara, H. Suzuki, N. Ohyabu, A. Livshits
Membrane bias effects on plasma-driven permeation of hydrogen through niobium membrane.
J. Nucl. Mater. **290-293**, 57 (2001)

D^+ + Nb	Adsorption, Desorption	2.00-200.00 eV	Ex
D^+ + Nb	Trapping, Detrapping	2.00-200.00 eV	Ex

1067. A.Y.K. Chen, J. W. Davis, A. A. Haasz
Methane formation in graphite and boron-doped graphite under simultaneous O^+ and H^+ irradiation.
J. Nucl. Mater. **290-293**, 61 (2001)

H^+ + B	Desorption	0.70-5.00 keV	Ex
H^+ + C	Desorption	0.70-5.00 keV	Ex
O^+ + B	Desorption	0.70-5.00 keV	Ex
O^+ + C	Desorption	0.70-5.00 keV	Ex
H^+ + B	Chemical Reactions	0.70-5.00 keV	Ex
H^+ + C	Chemical Reactions	0.70-5.00 keV	Ex
O^+ + B	Chemical Reactions	0.70-5.00 keV	Ex
O^+ + C	Chemical Reactions	0.70-5.00 keV	Ex
H^+ + B	Trapping, Detrapping	0.70-5.00 keV	Ex
H^+ + C	Trapping, Detrapping	0.70-5.00 keV	Ex
O^+ + B	Trapping, Detrapping	0.70-5.00 keV	Ex
O^+ + C	Trapping, Detrapping	0.70-5.00 keV	Ex
H^+ + B	Sputtering	0.70-5.00 keV	Ex
H^+ + B	Sputtering	0.70-5.00 keV	Ex
H^+ + C	Sputtering	0.70-5.00 keV	Ex
H^+ + C	Sputtering	0.70-5.00 keV	Ex
O^+ + B	Sputtering	0.70-5.00 keV	Ex
O^+ + B	Sputtering	0.70-5.00 keV	Ex
O^+ + C	Sputtering	0.70-5.00 keV	Ex
O^+ + C	Sputtering	0.70-5.00 keV	Ex

1068. J. W. Davis, P. B. Wright, R. G. Macaulay-Newcombe, A. A. Haasz, C. G. Hamilton
Chemical erosion of boronized films from DIII-D tiles.
J. Nucl. Mater. **290-293**, 66 (2001)

D^+ + C	Desorption	50.00-200.00 eV	Ex
D^+ + C	Chemical Reactions	50.00-200.00 eV	Ex
D^+ + C	Trapping, Detrapping	50.00-200.00 eV	Ex
D^+ + C	Sputtering	50.00-200.00 eV	Ex
D^+ + C	Sputtering	50.00-200.00 eV	Ex

1069. P. Goldstrass, Ch. Linsmeier
Formation of mixed layers and compounds on beryllium due to C^+ and CO^+ bombardment.
J. Nucl. Mater. **290-293**, 71 (2001)

C^+ + Be	Trapping, Detrapping	3.00-5.00 keV	Ex
CO^+ + Be	Trapping, Detrapping	3.00-5.00 keV	Ex
C^+ + Be	Sputtering	3.00-5.00 keV	Ex
C^+ + Be	Sputtering	3.00-5.00 keV	Ex
CO^+ + Be	Sputtering	3.00-5.00 keV	Ex
CO^+ + Be	Sputtering	3.00-5.00 keV	Ex

1070. P. Goldstrass, K. U. Klages, Ch. Linsmeier
Surface reactions on beryllium after carbon vapour deposition and thermal treatment.
J. Nucl. Mater. **290-293**, 76 (2001)

C + Be	Chemical Reactions	300.00 K	Ex

1071. A. Grossman, R. P. Doerner, S. Luckhardt
Surface tension enhancement of TRIM sputtering yields for liquid metal targets.
J. Nucl. Mater. **290-293**, 80 (2001)

D^+ + Li	Sputtering	75.00-200.00 eV	Th
D^+ + Ga	Sputtering	75.00-200.00 eV	Th
Li^+ + Li	Sputtering	75.00-200.00 eV	Th
Ga^+ + Ga	Sputtering	75.00-200.00 eV	Th

1072. A. A. Haasz, M. Poon, R. G. Macaulay-Newcombe, J. W. Davis
Deuterium retention in single crystal tungsten.
J. Nucl. Mater. **290-293**, 85 (2001)

$D_3{}^+$ + W	Trapping, Detrapping	1.50 keV	Ex

1073. P. Jung, C. Liu, J. Chen
Retention of implanted hydrogen and helium in martensitic stainless steels and their effects on mechanical properties.
J. Nucl. Mater. **296**, 165 (2001)

H + Fe	Trapping, Detrapping		Ex
H + SS	Trapping, Detrapping		Ex
He + Fe	Trapping, Detrapping		Ex
He + SS	Trapping, Detrapping		Ex

1074. K. L. Hertz, R. A. Causey, D. F. Cowgill
The effect of coatings on deuterium retention and permeation in aluminum 6061-T6 APT tritium production tubes.
J. Nucl. Mater. **300**, 255 (2002)

H^+ + Al	Trapping, Detrapping	200.00-700.00 keV	Ex
D^+ + Al	Trapping, Detrapping	200.00-700.00 keV	Ex

1075. R. A. Causey
Hydrogen isotope retention and recycling in fusion reactor plasma-facing components.
J. Nucl. Mater. **300**, 91 (2002)

H^+ + Li	Desorption	0.10-15.00 keV	Ex
H^+ + Be	Desorption	0.10-15.00 keV	Ex
H^+ + C	Desorption	0.10-15.00 keV	Ex
H^+ + Ga	Desorption	0.10-15.00 keV	Ex
H^+ + W	Desorption	0.10-15.00 keV	Ex
D^+ + Li	Desorption	0.10-15.00 keV	Ex
D^+ + Be	Desorption	0.10-15.00 keV	Ex
D^+ + C	Desorption	0.10-15.00 keV	Ex
D^+ + Ga	Desorption	0.10-15.00 keV	Ex
D^+ + W	Desorption	0.10-15.00 keV	Ex
H^+ + Li	Chemical Reactions	0.10-15.00 keV	Ex
H^+ + Be	Chemical Reactions	0.10-15.00 keV	Ex
H^+ + C	Chemical Reactions	0.10-15.00 keV	Ex
H^+ + Ga	Chemical Reactions	0.10-15.00 keV	Ex
H^+ + W	Chemical Reactions	0.10-15.00 keV	Ex
D^+ + Li	Chemical Reactions	0.10-15.00 keV	Ex
D^+ + Be	Chemical Reactions	0.10-15.00 keV	Ex
D^+ + C	Chemical Reactions	0.10-15.00 keV	Ex
D^+ + Ga	Chemical Reactions	0.10-15.00 keV	Ex
D^+ + W	Chemical Reactions	0.10-15.00 keV	Ex
H^+ + Li	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex
H^+ + Be	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex
H^+ + C	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex
H^+ + Ga	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex
H^+ + W	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex
D^+ + Li	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex
D^+ + Be	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex

$\mathbf{D^+ + C}$	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex
$\mathbf{D^+ + Ga}$	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex
$\mathbf{D^+ + W}$	Neutraliz., Ioniz., Dissoc.	0.10-15.00 keV	Ex
$\mathbf{H^+ + Li}$	Trapping, Detrapping	0.10-15.00 keV	Ex
$\mathbf{H^+ + Be}$	Trapping, Detrapping	0.10-15.00 keV	Ex
$\mathbf{H^+ + C}$	Trapping, Detrapping	0.10-15.00 keV	Ex
$\mathbf{H^+ + Ga}$	Trapping, Detrapping	0.10-15.00 keV	Ex
$\mathbf{H^+ + W}$	Trapping, Detrapping	0.10-15.00 keV	Ex
$\mathbf{D^+ + Li}$	Trapping, Detrapping	0.10-15.00 keV	Ex
$\mathbf{D^+ + Be}$	Trapping, Detrapping	0.10-15.00 keV	Ex
$\mathbf{D^+ + C}$	Trapping, Detrapping	0.10-15.00 keV	Ex
$\mathbf{D^+ + Ga}$	Trapping, Detrapping	0.10-15.00 keV	Ex
$\mathbf{D^+ + W}$	Trapping, Detrapping	0.10-15.00 keV	Ex

1076. N. Matsunami, M. Sataka, A. Iwase, T. Inami, M. Kobiyama
Sputtering of nano-crystalline gold by high energy heavy ions.
J. Nucl. Mater. **302**, 206 (2002)

$\mathbf{S^{7+} + Au}$	Sputtering	80.00-200.00 MeV	Ex
$\mathbf{Ni^{6+} + Au}$	Sputtering	80.00-200.00 MeV	Ex
$\mathbf{I^{9+} + Au}$	Sputtering	80.00-200.00 MeV	Ex
$\mathbf{I^{12+} + Au}$	Sputtering	80.00-200.00 MeV	Ex

1077. K. Schmid, J. Roth
Concentration dependent diffusion of carbon in tungsten.
J. Nucl. Mater. **302**, 96 (2002)

$\mathbf{C + W}$	Trapping, Detrapping		E/T

1078. Y.-P. Chen
Monte Carlo simulation of gas desorption process induced by low-energy ions.
J. Nucl. Mater. **303**, 99 (2002)

$\mathbf{H^+ + O + Ti}$	Desorption	30.00-60.00 eV	Th
$\mathbf{D^+ + O + Ti}$	Desorption	30.00-60.00 eV	Th
$\mathbf{T^+ + O + Ti}$	Desorption	30.00-60.00 eV	Th

1079. A. M. Borisov, W. Eckstein, E. S. Mashkova
Sputtering and ion-induced electron emission of graphite under high-dose nitrogen bombardment.
J. Nucl. Mater. **304**, 15 (2002)

$\mathbf{N_2{}^+ + C}$	Second. Elect. Emission	30.00 keV	Ex
$\mathbf{N_2{}^+ + C}$	Sputtering	30.00 keV	Ex

1080. E. Takacs, Z. Berenyi, J. D. Gillaspy, L. P. Ratliff, R. Minniti, J. Pedulla, R. D. Deslattes, N. Stolterfoht
Separation of inner-shell vacancy transfer mechanisms in collisions of slow $\mathbf{Ar^{17+}}$ ions with $\mathbf{SiO_2}$.
J. Phys. B **34**, 1277 (2001)

$\mathbf{Ar^{17+} + SiO_2}$	Surface Interactions	130.00-200.00 keV	Ex

1081. V. Horvat, R. L. Watson
Target-atom K-shell ionization by binary-encounter electrons.
J. Phys. B **34**, 777 (2001)

$\mathbf{Kr^+ + Cu}$	Surface Interactions	10.00 MeV/amu	E/T
$\mathbf{Xe^+ + Cu}$	Surface Interactions	10.00 MeV/amu	E/T
$\mathbf{Bi^+ + Cu}$	Surface Interactions	10.00 MeV/amu	E/T

1082. M. Ertugrul, O. Sogut, O. Simsek, E. Buyukkasap
Measurement of Kβ / Kα intensity ratios for elements in the range 22¡Z¡69 at 59.5 keV.
J. Phys. B **34**, 909 (2001)

hν + perturbation	Surface Interactions	59.50 keV	E/T

1083. W. Brenig, M. F. Hilf
Reaction dynamics of H_2 and D_2 on Si(100) and Si(111).
J. Phys. Condens. Matter **13**, R61 (2001)

H_2 + Si	Desorption	0.30 eV	Th
D_2 + Si	Desorption	0.30 eV	Th
H_2 + Si	Adsorption, Desorption	0.30 eV	Th
D_2 + Si	Adsorption, Desorption	0.30 eV	Th
H_2 + Si	Neutraliz., Ioniz., Dissoc.	0.30 eV	Th
D_2 + Si	Neutraliz., Ioniz., Dissoc.	0.30 eV	Th

1084. T. Zambelli, J. V. Barth, J. Wintterlin
Thermal dissociation of chemisorbed oxygen molecules on Ag(110): an investigation by scanning tunnelling microscopy.
J. Phys. Condens. Matter **14**, 4241 (2002)

O_2 + Ag	Neutraliz., Ioniz., Dissoc.	40.00-200.00 K	Ex

1085. K. Kurt, V. Ramachandran, M. Maghrabi, P. D. Townsend, B. Yang
Influence of phase transitions of ice on near-surface cathodoluminescence.
J. Phys. Condens. Matter **14**, 4319 (2002)

e + H_2O	Surface Interactions	4.00-20.00 keV	Ex

1086. A. Siber, B. Gumhalter, C. Woell
Kinematic effects in the Debye-Waller factor and sticking probabilities in low-energy atom-surface scattering.
J. Phys. Condens. Matter **14**, 5913 (2002)

He + Xe + Cu	Adsorption, Desorption	45.00 meV	Th
He + Xe + Cu	Reflection	45.00 meV	Th

1087. G. Varga
Computer simulation by the quantum mechanical time-dependent wavepacket method, especially for atom/molecule-solid-surface interaction.
J. Phys. Condens. Matter **14**, 6081 (2002)

He + Rh	Surface Interactions		E/T
He + W	Surface Interactions		E/T
He + Rh	Adsorption, Desorption		E/T
He + W	Adsorption, Desorption		E/T
He + Rh	Neutraliz., Ioniz., Dissoc.		E/T
He + W	Neutraliz., Ioniz., Dissoc.		E/T
He + Rh	Reflection		E/T
He + W	Reflection		E/T

1088. J. R. Manson, A. P. Graham, M. Li
Multiple-quantum excitation probabilities of Einstein-like modes of surface adsorbates induced by He-atom scattering.
J. Phys. Condens. Matter **14**, 6233 (2002)

He + Kr + Pt	Reflection	20.00-83.00 meV	E/T
He + CO + Cu	Reflection	20.00-83.00 meV	E/T
He + CO + Pt	Reflection	20.00-83.00 meV	E/T

1089. S. Nave, D. Lemoine
Quantum mechanical studies of helium atom scattering from isolated CO molecules on metal surfaces.
J. Phys. Condens. Matter **14**, 6263 (2002)

He + CO + Cu	Reflection	20.00 meV	Th

1090. R. Ranjan, J. P. Allain, M. R. Hendricks, D. N. Ruzic
Absolute sputtering yield of Ti/TiN by Ar^+/N^+ at 400-700 eV.
J. Vac. Sci. Technol. A **19**, 1004 (2001)

N^+ + Ti	Sputtering	400.00-700.00 eV	Ex
N^+ + Ti	Sputtering	400.00-700.00 eV	Ex
N^+ + TiN	Sputtering	400.00-700.00 eV	Ex
N^+ + TiN	Sputtering	400.00-700.00 eV	Ex
Ar^+ + Ti	Sputtering	400.00-700.00 eV	Ex
Ar^+ + Ti	Sputtering	400.00-700.00 eV	Ex
Ar^+ + TiN	Sputtering	400.00-700.00 eV	Ex
Ar^+ + TiN	Sputtering	400.00-700.00 eV	Ex

1091. C. C. Parks
Comparative ion yields by secondary ion mass spectrometry from microelectronic films.
J. Vac. Sci. Technol. A **19**, 1134 (2001)

${O_2}^+$ + Al	Sputtering	5.50 keV	Ex
${O_2}^+$ + Si	Sputtering	5.50 keV	Ex
${O_2}^+$ + SiO_2	Sputtering	5.50 keV	Ex
${O_2}^+$ + Ti	Sputtering	5.50 keV	Ex
${O_2}^+$ + $TiSi_2$	Sputtering	5.50 keV	Ex
${O_2}^+$ + Co	Sputtering	5.50 keV	Ex
${O_2}^+$ + Cu	Sputtering	5.50 keV	Ex
${O_2}^+$ + Ta	Sputtering	5.50 keV	Ex
${O_2}^+$ + W	Sputtering	5.50 keV	Ex
${O_2}^+$ + Pt	Sputtering	5.50 keV	Ex
Cs^+ + Al	Sputtering	5.50 keV	Ex
Cs^+ + Si	Sputtering	5.50 keV	Ex
Cs^+ + Si_3N_4	Sputtering	5.50 keV	Ex
Cs^+ + SiO_2	Sputtering	5.50 keV	Ex
Cs^+ + Ti	Sputtering	5.50 keV	Ex
Cs^+ + $CoSi_2$	Sputtering	5.50 keV	Ex
Cs^+ + Cu	Sputtering	5.50 keV	Ex
Cs^+ + Ta	Sputtering	5.50 keV	Ex
Cs^+ + W	Sputtering	5.50 keV	Ex
Cs^+ + WSi_2	Sputtering	5.50 keV	Ex

1092. V. N. Ageev, Yu. A. Kuznetsov, T. E. Madey
Resonances in electron-stimulated desorption of Eu atoms.
J. Vac. Sci. Technol. A **19**, 1481 (2001)

e + Eu	Desorption	100.00 eV	Ex

1093. A. L. Hanson, P. Thieberger, D. B. Steske, V. Zajic, S. Y. Zhang, H. Ludewig
Electron emission from ion bombarded stainless-steel surfaces coated and noncoated with TiN and its relevance to the design of high intensity storage rings.
J. Vac. Sci. Technol. A **19**, 2116 (2001)

H^+ + TiN	Second. Elect. Emission	28.00-182.00 MeV	Ex
H^+ + SS	Second. Elect. Emission	28.00-182.00 MeV	Ex
O^+ + TiN	Second. Elect. Emission	28.00-182.00 MeV	Ex
O^+ + SS	Second. Elect. Emission	28.00-182.00 MeV	Ex
Au^+ + TiN	Second. Elect. Emission	28.00-182.00 MeV	Ex
Au^+ + SS	Second. Elect. Emission	28.00-182.00 MeV	Ex

1094. Y. Kiyota, T. Inada
Sticking coefficient of boron and phosphorus on silicon during vapor-phase doping.
J. Vac. Sci. Technol. A **19**, 2441 (2001)

B + Si	Adsorption, Desorption	300.00 K	Ex
P + Si	Adsorption, Desorption	300.00 K	Ex

1095. T. Kondo, T. Tomii, S. Yagyu, S. Yamamoto
Rainbow scattering of CH_4 and C_2H_6 molecular beams from a LiF(001) surface: Dependence on incident kinetic energy and molecular anisotropy.
J. Vac. Sci. Technol. A **19**, 2468 (2001)

CH_4 + LiF	Reflection	200.00-800.00 meV	Ex
C_2H_6 + LiF	Reflection	200.00-800.00 meV	Ex

1096. O. V. Sazhin, S. F. Borisov, F. Sharipov
Accommodation coefficient of tangential momentum on atomically clean and contaminated surfaces.
J. Vac. Sci. Technol. A **19**, 2499 (2001)

He + SiO_2	Adsorption, Desorption	300.00 K	Ex
He + Ti	Adsorption, Desorption	300.00 K	Ex
He + Ag	Adsorption, Desorption	300.00 K	Ex
Ne + SiO_2	Adsorption, Desorption	300.00 K	Ex
Ne + Ti	Adsorption, Desorption	300.00 K	Ex
Ne + Ag	Adsorption, Desorption	300.00 K	Ex
Ar + SiO_2	Adsorption, Desorption	300.00 K	Ex
Ar + Ti	Adsorption, Desorption	300.00 K	Ex
Ar + Ag	Adsorption, Desorption	300.00 K	Ex
Kr + SiO_2	Adsorption, Desorption	300.00 K	Ex
Kr + Ti	Adsorption, Desorption	300.00 K	Ex
Kr + Ag	Adsorption, Desorption	300.00 K	Ex

1097. M. Stepanova, S. K. Dew
Estimates of differential sputtering yields for deposition applications.
J. Vac. Sci. Technol. A **19**, 2805 (2001)

Ar^+ + Al	Sputtering	0.05-1.00 keV	Th
Ar^+ + Si	Sputtering	0.05-1.00 keV	Th
Ar^+ + Ti	Sputtering	0.05-1.00 keV	Th
Ar^+ + V	Sputtering	0.05-1.00 keV	Th
Ar^+ + Cr	Sputtering	0.05-1.00 keV	Th
Ar^+ + Fe	Sputtering	0.05-1.00 keV	Th
Ar^+ + Ni	Sputtering	0.05-1.00 keV	Th
Ar^+ + Cu	Sputtering	0.05-1.00 keV	Th
Ar^+ + Ge	Sputtering	0.05-1.00 keV	Th
Ar^+ + Zr	Sputtering	0.05-1.00 keV	Th
Ar^+ + Rh	Sputtering	0.05-1.00 keV	Th
Ar^+ + W	Sputtering	0.05-1.00 keV	Th

1098. D. E. Hanson, B. C. Stephens, C. Saravanan, J. D. Kress
Molecular dynamics simulations of ion self-sputtering of Ni and Al surfaces.
J. Vac. Sci. Technol. A **19**, 820 (2001)

Al^+ + Al	Adsorption, Desorption	25.00-150.00 eV	Th
Ni^+ + Ni	Adsorption, Desorption	25.00-150.00 eV	Th
Al^+ + Al	Sputtering	25.00-150.00 eV	Th
Ni^+ + Ni	Sputtering	25.00-150.00 eV	Th

1099. S.G. Yu, W. Yi, T. Jeong, J. Lee, J. Heo, C. S. Lee, D. Jeon, J. M. Kim
Secondary electron emission for layered structures.
J. Vac. Sci. Technol. A **20**, 950 (2002)

e + Si	Second. Elect. Emission	3.00 keV	Th
e + SiO_2	Second. Elect. Emission	3.00 keV	Th

1100. Y. T. Matulevich, T. J. Vink, L. F. Feiner, P.A. Zeijlmans van Emmichoven
Electron emission during collisions of low-energy ions with MgO(110).
Nucl. Instrum. Methods Phys. Res. B **163**, 632 (2002)

He^+ + MgO	Second. Elect. Emission	0.06-1.00 keV	Ex
Ne^+ + MgO	Second. Elect. Emission	0.06-1.00 keV	Ex

1101. W. Eckstein
Oscillations of sputtering yield.
Nucl. Instrum. Methods Phys. Res. B **171**, 435 (2000)

W^+ + Be	Sputtering	0.00-1.00 MeV	E/T
W^+ + C	Sputtering	0.00-1.00 MeV	E/T
W^+ + Si	Sputtering	0.00-1.00 MeV	E/T

1102. J. Krasa, L. Lasaka, M. P. Stockli, D. Fry
Secondary-electron yield from Au induced by highly charged Ta ions.
Nucl. Instrum. Methods Phys. Res. B **173**, 281 (2001)

Ta^{11+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{12+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{13+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{14+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{15+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{16+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{17+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{18+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{19+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{20+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{21+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{22+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{23+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{24+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{25+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{26+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{27+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{28+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{29+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{30+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{31+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{32+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{33+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{34+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{35+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{36+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{37+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{38+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{39+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{40+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex
Ta^{41+} + Au	Second. Elect. Emission	0.17-6.00 MeV	Ex

1103. Y. Zhang, T. Zhang, Z. Xiao, H. J. Whitlow
Sputtering transients for some transition elements during high-fluence MEVVA implantation of Si.
Nucl. Instrum. Methods Phys. Res. B **173**, 427 (2001)

V + Si	Sputtering	30.00-50.00 keV	Ex
Co + Si	Sputtering	30.00-50.00 keV	Ex
Ni + Si	Sputtering	30.00-50.00 keV	Ex
Er + Si	Sputtering	30.00-50.00 keV	Ex

1104. S. Jans, P. Wurz, R. Schletti, K. Bruening, K. Sekar, W. Heiland, J. Quinn, R. E. Leuchtner
Scattering of atoms and molecules off a barium zirconate surface.
Nucl. Instrum. Methods Phys. Res. B **173**, 503 (2001)

$\mathbf{H^+ + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{H_2 + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{H_2{}^+ + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{O + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{O^+ + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{O_2 + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{O_2{}^+ + BaZrO_3}$	Reflection	0.50-3.00 keV	Ex

1105. G. Ramos, B.M.U. Scherzer
Radiation damage, trapping and release of deuterium in diamond and HOPG-graphite.
Nucl. Instrum. Methods Phys. Res. B **174**, 329 (2001)

$\mathbf{D^+ + C}$	Trapping, Detrapping	8.00 keV	Ex

1106. V. I. Shulga
Sputtering of platinum by argon ions: A simulation study.
Nucl. Instrum. Methods Phys. Res. B **174**, 423 (2001)

$\mathbf{Ar^+ + Pt}$	Sputtering	0.20-50.00 keV	Th

1107. V. I. Shulga
The density effects in polycrystal sputtering.
Nucl. Instrum. Methods Phys. Res. B **174**, 77 (2001)

$\mathbf{Ar^+ + Fe}$	Sputtering	0.60-1.00 keV	E/T
$\mathbf{Ar^+}$ + **perturbation**	Sputtering	0.60-1.00 keV	E/T

1108. E. Benedito, J. M. Fernandez-Varea, F. Salvat
Mixed simulation of the multiple elastic scattering of electrons and positrons using partial-wave differential cross-sections.
Nucl. Instrum. Methods Phys. Res. B **174**, 91 (2001)

e + Al	Reflection	0.00-1.00 GeV	Th
e + Au	Reflection	0.00-1.00 GeV	Th

1109. V. Bandourko, T. T. Lay, Y. Takeda, C. G. Lee, N. Kishimoto
Ion-induced photon emission of magnesium aluminate spinel during 60 keV $\mathbf{Cu^-}$ implantation.
Nucl. Instrum. Methods Phys. Res. B **175-177**, 68 (2001)

$\mathbf{Cu^{-1+} + Al_2O_3}$	Reflection	60.00 keV	Ex
$\mathbf{Cu^{-1+} + MgO}$	Reflection	60.00 keV	Ex
$\mathbf{Cu^{-1+} + Al_2O_3}$	Sputtering	60.00 keV	Ex
$\mathbf{Cu^{-1+} + MgO}$	Sputtering	60.00 keV	Ex

1110. M. Caron, F. Haranger, H. Rothard, B. Ban d'Etat, P. Boduch, A. Clouvas, C. Potiriadis, R. Neugebauer, T. Jalowy
Electronic sputtering by swift highly charged ions of nitrogen on amorphous carbon.
Nucl. Instrum. Methods Phys. Res. B **179**, 167 (2001)

$\mathbf{C^{6+} + C + N}$	Desorption	6.00-13.00 MeV/amu	Ex
$\mathbf{Ar^{17+} + C + N}$	Desorption	6.00-13.00 MeV/amu	Ex
$\mathbf{Ni^{24+} + C + N}$	Desorption	6.00-13.00 MeV/amu	Ex
$\mathbf{Ge^{28+} + C + N}$	Desorption	6.00-13.00 MeV/amu	Ex
$\mathbf{Xe^{44+} + C + N}$	Desorption	6.00-13.00 MeV/amu	Ex
$\mathbf{Ta^{54+} + C + N}$	Desorption	6.00-13.00 MeV/amu	Ex
$\mathbf{Ta^{54+} + C}$	Second. Elect. Emission	6.00-13.00 MeV/amu	Ex

1111. I. A. Wojciechowski, P. Bertrand, M. V. Medvedeva, V. Kh. Ferleger
The degree of positive ionization of sputtered metal clusters.
Nucl. Instrum. Methods Phys. Res. B **179**, 32 (2001)

Ar^+ + Fe	Sputtering		Th
Ar^+ + Nb	Sputtering		Th
Ar^+ + Ag	Sputtering		Th
Ar^+ + Ta	Sputtering		Th

1112. A. Goehlich, D. Gillmann, H. F. Doebele
An experimental investigation of angular resolved energy distributions of atoms sputtered from evaporated aluminum films.
Nucl. Instrum. Methods Phys. Res. B **179**, 351 (2001)

Ar^+ + Al	Sputtering	200.00-500.00 eV	Ex
Xe^+ + Al	Sputtering	200.00-500.00 eV	Ex

1113. V. I. Shulga
Density and binding effects in low-energy sputtering.
Nucl. Instrum. Methods Phys. Res. B **179**, 485 (2001)

Ar^+ + perturbation	Reflection	50.00-500.00 eV	Th
Ar^+ + perturbation	Sputtering	50.00-500.00 eV	Th

1114. J. Vukanic, R. Simovic
Reflection coefficients of light ions for the inverse-square interaction potential.
Nucl. Instrum. Methods Phys. Res. B **179**, 497 (2001)

H + Fe	Reflection	2.00-50.00 keV	Th
H + Cu	Reflection	2.00-50.00 keV	Th
H + Au	Reflection	2.00-50.00 keV	Th
D + Fe	Reflection	2.00-50.00 keV	Th
D + Cu	Reflection	2.00-50.00 keV	Th
D + Au	Reflection	2.00-50.00 keV	Th
He + Fe	Reflection	2.00-50.00 keV	Th
He + Cu	Reflection	2.00-50.00 keV	Th
He + Au	Reflection	2.00-50.00 keV	Th

1115. T. T. Nuver, L. C. Karssen, H. Rudolph, P.A. Zeijlmans van Emmichoven, A. Niehaus
Preferential ejection of sputtered and reflected atoms in the keV bombardment of Cu(110) with noble gas ions.
Nucl. Instrum. Methods Phys. Res. B **179**, 503 (2001)

Ar^+ + Cu	Reflection	5.00 keV	Th
Kr^+ + Cu	Reflection	5.00 keV	Th
Xe^+ + Cu	Reflection	5.00 keV	Th
Ar^+ + Cu	Sputtering	5.00 keV	Th
Kr^+ + Cu	Sputtering	5.00 keV	Th
Xe^+ + Cu	Sputtering	5.00 keV	Th

1116. E. C. Viljoen, E. Taglauer, J. du Plessis
A novel method to determine the ion sputter coefficient of dilute segregating impurities.
Nucl. Instrum. Methods Phys. Res. B **179**, 515 (2001)

Ar^+ + Sn	Sputtering	3.00 keV	Ex

1117. V. K. Egorov, E. V. Egorov
Luminescence kinetics of $PbWO_4$ crystal at excitation by H^+ ion beam.
Nucl. Instrum. Methods Phys. Res. B **179**, 536 (2001)

H^+ + $PbWO_4$	Surface Interactions	0.90 MeV	Th

1118. D. Danailov, R. Pfandzelter, T. Igel, H. Winter, K. Gaertner
Deduction of the He-Fe interaction potential in eV-range from experimental data by computer simulation in grazing ion-surface scattering: Row-model.
Nucl. Instrum. Methods Phys. Res. B **180**, 265 (2001)

He + Fe	Reflection	15.00 keV	Th

1119. T. Aoki, S. Chiba, J. Matsuo, I. Yamada, J. P. Biersack
Molecular dynamics and Monte-Carlo simulation of sputtering and mixing by ion irradiation.
Nucl. Instrum. Methods Phys. Res. B **180**, 312 (2001)

$\mathbf{Ar^+ + Si}$	Sputtering	30.00-500.00 eV	Th

1120. M. H. Shapiro, E. Trovato, T. A. Tombrello
Depth of origin of atoms sputtered from crystalline targets.
Nucl. Instrum. Methods Phys. Res. B **180**, 58 (2001)

$\mathbf{Ar^+ + Cu}$	Sputtering	0.60-8.00 keV	Th
$\mathbf{Ar^+ + Rb}$	Sputtering	0.60-8.00 keV	Th
$\mathbf{Ar^+ + Cs}$	Sputtering	0.60-8.00 keV	Th
$\mathbf{Ar^+ + W}$	Sputtering	0.60-8.00 keV	Th
$\mathbf{Ar^+ + Au}$	Sputtering	0.60-8.00 keV	Th
$\mathbf{Xe^+ + Cu}$	Sputtering	0.60-8.00 keV	Th
$\mathbf{Xe^+ + Rb}$	Sputtering	0.60-8.00 keV	Th
$\mathbf{Xe^+ + Cs}$	Sputtering	0.60-8.00 keV	Th
$\mathbf{Xe^+ + W}$	Sputtering	0.60-8.00 keV	Th
$\mathbf{Xe^+ + Au}$	Sputtering	0.60-8.00 keV	Th

1121. E. M. Bringa, R. E. Johnson
Angular dependence of the sputtering yield from a cylindrical track.
Nucl. Instrum. Methods Phys. Res. B **180**, 99 (2001)

$\mathbf{He^+ + O_2}$	Sputtering	2.00 MeV	Th

1122. A. Niehaus, P.A. Zeijlmans van Emmichoven, I. F. Urazgil'din, B. van Someren
Electron emission during ion-surface interactions.
Nucl. Instrum. Methods Phys. Res. B **182**, 1 (2001)

$\mathbf{H^+ + Al}$	Second. Elect. Emission	4.00 keV	Th
$\mathbf{H^+ + Cu}$	Second. Elect. Emission	4.00 keV	Th

1123. J. Schou, B. Stenum, R. Pedrys
Sputtering of solid deuterium by He-ions.
Nucl. Instrum. Methods Phys. Res. B **182**, 116 (2001)

$\mathbf{He^+ + D}$	Sputtering	4.00-10.00 keV	Ex

1124. T. Sekioka, M. Terasawa, T. Mitamura, M. P. Stoeckli, U. Lehnert, C. W. Fehrenbach
Electronic excitation effects on secondary ion emission in highly charged ion-solid interaction.
Nucl. Instrum. Methods Phys. Res. B **182**, 121 (2001)

$\mathbf{Xe^{15+} + Al}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{15+} + Si}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{15+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{15+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{16+} + Al}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{16+} + Si}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{16+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{16+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{17+} + Al}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{17+} + Si}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{17+} + Ni}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{17+} + Cu}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{18+} + Al}$	Sputtering	0.76-3.00 MeV	Ex
$\mathbf{Xe^{18+} + Si}$	Sputtering	0.76-3.00 MeV	Ex

Xe^{18+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{18+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{19+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{19+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{19+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{19+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{20+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{20+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{20+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{20+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{21+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{21+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{21+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{21+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{22+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{22+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{22+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{22+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{23+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{23+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{23+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{23+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{24+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{24+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{24+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{24+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{25+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{25+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{25+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{25+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{26+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{26+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{26+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{26+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{27+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{27+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{27+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{27+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{28+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{28+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{28+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{28+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{29+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{29+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{29+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{29+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{30+} + **C**	Sputtering	0.76-3.00 MeV	Ex
Xe^{30+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{30+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{30+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{30+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{31+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{31+} + **Si**	Sputtering	0.76-3.00 MeV	Ex
Xe^{31+} + **Ni**	Sputtering	0.76-3.00 MeV	Ex
Xe^{31+} + **Cu**	Sputtering	0.76-3.00 MeV	Ex
Xe^{32+} + **Al**	Sputtering	0.76-3.00 MeV	Ex
Xe^{32+} + **Si**	Sputtering	0.76-3.00 MeV	Ex

Xe^{32+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{32+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{33+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{33+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{33+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{33+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{34+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{34+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{34+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{34+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{35+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{35+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{35+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{35+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{36+} + C	Sputtering	0.76-3.00 MeV	Ex
Xe^{36+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{36+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{36+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{36+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{37+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{37+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{37+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{37+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{38+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{38+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{38+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{38+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{39+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{39+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{39+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{39+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{40+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{40+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{40+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{40+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{41+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{41+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{41+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{41+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{42+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{42+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{42+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{42+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{43+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{43+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{43+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{43+} + Cu	Sputtering	0.76-3.00 MeV	Ex
Xe^{44+} + C	Sputtering	0.76-3.00 MeV	Ex
Xe^{44+} + Al	Sputtering	0.76-3.00 MeV	Ex
Xe^{44+} + Si	Sputtering	0.76-3.00 MeV	Ex
Xe^{44+} + Ni	Sputtering	0.76-3.00 MeV	Ex
Xe^{44+} + Cu	Sputtering	0.76-3.00 MeV	Ex

1125. R. E. Silverans, J. Bastiaansen, V. Philipsen, E. Vandeweert, P. Lievens
Sputtering of metals: Probing and modelling the emission of atoms in different electronic states.
Nucl. Instrum. Methods Phys. Res. B **182**, 127 (2001)

$\mathbf{Ar^{+} + Co}$	Sputtering	3.00-15.00 keV	Ex
$\mathbf{Ar^{+} + Ni}$	Sputtering	3.00-15.00 keV	Ex
$\mathbf{Ar^{+} + Cu}$	Sputtering	3.00-15.00 keV	Ex
$\mathbf{Ar^{+} + Sr}$	Sputtering	3.00-15.00 keV	Ex
$\mathbf{Ar^{+} + Ag}$	Sputtering	3.00-15.00 keV	Ex

1126. N. Shinde, K. Morita, S. D. Dhole, D. Ishikawa
Anomalously high yield of doubly charged Si ions sputtered from cleaned Si surface by keV neutral Ar impact.
Nucl. Instrum. Methods Phys. Res. B **182**, 135 (2001)

Ar + Si	Sputtering	11.00 keV	Ex

1127. G. Hayderer, S. Cernusca, V. Hoffmann, D. Niemann, N. Stolterfoht, M. Schmid, P. Varga, HP. Winter, F. Aumayr
Sputtering of Au and $\mathbf{Al_2O_3}$ surfaces by slow highly charged ions.
Nucl. Instrum. Methods Phys. Res. B **182**, 143 (2001)

$\mathbf{Ar^{+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Ar^{+} + Au}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Ar^{3+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Ar^{3+} + Au}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Ar^{8+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Ar^{8+} + Au}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Ar^{9+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Ar^{9+} + Au}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Xe^{9+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Xe^{9+} + Au}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Xe^{14+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Xe^{14+} + Au}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Xe^{19+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Xe^{19+} + Au}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Xe^{25+} + Al_2O_3}$	Sputtering	0.10-1.50 keV	Ex
$\mathbf{Xe^{25+} + Au}$	Sputtering	0.10-1.50 keV	Ex

1128. H. Winter, H. Eder, F. Aumayr, J. Loerincik, Z. Sroubek
Slow-ion induced electron emission from clean metal surfaces: "Subthreshold kinetic emission" and "potential excitation of plasmons."
Nucl. Instrum. Methods Phys. Res. B **182**, 15 (2001)

$\mathbf{H^{+} + Al}$	Second. Elect. Emission	3.00-10.00 keV	Th
$\mathbf{H^{+} + Au}$	Second. Elect. Emission	3.00-10.00 keV	Th
$\mathbf{He^{+} + Au}$	Second. Elect. Emission	3.00-10.00 keV	Th
$\mathbf{C^{+} + Au}$	Second. Elect. Emission	3.00-10.00 keV	Th
$\mathbf{Ne^{+} + Al}$	Second. Elect. Emission	3.00-10.00 keV	Th
$\mathbf{Ne^{+} + Au}$	Second. Elect. Emission	3.00-10.00 keV	Th
$\mathbf{Xe^{+} + Au}$	Second. Elect. Emission	3.00-10.00 keV	Th
$\mathbf{Au^{+} + Au}$	Second. Elect. Emission	3.00-10.00 keV	Th

1129. A. Hoffman, R. Azria
Surface temperature effects on the dynamics of $\mathbf{H^{-}}$ low energy electron stimulated desorption from diamond films.
Nucl. Instrum. Methods Phys. Res. B **182**, 155 (2001)

e + H + C	Desorption	7.00-18.00 eV	Ex

1130. K. Bruening, T. Schlathoelter, W. Heiland
Molecule dissociation at low energies on Pt(110).
Nucl. Instrum. Methods Phys. Res. B **182**, 162 (2001)

$\mathbf{N_2 + Pt}$	Neutraliz., Ioniz., Dissoc.	1.00-2.00 keV	Ex
$\mathbf{N_2 + Pt}$	Reflection	1.00-2.00 keV	Ex

1131. C. E. Sosolik, B. H. Cooper
Heavy atom-surface scattering at hyperthermal energies.
Nucl. Instrum. Methods Phys. Res. B **182**, 167 (2001)

$\mathbf{Rb^+ + Cu}$	Reflection	10.00-250.00 eV	Ex
$\mathbf{Rb^+ + Cu}$	Reflection	10.00-250.00 eV	Ex

1132. R. Beikler, E. Taglauer
Trajectory resolved analysis of LEIS energy spectra: Neutralization and surface structure.
Nucl. Instrum. Methods Phys. Res. B **182**, 180 (2001)

$\mathbf{He^+ + Al}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{He^+ + Al}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{He^+ + TiO_2}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{He^+ + TiO_2}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{He^+ + Ni}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{He^+ + Ni}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{He^+ + Cu}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{He^+ + Cu}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{He^+ + Rb}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{He^+ + Rb}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{He^+ + Au}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{He^+ + Au}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + Al}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + Al}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + TiO_2}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + TiO_2}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + Ni}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + Ni}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + Cu}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + Cu}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + Rb}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + Rb}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + Au}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ne^+ + Au}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + Al}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + Al}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + TiO_2}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + TiO_2}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + Ni}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + Ni}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + Cu}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + Cu}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + Rb}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + Rb}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + Au}$	Reflection	0.50-2.00 keV	E/T
$\mathbf{Ar^+ + Au}$	Reflection	0.50-2.00 keV	E/T

1133. C. L. Quinteros, T. Tzvetkov, X. Qin, D. C. Jacobs
Reactive scattering of $\mathbf{O^+}$ on oxidized Si(001).
Nucl. Instrum. Methods Phys. Res. B **182**, 187 (2001)

$\mathbf{O^+ + Si}$	Reflection	10.00-150.00 eV	Ex
$\mathbf{O^+ + Si}$	Reflection	10.00-150.00 eV	Ex
$\mathbf{O^+ + SiO}$	Reflection	10.00-150.00 eV	Ex
$\mathbf{O^+ + SiO}$	Reflection	10.00-150.00 eV	Ex
$\mathbf{O^+ + Si}$	Sputtering	10.00-150.00 eV	Ex
$\mathbf{O^+ + SiO}$	Sputtering	10.00-150.00 eV	Ex

1134. S.-C. Park, K.-W. Maeng, T. Pradeep, H. J. Kang
Reactive ion scattering from pure and mixed HCl, NH_3 and D_2O surfaces.
Nucl. Instrum. Methods Phys. Res. B **182**, 193 (2001)

Cs^+ + D_2O	Chemical Reactions	30.00 eV	Ex
Cs^+ + NH_3	Chemical Reactions	30.00 eV	Ex
Cs^+ + HCl	Chemical Reactions	30.00 eV	Ex
Cs^+ + D_2O	Reflection	30.00 eV	Ex
Cs^+ + NH_3	Reflection	30.00 eV	Ex
Cs^+ + HCl	Reflection	30.00 eV	Ex
Cs^+ + D_2O	Sputtering	30.00 eV	Ex
Cs^+ + NH_3	Sputtering	30.00 eV	Ex
Cs^+ + HCl	Sputtering	30.00 eV	Ex

1135. R.J.W.E. Lahaye, H. Kang
Low energy scattering of Cs^+ from Pt(111): A model study on angular and energy distributions.
Nucl. Instrum. Methods Phys. Res. B **182**, 207 (2001)

Cs^+ + Pt	Reflection	5.00-100.00 eV	Th

1136. R. Pfandzelter, T. Hecht, H. Winter
Angular distributions of fast noble gas atoms and ions after grazing scattering from a Cu(110) surface.
Nucl. Instrum. Methods Phys. Res. B **182**, 213 (2001)

He^+ + Cu	Reflection	3.00 keV	E/T
Ne^+ + Cu	Reflection	3.00 keV	E/T
Ar^+ + Cu	Reflection	3.00 keV	E/T
Kr^+ + Cu	Reflection	3.00 keV	E/T
Xe^+ + Cu	Reflection	3.00 keV	E/T

1137. J. Luthin, H. Plank, J. Roth, Ch. Linsmeier
Ion beam-induced carbide formation at the titanium-carbon interface.
Nucl. Instrum. Methods Phys. Res. B **182**, 218 (2001)

He^+ + C	Chemical Reactions	0.50-5.00 keV	Ex
He^+ + Ti	Chemical Reactions	0.50-5.00 keV	Ex
Ar^+ + C	Chemical Reactions	0.50-5.00 keV	Ex
Ar^+ + Ti	Chemical Reactions	0.50-5.00 keV	Ex

1138. A. Mertens, K. Maass, S. Lederer, H. Winter, H. Eder, J. Stoeckl, HP. Winter, F. Aumayr, J. Viefhaus, U. Becker
Studies on electron emission during grazing impact of keV-hydrogen atoms on a LiF(001) surface via translational spectroscopy.
Nucl. Instrum. Methods Phys. Res. B **182**, 23 (2001)

H + LiF	Second. Elect. Emission	1.00-20.00 keV	Ex

1139. L. Wirtz, C. Lemell, C. O. Reinhold, L. Haegg, J. Burgdoerfer
Vertical incidence of slow Ne^{10+} ions on an LiF surface: Suppression of the trampoline effect.
Nucl. Instrum. Methods Phys. Res. B **182**, 36 (2001)

Ne^{10+} + LiF	Neutraliz., Ioniz., Dissoc.	1.00 a.u.	Th

1140. L. Guillemot, E. M. Staicu-Casagrande, S. Lacombe, V. A. Esaulov, L. Pasquali, S. Nannarone, M. Canepa, L. Vergara, O. Grizzi
Positive ion neuralisation on chlorine covered silver surfaces.
Nucl. Instrum. Methods Phys. Res. B **182**, 41 (2001)

He^+ + Cl	Reflection	1.00-4.00 keV	Ex
He^+ + Ag	Reflection	1.00-4.00 keV	Ex
H^+ + Cl	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex
H^+ + Ag	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex
Ne^+ + Cl	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex
Ne^+ + Ag	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex
Ar^+ + Cl	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex
Ar^+ + Ag	Neutraliz., Ioniz., Dissoc.	1.00-4.00 keV	Ex

1141. R. A. Baragiola, C. A. Dukes, P. Riccardi
Plasmon excitation in ion-solid interactions.
Nucl. Instrum. Methods Phys. Res. B **182**, 73 (2001)

e + Be	Second. Elect. Emission	0.05-4.50 keV	Ex
e + Mg	Second. Elect. Emission	0.05-4.50 keV	Ex
e + Al	Second. Elect. Emission	0.05-4.50 keV	Ex
He^+ + Be	Second. Elect. Emission	0.05-4.50 keV	Ex
He^+ + Mg	Second. Elect. Emission	0.05-4.50 keV	Ex
He^+ + Al	Second. Elect. Emission	0.05-4.50 keV	Ex
Ne^+ + Be	Second. Elect. Emission	0.05-4.50 keV	Ex
Ne^+ + Mg	Second. Elect. Emission	0.05-4.50 keV	Ex
Ne^+ + Al	Second. Elect. Emission	0.05-4.50 keV	Ex
Ar^+ + Be	Second. Elect. Emission	0.05-4.50 keV	Ex
Ar^+ + Mg	Second. Elect. Emission	0.05-4.50 keV	Ex
Ar^+ + Al	Second. Elect. Emission	0.05-4.50 keV	Ex

1142. P. Riccardi, P. Barone, M. Camarca, N. Mandarino, F. Xu, A. Oliva, R. A. Baragiola
Bulk plasmon excitation in the interaction of Ne^+ and Ar^+ ions with polycrystalline Al surfaces.
Nucl. Instrum. Methods Phys. Res. B **182**, 84 (2001)

Ne^+ + Al	Second. Elect. Emission	5.00 keV	Ex
Ar^+ + Al	Second. Elect. Emission	5.00 keV	Ex

1143. N. Stolterfoht, J.-H. Bremer, V. Hoffmann, M. Roesler, R. Baragiola, I. De Gortari
Mechanisms for plasmon production by hollow atoms above and below an Al surface.
Nucl. Instrum. Methods Phys. Res. B **182**, 89 (2001)

Ne^{4+} + Al	Second. Elect. Emission	1.00-4.00 keV	Ex

1144. A. Tolstogouzov, S. Daolio, C. Pagura
Hyperthermal and low-energy Ne^+ scattering from Au and Pt surfaces.
Nucl. Instrum. Methods Phys. Res. B **183**, 116 (2001)

Ne^+ + Pt	Reflection	40.00-140.00 eV	Ex
Ne^+ + Au	Reflection	40.00-140.00 eV	Ex

1145. M. Yasuda, K. Tamura, H. Kawata, K. Murata, M. Kotera
A Monte Carlo study of spin-polarized electron backscattering from gold thin films.
Nucl. Instrum. Methods Phys. Res. B **183**, 196 (2001)

e + Au	Reflection	20.00-100.00 keV	Ex

1146. M. Mayer, M. Schneider
Scattering cross-sections for ^{6}Li and ^{7}Li ions from carbon below 5.5 MeV.
Nucl. Instrum. Methods Phys. Res. B **183**, 221 (2001)

Li^+ + C	Reflection	1.70-5.50 MeV	Ex

1147. Z. W. Deng, R. Souda
A SIMS study on positive and negative ions sputtered from graphite by mass-separated low energy Ne^+, $N_2{}^+$ and N^+ ions.
Nucl. Instrum. Methods Phys. Res. B **183**, 260 (2001)

$\mathbf{N^+ + C}$	Sputtering	100.00-800.00 eV	Ex
$\mathbf{N_2{}^+ + C}$	Sputtering	100.00-800.00 eV	Ex
$\mathbf{Ne^+ + C}$	Sputtering	100.00-800.00 eV	Ex

1148. K. Khalal-Kouache, A. C. Chami, M. Boudjema, P. Benoit-Cattin, C. Benazeth, Y. Boudouma
Transport theory and Monte Carlo simulation of the scattering of low energy Li$^+$ ions from a polycrystalline nickel surface.
Nucl. Instrum. Methods Phys. Res. B **183**, 279 (2001)

$\mathbf{Li^+ + Ni}$	Reflection	4.00 keV	E/T

1149. T. Telbizova, T. Chevolleau, W. Moeller
Nitrogen incorporation and loss during ion nitriding of Al.
Nucl. Instrum. Methods Phys. Res. B **184**, 347 (2001)

$\mathbf{N^+ + Al}$	Chemical Reactions	1.60 keV	Ex

1150. M. Richard-Viard, S. Abidi, C. Benazeth, P. Benoit-Cattin, P. Cafarelli
Azimuthal dependence of charge exchange in grazing scattering of 4 keV ions on a NaCl(100) surface: Role of the trajectory.
Nucl. Instrum. Methods Phys. Res. B **184**, 490 (2001)

$\mathbf{D^+ + NaCl}$	Reflection	2.00-10.00 keV	Th
$\mathbf{O^+ + NaCl}$	Reflection	2.00-10.00 keV	Th
$\mathbf{F^+ + NaCl}$	Reflection	2.00-10.00 keV	Th
$\mathbf{Na^+ + NaCl}$	Reflection	2.00-10.00 keV	Th
$\mathbf{Fe^+ + NaCl}$	Reflection	2.00-10.00 keV	Th

1151. V. I. Shulga
Density effects in sputtering at normal and oblique ion bombardment.
Nucl. Instrum. Methods Phys. Res. B **187**, 178 (2002)

$\mathbf{Ar^+ + Ge}$	Sputtering	0.05-100.00 keV	Th
$\mathbf{Ar^+}$ + **perturbation**	Sputtering	0.05-100.00 keV	Th

1152. D. S. Karpuzov, N. S. McIntyre
High-energy particle emission from galena and pyrite bombarded by Cs and O ions.
Nucl. Instrum. Methods Phys. Res. B **187**, 311 (2002)

$\mathbf{O_2{}^+ + FeS_2}$	Sputtering	6.50-10.00 keV	E/T
$\mathbf{O_2{}^+ + PbS}$	Sputtering	6.50-10.00 keV	E/T
$\mathbf{Cs^+ + FeS_2}$	Sputtering	6.50-10.00 keV	E/T
$\mathbf{Cs^+ + PbS}$	Sputtering	6.50-10.00 keV	E/T

1153. J. Lorincik, Z. Sroubek
Doubly charged ion emission in sputtering of monocrystalline fluorides.
Nucl. Instrum. Methods Phys. Res. B **187**, 447 (2002)

$\mathbf{Ar^+ + CaCeF_2}$	Sputtering	0.50-5.00 keV	Ex
$\mathbf{Ar^+ + CaF_2}$	Sputtering	0.50-5.00 keV	Ex

1154. J. P. Holgado, A. Barranco, F. Yubero, J. P. Espinos, A. R. Gonzalez-Elipe
Ion beam effects in SiO$_x$ (x¡2) subjected to low energy Ar$^+$, He$^+$ and N$_2{}^+$ bombardment.
Nucl. Instrum. Methods Phys. Res. B **187**, 465 (2002)

$\mathbf{He^+ + SiO}$	Chemical Reactions	0.50-5.00 keV	Ex
$\mathbf{He^+ + SiO_2}$	Chemical Reactions	0.50-5.00 keV	Ex
$\mathbf{N_2{}^+ + SiO}$	Chemical Reactions	0.50-5.00 keV	Ex
$\mathbf{N_2{}^+ + SiO_2}$	Chemical Reactions	0.50-5.00 keV	Ex
$\mathbf{Ar^+ + SiO}$	Chemical Reactions	0.50-5.00 keV	Ex
$\mathbf{Ar^+ + SiO_2}$	Chemical Reactions	0.50-5.00 keV	Ex

1155. C. Klein, R. Groetzschel, M. Maeder, W. Moeller
Charge state distributions of heavy ions after scattering at surface atoms.
Nucl. Instrum. Methods Phys. Res. B **190**, 122 (2002)

Li^+ + Au	Reflection	1.00-6.00 MeV	Ex
Fe^+ + Au	Reflection	1.00-6.00 MeV	Ex
Cs^+ + Au	Reflection	1.00-6.00 MeV	Ex

1156. R. J. Brooks, D. E. Hole, P. D. Townsend
Ion beam induced luminescence of materials.
Nucl. Instrum. Methods Phys. Res. B **190**, 136 (2002)

H^+ + Al_2O_3	Surface Interactions	0.40-3.00 MeV	Ex
H^+ + SiO_2	Surface Interactions	0.40-3.00 MeV	Ex
H^+ + Nb_2O_5	Surface Interactions	0.40-3.00 MeV	Ex
H^+ + LiO_2	Surface Interactions	0.40-3.00 MeV	Ex
$H_2{}^+$ + Al_2O_3	Surface Interactions	0.40-3.00 MeV	Ex
$H_2{}^+$ + SiO_2	Surface Interactions	0.40-3.00 MeV	Ex
$H_2{}^+$ + Nb_2O_5	Surface Interactions	0.40-3.00 MeV	Ex
$H_2{}^+$ + LiO_2	Surface Interactions	0.40-3.00 MeV	Ex

1157. C. S. Lee, Z. M. Lin, Z. M. Yen, C. H. Lin
Light emission from oxygen covered Al and Cu surfaces.
Nucl. Instrum. Methods Phys. Res. B **190**, 141 (2002)

Ne^+ + O + Al	Desorption	5.00-20.00 keV	Ex
Ne^+ + O + Cu	Desorption	5.00-20.00 keV	Ex
Ar^+ + O + Al	Desorption	5.00-20.00 keV	Ex
Ar^+ + O + Cu	Desorption	5.00-20.00 keV	Ex
Ne^+ + Al	Surface Interactions	5.00-20.00 keV	Ex
Ne^+ + Cu	Surface Interactions	5.00-20.00 keV	Ex
Ar^+ + Al	Surface Interactions	5.00-20.00 keV	Ex
Ar^+ + Cu	Surface Interactions	5.00-20.00 keV	Ex
Ne^+ + Al	Sputtering	5.00-20.00 keV	Ex
Ne^+ + Cu	Sputtering	5.00-20.00 keV	Ex
Ar^+ + Al	Sputtering	5.00-20.00 keV	Ex
Ar^+ + Cu	Sputtering	5.00-20.00 keV	Ex
Ne^+ + Al	Surface Interactions	5.00-20.00 keV	Ex
Ne^+ + Cu	Surface Interactions	5.00-20.00 keV	Ex
Ar^+ + Al	Surface Interactions	5.00-20.00 keV	Ex
Ar^+ + Cu	Surface Interactions	5.00-20.00 keV	Ex
Ne^+ + Al	Sputtering	5.00-20.00 keV	Ex
Ne^+ + Cu	Sputtering	5.00-20.00 keV	Ex
Ar^+ + Al	Sputtering	5.00-20.00 keV	Ex
Ar^+ + Cu	Sputtering	5.00-20.00 keV	Ex

1158. V. Bandourko, N. Umeda, N. Kishimoto
Real-time evolution of ion-surface interactions of $MgAl_2O_3$ and $LiNbO_3$ detected by ion-induced photon spectroscopy.
Nucl. Instrum. Methods Phys. Res. B **190**, 146 (2002)

Cu^+ + $MgAl_2O_3$	Desorption	60.00 keV	Ex
Cu^+ + MgO	Desorption	60.00 keV	Ex
Cu^+ + $LiNbO_3$	Desorption	60.00 keV	Ex

1159. D. I. Hoxley, D. N. Jamieson, S. Prawer, V. Richter, R. Kalish
High ion-beam induced electron yields from polycrystalline diamond.
Nucl. Instrum. Methods Phys. Res. B **190**, 151 (2002)

H^+ + C	Second. Elect. Emission	0.04-2.00 MeV	Ex
He^+ + C	Second. Elect. Emission	0.04-2.00 MeV	Ex
Ar^+ + C	Second. Elect. Emission	0.04-2.00 MeV	Ex

1160. H. Kudo, K. Haruyama, T. Kinoshita, S. Seki, K. Narumi, H. Naramoto
Carbon KVV Auger electron emission from highly oriented pyrolytic graphite bombarded by fast protons.
Nucl. Instrum. Methods Phys. Res. B **190**, 160 (2002)

H^+ + C	Second. Elect. Emission	1.00-2.00 MeV	Ex

1161. M. Sasaki, P. J. Scanlon, S. Ermolov, H. H. Brongersma
Neutralization of He ions scattered from Ca surface.
Nucl. Instrum. Methods Phys. Res. B **190**, 27 (2002)

He^+ + Al	Reflection	1.00-3.00 keV	Ex
He^+ + Ca	Reflection	1.00-3.00 keV	Ex
He^+ + Cu	Reflection	1.00-3.00 keV	Ex

1162. H. Khemliche, A. G. Borisov, A. Momeni, P. Roncin
Exciton and trion formation during neutralization of Ne^+ at a LiF(0 0 1) surface.
Nucl. Instrum. Methods Phys. Res. B **191**, 221 (2002)

Ne^+ + LiF	Second. Elect. Emission	2.00 keV	Ex
Ne^+ + LiF	Neutraliz., Ioniz., Dissoc.	2.00 keV	Ex
Ne^+ + LiF	Reflection	2.00 keV	Ex

1163. Q. Lu, G. Zhao, Z. Zhou
Theoretical study on the role of bound electron in backward secondary electron emission induced by He^+ incident on solid surfaces.
Nucl. Instrum. Methods Phys. Res. B **192**, 267 (2002)

He^+ + C	Second. Elect. Emission	0.50-3.50 keV	Th
He^+ + Al	Second. Elect. Emission	0.50-3.50 keV	Th
He^+ + Cu	Second. Elect. Emission	0.50-3.50 keV	Th

1164. M. Wieser, P. Wurz, K. Bruening, W. Heiland
Scattering of atoms and molecules off a magnesium oxide surface.
Nucl. Instrum. Methods Phys. Res. B **192**, 370 (2002)

H^+ + MgO	Reflection	0.09-3.00 keV	Ex
$H_2{}^+$ + MgO	Reflection	0.09-3.00 keV	Ex
C + MgO	Reflection	0.09-3.00 keV	Ex
C^+ + MgO	Reflection	0.09-3.00 keV	Ex
O + MgO	Reflection	0.09-3.00 keV	Ex
O^+ + MgO	Reflection	0.09-3.00 keV	Ex
O_2 + MgO	Reflection	0.09-3.00 keV	Ex
O_2 + MgO	Reflection	0.09-3.00 keV	Ex
$O_2{}^+$ + MgO	Reflection	0.09-3.00 keV	Ex

1165. J. Cazaux
A new analytical approach for the transport and the emission yield of secondary electrons from insulators.
Nucl. Instrum. Methods Phys. Res. B **192**, 381 (2002)

e + C	Second. Elect. Emission	4.00 keV	Th
e + C	Second. Elect. Emission	4.00 keV	Th

1166. E. Parilis
Sweeping-out-electrons effect under impact of large molecules and clusters.
Nucl. Instrum. Methods Phys. Res. B **193**, 240 (2002)

H^+ + C	Second. Elect. Emission	40.00-240.00 keV	Th
$H_2{}^+$ + C	Second. Elect. Emission	40.00-240.00 keV	Th
$H_3{}^+$ + C	Second. Elect. Emission	40.00-240.00 keV	Th
HeH^+ + C	Second. Elect. Emission	40.00-240.00 keV	Th

1167. N.-T. H. Kim-Ngan, W. Soszka
Low energy ion scattering from Fe_3O_4 thin film surfaces.
Nucl. Instrum. Methods Phys. Res. B **193**, 391 (2002)

$\mathbf{He^+ + Fe_3O_4}$	Reflection	5.00-6.50 keV	Ex

1168. R. Zemih, M. Boudjema, C. Benazeth, Y. Boudouma, A. C. Chami
Image potential effect on the specular reflection coefficient of alkali ions scattered from a nickel surface at low energy.
Nucl. Instrum. Methods Phys. Res. B **193**, 396 (2002)

$\mathbf{He^+ + Ni}$	Reflection	4.00 keV	Ex
$\mathbf{Li^+ + Ni}$	Reflection	4.00 keV	Ex
$\mathbf{Ne^+ + Ni}$	Reflection	4.00 keV	Ex
$\mathbf{Na^+ + Ni}$	Reflection	4.00 keV	Ex

1169. Z. Zhou, C. Oubre, S. B. Hill, P. Nordlander, F. B. Dunning
Ionization of xenon Rydberg atoms at surfaces.
Nucl. Instrum. Methods Phys. Res. B **193**, 403 (2002)

$\mathbf{Xe^{17+} + Au}$	Neutraliz., Ioniz., Dissoc.		Ex
$\mathbf{Xe^{20+} + Au}$	Neutraliz., Ioniz., Dissoc.		Ex

1170. N. Pauly, A. Dubus, M. Roesler
Electron capture and loss processes for protons in aluminium: Comparison between conduction band electron-hole assisted and plasmon assisted Auger processes.
Nucl. Instrum. Methods Phys. Res. B **193**, 414 (2002)

$\mathbf{H^+ + Al}$	Second. Elect. Emission	25.00-50.00 keV	Th

1171. N. Kishi, K. Morita
Differential scattering cross-sections, inelastic energy losses and ion fractions in backscattering of keV He^+ ions from monolayer metal adsorbates on solid surfaces measured by means of CAICISS.
Nucl. Instrum. Methods Phys. Res. B **193**, 419 (2002)

He + C	Reflection	0.50-3.00 keV	Ex
He + Si	Reflection	0.50-3.00 keV	Ex
He + Ag	Reflection	0.50-3.00 keV	Ex
He + Sn	Reflection	0.50-3.00 keV	Ex
He + Sb	Reflection	0.50-3.00 keV	Ex
He + Pb	Reflection	0.50-3.00 keV	Ex
He + Bi	Reflection	0.50-3.00 keV	Ex
$\mathbf{He^+ + C}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{He^+ + Si}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{He^+ + Ag}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{He^+ + Sn}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{He^+ + Sb}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{He^+ + Pb}$	Reflection	0.50-3.00 keV	Ex
$\mathbf{He^+ + Bi}$	Reflection	0.50-3.00 keV	Ex

1172. R. Souda
Charge transfer processes during ion scattering and stimulated desorption of secondary ions from gas-condensed dielectric surfaces.
Nucl. Instrum. Methods Phys. Res. B **193**, 433 (2002)

$\mathbf{e + H_2O + Ar}$	Desorption	100.00-500.00 eV	Ex
$\mathbf{H^+ + H_2O}$	Reflection	100.00-500.00 eV	Ex
$\mathbf{H^+ + CO}$	Reflection	100.00-500.00 eV	Ex
$\mathbf{H^+ + Ar}$	Reflection	100.00-500.00 eV	Ex
$\mathbf{H^+ + Kr}$	Reflection	100.00-500.00 eV	Ex
$\mathbf{H^+ + Xe}$	Reflection	100.00-500.00 eV	Ex

1173. J. E. Gayone, E. A. Sanchez, O. Grizzi, L. I. Vergara, Jr. Passeggi, M.C.G., R. Vidal, J. Ferron
Recoil-ion fractions in collisions of keV Ar^+ and Kr^+ ions with clean and adsorbate covered GaAs(110) surfaces.
Nucl. Instrum. Methods Phys. Res. B **193**, 440 (2002)

$\mathbf{Ar^+ + GaAs}$	Sputtering	5.00 keV	Ex
$\mathbf{Kr^+ + GaAs}$	Sputtering	5.00 keV	Ex

1174. G. G. Ross, M. Gauthier
Experimental charge fractions of hydrogen scattered from insulators at 50-340 keV.
Nucl. Instrum. Methods Phys. Res. B **193**, 449 (2002)

$\mathbf{H^+ + Si}$	Reflection	50.00-340.00 keV	Ex

1175. J. Dai, J. R. Manson
Classical theory for scattering of rigid molecules from surfaces.
Nucl. Instrum. Methods Phys. Res. B **193**, 497 (2002)

$\mathbf{C_2H_2 + LiF}$	Reflection	242.00 meV	Th
$\mathbf{C_2H_2 + LiF}$	Reflection	242.00 meV	Th

1176. F. W. Meyer, V. A. Morozov, J. Mrogenda, C. R. Vane, S. Datz
Large-angle back-scattering of Ar^{q+} (q=1-13) during quasi-binary collisions with CsI(100) in the energy range 10 eV/q-2.8 keV/q: Energy loss analysis and scattered charge state distributions.
Nucl. Instrum. Methods Phys. Res. B **193**, 508 (2002)

$\mathbf{Ar^+ + CsI}$	Reflection	3.00-30.00 keV	Ex
$\mathbf{Ar^{2+} + CsI}$	Reflection	3.00-30.00 keV	Ex
$\mathbf{Ar^{3+} + CsI}$	Reflection	3.00-30.00 keV	Ex
$\mathbf{Ar^{4+} + CsI}$	Reflection	3.00-30.00 keV	Ex
$\mathbf{Ar^{5+} + CsI}$	Reflection	3.00-30.00 keV	Ex
$\mathbf{Ar^{6+} + CsI}$	Reflection	3.00-30.00 keV	Ex
$\mathbf{Ar^{7+} + CsI}$	Reflection	3.00-30.00 keV	Ex
$\mathbf{Ar^{8+} + CsI}$	Reflection	3.00-30.00 keV	Ex
$\mathbf{Ar^{9+} + CsI}$	Reflection	3.00-30.00 keV	Ex
$\mathbf{Ar^{10+} + CsI}$	Reflection	3.00-30.00 keV	Ex
$\mathbf{Ar^{11+} + CsI}$	Reflection	3.00-30.00 keV	Ex

1177. N. Stolterfoht, J. H. Bremer, V. Hoffmann, M. Roesler, R. A. Baragiola
Auger transitions and plasmon decay produced by hollow atoms at an Al(111) surface.
Nucl. Instrum. Methods Phys. Res. B **193**, 523 (2002)

$\mathbf{Ne^{4+} + Al}$	Second. Elect. Emission	1.00-4.00 keV	Ex

1178. F. W. Meyer, V. A. Morozov
Comparative study of surface-lattice-site resolved neutralization of slow multicharged ions during large-angle quasi-binary collisions with Au(110): Simulation and experiment.
Nucl. Instrum. Methods Phys. Res. B **193**, 530 (2002)

$\mathbf{Ar^{9+} + Au}$	Reflection	20.00 keV	Ex

1179. Z. M. Luo, C. Gou, Q. Hou
Theoretical calculations of the self-reflection coefficients for some species of ions.
Nucl. Instrum. Methods Phys. Res. B **193**, 576 (2002)

$\mathbf{Li^+ + Li}$	Reflection	0.00-1.00 keV	Th
$\mathbf{Be^+ + Be}$	Reflection	0.00-1.00 keV	Th
$\mathbf{B^+ + B}$	Reflection	0.00-1.00 keV	Th
$\mathbf{C^+ + C}$	Reflection	0.00-1.00 keV	Th
$\mathbf{Si^+ + Si}$	Reflection	0.00-1.00 keV	Th
$\mathbf{Ni^+ + Ni}$	Reflection	0.00-1.00 keV	Th
$\mathbf{Mo^+ + Mo}$	Reflection	0.00-1.00 keV	Th
$\mathbf{W^+ + W}$	Reflection	0.00-1.00 keV	Th

1180. M. Alducin, V. M. Silkin, J. I. Juaristi, E. V. Chulkov
Effect of surface band structure in the energy loss of ions at surfaces.
Nucl. Instrum. Methods Phys. Res. B **193**, 585 (2002)

$\mathbf{H^+ + Cu}$	Reflection	8.00-25.00 keV	Th

1181. S. Cernusca, A. Diem, HP. Winter, F. Aumayr, J. Loerincik, Z. Sroubek
Kinetic electron emission from highly oriented pyrolytic graphite surfaces induced by singly charged ions.
Nucl. Instrum. Methods Phys. Res. B **193**, 616 (2002)

$\mathbf{H^+ + C}$	Second. Elect. Emission	0.10-5.00 keV	Ex
$\mathbf{H_2{}^+ + C}$	Second. Elect. Emission	0.10-5.00 keV	Ex
$\mathbf{H_3{}^+ + C}$	Second. Elect. Emission	0.10-5.00 keV	Ex
$\mathbf{C^+ + C}$	Second. Elect. Emission	0.10-5.00 keV	Ex
$\mathbf{N^+ + C}$	Second. Elect. Emission	0.10-5.00 keV	Ex
$\mathbf{O^+ + C}$	Second. Elect. Emission	0.10-5.00 keV	Ex

1182. A. Dubus, N. Pauly, M. Roesler, H. Rothard, M. Beuve, M. Caron, B. Gervais, A. Clouvas, C. Potiriadis
Experimental and theoretical study of the ratio between the electron emission yield and the electronic stopping power for protons incident on thin carbon foils.
Nucl. Instrum. Methods Phys. Res. B **193**, 621 (2002)

$\mathbf{H^+ + C}$	Second. Elect. Emission	0.20-9.20 MeV	E/T

1183. A. Itoh, T. Majima, F. Obata, Y. Hamamoto, A. Yogo
Secondary electron emission from Au by medium energy atomic and molecular ions.
Nucl. Instrum. Methods Phys. Res. B **193**, 626 (2002)

$\mathbf{H^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex
$\mathbf{H_2{}^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex
$\mathbf{H_3{}^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex
$\mathbf{He^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex
$\mathbf{HeH^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex
$\mathbf{C^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex
$\mathbf{N^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex
$\mathbf{O^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex
$\mathbf{O_2{}^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex
$\mathbf{Co^+ + Au}$	Second. Elect. Emission	0.20-3.00 MeV	Ex

1184. M. Steinbatz, A. Schinner, E. Steinbauer, O. Benka
Electron emission yield from thin Al and insulating layers induced by 3 MeV $\mathbf{He^{2+}}$ and 3 keV electron impact.
Nucl. Instrum. Methods Phys. Res. B **193**, 638 (2002)

$\mathbf{e + Al}$	Second. Elect. Emission	3.00 MeV; 3 keV	Ex
$\mathbf{e + Al_2O_3}$	Second. Elect. Emission	3.00 MeV; 3 keV	Ex
$\mathbf{e + Cu}$	Second. Elect. Emission	3.00 MeV; 3 keV	Ex
$\mathbf{e + CeO_2}$	Second. Elect. Emission	3.00 MeV; 3 keV	Ex
$\mathbf{e + CaF_2}$	Second. Elect. Emission	3.00 MeV; 3 keV	Ex
$\mathbf{He^{2+} + Al}$	Second. Elect. Emission	3.00 MeV; 3 keV	Ex
$\mathbf{He^{2+} + Al_2O_3}$	Second. Elect. Emission	3.00 MeV; 3 keV	Ex
$\mathbf{He^{2+} + Cu}$	Second. Elect. Emission	3.00 MeV; 3 keV	Ex
$\mathbf{He^{2+} + CeO_2}$	Second. Elect. Emission	3.00 MeV; 3 keV	Ex
$\mathbf{He^{2+} + CaF_2}$	Second. Elect. Emission	3.00 MeV; 3 keV	Ex

1185. J. Stoeckl, HP. Winter, F. Aumayr, S. Lederer, A. Mertens, K. Maass, H. Winter
Formation of surface excitons and electron emission during grazing impact of hydrogen atoms on LiF(001).
Nucl. Instrum. Methods Phys. Res. B **193**, 645 (2002)

$\mathbf{H + LiF}$	Second. Elect. Emission	0.30-1.50 keV	Ex

1186. T. Zapfel, S. Hagmann, H. Rothard, J. Ullrich, G. Kraft, H. Schmidt-Boecking, K. O. Groeneveld
Experimental study of electron ejection by heavy ion irradiation of solids: Observation of forward and backward emitted electron jets.
Nucl. Instrum. Methods Phys. Res. B **193**, 651 (2002)

$\mathbf{F^{5+} + C}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{5+} + Al}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{5+} + Au}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{6+} + C}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{6+} + Al}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{6+} + Au}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{7+} + C}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{7+} + Al}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{7+} + Au}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{8+} + C}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{8+} + Al}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{8+} + Au}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{9+} + C}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{9+} + Al}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex
$\mathbf{F^{9+} + Au}$	Second. Elect. Emission	1.50-2.00 MeV/amu	Ex

1187. J. C. Lancaster, F. J. Kontur, P. Nordlander, G. K. Walters, F. B. Dunning
The dynamics of He$^+$ ion neutralization at metal surfaces: spin dependent studies.
Nucl. Instrum. Methods Phys. Res. B **193**, 656 (2002)

$\mathbf{He^{+} + Al}$	Second. Elect. Emission	16.00-500.00 eV	Ex
$\mathbf{He^{+} + Cu}$	Second. Elect. Emission	16.00-500.00 eV	Ex
$\mathbf{He^{+} + Au}$	Second. Elect. Emission	16.00-500.00 eV	Ex
$\mathbf{He^{+} + Al}$	Neutraliz., Ioniz., Dissoc.	16.00-500.00 eV	Ex
$\mathbf{He^{+} + Cu}$	Neutraliz., Ioniz., Dissoc.	16.00-500.00 eV	Ex
$\mathbf{He^{+} + Au}$	Neutraliz., Ioniz., Dissoc.	16.00-500.00 eV	Ex

1188. K. Kimura, S. Usui, K. Maeda, K. Nakajima
Ion scattering on crystalline surfaces: Effects of surface track potential on secondary electron emission.
Nucl. Instrum. Methods Phys. Res. B **193**, 661 (2002)

$\mathbf{H^{+} + SnTe}$	Reflection	0.50 MeV/amu	Ex
$\mathbf{H^{+} + KCl}$	Reflection	0.50 MeV/amu	Ex
$\mathbf{He^{2+} + SnTe}$	Reflection	0.50 MeV/amu	Ex
$\mathbf{He^{2+} + KCl}$	Reflection	0.50 MeV/amu	Ex
$\mathbf{Li^{2+} + SnTe}$	Reflection	0.50 MeV/amu	Ex
$\mathbf{Li^{2+} + KCl}$	Reflection	0.50 MeV/amu	Ex
$\mathbf{H^{+} + SnTe}$	Second. Elect. Emission	0.50 MeV/amu	Ex
$\mathbf{H^{+} + KCl}$	Second. Elect. Emission	0.50 MeV/amu	Ex
$\mathbf{He^{2+} + SnTe}$	Second. Elect. Emission	0.50 MeV/amu	Ex
$\mathbf{He^{2+} + KCl}$	Second. Elect. Emission	0.50 MeV/amu	Ex
$\mathbf{Li^{2+} + SnTe}$	Second. Elect. Emission	0.50 MeV/amu	Ex
$\mathbf{Li^{2+} + KCl}$	Second. Elect. Emission	0.50 MeV/amu	Ex

1189. J. A. Yarmoff, H. T. Than, Z. Sroubek
The role of adsorbates in the Na$^+$-induced kinetic emission of electrons from Ru(0001).
Nucl. Instrum. Methods Phys. Res. B **193**, 667 (2002)

$\mathbf{Na^{+} + Na + Ru}$	Second. Elect. Emission	0.12-1.62 keV	Ex
$\mathbf{Na^{+} + Cl + Ru}$	Second. Elect. Emission	0.12-1.62 keV	Ex
$\mathbf{Na^{+} + Ru}$	Second. Elect. Emission	0.12-1.62 keV	Ex
$\mathbf{Na^{+} + I + Ru}$	Second. Elect. Emission	0.12-1.62 keV	Ex

1190. A. A. Dzhurakhalov, V. Kh. Ferleger, S. E. Rahmatov, N. A. Teshabaeva
Polarization of radiation of particles scattered under grazing angles from metal surfaces with submonolayer oxygen coverage.
Nucl. Instrum. Methods Phys. Res. B **193**, 695 (2002)

$\mathbf{H^+ + Ni}$	Reflection	25.00-80.00 keV	Th
$\mathbf{Ar^+ + Ni}$	Reflection	25.00-80.00 keV	Th

1191. I. S. Sharodi, Y. A. Bandurin, S. S. Pop
Ion-photon emission during ion bombardment of beryllium surface.
Nucl. Instrum. Methods Phys. Res. B **193**, 699 (2002)

$\mathbf{H^+ + Be}$	Surface Interactions	5.00-20.00 keV	Ex
$\mathbf{{H_2}^+ + Be}$	Surface Interactions	5.00-20.00 keV	Ex
$\mathbf{{H_3}^+ + Be}$	Surface Interactions	5.00-20.00 keV	Ex
$\mathbf{He^+ + Be}$	Surface Interactions	5.00-20.00 keV	Ex
$\mathbf{Ne^+ + Be}$	Surface Interactions	5.00-20.00 keV	Ex
$\mathbf{Kr^+ + Be}$	Surface Interactions	5.00-20.00 keV	Ex
$\mathbf{H^+ + Be}$	Reflection	5.00-20.00 keV	Ex
$\mathbf{{H_2}^+ + Be}$	Reflection	5.00-20.00 keV	Ex
$\mathbf{{H_3}^+ + Be}$	Reflection	5.00-20.00 keV	Ex
$\mathbf{He^+ + Be}$	Reflection	5.00-20.00 keV	Ex
$\mathbf{Ne^+ + Be}$	Reflection	5.00-20.00 keV	Ex
$\mathbf{Kr^+ + Be}$	Reflection	5.00-20.00 keV	Ex

1192. R. Pfandzelter, H. Winter
Emission of spin-polarized electrons during grazing scattering of multiply charged N ions from a Fe(100) surface.
Nucl. Instrum. Methods Phys. Res. B **193**, 713 (2002)

$\mathbf{N^+ + Fe}$	Second. Elect. Emission	150.00 keV	Ex
$\mathbf{N^{2+} + Fe}$	Second. Elect. Emission	150.00 keV	Ex
$\mathbf{N^{4+} + Fe}$	Second. Elect. Emission	150.00 keV	Ex
$\mathbf{N^{5+} + Fe}$	Second. Elect. Emission	150.00 keV	Ex
$\mathbf{N^{6+} + Fe}$	Second. Elect. Emission	150.00 keV	Ex

1193. N. G. van der Berg, B. Malherbe, R. Q. Odendaal, S. A. Goodman, K. Premachandra
Argon bombardment-induced topography and sputter yields on $\mathbf{Si_{0.84}Ge_{0.16}}$.
Nucl. Instrum. Methods Phys. Res. B **193**, 739 (2002)

$\mathbf{Ar^+ + Si}$	Sputtering	0.50-5.00 keV	Ex
$\mathbf{Ar^+ + Ge}$	Sputtering	0.50-5.00 keV	Ex

1194. S. Ninomiya, N. Imanishi, J. Xue, S. Gomi, M. Imai
Material-dependent emission mechanism of secondary atomic ions from solids under MeV-energy heavy ion bombardment.
Nucl. Instrum. Methods Phys. Res. B **193**, 745 (2002)

$\mathbf{Si^+ + Al}$	Sputtering	0.50-5.00 MeV	Ex
$\mathbf{Si^+ + Si}$	Sputtering	0.50-5.00 MeV	Ex
$\mathbf{Si^+ + GaAs}$	Sputtering	0.50-5.00 MeV	Ex
$\mathbf{Si^+ + GaP}$	Sputtering	0.50-5.00 MeV	Ex

1195. T. Sekioka, M. Terasawa, M. Sataka, S. Kitazawa, M. Niibe
Electronic excitation effects on secondary ion emission from a foil of conducting material bombarded by high energy heavy ions.
Nucl. Instrum. Methods Phys. Res. B **193**, 751 (2002)

$\mathbf{Au^+ + Cu}$	Sputtering	100.00-300.00 MeV	Ex
$\mathbf{Au^+ + Au}$	Sputtering	100.00-300.00 MeV	Ex

1196. T. Jalowy, R. Neugebauer, M. Hattass, J. Fiol, F. Afaneh, J.A.M. Pereira, V. Collado, E. F. da Silveira, H. Schmidt-Boecking, K. O. Groeneveld
Dynamics of secondary ion emission: Novel energy and angular spectrometry.
Nucl. Instrum. Methods Phys. Res. B **193**, 762 (2002)

Ar + H_2 + Al	Desorption	570.00 keV	Ex
Ar + H_2 + Al	Sputtering	570.00 keV	Ex

1197. M. Fama, D. A. Bahr, B. D. Teolis, A. Baragiola
Ion beam induced chemistry: the case of ozone synthesis and its influence on the sputtering of solid oxygen.
Nucl. Instrum. Methods Phys. Res. B **193**, 775 (2002)

H^+ + O_2	Chemical Reactions	100.00 keV	Ex
H^+ + O_2	Sputtering	100.00 keV	Ex

1198. R. Heinrich, A. Wucher
Self-sputtering of silver using polyatomic projectiles.
Nucl. Instrum. Methods Phys. Res. B **193**, 781 (2002)

Ag^+ + Ag	Sputtering	21.00 keV	Ex
$Ag_2{}^+$ + Ag	Sputtering	21.00 keV	Ex
$Ag_3{}^+$ + Ag	Sputtering	21.00 keV	Ex

1199. C. Staudt, A. Wucher, S. Neukermans, E. Janssens, F. Vanhoutte, E. Vandeweert, R. E. Silverans, P. Lievens
Internal excitation of sputtered neutral indium clusters.
Nucl. Instrum. Methods Phys. Res. B **193**, 787 (2002)

Xe^+ + In	Sputtering	15.00 keV	Ex

1200. E. E. Zhurkin, A. S. Kolesnikov
Molecular dynamics study of Al and Ni_3Al sputtering by Al clusters bombardment.
Nucl. Instrum. Methods Phys. Res. B **193**, 822 (2002)

$Al_2{}^+$ + Al	Sputtering	0.20-1.00 keV	Th
$Al_2{}^+$ + Ni_3Al	Sputtering	0.20-1.00 keV	Th

1201. N. Matsunami, M. Sataka, A. Iwase
Electronic sputtering of oxides by high energy heavy ion impact.
Nucl. Instrum. Methods Phys. Res. B **193**, 830 (2002)

Ni^+ + SiO_2	Sputtering	89.00 MeV	Ex

1202. M. A. Karolewski
Classical dynamics simulations of directional effects in sputtering from a bimetallic surface: c(2x2)-Pb/Cu(100).
Nucl. Instrum. Methods Phys. Res. B **194**, 26 (2002)

Ar^+ + Cu	Sputtering	3.00 keV	Th
Ar^+ + Pb	Sputtering	3.00 keV	Th

1203. H. S. Cruz-Galindo, K. Michaelian, A. Martinez-Davalos, E. Belmont-Moreno, S. Galindo
Luminescence model with quantum impact parameter for low energy ions.
Nucl. Instrum. Methods Phys. Res. B **194**, 319 (2002)

H^+ + CsI	Surface Interactions	20.00 MeV	Th
He^+ + CsI	Surface Interactions	20.00 MeV	Th
C^+ + CsI	Surface Interactions	20.00 MeV	Th

1204. D. R. Gillen, W. G. Graham, A. Goelich
Sputtering of copper atoms by keV atomic and molecular ions: A comparison of experiment with analytical and computer based models.
Nucl. Instrum. Methods Phys. Res. B **194**, 409 (2002)

$\mathbf{CF_2^+ + Cu}$	Sputtering	1.80-3.60 keV	Ex
$\mathbf{N^+ + Cu}$	Sputtering	1.80-3.60 keV	Ex
$\mathbf{Ar^+ + Cu}$	Sputtering	1.80-3.60 keV	Ex

1205. M. H. Shapiro, T. A. Tombrello
Simulation of sputtering following ion bombardment at a target step.
Nucl. Instrum. Methods Phys. Res. B **194**, 425 (2002)

$\mathbf{Ar^+ + Cu}$	Sputtering	5.00 keV	Th

1206. G. Lanzano, E. De Filippo, D. Mahboub, H. Rothard, S. Aiello, A. Anzalone, S. Cavallaro, A. Elanique, E. Geraci, M. Geraci, F. Giustolisi, A. Pagano, G. Politi
Ejection of fast electrons following the impact of 45 MeV/u ^{58}Ni^{q+} (q=19,28) on solid-foil targets.
Phys. Rev. A **63**, 032702 (2001)

$\mathbf{Ni^{19+} + C}$	Second. Elect. Emission	45.00 MeV/amu	Ex
$\mathbf{Ni^{19+} + Al}$	Second. Elect. Emission	45.00 MeV/amu	Ex
$\mathbf{Ni^{19+} + Au}$	Second. Elect. Emission	45.00 MeV/amu	Ex
$\mathbf{Ni^{28+} + C}$	Second. Elect. Emission	45.00 MeV/amu	Ex
$\mathbf{Ni^{28+} + Al}$	Second. Elect. Emission	45.00 MeV/amu	Ex
$\mathbf{Ni^{28+} + Ni}$	Second. Elect. Emission	45.00 MeV/amu	Ex
$\mathbf{Ni^{28+} + Ag}$	Second. Elect. Emission	45.00 MeV/amu	Ex
$\mathbf{Ni^{28+} + Au}$	Second. Elect. Emission	45.00 MeV/amu	Ex

1207. N. P. Wang, E. A. Garcia, R. C. Monreal, F. Flores, E. C. Goldberg, H. H. Brongersma, P. Bauer
Low-energy ion neutralization at surfaces: Resonant and Auger processes.
Phys. Rev. A **64**, 012901 (2001)

$\mathbf{He^+ + Al}$	Neutraliz., Ioniz., Dissoc.	0.10-3.00 keV	Th
$\mathbf{He^+ + Pd}$	Neutraliz., Ioniz., Dissoc.	0.10-3.00 keV	Th

1208. D. G. Arbo, M. S. Gravielle, J. E. Miraglia
Second-order dielectric stopping of ions in a free-electron gas.
Phys. Rev. A **64**, 022902 (2001)

$\mathbf{H + Al}$	Adsorption, Desorption	100.00 keV	Th
$\mathbf{H^+ + Al}$	Adsorption, Desorption	100.00 keV	Th
$\mathbf{H + Al}$	Neutraliz., Ioniz., Dissoc.	100.00 keV	Th
$\mathbf{H^+ + Al}$	Neutraliz., Ioniz., Dissoc.	100.00 keV	Th

1209. P. Karmakar, P. Agarwal, P. Y. Nabhiraj, D. K. Bose, R. K. Bhandari, D. Ghose
Secondary-electron emission from a single-crystalline aluminum surface induced by multiply charged oxygen ions.
Phys. Rev. A **64**, 034901 (2001)

$\mathbf{O^+ + Al}$	Second. Elect. Emission	0.60 a.u.	Ex
$\mathbf{O^{2+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex
$\mathbf{O^{3+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex
$\mathbf{O^{4+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex
$\mathbf{O^{5+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex
$\mathbf{O^{6+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex
$\mathbf{O^{7+} + Al}$	Second. Elect. Emission	0.60 a.u.	Ex

1210. K. Tokesi, L. Wirtz, C. Lemell, J. Burgdoerfer
Hollow-ion formation in microcapillaries.
Phys. Rev. A **64**, 042902 (2001)

$\mathbf{N^{6+} + Ni}$	Reflection	2.10 keV/amu	Th
$\mathbf{Ne^{10+} + Ni}$	Reflection	2.10 keV/amu	Th

1211. M. S. Gravielle, J. E. Miraglia
Energy and electron spectra after grazing-ion-surface collisions.
Phys. Rev. A **65**, 022901 (2002)

$\mathbf{H}^{+}$ + **Al**	Reflection	700.00 keV	Th
$\mathbf{H}^{+}$ + **Al**	Second. Elect. Emission	700.00 keV	Th

1212. G. A. Machicoane, T. Schenkel, T. R. Niedermayr, M. W. Newmann, A. V. Hamza, A. V. Barnes, J. W. McDonald, J. A. Tanis, D. H. Schneider
Internal dielectronic excitation in highly charged ions colliding with surfaces.
Phys. Rev. A **65**, 042903 (2002)

$\mathbf{Xe}^{26+}$ + **C**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Xe}^{26+}$ + **Si**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Xe}^{26+}$ + $\mathbf{SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Xe}^{26+}$ + **Ag**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Xe}^{26+}$ + **Au**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Xe}^{27+}$ + **C**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Xe}^{27+}$ + **Si**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Xe}^{27+}$ + $\mathbf{SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Xe}^{27+}$ + **Ag**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Xe}^{27+}$ + **Au**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Ho}^{39+}$ + **C**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Ho}^{39+}$ + **Si**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Ho}^{39+}$ + $\mathbf{SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Ho}^{39+}$ + **Ag**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Ho}^{39+}$ + **Au**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Ho}^{40+}$ + **C**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Ho}^{40+}$ + **Si**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Ho}^{40+}$ + $\mathbf{SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Ho}^{40+}$ + **Ag**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Ho}^{40+}$ + **Au**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Au}^{51+}$ + **C**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Au}^{51+}$ + **Si**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Au}^{51+}$ + $\mathbf{SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Au}^{51+}$ + **Ag**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Au}^{51+}$ + **Au**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Au}^{52+}$ + **C**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Au}^{52+}$ + **Si**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Au}^{52+}$ + $\mathbf{SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Au}^{52+}$ + **Ag**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Au}^{52+}$ + **Au**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Th}^{62+}$ + **C**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Th}^{62+}$ + **Si**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Th}^{62+}$ + $\mathbf{SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Th}^{62+}$ + **Ag**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Th}^{62+}$ + **Au**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Th}^{63+}$ + **C**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Th}^{63+}$ + **Si**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Th}^{63+}$ + $\mathbf{SiO_2}$	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Th}^{63+}$ + **Ag**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Th}^{63+}$ + **Au**	Surface Interactions	182.00-441.00 keV	Ex
$\mathbf{Xe}^{26+}$ + **C**	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Xe}^{26+}$ + **Si**	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Xe}^{26+}$ + $\mathbf{SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Xe}^{26+}$ + **Ag**	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Xe}^{26+}$ + **Au**	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Xe}^{27+}$ + **C**	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Xe}^{27+}$ + **Si**	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex

$\mathbf{Xe^{27+} + SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Xe^{27+} + Ag}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Xe^{27+} + Au}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Ho^{39+} + C}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Ho^{39+} + Si}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Ho^{39+} + SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Ho^{39+} + Ag}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Ho^{39+} + Au}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Ho^{40+} + C}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Ho^{40+} + Si}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Ho^{40+} + SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Ho^{40+} + Ag}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Ho^{40+} + Au}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Au^{51+} + C}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Au^{51+} + Si}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Au^{51+} + SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Au^{51+} + Ag}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Au^{51+} + Au}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Au^{52+} + C}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Au^{52+} + Si}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Au^{52+} + SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Au^{52+} + Ag}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Au^{52+} + Au}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Th^{62+} + C}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Th^{62+} + Si}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Th^{62+} + SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Th^{62+} + Ag}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Th^{62+} + Au}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Th^{63+} + C}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Th^{63+} + Si}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Th^{63+} + SiO_2}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Th^{63+} + Ag}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex
$\mathbf{Th^{63+} + Au}$	Neutraliz., Ioniz., Dissoc.	182.00-441.00 keV	Ex

1213. J. Loerincik, Z. Sroubek, H. Eder, F. Aumayr, HP. Winter
Kinetic electron emission from clean polycrystalline gold induced by impact of slow C^+, N^+, O^+, Ne^+, and Au^+ ions.
Phys. Rev. B **62**, 16116 (2000)

$\mathbf{C^{+} + Au}$	Second. Elect. Emission	0.10-30.00 keV	Th
$\mathbf{N^{+} + Au}$	Second. Elect. Emission	0.10-30.00 keV	Th
$\mathbf{O^{+} + Au}$	Second. Elect. Emission	0.10-30.00 keV	Th
$\mathbf{Ne^{+} + Au}$	Second. Elect. Emission	0.10-30.00 keV	Th
$\mathbf{Xe^{+} + Au}$	Second. Elect. Emission	0.10-30.00 keV	Th
$\mathbf{Au^{+} + Au}$	Second. Elect. Emission	0.10-30.00 keV	Th

1214. A. C. Lavery, C. E. Sosolik, B. H. Cooper
Surface trapping during hyperthermal energy scattering.
Phys. Rev. B **62**, 16126 (2000)

O + Cu	Adsorption, Desorption	600.00 eV	E/T
Na + Cu	Adsorption, Desorption	600.00 eV	E/T
O + Cu	Trapping, Detrapping	600.00 eV	E/T
Na + Cu	Trapping, Detrapping	600.00 eV	E/T
O + Cu	Reflection	600.00 eV	E/T
Na + Cu	Reflection	600.00 eV	E/T

1215. Y. Tang, J. R. Manson, K.-H. Rieder
Detection of high-energy adsorbate vibrational modes by atom-surface scattering.
Phys. Rev. B **62**, 17120 (2000)

He + $\mathbf{C_2H_2}$ + **Cu**	Reflection	1.00 eV	Th
He + **CO** + **Cu**	Reflection	1.00 eV	Th
Ne + $\mathbf{C_2H_2}$ + **Cu**	Reflection	1.00 eV	Th
Ne + **CO** + **Cu**	Reflection	1.00 eV	Th

1216. M. M. Albert, N. H. Tolk
Absolute total cross sections for electron-stimulated desorption of hydrogen and deuterium from silicon(111) measured by second harmonic generation.
Phys. Rev. B **63**, 035308 (2001)

e + **H** + **Si**	Desorption	50.00-300.00 eV	Ex
e + (**D** + **Si**)	Desorption	50.00-300.00 eV	Ex

1217. A. Hoffman, A. Laikhtman, S. Ustaze, M. H. Hamou, M. N. Hedhili, J. P. Guillotin, Y. Le Coat, D. Teillet-Billy, R. Azria
Dissociative electron attachment and dipolar dissociation of $\mathbf{H^-}$ electron stimulated desorption from hydrogenated diamond films.
Phys. Rev. B **63**, 045401 (2001)

e + **H** + **C**	Desorption	2.00-45.00 eV	Ex

1218. A. G. Borisov, J. P. Gauyacq, V. Sidis, A. K. Kazansky
Negative-ion conversion of fluorine atoms in grazing scattering from a LiF(001) surface: A coupled cluster approach.
Phys. Rev. B **63**, 045407 (2001)

F + **LiF**	Neutraliz., Ioniz., Dissoc.		Th
F + **LiF**	Reflection		Th

1219. K. Sekar, J. Scheer, K. Bruening, W. Heiland, I. A. Wojciechowski, V. Kh. Ferleger
Interaction of molecular hydrogen ions with the LiF(100) surface.
Phys. Rev. B **63**, 045411 (2001)

$\mathbf{H_2}^+$ + **LiF**	Neutraliz., Ioniz., Dissoc.	0.60-4.00 keV	Ex
$\mathbf{H_2}^+$ + **LiF**	Reflection	0.60-4.00 keV	Ex

1220. H. Gnaser
Ionization probability of sputtered negative cluster ions: Dependence on surface work function and emission velocity.
Phys. Rev. B **63**, 045415 (2001)

$\mathbf{Cs}^+$ + **C**	Sputtering	14.50 keV	Ex

1221. R. Souda
Ion-surface charge exchange during sputtering and low-energy $\mathbf{H^+}$ scattering from Ar, Kr, and Xe layers formed on metal surfaces.
Phys. Rev. B **63**, 113407 (2001)

$\mathbf{H}^+$ + **Ar**	Reflection	0.10-2.00 keV	Ex
$\mathbf{H}^+$ + **Kr**	Reflection	0.10-2.00 keV	Ex
$\mathbf{H}^+$ + **Xe**	Reflection	0.10-2.00 keV	Ex
$\mathbf{Ar}^+$ + **Ar**	Reflection	0.10-2.00 keV	Ex
$\mathbf{Ar}^+$ + **Kr**	Reflection	0.10-2.00 keV	Ex
$\mathbf{Ar}^+$ + **Xe**	Reflection	0.10-2.00 keV	Ex
$\mathbf{H}^+$ + **Ar**	Sputtering	0.10-2.00 keV	Ex
$\mathbf{H}^+$ + **Kr**	Sputtering	0.10-2.00 keV	Ex
$\mathbf{H}^+$ + **Xe**	Sputtering	0.10-2.00 keV	Ex
$\mathbf{Ar}^+$ + **Ar**	Sputtering	0.10-2.00 keV	Ex
$\mathbf{Ar}^+$ + **Kr**	Sputtering	0.10-2.00 keV	Ex
$\mathbf{Ar}^+$ + **Xe**	Sputtering	0.10-2.00 keV	Ex

1222. M. Li, J. R. Manson, A. P. Graham
Experimental and theoretical analysis of the multiphonon excitation probability for Einstein-like modes in atom-surface scattering.
Phys. Rev. B **63**, 155410 (2001)

$\mathbf{He^+ + CO + Cu}$	Reflection	40.30 meV	E/T
$\mathbf{He^+ + CO + Pt}$	Reflection	40.30 meV	E/T
$\mathbf{He^+ + CO + Cu}$	Chemical Reactions	40.30 meV	E/T
$\mathbf{He^+ + CO + Pt}$	Chemical Reactions	40.30 meV	E/T

1223. M. C. Torralba, C. M. Slutzky, E. A. Garcia, E. C. Goldberg
Elastic and inelastic processes in the scattering of positive ions of hydrogen and helium from a LiF surface.
Phys. Rev. B **63**, 195411 (2001)

$\mathbf{H^+ + LiF}$	Reflection	100.00-500.00 eV	Th
$\mathbf{He^+ + LiF}$	Reflection	100.00-500.00 eV	Th

1224. E. Salonen, K. Nordlund, J. Keinonen, C. H. Wu
Swift chemical sputtering of amorphous hydrogenated carbon.
Phys. Rev. B **63**, 195415 (2001)

$\mathbf{H^+ + C}$	Sputtering	1.00-35.00 eV	Th

1225. R. Gauantes, S. Miret-Artes, F. Borondo
Quantum manifestations of chaos in elastic atom-surface scattering.
Phys. Rev. B **63**, 235401 (2001)

He + Cu	Reflection	15.00-75.00 meV	E/T

1226. A. Hoffman, S. Ustaze, M. H. Hamou, M. N. Hedhili, Y. Le Coat, R. Azria, M. Tronc
Temperature-induced ion kinetic energy relaxation and yield of $\mathbf{H^+}$ dissociative electron attachment from hydrogenated diamond films.
Phys. Rev. B **63**, 245404 (2001)

e + H + C	Desorption	7.00-18.00 eV	Ex

1227. A. Hoffman, S. Ustaze, M. H. Hamou, M. N. Hedhili, J. P. Guillotin, Y. Le Coat, R. Azria, M. Tronc
Mechanisms and dynamics of electron-stimulated desorption of $\mathbf{D^-}$ from deuterated diamond surfaces: Surface versus subsurface stimulated desorption.
Phys. Rev. B **63**, 245417 (2001)

e + D + C	Desorption	5.00-35.00 eV	Ex

1228. K. Chouffani, I. Endo, H. Uberall
Planar and axial coherent bremsstrahlung of type A from a 17-MeV electron beam in a diamond crystal.
Phys. Rev. B **64**, 014304 (2001)

e + C	Surface Interactions	17.00 MeV	Ex

1229. M. Y. Mao, P. B. Miranda, D. S. Kim, Y. R. Shen
Kinetics of molecular hydrogen dissociative adsorption on Si(111) studied by sum-frequency vibrational spectroscopy and second harmonic generation.
Phys. Rev. B **64**, 035415 (2001)

$\mathbf{H_2 + Si}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex
$\mathbf{H_2 + Si}$	Trapping, Detrapping	300.00 K	Ex
$\mathbf{H_2 + Si}$	Adsorption, Desorption	300.00 K	Ex

1230. E. Hayakawa, F. Khanom, T. Yoshifuku, S. Shimokawa, A. Namiki, T. Ando
Hot-complex-mediated abstraction and desorption of D adatoms by H on Si (100).
Phys. Rev. B **65**, 033405 (2002)

H + (D + Si)	Desorption		Ex

1231. T. Andersson, F. Althoff, P. Linde, S. Andersson, K. Burke
Probing a cold surface with slow heavy-atom scattering: Experimental results and theoretical calculations.
Phys. Rev. B **65**, 045409 (2002)

H_2 + Cu	Reflection	32.00-46.00 meV	E/T
D_2 + Cu	Reflection	32.00-46.00 meV	E/T
He + Cu	Reflection	32.00-46.00 meV	E/T
Ne + Cu	Reflection	32.00-46.00 meV	E/T
Ar + Cu	Reflection	32.00-46.00 meV	E/T
Kr + Cu	Reflection	32.00-46.00 meV	E/T

1232. A. Mertens, S. Lederer, K. Maass, H. Winter, J. Stoeckl, HP. Winter, F. Aumayr
Excitation vs electron emission near the kinetic thresholds for grazing impact of hydrogen atoms on LiF(001).
Phys. Rev. B **65**, 132410 (2002)

H + LiF	Reflection	350.00-800.00 eV	Ex
H + LiF	Second. Elect. Emission	350.00-800.00 eV	Ex

1233. S. Bouneau, A. Brunelle, S. Della-Negra, J. Depauw, D. Jacquet, Y. Le Beyec, M. Pautrat, M. Fallavier, J. C. Poizat, H. H. Andersen
Very large gold and silver sputtering yields induced by keV to MeV energy Au_n clusters (n = 1-13).
Phys. Rev. B **65**, 144106 (2002)

Au^+ + Ag	Sputtering	0.02-5.00 MeV	Ex
Au^+ + Au	Sputtering	0.02-5.00 MeV	Ex
Au_2^+ + Ag	Sputtering	0.02-5.00 MeV	Ex
Au_2^+ + Au	Sputtering	0.02-5.00 MeV	Ex

1234. R. Cortenraad, A. W. Denier van der Gon, H. H. Brongersma, S. N. Ermolov, V. G. Glebovsky
Work function dependent neutralization of low-energy noble gas ions.
Phys. Rev. B **65**, 195414 (2002)

He^+ + Ba	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex
He^+ + W	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex
He^+ + Re	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex
Ne^+ + Ba	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex
Ne^+ + W	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex
Ne^+ + Re	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex
Ar^+ + Ba	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex
Ar^+ + W	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex
Ar^+ + Re	Neutraliz., Ioniz., Dissoc.	2.00-5.00 keV	Ex
He^+ + Ba	Reflection	2.00-5.00 keV	Ex
He^+ + W	Reflection	2.00-5.00 keV	Ex
He^+ + Re	Reflection	2.00-5.00 keV	Ex
Ne^+ + Ba	Reflection	2.00-5.00 keV	Ex
Ne^+ + W	Reflection	2.00-5.00 keV	Ex
Ne^+ + Re	Reflection	2.00-5.00 keV	Ex
Ar^+ + Ba	Reflection	2.00-5.00 keV	Ex
Ar^+ + W	Reflection	2.00-5.00 keV	Ex
Ar^+ + Re	Reflection	2.00-5.00 keV	Ex

1235. C. Staudt, A. Wucher, J. Bastiaansen, V. Philipsen, E. Vandeweert, P. Lievens, R. E. Silverans, Z. Sroubek
Sputtering of Ag atoms into metastable excited states.
Phys. Rev. B **66**, 085415 (2002)

Ar^+ + Ag	Sputtering	5.00-15.00 keV	E/T

1236. M. Stepanova, S. K. Dew, I. P. Soshnikov
Sputtering from ion-beam-roughened Cu surfaces.
Phys. Rev. B **66**, 125407 (2002)

$\mathbf{Ar^+ + Cu}$	Sputtering	400.00-800.00 eV	E/T

1237. M. Caron, H. Rothard, M. Beuve, B. Gervais
Multiple ionisation and high charge effects in electron spectra from impact of 9 MeV/u ions on carbon.

$\mathbf{C^{6+} + C}$	Second. Elect. Emission	9.00 MeV/amu	Ex
$\mathbf{Ca^{20+} + C}$	Second. Elect. Emission	9.00 MeV/amu	Ex
$\mathbf{Mo^{39+} + C}$	Second. Elect. Emission	9.00 MeV/amu	Ex

1238. N. Matsunami, E. Hatanaka, J. Kondoh, H. Hosaka, K. Tsumori, H. Sakaue, H. Tawara
Secondary charged particle emission from proton conductive oxides by ion impact.
Phys. Scr. **65**, 278 (2002)

$\mathbf{H^+ + SrCeYbO}$	Second. Elect. Emission	1.00-100.00 keV	Ex
$\mathbf{H_2{}^+ + SrCeYbO}$	Second. Elect. Emission	1.00-100.00 keV	Ex
$\mathbf{H_3{}^+ + SrCeYbO}$	Second. Elect. Emission	1.00-100.00 keV	Ex
$\mathbf{Ar^+ + SrCeYbO}$	Second. Elect. Emission	1.00-100.00 keV	Ex

1239. H. Jouin, F. A. Gutierrez, S. Jequier, C. Harel
Surface plasmon mediated hydrogenic ion neutralization at metallic surfaces.
Phys. Scr. **T80**, 215 (1999)

$\mathbf{H^+ + Li}$	Reflection		Th
$\mathbf{H^+ + Mg}$	Reflection		Th
$\mathbf{H^+ + In}$	Reflection		Th
$\mathbf{H^+ + Au}$	Reflection		Th
$\mathbf{H^+ + Li}$	Neutraliz., Ioniz., Dissoc.		Th
$\mathbf{H^+ + Mg}$	Neutraliz., Ioniz., Dissoc.		Th
$\mathbf{H^+ + In}$	Neutraliz., Ioniz., Dissoc.		Th
$\mathbf{H^+ + Au}$	Neutraliz., Ioniz., Dissoc.		Th

1240. J. Ducree, J. Mrogenda, E. Reckels, H. J. Andrae
Fingerprints of early K-auger emission from slow highly charged ions approaching surfaces.
Phys. Scr. **T80**, 217 (1999)

$\mathbf{O^{6+} + Al}$	Second. Elect. Emission	78.00-91.00 eV	Ex
$\mathbf{O^{6+} + Si}$	Second. Elect. Emission	78.00-91.00 eV	Ex
$\mathbf{O^{7+} + Al}$	Second. Elect. Emission	78.00-91.00 eV	Ex
$\mathbf{O^{7+} + Si}$	Second. Elect. Emission	78.00-91.00 eV	Ex
$\mathbf{Ne^{9+} + Al}$	Second. Elect. Emission	78.00-91.00 eV	Ex

1241. J. Ducree, H. J. Andrae, U. Thumm
Improved dynamic simulation of highly charged ion-surface collisions.
Phys. Scr. **T80**, 220 (1999)

$\mathbf{N^{6+} + Al}$	Reflection	70.00 eV	Th
$\mathbf{N^{6+} + Al}$	Neutraliz., Ioniz., Dissoc.	70.00 eV	Th

1242. F. W. Meyer, V. A. Morozov
Multicharged ion-surface interaction studies at ORNL with decelerated beams.
Phys. Scr. **T80**, 226 (1999)

$\mathbf{O^{6+} + Au}$	Reflection	2.50 keV	Ex

1243. W. Huang, H. Lebius, R. Schuch, M. Grether, N. Stolterfoht
Neutralization rates of slow highly charged Ar ions in single and double scattering from a Au(111) surface.
Phys. Scr. **T80**, 228 (1999)

$\mathbf{Ar^{6+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex
$\mathbf{Ar^{7+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex
$\mathbf{Ar^{8+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex
$\mathbf{Ar^{9+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex
$\mathbf{Ar^{10+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex
$\mathbf{Ar^{11+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex
$\mathbf{Ar^{12+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex
$\mathbf{Ar^{13+} + Au}$	Neutraliz., Ioniz., Dissoc.	4.00 keV	Ex
$\mathbf{Ar^{6+} + Au}$	Reflection	4.00 keV	Ex
$\mathbf{Ar^{7+} + Au}$	Reflection	4.00 keV	Ex
$\mathbf{Ar^{8+} + Au}$	Reflection	4.00 keV	Ex
$\mathbf{Ar^{9+} + Au}$	Reflection	4.00 keV	Ex
$\mathbf{Ar^{10+} + Au}$	Reflection	4.00 keV	Ex
$\mathbf{Ar^{11+} + Au}$	Reflection	4.00 keV	Ex
$\mathbf{Ar^{12+} + Au}$	Reflection	4.00 keV	Ex
$\mathbf{Ar^{13+} + Au}$	Reflection	4.00 keV	Ex

1244. P. Roncin, M. Barat, J. P. Atanas, J. Villette, V. A. Morozov
Energy loss and secondary electron measurements in collisions at grazing angle of 10 keV $\mathbf{O^{q+}}$ ions on LiF surface.
Phys. Scr. **T80**, 231 (1999)

$\mathbf{O^{2+} + LiF}$	Reflection	10.00 keV	Ex
$\mathbf{O^{3+} + LiF}$	Reflection	10.00 keV	Ex
$\mathbf{O^{5+} + LiF}$	Reflection	10.00 keV	Ex
$\mathbf{O^{6+} + LiF}$	Reflection	10.00 keV	Ex
$\mathbf{O^{2+} + LiF}$	Second. Elect. Emission	10.00 keV	Ex
$\mathbf{O^{3+} + LiF}$	Second. Elect. Emission	10.00 keV	Ex
$\mathbf{O^{5+} + LiF}$	Second. Elect. Emission	10.00 keV	Ex
$\mathbf{O^{6+} + LiF}$	Second. Elect. Emission	10.00 keV	Ex

1245. L. Ding, C. McGrath, J. M. Woolsey, M. B. Shah, R. W. McCullough, J. Geddes
Potential and kinetic electron emission by $\mathbf{Xe^{+}}$ and $\mathbf{Xe^{10+}}$ ions on clean polycrystalline copper.
Phys. Scr. **T80**, 234 (1999)

$\mathbf{Xe^{+} + Cu}$	Reflection	2.00-10.00 keV	Ex
$\mathbf{Xe^{2+} + Cu}$	Reflection	2.00-10.00 keV	Ex
$\mathbf{Xe^{3+} + Cu}$	Reflection	2.00-10.00 keV	Ex
$\mathbf{Xe^{4+} + Cu}$	Reflection	2.00-10.00 keV	Ex
$\mathbf{Xe^{5+} + Cu}$	Reflection	2.00-10.00 keV	Ex
$\mathbf{Xe^{6+} + Cu}$	Reflection	2.00-10.00 keV	Ex
$\mathbf{Xe^{7+} + Cu}$	Reflection	2.00-10.00 keV	Ex
$\mathbf{Xe^{8+} + Cu}$	Reflection	2.00-10.00 keV	Ex
$\mathbf{Xe^{9+} + Cu}$	Reflection	2.00-10.00 keV	Ex
$\mathbf{Xe^{10+} + Cu}$	Reflection	2.00-10.00 keV	Ex
$\mathbf{Xe^{+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex
$\mathbf{Xe^{2+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex
$\mathbf{Xe^{3+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex
$\mathbf{Xe^{4+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex
$\mathbf{Xe^{5+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex
$\mathbf{Xe^{6+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex
$\mathbf{Xe^{7+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex
$\mathbf{Xe^{8+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex
$\mathbf{Xe^{9+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex
$\mathbf{Xe^{10+} + Cu}$	Second. Elect. Emission	2.00-10.00 keV	Ex

1246. H. Eder, C. Lemell, F. Aumayr, HP. Winter
Projectile charge effects in ion-induced kinetic electron emission from solid surfaces.
Phys. Scr. **T80**, 236 (1999)

C^{+} + **Au**	Second. Elect. Emission	5.00 keV/amu	Ex
C^{2+} + **Au**	Second. Elect. Emission	5.00 keV/amu	Ex
N^{+} + **Au**	Second. Elect. Emission	5.00 keV/amu	Ex
N^{2+} + **Au**	Second. Elect. Emission	5.00 keV/amu	Ex
N^{3+} + **Au**	Second. Elect. Emission	5.00 keV/amu	Ex
O^{+} + **Au**	Second. Elect. Emission	5.00 keV/amu	Ex
O^{2+} + **Au**	Second. Elect. Emission	5.00 keV/amu	Ex
O^{3+} + **Au**	Second. Elect. Emission	5.00 keV/amu	Ex
Ne^{+} + **Au**	Second. Elect. Emission	5.00 keV/amu	Ex
Ne^{2+} + **Au**	Second. Elect. Emission	5.00 keV/amu	Ex
Ne^{3+} + **Au**	Second. Elect. Emission	5.00 keV/amu	Ex

1247. K. Hosaka, H. Tawara
Secondary electron emission yields from clean Cu surfaces under low-energy singly and doubly charged ion impact.
Phys. Scr. **T80**, 238 (1999)

Ar^{+} + **Cu**	Second. Elect. Emission	2.40-125.00 eV/amu	Ex
Ar^{2+} + **Cu**	Second. Elect. Emission	2.40-125.00 eV/amu	Ex
Kr^{+} + **Cu**	Second. Elect. Emission	2.40-125.00 eV/amu	Ex
Kr^{2+} + **Cu**	Second. Elect. Emission	2.40-125.00 eV/amu	Ex

1248. Y. Takabayashi, T. Ito, T. Azuma, K. Komaki, Y. Yamazaki, H. Tawara, M. Torikoshi, A. Kitagawa, E. Takada, T. Murakami
Convoy electron production and ionization in 390 MeV/u Ar^{17+} ion collisions with thin foils.
Phys. Scr. **T80**, 249 (1999)

Ar^{17+} + **C**	Second. Elect. Emission	390.00 MeV/amu	Ex

1249. D. H Jakubassa-Amundsen
Theory of binary encounter electron transmission through foil targets.
Phys. Scr. **T80**, 252 (1999)

Ar^{18+} + **C**	Second. Elect. Emission	13.60-93.00 MeV/amu	Th

1250. N. Okabayashi, K. Kuroki, Y. Tsuruta, T. Azuma, K. Komaki, Y. Yamazaki
Measurements of potential sputtered H^{+} with 2D position sensitive detector.
Phys. Scr. **T80**, 555 (1999)

Xe^{7+} + **C**	Sputtering	700.00 eV	Ex

1251. D. Niemann
Electron emission from highly-charged ions interacting with metal surfaces.
Phys. Scr. **T80**, 61 (1999)

Ne^{9+} + **Al**	Second. Elect. Emission	0.14-4.50 keV	Th

1252. H. Khemliche, C. Laulhe, S. Hoekstra, R. Hoekstra, R. Morgenstern
Hollow atom dynamics on thin films.
Phys. Scr. **T80**, 66 (1999)

O^{7+} + **Au**	Second. Elect. Emission	3.60-6.15 keV	Ex
O^{7+} + **LiF**	Second. Elect. Emission	3.60-6.15 keV	Ex

1253. V. A. Morozov, F. W. Meyer, P. Roncin
Multi-coincidence studies as a technique for the investigation of ion-surface interaction.
Phys. Scr. **T80**, 69 (1999)

H^{+} + **LiF**	Reflection	2.00 keV	Ex
O^{2+} + **LiF**	Reflection	2.00 keV	Ex
O^{3+} + **LiF**	Reflection	2.00 keV	Ex
O^{5+} + **LiF**	Reflection	2.00 keV	Ex

$\mathbf{O^{6+} + LiF}$	Reflection	2.00 keV	Ex
$\mathbf{H^{+} + LiF}$	Second. Elect. Emission	2.00 keV	Ex
$\mathbf{O^{2+} + LiF}$	Second. Elect. Emission	2.00 keV	Ex
$\mathbf{O^{3+} + LiF}$	Second. Elect. Emission	2.00 keV	Ex
$\mathbf{O^{5+} + LiF}$	Second. Elect. Emission	2.00 keV	Ex
$\mathbf{O^{6+} + LiF}$	Second. Elect. Emission	2.00 keV	Ex

1254. C. Lemell, J. Stoeckl, J. Burgdoerfer, G. Betz, HP. Winter, F. Aumayr
Separation of kinetic and potential electron emission in HCI-surface interactions.
Phys. Scr. **T80**, 76 (1999)

$\mathbf{Ar^{6+} + Au}$	Second. Elect. Emission	0.45 keV/amu	Ex

1255. P. Kornejew, W. Bohmeyer, H.-D. Reiner, C. H. Wu
Chemical erosion of CFC at high ion flux densities.
Phys. Scr. **T91**, 29 (2001)

$\mathbf{D^{+} + C}$	Chemical Reactions	9.00 eV	Ex
$\mathbf{D^{+} + C}$	Sputtering	9.00 eV	Ex

1256. J. Roth
Synopsis of erosion and redeposition.
Phys. Scr. **T91**, 65 (2001)

$\mathbf{D^{+} + C}$	Chemical Reactions	20.00-300.00 eV	E/T
$\mathbf{D^{+} + C}$	Sputtering	20.00-300.00 eV	E/T

1257. J. Stockl, C. Lemell, H. P. Winter, F. Aumayr
Electron emission in grazing HCl-LiF(001) collisions.
Phys. Scr. **T92**, 135 (2001)

$\mathbf{Ar^{2+} + LiF}$	Second. Elect. Emission	450.00-900.00 eV/amu	Ex
$\mathbf{Ar^{8+} + LiF}$	Second. Elect. Emission	450.00-900.00 eV/amu	Ex
$\mathbf{Ar^{9+} + LiF}$	Second. Elect. Emission	450.00-900.00 eV/amu	Ex

1258. HP. Winter, F. Aumayr
Interaction of slow HCl with solid surfaces: What do we know, what should we know?
Phys. Scr. **T92**, 15 (2001)

$\mathbf{Ar^{+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T
$\mathbf{Ar^{4+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T
$\mathbf{Ar^{8+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T
$\mathbf{Ar^{9+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T
$\mathbf{Xe^{15+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T
$\mathbf{Xe^{20+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T
$\mathbf{Xe^{25+} + SiO_2}$	Desorption	0.10-10.00 keV	E/T
$\mathbf{Ar^{+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T
$\mathbf{Ar^{4+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T
$\mathbf{Ar^{8+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T
$\mathbf{Ar^{9+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T
$\mathbf{Xe^{15+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T
$\mathbf{Xe^{20+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T
$\mathbf{Xe^{25+} + SiO_2}$	Sputtering	0.10-10.00 keV	E/T
$\mathbf{Ne^{+} + Al}$	Second. Elect. Emission	0.10-10.00 keV	E/T
$\mathbf{Ne^{2+} + Al}$	Second. Elect. Emission	0.10-10.00 keV	E/T
$\mathbf{Ne^{3+} + Au}$	Second. Elect. Emission	0.10-10.00 keV	E/T
$\mathbf{Ne^{4+} + Au}$	Second. Elect. Emission	0.10-10.00 keV	E/T
$\mathbf{Ne^{5+} + Au}$	Second. Elect. Emission	0.10-10.00 keV	E/T
$\mathbf{Ne^{6+} + Au}$	Second. Elect. Emission	0.10-10.00 keV	E/T
$\mathbf{Ne^{7+} + Au}$	Second. Elect. Emission	0.10-10.00 keV	E/T
$\mathbf{Ne^{8+} + Au}$	Second. Elect. Emission	0.10-10.00 keV	E/T
$\mathbf{Ne^{9+} + Au}$	Second. Elect. Emission	0.10-10.00 keV	E/T

1259. F. W. Meyer, V. A. Morozov, S. Datz, R. Vane
Charge fraction measurements for 2.4-35 keV Ar^{q+} (q = 2-13) projectiles backscattered from Au(110).
Phys. Scr. **T92**, 182 (2001)

$\mathbf{Ar^{2+} + Au}$	Reflection	2.40-35.00 keV	Ex
$\mathbf{Ar^{3+} + Au}$	Reflection	2.40-35.00 keV	Ex
$\mathbf{Ar^{4+} + Au}$	Reflection	2.40-35.00 keV	Ex
$\mathbf{Ar^{5+} + Au}$	Reflection	2.40-35.00 keV	Ex
$\mathbf{Ar^{6+} + Au}$	Reflection	2.40-35.00 keV	Ex
$\mathbf{Ar^{7+} + Au}$	Reflection	2.40-35.00 keV	Ex
$\mathbf{Ar^{8+} + Au}$	Reflection	2.40-35.00 keV	Ex
$\mathbf{Ar^{9+} + Au}$	Reflection	2.40-35.00 keV	Ex
$\mathbf{Ar^{10+} + Au}$	Reflection	2.40-35.00 keV	Ex
$\mathbf{Ar^{11+} + Au}$	Reflection	2.40-35.00 keV	Ex
$\mathbf{Ar^{12+} + Au}$	Reflection	2.40-35.00 keV	Ex
$\mathbf{Ar^{13+} + Au}$	Reflection	2.40-35.00 keV	Ex

1260. M. Caron, A. Clouvas, R. Neugebauer, C. Potiriadis, H. Rothard
Electronic sputtering of hydrogen from carbon induced by swift highly charged ions.
Phys. Scr. **T92**, 205 (2001)

$\mathbf{Ar^{17+} + N_2 + C}$	Desorption	6.00-13.00 MeV/amu	Ex

1261. Z. D. Pesic, V. Hoffman, D. Niemann, N. Stolterfoht, Gy. Vikor, R. Schuch
Degree of the neutralization of highly charged Ar ions scattered at different angles from a Au surface.
Phys. Scr. **T92**, 237 (2001)

$\mathbf{Ar^{7+} + Au}$	Reflection	2.00-8.00 keV	Ex
$\mathbf{Ar^{8+} + Au}$	Reflection	2.00-8.00 keV	Ex
$\mathbf{Ar^{9+} + Au}$	Reflection	2.00-8.00 keV	Ex
$\mathbf{Ar^{10+} + Au}$	Reflection	2.00-8.00 keV	Ex
$\mathbf{Ar^{11+} + Au}$	Reflection	2.00-8.00 keV	Ex
$\mathbf{Ar^{12+} + Au}$	Reflection	2.00-8.00 keV	Ex
$\mathbf{Ar^{13+} + Au}$	Reflection	2.00-8.00 keV	Ex

1262. X. T. Zheng, R. Hutton, Y. Zou
L electron populations of hollow ions produced in collisions of energetic Ar ions with metallic targets.
Phys. Scr. **T92**, 256 (2001)

$\mathbf{Ar^{+} + Mg}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Al}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Ti}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + V}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Cr}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Fe}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Co}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Ni}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Cu}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Zn}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Y}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Nb}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Mo}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Sn}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Nd}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Tb}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Ho}$	Reflection	43.00-95.00 MeV	Ex
$\mathbf{Ar^{+} + Ta}$	Reflection	43.00-95.00 MeV	Ex

1263. C. Auth, H. Winter
Energy loss and charge fractions of multicharged chlorine ions after grazing scattering from an Al(111) surface.
Phys. Scr. **T92**, 35 (2001)

$\mathbf{Cl^{+} + Al}$	Sputtering	50.00-600.00 keV	Ex
$\mathbf{Cl^{2+} + Al}$	Sputtering	50.00-600.00 keV	Ex
$\mathbf{Cl^{3+} + Al}$	Sputtering	50.00-600.00 keV	Ex
$\mathbf{Cl^{4+} + Al}$	Sputtering	50.00-600.00 keV	Ex
$\mathbf{Cl^{5+} + Al}$	Sputtering	50.00-600.00 keV	Ex
$\mathbf{Cl^{6+} + Al}$	Sputtering	50.00-600.00 keV	Ex
$\mathbf{Cl^{7+} + Al}$	Sputtering	50.00-600.00 keV	Ex
$\mathbf{Cl^{8+} + Al}$	Sputtering	50.00-600.00 keV	Ex
$\mathbf{Cl^{9+} + Al}$	Sputtering	50.00-600.00 keV	Ex
$\mathbf{Cl^{10+} + Al}$	Sputtering	50.00-600.00 keV	Ex

1264. C. T. McGrath, Z. Szilagyi, M. B. Shah, R. W. McCullough, J. M. Woosley, R. Trassl, E. Salzborn
Secondary electron/reflected particle coincidence studies during slow highly charged ion-surface interactions.
Phys. Scr. **T92**, 40 (2001)

$\mathbf{He^{+} + Al}$	Reflection	2.00-8.00 keV	Ex
$\mathbf{Ne^{+} + Al}$	Reflection	2.00-8.00 keV	Ex
$\mathbf{Ne^{2+} + Al}$	Reflection	2.00-8.00 keV	Ex
$\mathbf{Ne^{3+} + Al}$	Reflection	2.00-8.00 keV	Ex
$\mathbf{Ne^{4+} + Al}$	Reflection	2.00-8.00 keV	Ex
$\mathbf{He^{+} + Al}$	Second. Elect. Emission	2.00-8.00 keV	Ex
$\mathbf{Ne^{+} + Al}$	Second. Elect. Emission	2.00-8.00 keV	Ex
$\mathbf{Ne^{2+} + Al}$	Second. Elect. Emission	2.00-8.00 keV	Ex
$\mathbf{Ne^{3+} + Al}$	Second. Elect. Emission	2.00-8.00 keV	Ex
$\mathbf{Ne^{4+} + Al}$	Second. Elect. Emission	2.00-8.00 keV	Ex

1265. G. Lanzano, E. De Filippo, D. Mahboub, H. Rothard, C. Volant, S. Aiello, A. Anzalone, N. Arena, S. Cavallaro, E. Geraci, M. Geraci, F. Giustolisi, A. Pagano, G. Politi
Absolute cross sections for fast electron ejection by swift highly charged ions and evidence for "Fermi shuttle" acceleration.
Phys. Scr. **T92**, 68 (2001)

$\mathbf{Ne^{19+} + C}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ne^{19+} + Al}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ne^{19+} + Ni}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ne^{19+} + Ag}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ne^{19+} + Au}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ne^{28+} + C}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ne^{28+} + Al}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ne^{28+} + Ni}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ne^{28+} + Ag}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ne^{28+} + Au}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ar^{18+} + C}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ar^{18+} + Al}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ar^{18+} + Ni}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ar^{18+} + Ag}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex
$\mathbf{Ar^{18+} + Au}$	Second. Elect. Emission	45.00-95.00 MeV/amu	Ex

1266. S. Nagata, K. Takahiro
Effect of carbon and oxygen enriched layer on retention and release of deuterium implanted in tungsten and molybdenum.
Phys. Scr. **T94**, 106 (2001)

$\mathbf{D_2{}^{+} + Mo}$	Trapping, Detrapping	10.00 keV	Ex
$\mathbf{D_2{}^{+} + W}$	Trapping, Detrapping	10.00 keV	Ex

1267. A. Pisarev, V. Shestakov, S. Kulsartov, A. Vaitonene
Surface effects in diffusion measurements: deuterium permeation through Martenstic steel.
Phys. Scr. **T94**, 121 (2001)

$\mathbf{D^+ + Fe}$	Trapping, Detrapping		E/T
$\mathbf{D^+ + SS}$	Trapping, Detrapping		E/T

1268. B. M. Oliver, F. A. Garner, M. L. Hamilton, T. J. Venhaus, R. A. Causey, S. A. Maloy
Hydrogen release from 800 MeV proton-irradiated tungsten rods.
Phys. Scr. **T94**, 137 (2001)

$\mathbf{H^+ + W}$	Trapping, Detrapping	800.00 MeV	Ex

1269. K. Ohkoshi, S. Tohda, K. Shimura, K. Yamaguchi, T. Terai, M. Yamawaki
Atom-driven permeation of neuterium through Nb.
Phys. Scr. **T94**, 16 (2001)

$\mathbf{H + Nb}$	Trapping, Detrapping	0.30 eV	Ex

1270. V. K. Alimov, K. Ertl, J. Roth, K. Schmid
Deuterium retention and lattice damage in tungsten irradiated with D ions.
Phys. Scr. **T94**, 34 (2001)

$\mathbf{D^+ + W}$	Trapping, Detrapping	6.00 keV	Ex

1271. H. Wipf
Solubility and diffusion of hydrogen in pure metals and alloys.
Phys. Scr. **T94**, 43 (2001)

$\mathbf{H + V}$	Trapping, Detrapping		Th
$\mathbf{H + FeTi}$	Trapping, Detrapping		Th
$\mathbf{H + Ni}$	Trapping, Detrapping		Th
$\mathbf{H + Cu}$	Trapping, Detrapping		Th
$\mathbf{H + Nb}$	Trapping, Detrapping		Th
$\mathbf{H + Ta}$	Trapping, Detrapping		Th
$\mathbf{H + NiTi}$	Trapping, Detrapping		Th

1272. R. Kirchheim
Solubility and diffusivity of hydrogen in complex materials.
Phys. Scr. **T94**, 58 (2001)

$\mathbf{H + Pd}$	Trapping, Detrapping		Th

1273. A. P. Zakharov, A. E. Gorodetsky
Behavior of deuterium implanted into W, Be and BeO.
Phys. Scr. **T94**, 68 (2001)

$\mathbf{D^+ + Be}$	Trapping, Detrapping	1.80-8.00 keV	Ex
$\mathbf{D^+ + BeO}$	Trapping, Detrapping	1.80-8.00 keV	Ex
$\mathbf{D^+ + W}$	Trapping, Detrapping	1.80-8.00 keV	Ex

1274. F. Scaffidi-Argentina, C. Sand, C. H. Wu
Tritium and helium retention in neutron-irradiated beryllium.
Phys. Scr. **T94**, 83 (2001)

$\mathbf{D^+ + Be}$	Trapping, Detrapping		Ex
$\mathbf{T^+ + Be}$	Trapping, Detrapping		Ex

1275. R. A. Causey, T. J. Venhaus
The use of tungsten in fusion reactors: a review of the hydrogen retention and migration properties.
Phys. Scr. **T94**, 9 (2001)

$\mathbf{H^+ + W}$	Trapping, Detrapping	1.00 keV	E/T
$\mathbf{D^+ + W}$	Trapping, Detrapping	1.00 keV	E/T

1276. C. S. Lee, T. M. Lin
Oxygen sticking coefficient and sputtering yields at an Al(111) surface by ion bombardment.
Surf. Sci. **469**, 219 (2000)

$\mathbf{Ar^+ + O + Al}$	Desorption	10.00-20.00 keV	Ex
$\mathbf{Ar^+ + O + Al}$	Sputtering	10.00-20.00 keV	Ex
$\mathbf{O_2 + Al}$	Adsorption, Desorption	10.00-20.00 keV	Ex

1277. O. Grizzi, E. A. Sanchez, J. E. Gayone, L. Guillemot, V. A. Esaulov, R. A. Baragiola
Formation of autoionizing Ne in grazing collisions with an Al(111) surface.**
Surf. Sci. **469**, 71 (2000)

$\mathbf{Ne^+ + Al}$	Second. Elect. Emission	3.00-50.00 keV	Ex
$\mathbf{Ne^+ + Al}$	Reflection	3.00-50.00 keV	Ex

1278. M. R. Salazar, J. D. Kress, A. Redondo
Dissociation of molecular oxygen on unpromoted and cesium promoted Ag(110) surfaces.
Surf. Sci. **469**, 80 (2000)

$\mathbf{O_2 + Ag}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th
$\mathbf{O_2 + Cs + Ag}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th

1279. B. A. Chuikov, V. D. Osovskii, Yu. G. Ptushinskii, V. G. Sukretnyi
Influence of the flux of H_2 and D_2 molecules on kinetics of low-temperature (down to 5 K) adsorption on the W(110) surface.
Surf. Sci. **473**, 143 (2001)

$\mathbf{H_2 + W}$	Adsorption, Desorption	300.00 K	Ex
$\mathbf{D_2 + W}$	Adsorption, Desorption	300.00 K	Ex

1280. H. Sellers, J. Anderson
Dissociation and recombination rate constants for N_2 on Cu and Ni group transition metal surfaces.
Surf. Sci. **475**, 11 (2001)

$\mathbf{N_2 + Ni}$	Adsorption, Desorption	300.00 K	Th
$\mathbf{N_2 + Cu}$	Adsorption, Desorption	300.00 K	Th
$\mathbf{N_2 + Pd}$	Adsorption, Desorption	300.00 K	Th
$\mathbf{N_2 + Ag}$	Adsorption, Desorption	300.00 K	Th
$\mathbf{N_2 + Pt}$	Adsorption, Desorption	300.00 K	Th
$\mathbf{N_2 + Au}$	Adsorption, Desorption	300.00 K	Th
$\mathbf{N_2 + Ni}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th
$\mathbf{N_2 + Cu}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th
$\mathbf{N_2 + Pd}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th
$\mathbf{N_2 + Ag}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th
$\mathbf{N_2 + Pt}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th
$\mathbf{N_2 + Au}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Th

1281. J. T. Kindt, J. C. Tully
Dynamical corrugation: simulations of the sticking of CO on Cu(100).
Surf. Sci. **477**, 149 (2001)

$\mathbf{CO + Cu}$	Adsorption, Desorption	1.50 eV	Th

1282. M. A. Karolewski, R. G. Cavell
Sputtering and secondary ion emission from Cu/Ni(100).
Surf. Sci. **480**, 47 (2001)

$\mathbf{Ar^+ + Cu + Ni}$	Chemical Reactions	5.00 keV	Ex
$\mathbf{Ar^+ + Cu + Ni}$	Desorption	5.00 keV	Ex
$\mathbf{Ar^+ + Cu + Ni}$	Sputtering	5.00 keV	Ex

1283. E. Balazs, G. Varga, L. Fustoss
Comparison of 3D classical and quantum mechanical He scattering on Rh(311).
Surf. Sci. **482-485**, 1145 (2001)

He + Rh	Reflection		Th

1284. O.M.N Teodoro, A.M.C Moutinho
Simulation of sputtering induced by light ions.
Surf. Sci. **482-485**, 1392 (2001)

He + Ba	Sputtering	0.25-2.50 keV	Th
Ar + Ba	Sputtering	0.25-2.50 keV	Th

1285. C. Eibl, A. Winkler
Time-of-flight studies on desorbing and on scattered D_2 molecules from a V(111) + S surface.
Surf. Sci. **482-485**, 201 (2001)

D_2 + V	Desorption	300.00 K	Ex
D_2 + V	Reflection	300.00 K	Ex
D_2 + V	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex

1286. B. Kloetzer, K. Kayek, C. Konvicka, E. Lundgren, P. Varga
Oxygen-induced surface phase transformation of Pd(111): sticking, adsorption and desorption kinetics.
Surf. Sci. **482-485**, 237 (2001)

O_2 + Pd	Adsorption, Desorption	300.00 K	Ex
O_2 + Pd	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex
O_2 + Pd	Desorption	300.00 K	Ex

1287. L. Bech, J. Onsgaard, S. V. Hoffman, P. J. Godowski
CO dissociation on K-modified Cu(112) and Cu(117).
Surf. Sci. **482-485**, 243 (2001)

CO + Cu	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex

1288. Y. Miura, W. A. Dino, H. Kasai, A. Okiji
Orientational effects on the molecular diffraction dynamics of H_2 scattered from Cu(001).
Surf. Sci. **482-485**, 306 (2001)

H_2 + Cu	Reflection	50.00-450.00 meV	Th

1289. R. Azria, Y. Le Coat, M. H. Hamou, M. N. Hedhili, S. Ustaze, M. Tronc, A. Hoffman
Dissociative electron attachment in H^- electron stimulated desorption from hydrogenated diamond surfaces.
Surf. Sci. **482-485**, 324 (2001)

e + H + C	Desorption	5.00-45.00 eV	Ex

1290. S. F. Belykh, I. A. Wojciechowski, V. V. Palitsin, A. V. Zinoviev, A. Adriaens, F. Adams
Effect of the electronic subsystem excitation on the ionisation probability of atoms sputtered from metals by atomic and molecular projectiles.
Surf. Sci. **488**, 141 (2001)

Au^{-1+} + Nb	Sputtering	6.00-18.00 keV	Th
Au^{-1+} + Ta	Sputtering	6.00-18.00 keV	Th
$Au_2{}^{-1+}$ + Nb	Sputtering	6.00-18.00 keV	Th
$Au_2{}^{-1+}$ + Ta	Sputtering	6.00-18.00 keV	Th
$Au_3{}^{-1+}$ + Nb	Sputtering	6.00-18.00 keV	Th
$Au_3{}^{-1+}$ + Ta	Sputtering	6.00-18.00 keV	Th

1291. C. S. Lee, T. M. Yen, J. H. Lin
Light emission from an oxygen covered copper surface by ion bombardment.
Surf. Sci. **488**, 379 (2001)

O + Cu	Adsorption, Desorption	5.00-20.00 keV	Ex
Ne^+ + Cu	Sputtering	5.00-20.00 keV	Ex
Ne^+ + Cu	Sputtering	5.00-20.00 keV	Ex
Ar^+ + Cu	Sputtering	5.00-20.00 keV	Ex
Ar^+ + Cu	Sputtering	5.00-20.00 keV	Ex

1292. Z. W. Deng, R. Souda
Dissociative thermal-electron attachment at a surface: CN^- emission from nitrogen ion irradiated graphite.
Surf. Sci. **488**, 393 (2001)

$N_2{}^+$ + C	Chemical Reactions	5.00-800.00 eV	Ex
$N_2{}^+$ + C	Desorption	5.00-800.00 eV	Ex
$N_2{}^+$ + C	Sputtering	5.00-800.00 eV	Ex

1293. J. Wang, Y. Wang, K. Jacobi
Dissociation of CO on the Ru(11120) surface.
Surf. Sci. **488**, 83 (2001)

CO + Ru	Reflection	300.00 K	Th

1294. R. Pfandzelter, M. Ostwald, H. Winter
Spin-polarized electron emission induced by impact of protons and electrons on Cr/Fe(100).
Surf. Sci. **488**, 90 (2001)

e + Cr	Second. Elect. Emission	4.00-25.00 keV	Th
H^+ + Cr	Second. Elect. Emission	4.00-25.00 keV	Th

1295. A. Logadottir, J. K. Korskov
The effect of strain for N_2 dissociation on Fe surfaces.
Surf. Sci. **489**, 135 (2001)

N_2 + Fe	Neutraliz., Ioniz., Dissoc.		Th
N_2 + Ru	Neutraliz., Ioniz., Dissoc.		Th

1296. H. Busse, M. R. Voss, D. Jerdev, B. E. Koel, M. T. Paffett
Adsorption and reaction of gaseous H(D) atoms with D(H) adatoms on Pt(111) and Sn/Pt(111) surface alloys.
Surf. Sci. **490**, 133 (2001)

H + Sn	Trapping, Detrapping	1.30 K	Ex
H + Pt	Trapping, Detrapping	1.30 K	Ex
D + Sn	Trapping, Detrapping	1.30 K	Ex
D + Pt	Trapping, Detrapping	1.30 K	Ex
H + Sn	Adsorption, Desorption	1.30 K	Ex
H + Pt	Adsorption, Desorption	1.30 K	Ex
D + Sn	Adsorption, Desorption	1.30 K	Ex
D + Pt	Adsorption, Desorption	1.30 K	Ex

1297. R.J.W.E. Lahaye, H. Kang
Energy exchange in structure scattering: a molecular dynamics study for Cs^+ from Pt(111).
Surf. Sci. **490**, 327 (2001)

Cs^+ + Pt	Reflection	25.00-100.00 eV	Th

1298. J. Mrogenda, E. Reckels, H. J. Andrae
Deconvolution of Auger electron spectra of hyperthermal highly charged ions at metal surfaces.
Surf. Sci. **490**, 43 (2001)

$\mathbf{C^{4+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th
$\mathbf{C^{5+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th
$\mathbf{N^{6+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th
$\mathbf{O^{6+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th
$\mathbf{O^{7+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th
$\mathbf{Ne^{8+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th
$\mathbf{Ne^{9+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th
$\mathbf{Ar^{8+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th
$\mathbf{Ar^{9+} + Al}$	Second. Elect. Emission	0.01-1.00 keV	Th

1299. W. A. Dino, H. Kasai, A. Okiji
H_2 dissociation dynamics on an alloy surface – controlling the dynamics via orientation.
Surf. Sci. **493**, 278 (2001)

$\mathbf{H_2 + Cu_3Pt}$	Adsorption, Desorption	7.60 meV	Th
$\mathbf{H_2 + Cu_3Pt}$	Neutraliz., Ioniz., Dissoc.	7.60 meV	Th

1300. Y. Xu, M. Mavrikakis
Adsorption and dissociation of O_2 on Cu(111): thermochemistry, reaction barrier and the effect of strain.
Surf. Sci. **494**, 131 (2001)

$\mathbf{O_2 + Cu}$	Neutraliz., Ioniz., Dissoc.		Th

1301. M. Bernheim
Energy threshold and ion yield for H^- ions ejected from Si(111):H(1x1) during low energy electron collisions: study of ESD process in relation with atom manipulation in STM.
Surf. Sci. **494**, 145 (2001)

e + H + Si	Desorption	12.00 eV	Ex

1302. A. Losch, H. Niehus
Charge exchange by scattering of 3 keV Ne at Al(111) and KBr(100).
Surf. Sci. **494**, 265 (2001)

$\mathbf{Ne^{+} + Al}$	Reflection	3.00 keV	Ex
$\mathbf{Ne^{+} + Al}$	Reflection	3.00 keV	Ex
$\mathbf{Ne^{+} + KBr}$	Reflection	3.00 keV	Ex
$\mathbf{Ne^{+} + KBr}$	Reflection	3.00 keV	Ex

1303. I. Vaquila, I. L. Bolotin, T. Ito, B. N. Makarenko, J. W. Rabalais
Ion fraction map of He^+ scattered from a Se(100)-(2x1) surface.
Surf. Sci. **496**, 187 (2002)

$\mathbf{He^{+} + Si}$	Reflection	5.00 keV	Ex

1304. R. Souda, M. Kato
Capture and loss of valence electrons during low-energy proton scattering from rare-gas solid surfaces.
Surf. Sci. **496**, 231 (2002)

$\mathbf{H^{+} + Ar}$	Reflection	10.00-500.00 eV	Ex
$\mathbf{H^{+} + Kr}$	Reflection	10.00-500.00 eV	Ex
$\mathbf{H^{+} + Xe}$	Reflection	10.00-500.00 eV	Ex

1305. R. C. Egeberg, S. Ullmann, I. Alstrup, C. B. Mullins, I. Chorkendorff
Dissociation of CH_4 on Ni(111) and Ru(0001).
Surf. Sci. **497**, 183 (2002)

$\mathbf{CH_4 + Ni}$	Adsorption, Desorption	300.00 K	Ex
$\mathbf{CH_4 + Ru}$	Adsorption, Desorption	300.00 K	Ex
$\mathbf{CH_4 + Ni}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex
$\mathbf{CH_4 + Ru}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex

1306. N. V. Petrova, I. N. Yakovkin, Yu. G. Ptushinskii
Monte-Carlo simulation of kinetics of H_2 molecular adsorption.
Surf. Sci. **497**, 349 (2002)

H_2 + Mo	Neutraliz., Ioniz., Dissoc.	300.00 K	Th
H_2 + W	Neutraliz., Ioniz., Dissoc.	300.00 K	Th
H_2 + Mo	Adsorption, Desorption	300.00 K	Th
H_2 + W	Adsorption, Desorption	300.00 K	Th

1307. C.-L. Kao, A. Carlsson, R. J. Madix
The adsorption dynamics of molecular carbon dioxide on Pt(111) and Pd(111).
Surf. Sci. **497**, 356 (2002)

CO_2 + Pd	Neutraliz., Ioniz., Dissoc.	8.50-38.00 kJ/mol	Ex
CO_2 + Pt	Neutraliz., Ioniz., Dissoc.	8.50-38.00 kJ/mol	Ex
CO_2 + Pd	Adsorption, Desorption	8.50-38.00 kJ/mol	Ex
CO_2 + Pt	Adsorption, Desorption	8.50-38.00 kJ/mol	Ex

1308. M. V. R. Murty
Sputtering: the material erosion tool.
Surf. Sci. **500**, 523 (2002)

Ne^+ + Si	Surface Interactions	0.10-300.00 keV	Ex
Ar^+ + Si	Surface Interactions	0.10-300.00 keV	Ex
Ar^+ + Cu	Surface Interactions	0.10-300.00 keV	Ex
Kr^+ + Si	Surface Interactions	0.10-300.00 keV	Ex
Kr^+ + Cu	Surface Interactions	0.10-300.00 keV	Ex
Xe^+ + Si	Surface Interactions	0.10-300.00 keV	Ex
Ne^+ + Si	Sputtering	0.10-300.00 keV	Ex
Ar^+ + Si	Sputtering	0.10-300.00 keV	Ex
Ar^+ + Cu	Sputtering	0.10-300.00 keV	Ex
Kr^+ + Si	Sputtering	0.10-300.00 keV	Ex
Kr^+ + Cu	Sputtering	0.10-300.00 keV	Ex
Xe^+ + Si	Sputtering	0.10-300.00 keV	Ex

1309. E. A. Sanchez, O. Grizzi, V. A. Esaulov
Autoionising state production in N^+, O^+, Ne^+ and Ar^+ scattering on clean and K covered Al(111) surfaces.
Surf. Sci. **501**, 132 (2002)

N^+ + Al	Second. Elect. Emission	5.00-50.00 keV	Ex
N^+ + K	Second. Elect. Emission	5.00-50.00 keV	Ex
O^+ + Al	Second. Elect. Emission	5.00-50.00 keV	Ex
O^+ + K	Second. Elect. Emission	5.00-50.00 keV	Ex
Ne^+ + Al	Second. Elect. Emission	5.00-50.00 keV	Ex
Ne^+ + K	Second. Elect. Emission	5.00-50.00 keV	Ex
Ar^+ + Al	Second. Elect. Emission	5.00-50.00 keV	Ex
Ar^+ + K	Second. Elect. Emission	5.00-50.00 keV	Ex
N^+ + Al	Reflection	5.00-50.00 keV	Ex
N^+ + K	Reflection	5.00-50.00 keV	Ex
O^+ + Al	Reflection	5.00-50.00 keV	Ex
O^+ + K	Reflection	5.00-50.00 keV	Ex
Ne^+ + Al	Reflection	5.00-50.00 keV	Ex
Ne^+ + K	Reflection	5.00-50.00 keV	Ex
Ar^+ + Al	Reflection	5.00-50.00 keV	Ex
Ar^+ + K	Reflection	5.00-50.00 keV	Ex
N^+ + Al	Sputtering	5.00-50.00 keV	Ex
N^+ + K	Sputtering	5.00-50.00 keV	Ex
O^+ + Al	Sputtering	5.00-50.00 keV	Ex
O^+ + K	Sputtering	5.00-50.00 keV	Ex

$\mathbf{Ne^+ + Al}$	Sputtering	5.00-50.00 keV	Ex
$\mathbf{Ne^+ + K}$	Sputtering	5.00-50.00 keV	Ex
$\mathbf{Ar^+ + Al}$	Sputtering	5.00-50.00 keV	Ex
$\mathbf{Ar^+ + K}$	Sputtering	5.00-50.00 keV	Ex

1310. A. Ozer, J. R. Manson
Comparison of one-dimensional and three-dimensional models for the energy accommodation coefficient.
Surf. Sci. **502/503**, 347 (2002)

$\mathbf{H_2 + Cu}$	Adsorption, Desorption	0.05 eV	Th
$\mathbf{H_2 + Pd}$	Adsorption, Desorption	0.05 eV	Th
$\mathbf{D_2 + Cu}$	Adsorption, Desorption	0.05 eV	Th
$\mathbf{D_2 + Pd}$	Adsorption, Desorption	0.05 eV	Th
$\mathbf{H_2 + Cu}$	Neutraliz., Ioniz., Dissoc.	0.05 eV	Th
$\mathbf{H_2 + Pd}$	Neutraliz., Ioniz., Dissoc.	0.05 eV	Th
$\mathbf{D_2 + Cu}$	Neutraliz., Ioniz., Dissoc.	0.05 eV	Th
$\mathbf{D_2 + Pd}$	Neutraliz., Ioniz., Dissoc.	0.05 eV	Th

1311. J. Lorincik, Z. Sroubek, S. Cernusca, A. Diem, HP. Winter, F. Aumayr
Ion induced kinetic electron emission from highly oriented pyrolytic graphite by impact of $\mathbf{H^+}$, $\mathbf{C^+}$, $\mathbf{N^+}$, and $\mathbf{O^+}$.
Surf. Sci. **504**, 59 (2002)

$\mathbf{H^+ + C}$	Second. Elect. Emission	0.10-30.00 keV	Ex
$\mathbf{C^+ + C}$	Second. Elect. Emission	0.10-30.00 keV	Ex
$\mathbf{N^+ + C}$	Second. Elect. Emission	0.10-30.00 keV	Ex
$\mathbf{O^+ + C}$	Second. Elect. Emission	0.10-30.00 keV	Ex

1312. Z. S. Wang, G. R. Darling, S. Holloway
Vibration-rotational coupling of $\mathbf{H_2}$ molecules scattering from a Cu(111) surface.
Surf. Sci. **504**, 66 (2002)

$\mathbf{H_2 + Cu}$	Reflection	0.50-1.50 eV	Th

1313. M. Medvedeva, I. Wojciechowski, B. J. Garrison
Effect of mass and incidence angle of keV energy polyatomic projectiles in silicon sputtering.
Surf. Sci. **505**, 349 (2002)

$\mathbf{Al^+ + Si}$	Sputtering	1.50-3.00 keV	Th
$\mathbf{Al^+ + Si}$	Sputtering	1.50-3.00 keV	Th
$\mathbf{Al_2{}^+ + Si}$	Sputtering	1.50-3.00 keV	Th
$\mathbf{Al_2{}^+ + Si}$	Sputtering	1.50-3.00 keV	Th
$\mathbf{Au^+ + Si}$	Sputtering	1.50-3.00 keV	Th
$\mathbf{Au^+ + Si}$	Sputtering	1.50-3.00 keV	Th
$\mathbf{Au_2{}^+ + Si}$	Sputtering	1.50-3.00 keV	Th
$\mathbf{Au_2{}^+ + Si}$	Sputtering	1.50-3.00 keV	Th

1314. J.A.M.C. Silva, J. Wolfgang, A. G. Borisov, J. P. Gauyacq, P. Nordlander, D. Teillet-Billy
Effect of a surface Al adatom on the resonant charge transfer between an $\mathbf{H^-}$ ion and an Al(111) surface.
Surf. Sci. **506**, 145 (2002)

$\mathbf{H^{-1+} + Al}$	Neutraliz., Ioniz., Dissoc.		Th

1315. J. D. Fuhr, J. O. Sofo, A. Saul
Coverage dependence study of the adsorption of Pd on $\mathbf{MoS_2}$(0001).
Surf. Sci. **506**, 161 (2002)

$\mathbf{Pd + MoS_2}$	Adsorption, Desorption		Th

1316. D.T.P. Watson, J. van Dijk, J.J.W. Harris, D. A. King
Coverage dependence of the dissociative sticking probability of methane on Pt110-(1x2).
Surf. Sci. **506**, 243 (2002)

$\mathbf{CH_4 + Pt}$	Neutraliz., Ioniz., Dissoc.	100.00-600.00 meV	Ex
$\mathbf{CH_4 + Pt}$	Adsorption, Desorption	100.00-600.00 meV	Ex

1317. R. Souda
Electron-stimulated ion and neutral desorption from $\mathbf{D_2O}$ adsorbed on rare-gas-solid substrates.
Surf. Sci. **511**, 147 (2002)

$\mathbf{e + D_2O + Ar}$	Desorption	1.00 keV	Ex
$\mathbf{e + D_2O + Kr}$	Desorption	1.00 keV	Ex

1318. J. M. Gottfried, K. J. Schmidt, S.L.M. Schroeder, K. Christmann
Spontaneous and electron-induced adsorption of oxygen on Au(110)-(1x2).
Surf. Sci. **511**, 65 (2002)

$\mathbf{O_2 + Au}$	Adsorption, Desorption	300.00 K	Ex

1319. S. Tsurubuchi, T. Nimura
Survival probability of an excited sputtered Al atom in the $\mathbf{4s^2S_{1/2}}$ state from a polycrystalline Al surface as a function of surface-oxygen coverage.
Surf. Sci. **513**, 539 (2002)

$\mathbf{Ar^+ + Al}$	Neutraliz., Ioniz., Dissoc.	40.00 keV	Ex
$\mathbf{Ar^+ + Al}$	Sputtering	40.00 keV	Ex

1320. M. Kato, R. Souda
Study of quasi-resonant neutralization of low energy $\mathbf{H^+}$ ion colliding with rare-gas solid surfaces in terms of hole localization and delocalization.
Surf. Sci. **513**, 71 (2002)

$\mathbf{H^+ + Ar}$	Reflection	10.00-500.00 eV	Ex
$\mathbf{H^+ + Kr}$	Reflection	10.00-500.00 eV	Ex
$\mathbf{H^+ + Xe}$	Reflection	10.00-500.00 eV	Ex
$\mathbf{H^+ + Ar}$	Neutraliz., Ioniz., Dissoc.	10.00-500.00 eV	Ex
$\mathbf{H^+ + Kr}$	Neutraliz., Ioniz., Dissoc.	10.00-500.00 eV	Ex
$\mathbf{H^+ + Xe}$	Neutraliz., Ioniz., Dissoc.	10.00-500.00 eV	Ex

1321. L. Siller, M.R.C. Hunt, J. W. Brown, J.-M. Coquel, P. Rudolf
Nitrogen ion irradiation of Au(110): formation of gold nitride.
Surf. Sci. **513**, 78 (2002)

$\mathbf{N^+ + Au}$	Chemical Reactions	0.50-2.00 keV	Ex

1322. Yu. Bandurin, S. Lacombe, L. Guillemot, V. A. Esaulov
Surface plasmon excitation in hydrogen and helium ion scattering on Ag.
Surf. Sci. **513**, L413 (2002)

$\mathbf{H^{-1+} + Ag}$	Surface Interactions	0.50-15.00 keV	Ex
$\mathbf{H^+ + Ag}$	Surface Interactions	0.50-15.00 keV	Ex
$\mathbf{He + Ag}$	Surface Interactions	0.50-15.00 keV	Ex
$\mathbf{He^+ + Ag}$	Surface Interactions	0.50-15.00 keV	Ex
$\mathbf{He^{2+} + Ag}$	Surface Interactions	0.50-15.00 keV	Ex

1323. I. Nakamura, T. Fujitani, H. Hamada
Adsorption and decomposition of NO on Pd surfaces.
Surf. Sci. **514**, 409 (2002)

$\mathbf{NO + Pd}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex
$\mathbf{NO + Pd}$	Adsorption, Desorption	300.00 K	Ex

1324. H. Okada, K. Inagaki, H. Goto, K. Endo, K. Hirose, Y. Mori
First-principles molecular-dynamics calculations and STM observations of dissociative adsorption of Cl_2 and F_2 on Si(001) surface.
Surf. Sci. **515**, 287 (2002)

$\mathbf{F_2 + Si}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex
$\mathbf{Cl_2 + Si}$	Neutraliz., Ioniz., Dissoc.	300.00 K	Ex

1325. Y. Hoshino, S. Semba, T. Okazawa, Y. Kido
A_2- and energy-dependent charge fractions for medium energy He ions after a large-angle single collision at solid surfaces.
Surf. Sci. **515**, 305 (2002)

$\mathbf{He^+ + NiSi_2}$	Reflection	1.80 keV	Ex
$\mathbf{He^+ + MgO}$	Reflection	1.80 keV	Ex
$\mathbf{He^+ + KI}$	Reflection	1.80 keV	Ex

1326. M. Beutl, J. Lesnik
The influence of subsurface vanadium on the absorption of hydrogen and carbon monoxide on Pd(111).
Vacuum **61**, 113 (2000)

$\mathbf{H_2 + V}$	Adsorption, Desorption	88.00 meV	Ex
$\mathbf{D_2 + V}$	Adsorption, Desorption	88.00 meV	Ex
CO + V	Adsorption, Desorption	88.00 meV	Ex

1327. D. A. Konov, A. S. Mosunov, G. V. Adamov, L. B. Shelyakin, V. E. Yurasova
Angular dependence of sputtering for nickel in ferro and paramagnetic states.
Vacuum **64**, 47 (2000)

$\mathbf{Ne^+ + Ni}$	Sputtering	10.00 keV	E/T

1328. Yu. N. Devyatko, S. V. Rogozhkin
Theoretical aspects of sputtering of magnetic materials near the Curie point.
Vacuum **66**, 123 (2002)

$\mathbf{Ar^+ + Ni}$	Sputtering	20.00 keV	Th

1329. Yu. N. Cheblukov, A. Yu. Didyk, A. Halil, V. K. Semina, A. E. Stepanov, A. L. Suvorov, N. A. Vasiliev
Sputtering of metals by heavy ions in the inelastic energy loss range.
Vacuum **66**, 133 (2002)

$\mathbf{Kr^+ + Ni}$	Sputtering	0.20-1.40 GeV	Ex
$\mathbf{Kr^+ + Au}$	Sputtering	0.20-1.40 GeV	Ex
$\mathbf{Au^+ + Ti}$	Sputtering	0.20-1.40 GeV	Ex
$\mathbf{Au^+ + Zr}$	Sputtering	0.20-1.40 GeV	Ex
$\mathbf{Au^+ + Au}$	Sputtering	0.20-1.40 GeV	Ex
$\mathbf{U^+ + Au}$	Sputtering	0.20-1.40 GeV	Ex

1330. A. M. Borisov, E. S. Mashkova, E. S. Parilis
The sweeping-out-electrons effect in electron emission under molecular ion bombardment.
Vacuum **66**, 145 (2002)

$\mathbf{N^+ + C}$	Second. Elect. Emission	15.00-34.00 keV	Ex
$\mathbf{N^+ + Cr}$	Second. Elect. Emission	15.00-34.00 keV	Ex
$\mathbf{N^+ + Au}$	Second. Elect. Emission	15.00-34.00 keV	Ex
$\mathbf{N_2{}^+ + C}$	Second. Elect. Emission	15.00-34.00 keV	Ex
$\mathbf{N_2{}^+ + Cr}$	Second. Elect. Emission	15.00-34.00 keV	Ex
$\mathbf{N_2{}^+ + Au}$	Second. Elect. Emission	15.00-34.00 keV	Ex

3.4 Data Collection, Bibliography, Progress Report

1331. I. S. Lim, J. K. Laerdahl, P. Schwerdtfeger
Fully relativistic coupled-cluster static dipole polarizabilities of the positively charged alkali ions from Li^{+} to 119^{+}.
J. Chem. Phys. **116**, 172 (2002)

perturbation^{1+}	Data Coll., Biblio., Progress Report		Ex

1332. R. A. Causey
Hydrogen isotope retention and recycling in fusion reactor plasma-facing components.
J. Nucl. Mater. **300**, 91 (2002)

$\mathbf{H}^{1+}$ + **Li**	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex
$\mathbf{H}^{1+}$ + **Be**	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex
$\mathbf{H}^{1+}$ + **C**	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex
$\mathbf{H}^{1+}$ + **Ga**	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex
$\mathbf{H}^{1+}$ + **W**	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex
$\mathbf{D}^{1+}$ + **Li**	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex
$\mathbf{D}^{1+}$ + **Be**	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex
$\mathbf{D}^{1+}$ + **C**	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex
$\mathbf{D}^{1+}$ + **Ga**	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex
$\mathbf{D}^{1+}$ + **W**	Data Coll., Biblio., Progress Report	0.10-15.00 keV	Ex

1333. A. Yu. Pigarov
Collisional radiative kinetics of molecular assisted recombination in edge plasmas.
Phys. Scr. **T96**, 16 (2002)

e + $\mathbf{H}^{-1+}$	Data Coll., Biblio., Progress Report	0.10-10.00 eV	Th
e + $\mathbf{H}^{-1+}$	Data Coll., Biblio., Progress Report	0.10-10.00 eV	Th
e + $\mathbf{H_2}^{1+}$	Data Coll., Biblio., Progress Report	0.10-10.00 eV	Th
e + $\mathbf{H_2}^{1+}$	Data Coll., Biblio., Progress Report	0.10-10.00 eV	Th

1334. R. Celiberto, M. Capitelli, A. Laricchiuta
Towards a cross section database of excited atomic and molecular hydrogen.
Phys. Scr. **T96**, 32 (2002)

e + $\mathbf{H_2}$	Data Coll., Biblio., Progress Report	100.00 eV	Th

1335. H. Takagi
Dissociative recombination and excitation of H_2^{+}, HD^{+}, and D_2^{+} with electrons for various vibrational states.
Phys. Scr. **T96**, 52 (2002)

e + $\mathbf{H_2}^{1+}$	Data Coll., Biblio., Progress Report	12.00 eV	Th
e + $\mathbf{HD}^{1+}$	Data Coll., Biblio., Progress Report	12.00 eV	Th
e + $\mathbf{D_2}^{1+}$	Data Coll., Biblio., Progress Report	12.00 eV	Th

1336. J. G. Wang, P. C. Stancil
Hydrogen ion-molecule isotopomer collisions: Charge transfer and rearrangement.
Phys. Scr. **T96**, 72 (2002)

$\mathbf{H}^{1+}$ + $\mathbf{H_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H}^{1+}$ + $\mathbf{H_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H}^{1+}$ + **HT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H}^{1+}$ + **HT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H}^{1+}$ + $\mathbf{D_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H}^{1+}$ + $\mathbf{D_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H}^{1+}$ + **DT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H}^{1+}$ + **DT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H}^{1+}$ + $\mathbf{T_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H}^{1+}$ + $\mathbf{T_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T

$\mathbf{H_2}^{1+}$ + **H**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H_2}^{1+}$ + **H**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H_2}^{1+}$ + **D**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{H_2}^{1+}$ + **D**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{HD}^{1+}$ + **H**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{HD}^{1+}$ + **H**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{HD}^{1+}$ + **D**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{HD}^{1+}$ + **D**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D}^{1+}$ + $\mathbf{H_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D}^{1+}$ + $\mathbf{H_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D}^{1+}$ + **HT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D}^{1+}$ + **HT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D}^{1+}$ + $\mathbf{D_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D}^{1+}$ + $\mathbf{D_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D}^{1+}$ + **DT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D}^{1+}$ + **DT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D}^{1+}$ + $\mathbf{T_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D}^{1+}$ + $\mathbf{T_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D_2}^{1+}$ + **H**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D_2}^{1+}$ + **H**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D_2}^{1+}$ + **D**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{D_2}^{1+}$ + **D**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{T}^{1+}$ + $\mathbf{H_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{T}^{1+}$ + $\mathbf{H_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{T}^{1+}$ + **HT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{T}^{1+}$ + **HT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{T}^{1+}$ + $\mathbf{D_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{T}^{1+}$ + $\mathbf{D_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{T}^{1+}$ + **DT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{T}^{1+}$ + **DT**	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{T}^{1+}$ + $\mathbf{T_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T
$\mathbf{T}^{1+}$ + $\mathbf{T_2}$	Data Coll., Biblio., Progress Report	0.00-10.00 keV	E/T

3.5 Fusion Research of General Interest

1337. S. Lepp, P. C. Stancil, A. Dalgarno
Atomic and molecular processes in the early Universe.
J. Phys. B **35**, R57 (2002)

hν + $\mathbf{H}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th
hν + **H**	Fusion Research of General Interest	0.10-1.00 K	Th
hν + $\mathbf{D}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th
hν + **D**	Fusion Research of General Interest	0.10-1.00 K	Th
hν + **He**	Fusion Research of General Interest	0.10-1.00 K	Th
hν + $\mathbf{He}^{1+}$	Fusion Research of General Interest	0.10-1.00 K	Th
hν + $\mathbf{Li}^{-1+}$	Fusion Research of General Interest	0.10-1.00 K	Th
hν + **Li**	Fusion Research of General Interest	0.10-1.00 K	Th
hν + $\mathbf{Li}^{1+}$	Fusion Research of General Interest	0.10-1.00 K	Th
hν + $\mathbf{Li}^{2+}$	Fusion Research of General Interest	0.10-1.00 K	Th
e + **H**	Fusion Research of General Interest	0.10-1.00 K	Th
e + **D**	Fusion Research of General Interest	0.10-1.00 K	Th
e + **He**	Fusion Research of General Interest	0.10-1.00 K	Th
e + $\mathbf{He}^{1+}$	Fusion Research of General Interest	0.10-1.00 K	Th
e + $\mathbf{He}^{2+}$	Fusion Research of General Interest	0.10-1.00 K	Th
e + **Li**	Fusion Research of General Interest	0.10-1.00 K	Th
e + $\mathbf{Li}^{1+}$	Fusion Research of General Interest	0.10-1.00 K	Th

e + Li^{2+}	Fusion Research of General Interest	0.10-1.00 K	Th
e + Li^{3+}	Fusion Research of General Interest	0.10-1.00 K	Th
H^{1+} + H^{-1+}	Fusion Research of General Interest	0.10-1.00 K	Th
H^{1+} + D^{-1+}	Fusion Research of General Interest	0.10-1.00 K	Th
H^{1+} + Li^{-1+}	Fusion Research of General Interest	0.10-1.00 K	Th
H_2 + D^{1+}	Fusion Research of General Interest	0.10-1.00 K	Th
$H_2{}^{1+}$ + H^{-1+}	Fusion Research of General Interest	0.10-1.00 K	Th
D^{1+} + H^{-1+}	Fusion Research of General Interest	0.10-1.00 K	Th
D^{1+} + D^{-1+}	Fusion Research of General Interest	0.10-1.00 K	Th
D^{1+} + Li^{-1+}	Fusion Research of General Interest	0.10-1.00 K	Th
Li^{1+} + H^{-1+}	Fusion Research of General Interest	0.10-1.00 K	Th
Li^{1+} + D^{-1+}	Fusion Research of General Interest	0.10-1.00 K	Th

3.6 Particle Beam-Matter Interactions

1338. A. I. Titov, S. O. Kucheyev, V. S. Belyakov, A. Yu. Azarov
Damage buildup in Si under bombardment with MeV heavy atomic and molecular ions.
J. Appl. Phys. **90**, 3867 (2001)

$Bi_2{}^{1+}$ + Si	Particle Beam-Matter interaction	0.50-1.00 MeV	Ex
Bi^{1+} + Si	Particle Beam-Matter interaction	0.50-1.00 MeV	Ex

1339. J. J. Serrano, J. M. Blanco, B. Guzman, H. De Witte, W. Vandervorst
Stopping cross sections for 0.3-2.5 MeV protons in GaN and InP.
J. Appl. Phys. **90**, 4871 (2001)

H + InP	Particle Beam-Matter interaction	0.30-2.50 MeV	Ex
H + GaN	Particle Beam-Matter interaction	0.30-2.50 MeV	Ex

1340. K. Shibata, K. Tsubuku, T. Nishimoto, J. Hasegawa, M. Ogawa, Y. Oguri
Experimental study on the feasibility of hot plasmas as stripping media for MeV heavy ions.
J. Appl. Phys. **91**, 4833 (2002)

C^{1+} + H	Particle Beam-Matter interaction	350.00 keV/amu	Ex
C^{1+} + Li	Particle Beam-Matter interaction	350.00 keV/amu	Ex
O^{1+} + H	Particle Beam-Matter interaction	350.00 keV/amu	Ex
O^{1+} + Li	Particle Beam-Matter interaction	350.00 keV/amu	Ex
F^{1+} + H	Particle Beam-Matter interaction	350.00 keV/amu	Ex
F^{1+} + Li	Particle Beam-Matter interaction	350.00 keV/amu	Ex

1341. V. K. Alimov, K. Ertl, J. Roth, K. Schmid
Retention of ion-implanted deuterium in tungsten pre-irradiated with carbon ions.
J. Nucl. Mater. **282**, 125 (2000)

D + C + W	Particle Beam-Matter interaction	10.00-100.00 keV	Ex
D + W	Particle Beam-Matter interaction	10.00-100.00 keV	Ex
D + WC	Particle Beam-Matter interaction	10.00-100.00 keV	Ex

1342. R. A. Zuhr, J. Roth, W. Eckstein, U. von Toussaint, J. Luthin
Implantation, erosion, and retention of tungsten in carbon.
J. Nucl. Mater. **290-293**, 505 (2001)

W^{1+} + C	Particle Beam-Matter interaction	100.00 eV	Ex

1343. A.Y.K. Chen, J. W. Davis, A. A. Haasz
Methane formation in graphite and boron-doped graphite under simultaneous O^+ and H^+ irradiation.
J. Nucl. Mater. **290-293**, 61 (2001)

$\mathbf{H}^{1+} + \mathbf{B}$	Particle Beam-Matter interaction	0.70-5.00 keV	Ex
$\mathbf{H}^{1+} + \mathbf{C}$	Particle Beam-Matter interaction	0.70-5.00 keV	Ex
$\mathbf{O}^{1+} + \mathbf{B}$	Particle Beam-Matter interaction	0.70-5.00 keV	Ex
$\mathbf{O}^{1+} + \mathbf{C}$	Particle Beam-Matter interaction	0.70-5.00 keV	Ex

1344. A. A. Haasz, M. Poon, R. G. Macaulay-Newcombe, J. W. Davis
Deuterium retention in single crystal tungsten.
J. Nucl. Mater. **290-293**, 85 (2001)

$\mathbf{D_3}^{1+} + \mathbf{W}$	Particle Beam-Matter interaction	1.50 keV	Ex

1345. N. Matsunami, M. Sataka, A. Iwase, T. Inami, M. Kobiyama
Sputtering of nano-crystalline gold by high energy heavy ions.
J. Nucl. Mater. **302**, 206 (2002)

$\mathbf{S}^{7+} + \mathbf{Au}$	Particle Beam-Matter interaction	80.00-200.00 MeV	Ex
$\mathbf{Ni}^{6+} + \mathbf{Au}$	Particle Beam-Matter interaction	80.00-200.00 MeV	Ex
$\mathbf{I}^{9+} + \mathbf{Au}$	Particle Beam-Matter interaction	80.00-200.00 MeV	Ex
$\mathbf{I}^{12+} + \mathbf{Au}$	Particle Beam-Matter interaction	80.00-200.00 MeV	Ex

1346. H. Rothard, G. Lanzano, D. H Jakubassa-Amundsen, E. De Filippo, D. Mahboub
Theory and measurement of absolute doubly differential cross sections of binary encounter electron ejection in collisions of swift heavy ions with solids.
J. Phys. B **34**, 3261 (2001)

$\mathbf{Ni}^{28+} + \mathbf{C}$	Particle Beam-Matter interaction	45.00 MeV/amu	E/T

1347. P. Moretto-Capelle, D. Bordenave-Montesquieu, A. Rentenier, A. Bordenave-Montesquieu
Interaction of protons with the $\mathbf{C_{60}}$ molecule: calculation of deposited energies and electronic stopping cross sections (v¡5 au).
J. Phys. B **34**, L611 (2001)

$\mathbf{H}^{1+} + \mathbf{C_{60}}$	Particle Beam-Matter interaction	0.10-5.00 a.u.	Th

1348. K. Parodi, S. Squarcia
Improvement of low-energy stopping power algorithms in the FLUKA simulation program.
Nucl. Instrum. Methods Phys. Res. A **456**, 352 (2001)

$\mathbf{H}^{1+} + \mathbf{H}$	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th
$\mathbf{H}^{1+} + \mathbf{C}$	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th
$\mathbf{H}^{1+} + \mathbf{O}$	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th
$\mathbf{He}^{2+} + \mathbf{H}$	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th
$\mathbf{He}^{2+} + \mathbf{C}$	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th
$\mathbf{He}^{2+} + \mathbf{O}$	Particle Beam-Matter interaction	0.00-100.00 MeV/amu	Th

1349. A. Sakumi, K. Shibata, R. Sato, K. Tsubuku, T. Nishimoto, J. Hasegawa, M. Ogawa, Y. Oguri, T. Katayama
Energy dependence of the stopping power of MeV ^{16}O ions in a laser-produced plasma.
Nucl. Instrum. Methods Phys. Res. A **464**, 231 (2001)

$\mathbf{e} + \mathbf{O}^{2+}$	Particle Beam-Matter interaction	0.10-0.80 MeV/amu	Ex

1350. J. Hasegawa, Y. Nakajima, K. Sakai, M. Yoshida, S. Fukata, K. Nishigori, M. Kojima, Y. Oguri, M. Nakajima, K. Horioka, M. Ogawa, U. Neuner, T. Murakami
Energy loss of 6 MeV/u iron ions in partially ionized helium plasma.
Nucl. Instrum. Methods Phys. Res. A **464**, 237 (2001)

$\mathbf{e} + \mathbf{Fe}^{21+}$	Particle Beam-Matter interaction	6.00 MeV/amu	Ex
$\mathbf{e} + \mathbf{Fe}^{25+}$	Particle Beam-Matter interaction	6.00 MeV/amu	Ex

1351. A. Golubev, V. Turtikov, A. Fertman, I. Roudskoy, B. Sharkov, M. Geissel, U. Neuner, M. Roth, A. Tauschwitz, H. Wahl, D.H.H. Hofmann, U. Funk, W. Suss, J. Jacoby
Experimental investigation of the effective charge state of ions in beam-plasma interaction.
Nucl. Instrum. Methods Phys. Res. A **464**, 247 (2001)

$\mathbf{e + C^{1+}}$	Particle Beam-Matter interaction	3.60-11.40 MeV/amu	Ex
$\mathbf{e + Kr^{1+}}$	Particle Beam-Matter interaction	3.60-11.40 MeV/amu	Ex
$\mathbf{e + Pb^{1+}}$	Particle Beam-Matter interaction	3.60-11.40 MeV/amu	Ex

1352. D. Gardes, M. Chabot, M. Nectoux, G. Maynard, C. Deutsch, G. Belyaev
Experimental analysis of the stopping cross sections and of the charge changing processes for $\mathbf{Cl^{q+}}$ projectiles at the maximum of the stopping power.
Nucl. Instrum. Methods Phys. Res. A **464**, 253 (2001)

$\mathbf{e + Cl^{7+}}$	Particle Beam-Matter interaction	0.06-1.03 MeV	Ex
$\mathbf{Cl^{7+} + D_2}$	Particle Beam-Matter interaction	0.06-1.03 MeV	Ex
$\mathbf{Cl^{7+} + C}$	Particle Beam-Matter interaction	0.06-1.03 MeV	Ex

1353. G. Maynard, K. Katsonis, C. Deutsch, G. Zwicknagel, M. Chabot, D. Gardes
Modeling of swift heavy ions interaction with dense matter.
Nucl. Instrum. Methods Phys. Res. A **464**, 86 (2001)

$\mathbf{Cl^{10+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th
$\mathbf{Cl^{11+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th
$\mathbf{Cl^{12+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th
$\mathbf{Cl^{13+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th
$\mathbf{Cl^{14+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th
$\mathbf{Cl^{15+} + H_2}$	Particle Beam-Matter interaction	1.50 MeV/amu	Th

1354. R. E. Olson
Stripping cross-sections for fast, low charge state ions.
Nucl. Instrum. Methods Phys. Res. A **464**, 93 (2001)

$\mathbf{Xe^{1+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Xe^{2+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Xe^{3+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Xe^{4+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Xe^{5+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Xe^{6+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Xe^{7+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Xe^{8+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Xe^{9+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Xe^{10+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Xe^{11+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Xe^{12+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{U^{10+} + H_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{U^{10+} + N_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{1+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{2+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{3+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{4+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{5+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{6+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{7+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{8+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{9+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{10+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{11+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th
$\mathbf{Bi^{12+} + BeF_2}$	Particle Beam-Matter interaction	2.60-8.40 GeV	Th

1355. A. Hakim, A. Fahli, M. Toulemonde, D. Lelievre
Stopping powers of Al, Havar, Ni, Ti and Ta media for 9.67 MeV/u $\mathbf{^{58}Ni}$ and 9.5 MeV/u $\mathbf{^{18}O}$ ions.

$\mathbf{O^{1+} + Al}$	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex

O^{1+} + **Ti**	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex
O^{1+} + **Ni**	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex
O^{1+} + **Ta**	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex
Ni^{1+} + **Al**	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex
Ni^{1+} + **Ti**	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex
Ni^{1+} + **Ni**	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex
Ni^{1+} + **Ta**	Particle Beam-Matter interaction	9.50-9.70 MeV/amu	Ex

1356. X. Tordoir, T. Bastin, P.-D. Dumont, H.-P. Garnir
Equilibrium charge-state distributions of sodium ions in carbon foil.
Nucl. Instrum. Methods Phys. Res. B **173**, 275 (2001)

Na^{1+} + **C**	Particle Beam-Matter interaction	0.43-1.66 MeV	Ex

1357. Y. Mejaddem, D. S. Belkic, S. Hyodynmaa, A. Brahme
Calculations of electron energy loss straggling.
Nucl. Instrum. Methods Phys. Res. B **173**, 397 (2001)

e + H_2O	Particle Beam-Matter interaction	10.00-44.00 MeV	Th
e + **Be**	Particle Beam-Matter interaction	10.00-44.00 MeV	Th
e + **C**	Particle Beam-Matter interaction	10.00-44.00 MeV	Th
e + **Al**	Particle Beam-Matter interaction	10.00-44.00 MeV	Th
e + **Cu**	Particle Beam-Matter interaction	10.00-44.00 MeV	Th
e + **Pb**	Particle Beam-Matter interaction	10.00-44.00 MeV	Th

1358. X. Liu, P. Liu, Y. Xia, R. Wang, Y. Ma, M. Zhao, J. Zhang
Range distribution and electronic stopping powers for fluorine ions in $^{19}F^{+}$ - implanted potassium titanyl phosphate and $LiNbO_3$.
Nucl. Instrum. Methods Phys. Res. B **174**, 1 (2001)

F^{1+} + $LiNbO_3$	Particle Beam-Matter interaction	50.00-330.00 keV	Ex
F^{1+} + $LiNbO_3$	Particle Beam-Matter interaction	50.00-330.00 keV	Ex

1359. M. Fama, G. H. Lantschner, J. C. Eckardt, N. R. Arista
Angular dependence of the energy loss of ions in solids: Computer simulations and analysis of models.
Nucl. Instrum. Methods Phys. Res. B **174**, 16 (2001)

H^{1+} + **Al**	Particle Beam-Matter interaction	100.00 keV	Th
H^{1+} + **Al**	Particle Beam-Matter interaction	100.00 keV	Th

1360. P. K. Diwan, A. K. Sharma, S. Kumar
Stopping power for heavy ions (3¡Z¡35) in solids at energies 0.5-2.5 MeV/n.
Nucl. Instrum. Methods Phys. Res. B **174**, 267 (2001)

C^{1+} + **C**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
C^{1+} + **Al**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
C^{1+} + **Ni**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
C^{1+} + **Cu**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
C^{1+} + **Ag**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
C^{1+} + **Ta**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
C^{1+} + **Au**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
O^{1+} + **C**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
O^{1+} + **Al**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
O^{1+} + **Ni**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
O^{1+} + **Cu**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
O^{1+} + **Ag**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
O^{1+} + **Ta**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
O^{1+} + **Au**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
Al^{1+} + **C**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
Al^{1+} + **Al**	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex

$\mathbf{Al^{1+} + Ni}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Al^{1+} + Cu}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Al^{1+} + Ag}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Al^{1+} + Ta}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Al^{1+} + Au}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cl^{1+} + C}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cl^{1+} + Al}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cl^{1+} + Ni}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cl^{1+} + Cu}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cl^{1+} + Ag}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cl^{1+} + Ta}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cl^{1+} + Au}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + C}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + Al}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + Ni}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + Cu}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + Ag}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + Ta}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + Au}$	Particle Beam-Matter interaction	0.50-2.50 MeV/amu	Ex

1361. P. Sigmund, A. Schinner
Effective charge and related/unrelated quantities in heavy-ion stopping.
Nucl. Instrum. Methods Phys. Res. B **174**, 535 (2001)

$\mathbf{He^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{Be^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{Be^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{O^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{O^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{O^{1+} + Al}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{Ar^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{Ar^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{Ar^{1+} + Al}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{Xe^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{Xe^{1+} + C}$	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th

1362. K.-M. Wang, H.-K. Hu, F. Q. Lu, F. Z. Chen, J.-H. Zhang, X.-D. Liu, B.-R. Shi, Y.-G. Liu
Mean projected range and range straggling of $\mathbf{Bi^{+}}$ ions implanted into lithium triborate.
Nucl. Instrum. Methods Phys. Res. B **174**, 65 (2001)

$\mathbf{Bi^{1+} + LiB_3O_5}$	Particle Beam-Matter interaction	100.00-350.00 keV	Ex
$\mathbf{Bi^{1+} + LiB_3O_5}$	Particle Beam-Matter interaction	100.00-350.00 keV	Ex

1363. J. E. Valdes, P. Vargas, N. R. Arista
Differences in the energy loss of protons and positive muons in solids.
Nucl. Instrum. Methods Phys. Res. B **174**, 9 (2001)

$\mathbf{H^{1+} + Al}$	Particle Beam-Matter interaction	2.50-25.00 keV	Th

1364. I. E. Mozolevski
High energy ion range and deposited energy calculation using the Boltzmann-Fokker-Planck splitting of the Boltzmann transport equation.
Nucl. Instrum. Methods Phys. Res. B **175-177**, 113 (2001)

$\mathbf{As^{1+} + Si}$	Particle Beam-Matter interaction	100.00 keV	Th
$\mathbf{As^{1+} + Si}$	Particle Beam-Matter interaction	100.00 keV	Th

1365. G. Schiwietz, P. L. Grande
Improved charge-state formulas.
Nucl. Instrum. Methods Phys. Res. B **175-177**, 125 (2001)

perturbation^{1+} + **C**	Particle Beam-Matter interaction	5.00 MeV/amu	Th
perturbation^{1+} + **C**	Particle Beam-Matter interaction	5.00 MeV/amu	Th

1366. J. P. De Souza, M. Behar, J. F. Dias, J.H.R Dos Santos
Range parameters of ^{18}O implanted into Si and SiO_2.
Nucl. Instrum. Methods Phys. Res. B **175-177**, 46 (2001)

$\mathbf{O^{1+}}$ + **Si**	Particle Beam-Matter interaction	25.00-200.00 keV	Ex
$\mathbf{O^{1+}}$ + **Si**	Particle Beam-Matter interaction	25.00-200.00 keV	Ex
$\mathbf{O^{1+}}$ + $\mathbf{SiO_2}$	Particle Beam-Matter interaction	25.00-200.00 keV	Ex
$\mathbf{O^{1+}}$ + $\mathbf{SiO_2}$	Particle Beam-Matter interaction	25.00-200.00 keV	Ex

1367. J. C. Eckardt, G. H. Lantschner
Experimental energy straggling of protons in thin solid foils.
Nucl. Instrum. Methods Phys. Res. B **175-177**, 93 (2001)

$\mathbf{H^{1+}}$ + **C**	Particle Beam-Matter interaction	10.00-200.00 keV	Ex
$\mathbf{H^{1+}}$ + **Al**	Particle Beam-Matter interaction	10.00-200.00 keV	Ex
$\mathbf{H^{1+}}$ + **Mn**	Particle Beam-Matter interaction	10.00-200.00 keV	Ex
$\mathbf{H^{1+}}$ + **Cu**	Particle Beam-Matter interaction	10.00-200.00 keV	Ex
$\mathbf{H^{1+}}$ + **Zn**	Particle Beam-Matter interaction	10.00-200.00 keV	Ex
$\mathbf{H^{1+}}$ + **Se**	Particle Beam-Matter interaction	10.00-200.00 keV	Ex
$\mathbf{H^{1+}}$ + **Ag**	Particle Beam-Matter interaction	10.00-200.00 keV	Ex
$\mathbf{H^{1+}}$ + **Sb**	Particle Beam-Matter interaction	10.00-200.00 keV	Ex
$\mathbf{H^{1+}}$ + **Au**	Particle Beam-Matter interaction	10.00-200.00 keV	Ex
$\mathbf{H^{1+}}$ + **Bi**	Particle Beam-Matter interaction	10.00-200.00 keV	Ex

1368. D. L. da Silva, G. de M. Azevedo, M. Behar, J. F. Dias, P. L. Grande
Random energy loss and straggling study of Li into Si.
Nucl. Instrum. Methods Phys. Res. B **175-177**, 98 (2001)

$\mathbf{Li^{1+}}$ + **Si**	Particle Beam-Matter interaction	0.28-8.50 MeV	Ex
$\mathbf{Li^{1+}}$ + **Si**	Particle Beam-Matter interaction	0.28-8.50 MeV	Ex
$\mathbf{Li^{1+}}$ + **Si**	Particle Beam-Matter interaction	0.28-8.50 MeV	Ex

1369. H. Paul, A. Schinner
An empirical approach to the stopping power of solids and gases for ions from $_3$Li to $_{18}$Ar.
Nucl. Instrum. Methods Phys. Res. B **179**, 299 (2001)

$\mathbf{Li^{1+}}$ + **Be**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **C**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **N**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **O**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Ne**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Al**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Si**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Ar**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Ti**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Cu**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Kr**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Ag**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Sn**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Xe**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Pt**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Au**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **Pb**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Li^{1+}}$ + **U**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Be^{1+}}$ + **Be**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Be^{1+}}$ + **C**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Be^{1+}}$ + **N**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th

Be^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Kr	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Xe	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Be^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + N	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Kr	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Xe	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
B^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + N	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Kr	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Xe	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
C^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
N^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
N^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
N^{1+} + N	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
N^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
N^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
N^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th

$\mathbf{N}^{1+}$ + **Si**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{N}^{1+}$ + **Ar**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{N}^{1+}$ + **Ti**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{N}^{1+}$ + **Cu**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{N}^{1+}$ + **Kr**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{N}^{1+}$ + **Ag**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{N}^{1+}$ + **Sn**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{N}^{1+}$ + **Xe**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{N}^{1+}$ + **Pt**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{N}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{N}^{1+}$ + **Pb**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{N}^{1+}$ + **U**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Be**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **C**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **N**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **O**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Ne**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Al**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Si**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Ar**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Ti**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Cu**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Kr**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Ag**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Sn**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Xe**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Pt**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **Pb**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{O}^{1+}$ + **U**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{F}^{1+}$ + **N**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{F}^{1+}$ + **O**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{F}^{1+}$ + **Ne**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{F}^{1+}$ + **Ar**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{F}^{1+}$ + **Kr**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{F}^{1+}$ + **Xe**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Be**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **C**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **N**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **O**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Ne**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Al**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Si**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Ar**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Ti**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Cu**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Kr**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Ag**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Sn**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Xe**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Pt**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Au**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **Pb**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Ne}^{1+}$ + **U**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Na}^{1+}$ + **Be**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Na}^{1+}$ + **C**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
$\mathbf{Na}^{1+}$ + **N**	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th

Na^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Kr	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Xe	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Na^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + N	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Kr	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Xe	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Mg^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Al^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Si^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th

P^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
P^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
P^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
P^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
P^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
P^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
P^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
P^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
P^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
P^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
P^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
P^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + N	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Kr	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Xe	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
S^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + N	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Kr	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Xe	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Cl^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Be	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + C	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + CO_2	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + N	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + O	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Ne	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Al	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Si	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Ar	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th

Ar^{1+} + Ti	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Cu	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Kr	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Kr	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Ag	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Sn	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Xe	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Pt	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Au	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + Pb	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th
Ar^{1+} + U	Particle Beam-Matter interaction	0.00-1.00 GeV/amu	Th

1370. M. S. Gravielle, D. G. Arbo, J. E. Miraglia
Binary contribution to the stopping in fast ion-surface collisions.
Nucl. Instrum. Methods Phys. Res. B **182**, 29 (2001)

H^{1+} + Al	Particle Beam-Matter interaction	700.00 keV	Th

1371. P. Bauer, D. Semrad
How to predict physical and chemical state effects in electronic stopping.
Nucl. Instrum. Methods Phys. Res. B **182**, 62 (2001)

H + Mg	Particle Beam-Matter interaction	10.00-600.00 keV	Th

1372. A. Sarasola, J. D. Fuhr, V. H. Ponce, A. Arnau
Study of the validity of the local density approximation in calculating stopping power and related quantities.
Nucl. Instrum. Methods Phys. Res. B **182**, 67 (2001)

H^{1+} + H	Particle Beam-Matter interaction	0.00-3.60 MeV	Th

1373. G. Kuri, G. Materlik
Measured transverse straggling of MeV Sn and Sb ions implanted in SiO_2 targets.
Nucl. Instrum. Methods Phys. Res. B **183**, 189 (2001)

Sn^{1+} + SiO_2	Particle Beam-Matter interaction	1.35-3.60 MeV	E/T
Sn^{1+} + SiO_2	Particle Beam-Matter interaction	1.35-3.60 MeV	E/T
Sb^{1+} + SiO_2	Particle Beam-Matter interaction	1.35-3.60 MeV	E/T
Sb^{1+} + SiO_2	Particle Beam-Matter interaction	1.35-3.60 MeV	E/T

1374. W. H. Trzaska, T. Alanko, V. Lyapin, J. Raeisaenen
A novel method for obtaining continuous stopping power curves.
Nucl. Instrum. Methods Phys. Res. B **183**, 203 (2001)

Ar^{1+} + C	Particle Beam-Matter interaction	1.00-25.00 MeV	E/T
Ar^{1+} + Ni	Particle Beam-Matter interaction	1.00-25.00 MeV	E/T
Ar^{1+} + Au	Particle Beam-Matter interaction	1.00-25.00 MeV	E/T

1375. Y. Zhang, G. Possnert, H. J. Whitlow
Measurements of the mean energy-loss of swift heavy ions in carbon with high precision.
Nucl. Instrum. Methods Phys. Res. B **183**, 34 (2001)

Li^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
Be^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
B^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
C^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
N^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
O^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
F^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
Na^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
Mg^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
Al^{1+} + C	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex

$\mathbf{Si^{1+} + C}$	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
$\mathbf{Cr^{1+} + C}$	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
$\mathbf{Mn^{1+} + C}$	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex
$\mathbf{Fe^{1+} + C}$	Particle Beam-Matter interaction	0.03-0.90 MeV/amu	Ex

1376. J. E. Bateman
A new model for electron ranges in solid materials.
Nucl. Instrum. Methods Phys. Res. B **184**, 478 (2001)

e + Al	Particle Beam-Matter interaction	1.00-50.00 keV	Th
e + Cu	Particle Beam-Matter interaction	1.00-50.00 keV	Th
e + Au	Particle Beam-Matter interaction	1.00-50.00 keV	Th

1377. X. Liu, P. Liu, F. Chen, M. Zhao, Y. Ma, M. Ying, J. Zhang, Q. Lu, C. Wang
Electronic stopping powers for fluorine ions in $^{19}F^{+}$-implanted tin-oxide films prepared by APCVD.
Nucl. Instrum. Methods Phys. Res. B **187**, 431 (2002)

$\mathbf{F^{1+} + SnO_2}$	Particle Beam-Matter interaction	50.00-180.00 keV	Ex
$\mathbf{F^{1+} + SnO_2}$	Particle Beam-Matter interaction	50.00-180.00 keV	Ex
$\mathbf{F^{1+} + SnO_2}$	Particle Beam-Matter interaction	50.00-180.00 keV	Ex

1378. S. Heredia-Avalos, R. Garcia-Molina, I. Abril
Spatial and energy distributions of the fragments resulting from the dissociation of swift molecular ions in solids.
Nucl. Instrum. Methods Phys. Res. B **190**, 131 (2002)

$\mathbf{B^{1+} + Si}$	Particle Beam-Matter interaction	4.00 MeV	Th
$\mathbf{B^{1+} + Si}$	Particle Beam-Matter interaction	4.00 MeV	Th
$\mathbf{B^{1+} + Si}$	Particle Beam-Matter interaction	4.00 MeV	Th
$\mathbf{B_3{}^{1+} + Si}$	Particle Beam-Matter interaction	4.00 MeV	Th
$\mathbf{B_3{}^{1+} + Si}$	Particle Beam-Matter interaction	4.00 MeV	Th
$\mathbf{B_3{}^{1+} + Si}$	Particle Beam-Matter interaction	4.00 MeV	Th

1379. A. Blazevic, H. G. Bohlen, W. Von Oertzen
Stopping power of swift neon ions in dependence on the charge state in the non-equilibrium regime.
Nucl. Instrum. Methods Phys. Res. B **190**, 64 (2002)

$\mathbf{Ne^{6+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Ex
$\mathbf{Ne^{7+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Ex
$\mathbf{Ne^{8+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Ex
$\mathbf{Ne^{9+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Ex
$\mathbf{Ne^{10+} + C}$	Particle Beam-Matter interaction	2.00 MeV/amu	Ex

1380. Y. Zhang, G. Possnert
Electronic stopping power of swift heavy ions in carbon.
Nucl. Instrum. Methods Phys. Res. B **190**, 69 (2002)

$\mathbf{He^{1+} + C}$	Particle Beam-Matter interaction	100.00-800.00 keV/amu	Ex
$\mathbf{Be^{1+} + C}$	Particle Beam-Matter interaction	100.00-800.00 keV/amu	Ex
$\mathbf{C^{1+} + C}$	Particle Beam-Matter interaction	100.00-800.00 keV/amu	Ex
$\mathbf{Al^{1+} + C}$	Particle Beam-Matter interaction	100.00-800.00 keV/amu	Ex

1381. M. Behar, C. Cohen, J.H.R Dos Santos, P. L. Grande
Energy loss measurements of H_2 and H_3 molecular beams along random and ¡1 1 0¿ directions of Si.
Nucl. Instrum. Methods Phys. Res. B **190**, 74 (2002)

$\mathbf{H_2{}^{1+} + Si}$	Particle Beam-Matter interaction	0.60-2.10 MeV	Ex
$\mathbf{H_3{}^{1+} + Si}$	Particle Beam-Matter interaction	0.60-2.10 MeV	Ex

1382. L. L. Araujo, P. L. Grande, M. Behar, J.H.R Dos Santos
Random stopping power and energy straggling of ^{16}O ions into amorphous Si target.
Nucl. Instrum. Methods Phys. Res. B **190**, 79 (2002)

$\mathbf{O^{1+} + Si}$	Particle Beam-Matter interaction	0.30-13.50 MeV	Ex

1383. H. J. Whitlow, H. Timmers, R. G. Elliman, T.D.M. Weijers, Y. Zhang, J. Uribastera, D. J. O'Connor
Measurements of Si ion stopping in amorphous silicon.
Nucl. Instrum. Methods Phys. Res. B **190**, 84 (2002)

$\mathbf{Si^{1+} + Si}$	Particle Beam-Matter interaction	0.10-3.30 MeV/amu	Ex

1384. I. Abril, R. Garcia-Molina, N. R. Arista, C. F. Sanz-Navarro
Electronic energy loss of swift protons in the oxides Al_2O_3, SiO_2 and ZrO_2.
Nucl. Instrum. Methods Phys. Res. B **190**, 89 (2002)

$\mathbf{H^{1+} + Al_2O_3}$	Particle Beam-Matter interaction	0.00-1.00 MeV	Ex
$\mathbf{H^{1+} + SiO_2}$	Particle Beam-Matter interaction	0.00-1.00 MeV	Ex
$\mathbf{H^{1+} + ZrO_2}$	Particle Beam-Matter interaction	0.00-1.00 MeV	Ex

1385. K. J. Coakley, H. H. Chen-Mayer, G. P. Lamaze, D. S. Simons, P. E. Thompson
Calibration of a stopping power model for silicon based on analysis of neutron depth profiling and secondary ion mass spectrometry measurements.
Nucl. Instrum. Methods Phys. Res. B **192**, 349 (2002)

$\mathbf{He^{1+} + Si}$	Particle Beam-Matter interaction	1.47-1.78 MeV	Th

1386. H. Weick, A. H. Sorensen, H. Geissel, C. Scheidenberger, F. Attallah, V. Chichkine, S. Elisseev, M. Hausmann, H. Irnich, Y. Litvinov
Energy-loss straggling of (200-1000) MeV/u uranium ions.
Nucl. Instrum. Methods Phys. Res. B **193**, 1 (2002)

$\mathbf{U^{91+} + Be}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T
$\mathbf{U^{91+} + Be}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T
$\mathbf{U^{91+} + Al}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T
$\mathbf{U^{91+} + Al}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T
$\mathbf{U^{91+} + Pb}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T
$\mathbf{U^{91+} + Pb}$	Particle Beam-Matter interaction	0.20-1.00 GeV/amu	E/T

1387. C. Ciortea, D. Dumitriu, S. E. Enescu, A. Enulescu, D. Fluerasu, I. Piticu, Z. S. Szilagyi
Inner-shell vacancy production and mean charge states of MeV/u Fe, Co, Ni and Cu ions in Au and Bi solid targets.
Nucl. Instrum. Methods Phys. Res. B **193**, 109 (2002)

$\mathbf{Fe^{1+} + Au}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Fe^{1+} + Au}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Fe^{1+} + Bi}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Fe^{1+} + Bi}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Co^{1+} + Au}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Co^{1+} + Au}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Co^{1+} + Bi}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Co^{1+} + Bi}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Ni^{1+} + Au}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Ni^{1+} + Au}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Ni^{1+} + Bi}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Ni^{1+} + Bi}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + Au}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + Au}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + Bi}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex
$\mathbf{Cu^{1+} + Bi}$	Particle Beam-Matter interaction	0.10-1.50 MeV/amu	Ex

1388. S. Heredia-Avalos, R. Garcia-Molina
Projectile polarization effects in the energy loss of swift ions in solids.
Nucl. Instrum. Methods Phys. Res. B **193**, 15 (2002)

H + Al	Particle Beam-Matter interaction	1.00-100.00 keV	Th
H^{1+} + Al	Particle Beam-Matter interaction	1.00-100.00 keV	Th

1389. K. Czerski, A. Huke, P. Heide, G. Schiwietz
Solid-state effects in d+d fusion reactions.
Nucl. Instrum. Methods Phys. Res. B **193**, 183 (2002)

H + H	Particle Beam-Matter interaction	5.00-60.00 keV	Ex
H + He	Particle Beam-Matter interaction	5.00-60.00 keV	Ex

1390. C. D. Denton, I. Abril, M. D. Barriga-Carrasco, R. Garcia-Molina, G. H. Lantschner, J. C. Eckardt, N. R. Arista
Effect of the neutral charge fraction in the Coulomb explosion of $H_2{}^+$ ions through aluminum foils.
Nucl. Instrum. Methods Phys. Res. B **193**, 198 (2002)

$H_2{}^{1+}$ + Al	Particle Beam-Matter interaction	25.00-100.00 keV/amu	Ex
$H_2{}^{1+}$ + Al	Particle Beam-Matter interaction	25.00-100.00 keV/amu	Ex

1391. G. Maynard, M. Sarrazin, K. Katsonis, K. Dimitriou
Quantum and classical stopping cross-sections of swift heavy ions derived from the evolution with time of the Wigner function.
Nucl. Instrum. Methods Phys. Res. B **193**, 20 (2002)

Ne^{6+} + C	Particle Beam-Matter interaction	2.00 MeV/amu	Th
Ne^{7+} + C	Particle Beam-Matter interaction	2.00 MeV/amu	Th
Ne^{8+} + C	Particle Beam-Matter interaction	2.00 MeV/amu	Th
Ne^{9+} + C	Particle Beam-Matter interaction	2.00 MeV/amu	Th
Ne^{10+} + C	Particle Beam-Matter interaction	2.00 MeV/amu	Th

1392. H.-W. Li, Y.-N. Wang, Z. L. Miskovic
Influence of wake-potential asymmetry on charge states and Coulomb explosion of fast molecular ions in solids.
Nucl. Instrum. Methods Phys. Res. B **193**, 204 (2002)

$N_2{}^{1+}$ + Al	Particle Beam-Matter interaction		Th

1393. Z. L. Miskovic, F. O. Goodman, W.-K. Liu
Fluctuating charge-state effects on energy spectra of fast ions in solids.
Nucl. Instrum. Methods Phys. Res. B **193**, 26 (2002)

H + Al	Particle Beam-Matter interaction		Th
He + Al	Particle Beam-Matter interaction		Th

1394. J. C. Moreno-Marin, I. Abril, R. Garcia-Molina
Stopping power calculation of rubidium and strontium for protons.
Nucl. Instrum. Methods Phys. Res. B **193**, 30 (2002)

H^{1+} + Rb	Particle Beam-Matter interaction	0.00-1.00 MeV	Th
H^{1+} + Rb	Particle Beam-Matter interaction	0.00-1.00 MeV	Th
H^{1+} + Sr	Particle Beam-Matter interaction	0.00-1.00 MeV	Th
H^{1+} + Sr	Particle Beam-Matter interaction	0.00-1.00 MeV	Th

1395. S. Ouichaoui, B. Bouzid
Energy loss straggling of swift heavy ions below 100 MeV/u.
Nucl. Instrum. Methods Phys. Res. B **193**, 36 (2002)

O^{1+} + Al	Particle Beam-Matter interaction		Th
O^{1+} + Al	Particle Beam-Matter interaction		Th

1396. J. E. Valdes, P. Vargas, C. D. Denton, N. R. Arista
Energy loss straggling of low-velocity protons and deuterons channeled in Au¡1 0 0¿.
Nucl. Instrum. Methods Phys. Res. B **193**, 43 (2002)

$\mathbf{H^{1+} + Au}$	Particle Beam-Matter interaction	2.50-25.00 keV	Th
$\mathbf{H^{1+} + Au}$	Particle Beam-Matter interaction	2.50-25.00 keV	Th
$\mathbf{D^{1+} + Au}$	Particle Beam-Matter interaction	2.50-25.00 keV	Th
$\mathbf{D^{1+} + Au}$	Particle Beam-Matter interaction	2.50-25.00 keV	Th

1397. P. Sigmund, A. Schinner
Binary theory of light-ion stopping.
Nucl. Instrum. Methods Phys. Res. B **193**, 49 (2002)

H + C	Particle Beam-Matter interaction	0.00-10.00 MeV	Th
H + Al	Particle Beam-Matter interaction	0.00-10.00 MeV	Th
$\mathbf{H^{1+} + C}$	Particle Beam-Matter interaction	0.00-10.00 MeV	Th
$\mathbf{H^{1+} + Al}$	Particle Beam-Matter interaction	0.00-10.00 MeV	Th
He + C	Particle Beam-Matter interaction	0.00-10.00 MeV	Th
He + Al	Particle Beam-Matter interaction	0.00-10.00 MeV	Th
$\mathbf{He^{1+} + C}$	Particle Beam-Matter interaction	0.00-10.00 MeV	Th
$\mathbf{He^{1+} + Al}$	Particle Beam-Matter interaction	0.00-10.00 MeV	Th
$\mathbf{He^{2+} + C}$	Particle Beam-Matter interaction	0.00-10.00 MeV	Th
$\mathbf{He^{2+} + Al}$	Particle Beam-Matter interaction	0.00-10.00 MeV	Th

1398. L. G. Glazov
Multiple-peak structures in energy-loss spectra of swift ions.
Nucl. Instrum. Methods Phys. Res. B **193**, 56 (2002)

$\mathbf{He^{1+} + C}$	Particle Beam-Matter interaction	32.00 MeV	Th
$\mathbf{He^{2+} + C}$	Particle Beam-Matter interaction	32.00 MeV	Th

1399. M. Alducin, V. M. Silkin, J. I. Juaristi, E. V. Chulkov
Effect of surface band structure in the energy loss of ions at surfaces.
Nucl. Instrum. Methods Phys. Res. B **193**, 585 (2002)

$\mathbf{H^{1+} + Cu}$	Particle Beam-Matter interaction	8.00-25.00 keV	Th

1400. A. Dubus, N. Pauly, M. Roesler, H. Rothard, M. Beuve, M. Caron, B. Gervais, A. Clouvas, C. Potiriadis
Experimental and theoretical study of the ratio between the electron emission yield and the electronic stopping power for protons incident on thin carbon foils.
Nucl. Instrum. Methods Phys. Res. B **193**, 621 (2002)

$\mathbf{H^{1+} + C}$	Particle Beam-Matter interaction	0.20-9.20 MeV	E/T

1401. M. Bianconi, G. G. Bentini, R. Lotti, R. Nipoti
Charge states distribution of 0.16-3.3 MeV He ions transmitted through silicon.
Nucl. Instrum. Methods Phys. Res. B **193**, 66 (2002)

$\mathbf{He^{1+} + Si}$	Particle Beam-Matter interaction	0.16-3.30 MeV	E/T

1402. M. Imai, M. Sataka, S. Kitazawa, K. Komaki, K. Kawatsura, H. Shibata, H. Tawara, T. Azuma, Y. Kanai, Y. Yamazaki
Angular momentum distributions of Rydberg state electrons of Be-like sulfur produced through foil penetration.
Nucl. Instrum. Methods Phys. Res. B **193**, 674 (2002)

$\mathbf{S^{7+} + C}$	Particle Beam-Matter interaction	2.50 MeV/amu	Ex
$\mathbf{S^{10+} + C}$	Particle Beam-Matter interaction	2.50 MeV/amu	Ex
$\mathbf{S^{12+} + C}$	Particle Beam-Matter interaction	2.50 MeV/amu	Ex
$\mathbf{S^{13+} + C}$	Particle Beam-Matter interaction	2.50 MeV/amu	Ex

1403. D. Emfietzoglou, M. Moscovitch
Inelastic collision characteristics of electrons in liquid water.
Nucl. Instrum. Methods Phys. Res. B **193**, 71 (2002)

e + H_2O	Particle Beam-Matter interaction	0.01-10.00 keV	Th
e + H_2O	Particle Beam-Matter interaction	0.01-10.00 keV	Th

1404. T. Minami, C. O. Reinhold, M. Seliger, J. Burgdoerfer, C. Fourment, B. Gervais, E. Lamour, J.-P. Rozet, D. Vernhet
Evidence of collisional coherences in the transport of hydrogenic krypton through amorphous carbon foils.
Nucl. Instrum. Methods Phys. Res. B **193**, 79 (2002)

Kr^{35+} + C	Particle Beam-Matter interaction	60.00 MeV/amu	E/T

1405. H. Ogawa, N. Sakamoto, H. Tsuchida
Angular distribution of 2.5-MeV H^0 atoms transmitted through a thin carbon foil in frozen charge state.
Nucl. Instrum. Methods Phys. Res. B **193**, 85 (2002)

H + C	Particle Beam-Matter interaction	2.50 MeV	Ex
H + C	Particle Beam-Matter interaction	2.50 MeV	Ex

1406. M. Fama, G. H. Lantschner, J. C. Eckardt, N. R. Arista, J. E. Gayone, E. Sanchez, F. Lovey
Energy loss and angular dispersion of 2-200 keV protons in amorphous silicon.
Nucl. Instrum. Methods Phys. Res. B **193**, 91 (2002)

H^{1+} + Si	Particle Beam-Matter interaction	2.00-200.00 keV	Ex
H^{1+} + Si	Particle Beam-Matter interaction	2.00-200.00 keV	Ex

1407. N. P. Barradas, C. Jeynes, R. P. Webb, E. Wendler
Accurate determination of the stopping power of ^{4}He in Si using Bayesian inference.
Nucl. Instrum. Methods Phys. Res. B **194**, 15 (2002)

H^{1+} + Si	Particle Beam-Matter interaction	1.00-12.00 MeV	Th
He^{1+} + Si	Particle Beam-Matter interaction	1.00-12.00 MeV	Th

1408. H. H. Andersen, A. Csete, T. Ichioka, H. Knudsen, S. P. Moller, U. I. Uggerhoj
An apparatus to measure stopping powers for low-energy antiprotons and protons.
Nucl. Instrum. Methods Phys. Res. B **194**, 217 (2002)

H^{1+} + C	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex
H^{1+} + C	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex
H^{1+} + Al	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex
H^{1+} + Al	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex
H^{1+} + Si	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex
H^{1+} + Si	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex
H^{1+} + Ni	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex
H^{1+} + Ni	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex
H^{1+} + Au	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex
H^{1+} + Au	Particle Beam-Matter interaction	0.00-3.00 MeV	Ex

1409. P. Baving, H. W. Becker, C. Rolfs, H. Zabel
Stopping power of He ions in niobium from a comparison of RBS and X-ray reflectivity measurements.
Nucl. Instrum. Methods Phys. Res. B **194**, 363 (2002)

He^{1+} + Nb	Particle Beam-Matter interaction	0.40-2.80 MeV	Ex

1410. J. W. Wilson, J. Tweed, H. Tai, R. K. Tripathi
A simple model for straggling evaluation.
Nucl. Instrum. Methods Phys. Res. B **194**, 389 (2002)

H^{1+} + O_2	Particle Beam-Matter interaction	5.00-100.00 MeV	Th
H^{1+} + Al	Particle Beam-Matter interaction	5.00-100.00 MeV	Th

1411. S. Heredia-Avalos, R. Garcia-Molina
Energy loss of swift oxygen molecular ions traversing amorphous carbon foils.
Phys. Lett. A **275**, 73 (2000)

$\mathbf{O^{1+} + C}$	Particle Beam-Matter interaction	5.00 MeV	Th
$\mathbf{O_2{}^{-1+} + C}$	Particle Beam-Matter interaction	5.00 MeV	Th
$\mathbf{O_2{}^{1+} + C}$	Particle Beam-Matter interaction	5.00 MeV	Th

1412. M. Penalba, J. I. Juaristi, E. Zarate, A. Arnau, P. Bauer
Electronic stopping power of Al_2O_3 and SiO_2 for H, He, and N.
Phys. Rev. A **64**, 012902 (2001)

$\mathbf{H^{1+} + Al_2O_3}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T
$\mathbf{H^{1+} + SiO_2}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T
$\mathbf{He^{1+} + Al_2O_3}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T
$\mathbf{He^{1+} + SiO_2}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T
$\mathbf{N^{1+} + Al_2O_3}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T
$\mathbf{N^{1+} + SiO_2}$	Particle Beam-Matter interaction	0.20-5.00 a.u.	E/T

1413. N. R. Arista
Interaction of ions and molecules with surface modes in cylindrical channels in solids.
Phys. Rev. A **64**, 032901 (2001)

$\mathbf{H^{1+} + Al_2O_3}$	Particle Beam-Matter interaction	80.00 a.u.	Th
$\mathbf{H^{1+} + Ag}$	Particle Beam-Matter interaction	80.00 a.u.	Th

1414. S. P. Moller, V. Biryukov, S. Datz, P. Grafstroem, H. Knudsen, H. F. Krause, C. Scheidenberger, U. I. Uggerhoj, C. R. Vane
Random and channeled energy loss of 33.2-TeV Pb nuclei in silicon single crystals.
Phys. Rev. A **64**, 032902 (2001)

$\mathbf{Pb^{82+} + Si}$	Particle Beam-Matter interaction	160.00 GeV/amu	Ex

1415. C. M. Kwei, J. J. Chou, J. Yao, C. J. Tung
Electronic stopping powers of solids for slow atoms.
Phys. Rev. A **64**, 042901 (2001)

C + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
C + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
C + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
C + Au	Particle Beam-Matter interaction	0.82 a.u.	Th
N + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
N + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
N + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
N + Au	Particle Beam-Matter interaction	0.82 a.u.	Th
O + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
O + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
O + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
O + Au	Particle Beam-Matter interaction	0.82 a.u.	Th
F + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
F + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
F + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
F + Au	Particle Beam-Matter interaction	0.82 a.u.	Th
Ne + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
Ne + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
Ne + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
Ne + Au	Particle Beam-Matter interaction	0.82 a.u.	Th
Na + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
Na + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
Na + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
Na + Au	Particle Beam-Matter interaction	0.82 a.u.	Th

Mg + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
Mg + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
Mg + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
Mg + Au	Particle Beam-Matter interaction	0.82 a.u.	Th
Al + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
Al + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
Al + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
Al + Au	Particle Beam-Matter interaction	0.82 a.u.	Th
Si + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
Si + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
Si + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
Si + Au	Particle Beam-Matter interaction	0.82 a.u.	Th
P + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
P + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
P + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
P + Au	Particle Beam-Matter interaction	0.82 a.u.	Th
S + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
S + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
S + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
S + Au	Particle Beam-Matter interaction	0.82 a.u.	Th
Cl + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
Cl + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
Cl + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
Cl + Au	Particle Beam-Matter interaction	0.82 a.u.	Th
Ar + Al	Particle Beam-Matter interaction	0.82 a.u.	Th
Ar + Ni	Particle Beam-Matter interaction	0.82 a.u.	Th
Ar + Ag	Particle Beam-Matter interaction	0.82 a.u.	Th
Ar + Au	Particle Beam-Matter interaction	0.82 a.u.	Th

1416. M. Zamkov, H. Aliabadi, E. P. Benis, P. Richard, H. Tawara, T.J.M. Zouros
Energy dependence of the metastable fraction in B^{3+} ($1s^2$ ^1S,$1s2s$ ^3S) beams produced in collisions with thin-foil and gas targets.
Phys. Rev. A **64**, 052702 (2001)

B^{2+} + C	Particle Beam-Matter interaction	0.85-9.00 MeV	E/T

1417. Z. L. Miskovic, W.-K. Liu, F. O. Goodman, Y.-N. Wang
Ion-charge distribution in fast, partially stripped clusters passing thin foils.
Phys. Rev. A **64**, 064901 (2001)

Na_{20} + Al	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th
Na_{10} + Al	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th
Na_{30} + Al	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th
Na_{50} + Al	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th
Na_{100} + Al	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th
Na_{200} + Al	Particle Beam-Matter interaction	2.00-5.00 a.u.	Th

1418. T. Minami, C. O. Reinhold, M. Seliger, J. Burgdoerfer, C. Fourment, E. Lamour, J.-P. Rozet, D. Vernhet, B. Gervais
Quantum transport of the internal state of Kr^{35+} ions through amorphous carbon foils.
Phys. Rev. A **65**, 032901 (2002)

Kr^{35+}	Particle Beam-Matter interaction	60.00 MeV/amu	Th
Kr^{35+} + C	Particle Beam-Matter interaction	60.00 MeV/amu	Th
Kr^{35+} + C	Particle Beam-Matter interaction	60.00 MeV/amu	Th
Kr^{35+} + C	Particle Beam-Matter interaction	60.00 MeV/amu	Th

1419. D. G. Arbo, M. S. Gravielle, J. E. Miraglia, J. C. Eckardt, G. H. Lantschner, M. Fama, N. R. Arista
Energy straggling of protons through thin solid foils.
Phys. Rev. A **65**, 042901 (2002)

$\mathbf{H^{1+} + Al}$	Particle Beam-Matter interaction	0.01-1.00 MeV	E/T
$\mathbf{H^{1+} + Si}$	Particle Beam-Matter interaction	0.01-1.00 MeV	E/T
$\mathbf{H^{1+} + Zn}$	Particle Beam-Matter interaction	0.01-1.00 MeV	E/T
$\mathbf{H^{1+} + Au}$	Particle Beam-Matter interaction	0.01-1.00 MeV	E/T

1420. H. Bichsel
Shell corrections in stopping powers.
Phys. Rev. A **65**, 052709 (2002)

$\mathbf{H^{1+} + Al}$	Particle Beam-Matter interaction	0.30-10.00 MeV	E/T
$\mathbf{H^{1+} + Si}$	Particle Beam-Matter interaction	0.30-10.00 MeV	E/T

1421. M. Zamkov, E. P. Benis, P. Richard, T.J.M. Zouros
Fraction of metastable 1s2s ^{3}S ions in fast He-like beams (Z=5-9) produced in collisions with carbon foils.
Phys. Rev. A **65**, 062706 (2002)

$\mathbf{B^{3+} + C}$	Particle Beam-Matter interaction	0.50-2.00 MeV/amu	Ex
$\mathbf{C^{4+} + C}$	Particle Beam-Matter interaction	0.50-2.00 MeV/amu	Ex
$\mathbf{N^{5+} + C}$	Particle Beam-Matter interaction	0.50-2.00 MeV/amu	Ex
$\mathbf{O^{6+} + C}$	Particle Beam-Matter interaction	0.50-2.00 MeV/amu	Ex
$\mathbf{F^{7+} + C}$	Particle Beam-Matter interaction	0.50-2.00 MeV/amu	Ex

1422. Y. Fujino, Y. Igarashi, S. Nagata
Ion-beam irradiation of Cu and a Cu-Ni alloy single-crystal specimens: Proposed atom movement mechanism.
Phys. Rev. B **63**, 100101 (2001)

$\mathbf{Au^{1+} + Cu}$	Particle Beam-Matter interaction	300.00 keV	E/T

1423. H. O. Funsten, S. M. Ritzau, R. W. Harper
Negative helium ions exiting a carbon foil at keV energies.
Phys. Rev. B **63**, 155416 (2001)

$\mathbf{He^{1+} + C}$	Particle Beam-Matter interaction	8.00-80.00 keV	Ex

1424. R. Pinzon, H. M. Urbassek
Implantation and damage under oblique low-energy Si self-bombardment.
Phys. Rev. B **63**, 195319 (2001)

$\mathbf{Si^{1+} + Si}$	Particle Beam-Matter interaction	100.00 eV	Th

1425. G. de M. Azevedo, M. Behar, J. F. Dias, P. L. Grande, D. L. da Silva, G. Schiwietz
Random and channeling stopping powers of He and Li ions in Si.
Phys. Rev. B **65**, 075203 (2002)

$\mathbf{He^{1+} + Si}$	Particle Beam-Matter interaction	0.20-9.00 MeV	Ex
$\mathbf{Li^{1+} + Si}$	Particle Beam-Matter interaction	0.20-9.00 MeV	Ex

1426. Yu. V. Arkhipov, F. B. Baimbetov, A. E. Davletov, K. V. Starikov
Stopping power in semiclassical, collisional plasmas.
Phys. Scr. **63**, 194 (2001)

$\mathbf{e + B^{1+}}$	Particle Beam-Matter interaction		Th

1427. Y. Takabayashi, T. Ito, T. Azuma, K. Komaki, Y. Yamazaki, H. Tawara, M. Torikoshi, A. Kitagawa, E. Takada, T. Murakami
Convoy electron production and ionization in 390 MeV/u $\mathbf{Ar^{17+}}$ ion collisions with thin foils.
Phys. Scr. **T80**, 249 (1999)

$\mathbf{Ar^{17+} + C}$	Particle Beam-Matter interaction	390.00 MeV/amu	Ex

1428. V. V. Balashov, I. V. Bodrenko
Charge-exchange effects in angular resolved energy-loss spectra of HCI propagating through matter.
Phys. Scr. **T80**, 254 (1999)

$\mathbf{Li}^{2+}$ + **C**	Particle Beam-Matter interaction	63.40 MeV	Th

1429. T. Ito, T. Azuma, K. Komaki, Y. Yamazaki, M. Torikoshi, A. Kitagawa, E. Takada, T. Murakami
Direct observation of energy loss of charge-frozen hydrogen-like Ar ions.
Phys. Scr. **T80**, 256 (1999)

$\mathbf{Ar}^{17+}$ + **Si**	Particle Beam-Matter interaction	1.60-1.90 GeV/amu	Ex
$\mathbf{Ar}^{18+}$ + **Si**	Particle Beam-Matter interaction	1.60-1.90 GeV/amu	Ex

1430. D. Vernhet, J.-P. Rozet, E. Lamour, B. Gervais, C. Fourment, L. J. Dube
Core and Rydberg state populations for HCI projectiles in solids.
Phys. Scr. **T80**, 83 (1999)

$\mathbf{Ar}^{18+}$ + **C**	Particle Beam-Matter interaction	13.60 MeV/amu	E/T
$\mathbf{Ar}^{18+}$ + **C**	Particle Beam-Matter interaction	13.60 MeV/amu	E/T

1431. P. Sigmund, A. Schinner
Nonperturbative theory of charge-dependent heavy-ion stopping.
Phys. Scr. **T92**, 222 (2001)

$\mathbf{C}^{1+}$ + **C**	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{O}^{1+}$ + **C**	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{O}^{1+}$ + **Al**	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th
$\mathbf{Ni}^{1+}$ + **C**	Particle Beam-Matter interaction	0.01-100.00 MeV/amu	Th

1432. D. Vernhet, C. Fourment, E. Lamour, J.-P. Rozet, B. Gervais, L. J. Dube, F. Martin, T. Minami, C. O. Reinhold, M. Seliger, J. Burgdoerfer
Transport of $\mathbf{Kr}^{35+}$ inner-shells through solid carbon foils.
Phys. Scr. **T92**, 233 (2001)

$\mathbf{Kr}^{35+}$ + **C**	Particle Beam-Matter interaction	33.00-60.00 MeV/amu	Ex
$\mathbf{Kr}^{36+}$ + **C**	Particle Beam-Matter interaction	33.00-60.00 MeV/amu	Ex

1433. H. Brauning, P. H. Mokler, D. Liesen, F. Bosch, B. Franzke, A. Kraemer, C. Kozhuharov, T. Ludziejewski, X. Ma, F. Nolden, M. Steck, Th. Stoehlker, R. W. Dunford, E. P. Kanter, G. Bednarz, A. Warczak, Z. Stachura, L. Tribedi, T. Kambara, D. Dauvergne, R. Kirsch, C. Cohen
Multiple electron capture by 46 MeV/u $\mathbf{Pb}^{81+}$ ions from solid targets.
Phys. Scr. **T92**, 43 (2001)

$\mathbf{Pb}^{81+}$ + **C**	Particle Beam-Matter interaction	46.00 MeV/amu	Ex

1434. A. P. Zakharov, A. E. Gorodetsky
Behavior of deuterium implanted into W, Be and BeO.
Phys. Scr. **T94**, 68 (2001)

$\mathbf{D}^{1+}$ + **Be**	Particle Beam-Matter interaction	1.80-8.00 keV	Ex
$\mathbf{D}^{1+}$ + **BeO**	Particle Beam-Matter interaction	1.80-8.00 keV	Ex
$\mathbf{D}^{1+}$ + **W**	Particle Beam-Matter interaction	1.80-8.00 keV	Ex

1435. A. M. Borisov, E. S. Mashkova, E. S. Parilis
The sweeping-out-electrons effect in electron emission under molecular ion bombardment.
Vacuum **66**, 145 (2002)

$\mathbf{N}^{1+}$ + **C**	Particle Beam-Matter interaction	15.00-34.00 keV	Ex

3.7 Interactions of Atomic Particles with Fields

1436. V. R. Gonzalez, J. A. Aparicio, J. A. del Val, S. Mar
Stark width and shift measurements of visible Si III lines.
Astron. Astrophys. **363**, 1177 (2000)

$\mathbf{Si^{2+}}$	Inter. of Atomic part. with Fields	1.66-3.26 eV	Ex

1437. L. C. Popovic, N. Milovanovic, M. S. Dimitrijevic
The electron-impact broadening effect in hot star atmospheres: The case of singly- and doubly-ionized zirconium.
Astron. Astrophys. **365**, 656 (2001)

$\mathbf{e + Zr^{1+}}$	Inter. of Atomic part. with Fields	10.00 K	Th
$\mathbf{e + Zr^{2+}}$	Inter. of Atomic part. with Fields	10.00 K	Th

1438. S. Djenize, S. Bukvic, D. Miskovic
Stark widths and shifts of triply ionized argon spectral lines.
Astron. Astrophys. **367**, 737 (2000)

$\mathbf{Ar^{3+}}$	Inter. of Atomic part. with Fields	3.10-4.96 eV	Ex

1439. A. Sreckovic, M. S. Dimitrijevic, S. Djenize
Stark broadening in O III spectrum.
Astron. Astrophys. **371**, 354 (2001)

$\mathbf{O^{2+}}$	Inter. of Atomic part. with Fields	17.00-54.00 K	Ex

1440. S. Djenize, A. Sreckovic, M. Jelisavcic, S. Bukvic
Experimental Stark widths and shifts of triply ionized sulfur spectral lines.
Astron. Astrophys. **389**, 1086 (2002)

$\mathbf{S^{3+}}$	Inter. of Atomic part. with Fields	4.00 eV	Ex

1441. B. Wallbank, J. K. Holmes
Laser-assisted elastic electron scattering from helium.
Can. J. Phys. **79**, 1237 (2001)

e + He	Inter. of Atomic part. with Fields	1.00-20.00 eV	Ex

1442. T. K. Fang, K. T. Chung
Electric-field effects on He ground-state photoionization.
J. Phys. B **34**, 1245 (2001)

He	Inter. of Atomic part. with Fields	65.00-72.00 eV	Th

1443. K. T. Chung, T. K. Fang, Y. K. Ho
Resonance of helium in a DC field.
J. Phys. B **34**, 165 (2001)

He	Inter. of Atomic part. with Fields	0-7x10^{-5} a.u.	Th

1444. S. Demianiuk, K. Kolwas
Dynamics of spontaneous growth of light-induced sodium droplets from the vapour phase.
J. Phys. B **34**, 1651 (2001)

Na + Na	Inter. of Atomic part. with Fields	663.00-723.00 K	Ex

1445. A. B. Voitkiv, J. Ullrich
Binary-encounter electron emission in fast atomic collisions in the presence of coherent electromagnetic radiation.
J. Phys. B **34**, 1673 (2001)

$\mathbf{He^{2+} + H}$	Inter. of Atomic part. with Fields		Th

1446. M. Mijatovic, E. A. Solov'ev, K. Taulbjerg
Dynamics of alkali Rydberg atoms in time-varying external fields.
J. Phys. B **34**, 1897 (2001)

Li	Inter. of Atomic part. with Fields		Th
Li**	Inter. of Atomic part. with Fields		Th

1447. M. V. Ivanov, P. Schmelcher
The boron atom and boron positive ion in strong magnetic fields.
J. Phys. B **34**, 2031 (2001)

B*	Inter. of Atomic part. with Fields		Th
B	Inter. of Atomic part. with Fields		Th
B^{1+*}	Inter. of Atomic part. with Fields		Th
B^{1+}	Inter. of Atomic part. with Fields		Th

1448. A. Cionga, F. Ehlotzky, G. Zloh
Coherent phase control in electron scattering by hydrogen atoms in a bichromatic laser field.
J. Phys. B **34**, 2057 (2001)

e + H	Inter. of Atomic part. with Fields	100.00 eV	Th

1449. O. Reusch, C. Dieste, S. Garnica, G. v. Oppen
Precision measurements of electric-field 1snl singlet-triplet anticrossings of He I using radio frequency spectroscopy.
J. Phys. B **34**, 2145 (2001)

He + He	Inter. of Atomic part. with Fields	12.00 keV	E/T

1450. M. Kubasik, A. Cebo, E. Hertz, R. Chaux, B. Lavorel, O. Faucher
Shaping of a ground state rotational wavepacket by frequency-chirped pulses.
J. Phys. B **34**, 2437 (2001)

$\mathbf{N_2}$	Inter. of Atomic part. with Fields		Ex

1451. M. V. Ivanov
Complex rotation in two-dimensional mesh calculations for quantum systems in uniform electric fields.
J. Phys. B **34**, 2447 (2001)

H	Inter. of Atomic part. with Fields		Th
$\mathbf{H_2}^{1+}$	Inter. of Atomic part. with Fields		Th

1452. A. de Castro, J. A. Aparicio, J. A. del Val, V. R. Gonzalez, S. Mar
Measurement of Stark broadening and shift constants of singly ionized krypton lines.
J. Phys. B **34**, 3275 (2001)

Kr^{1+}	Inter. of Atomic part. with Fields	16.00-24.50 K	Ex

1453. S. A. Babin, Yu. I. Belousov, S. I. Kablukov, D. A. Shapiro, U. Hinze, M. Klug, B. Wellegehausen
Probe-field spectra of N-scheme in strong inhomogeneous fields.
J. Phys. B **34**, 3641 (2001)

$\mathbf{Na_2}$	Inter. of Atomic part. with Fields		Ex

1454. A. B. Voitkiv, J. Ullrich
Modification of energy and angular spectra of binary-encounter emission in fast ion-atom collisions assisted by a low-frequency electromagnetic field.
J. Phys. B **34**, 4383 (2001)

He^{2+} **+ H**	Inter. of Atomic part. with Fields	12.00 a.u.	Th

1455. D. Townsend, A. L. Goodgame, S. R. Procter, S. R. Mackenzie, T. P. Softley
Deflection of krypton Rydberg atoms in the field of an electric dipole.
J. Phys. B **34**, 439 (2001)

Kr	Inter. of Atomic part. with Fields		E/T

1456. Th. Wrubel, S. Buescher, H.-J. Kunze, S. Ferri
Balmer-α transition of He II: measurements and calculations.
J. Phys. B **34**, 461 (2001)

He	Inter. of Atomic part. with Fields	30.00 eV	E/T

1457. K. Kim, M. Kwon, H. D. Park, H. S. Moon, H. S. Rawat, K. An, J. B. Kim
Electromagnetically induced absorption spectra depending on intensities and detunings of the coupling field in Cs vapour.
J. Phys. B **34**, 4801 (2001)

Cs	Inter. of Atomic part. with Fields	1.46 eV	E/T

1458. Y. Makdisi, G. Philip, K. S. Bhatia, J.-P. Connerade
The J = 2 even-parity spectrum for high members of the Sr I 5snd ^{1,3}D$_2$ Rydberg series in the presence of electric fields and weak collisions.
J. Phys. B **34**, 521 (2001)

Sr + He	Inter. of Atomic part. with Fields	1.03 K	Ex
Sr* + He	Inter. of Atomic part. with Fields	1.03 K	Ex
Sr + Ar	Inter. of Atomic part. with Fields	1.03 K	Ex
Sr* + Ar	Inter. of Atomic part. with Fields	1.03 K	Ex
Sr + Xe	Inter. of Atomic part. with Fields	1.03 K	Ex
Sr* + Xe	Inter. of Atomic part. with Fields	1.03 K	Ex

1459. M. Bouzidi, A. Makhoute, D. Khalil, A. Maquet, C. J. Joachain
On the second Born approximation for laser-assisted electron-atom collisions.
J. Phys. B **34**, 737 (2001)

e + H	Inter. of Atomic part. with Fields	200.00 eV	Th

1460. M. Terao-Dunseath, K. M. Dunseath, D. Charlo, A. Hibbert, R. J. Allan
Electron-helium scattering in a Nd-YAG laser field at collision energies near the He(1s2l) thresholds.
J. Phys. B **34**, L263 (2001)

e + He	Inter. of Atomic part. with Fields	0.65-0.78 a.u.	Th
He	Inter. of Atomic part. with Fields	0.65-0.78 a.u.	Th

1461. E. Cormier, D. Garzella, P. Breger, P. Agostini, G. Cheriaux, C. LeBlanc
Above-threshold ionization contrast and channel closure in argon.
J. Phys. B **34**, L9 (2001)

Ar	Inter. of Atomic part. with Fields	6 10^{13} W/cm2	Th

1462. N. Hay, R. Velotta, M. B. Mason, M. Castillejo, J. P. Marangos
High-order harmonic generation efficiency increased by controlled dissociation of molecular iodine.
J. Phys. B **35**, 1051 (2002)

I	Inter. of Atomic part. with Fields		Ex
I_2	Inter. of Atomic part. with Fields		Ex

1463. C. Colon, A. Alonso-Medina
Stark broadening parameters predictions and regularities of singly ionized lead.
J. Phys. B **35**, 1143 (2002)

Pb^{1+}	Inter. of Atomic part. with Fields	11.00-24.00 K	E/T

1464. A. Neogi, M. Martins, C. McGuinness, G. O'Sullivan, E. T. Kennedy, J.-P. Mosnier, P. van Kampen, J. T. Costello
Vacuum-ultraviolet absorption spectrum of the Rb^{2+} ion in a laser generated plasma.
J. Phys. B **35**, 1329 (2002)

Rb^{2+}	Inter. of Atomic part. with Fields	110.00-150.00 eV	E/T

1465. X. J. Liu, J. W. Cao, M. S. Zhan, J.-P. Connerade
Scaled-energy spectroscopy of strontium M=0 Rydberg atoms in an electric field.
J. Phys. B **35**, 2069 (2002)

Sr^*	Inter. of Atomic part. with Fields		Ex
Sr	Inter. of Atomic part. with Fields		Ex

1466. E. Oks
Reduction of spectral line shifts due to the acceleration of electrons by the ion field in plasmas.
J. Phys. B **35**, 2251 (2002)

H	Inter. of Atomic part. with Fields		Th

1467. Z. Q. Wu, G. X. Han, J. Yan, J. Q. Pang
Plasma effects on electron impact ionization.
J. Phys. B **35**, 2305 (2002)

e + Ge^{1+}	Inter. of Atomic part. with Fields	2.00-40.00 keV	Th
e + Au^{48+}	Inter. of Atomic part. with Fields	2.00-40.00 keV	Th

1468. A. Devdariani, E. Bichoutskaia, E. Tchesnokov, T. Bichoutskaia, D.S.F Crothers, E. Leboucher-Dalimier, P. Sauvan, P. Angelo
Semiclassical analytical approach to the description of quasimolecular optical transitions.
J. Phys. B **35**, 2469 (2002)

Ca + He	Inter. of Atomic part. with Fields	0.00-1.00 K	E/T

1469. J. Rao, K. T. Taylor
The closed orbits and the photo-excitation scaled spectrum of the hydrogen atom in crossed fields.
J. Phys. B **35**, 2627 (2002)

H^*	Inter. of Atomic part. with Fields		Th
H	Inter. of Atomic part. with Fields		Th

1470. M. Forre, D. Fregenal, J. C. Day, T. Ehrenreich, J.-P. Hansen, B. Henningsen, E. Horsdal-Pedersen, L. Nyvang, O. E. Povlsen, K. Taulbjerg, I. Vogelius
Dynamics of a single Rydberg shell in time dependent external fields.
J. Phys. B **35**, 410 (2002)

Li	Inter. of Atomic part. with Fields		Ex

1471. N. M. Cann, A. J. Thakkar
Quadrupole oscillator strengths for the helium isoelectronic sequence: n ^{1}S-m ^{1}D, ^{3}S-m ^{3}D, n ^{1}P-m ^{1}P, and n ^{3}P-m ^{3}P transitions with n ¡ 7 and m ¡ 7.
J. Phys. B **35**, 421 (2002)

He	Inter. of Atomic part. with Fields		Th

1472. S.-M. Li, J. Chen, Z.-F. Zhou
Ionization of atomic hydrogen by protons in the presence of a laser field.
J. Phys. B **35**, 557 (2002)

H^{1+} + H	Inter. of Atomic part. with Fields	0.00-1.00 MeV	Th

1473. V. I. Usachenko, V. A. Pazdzersky
High-order harmonic generation in a strong laser field: an alternative quantum-mechanical model.
J. Phys. B **35**, 761 (2002)

$\mathbf{H^{-1+}}$	Inter. of Atomic part. with Fields		Th
He	Inter. of Atomic part. with Fields		Th
Ar	Inter. of Atomic part. with Fields		Th
Xe	Inter. of Atomic part. with Fields		Th

1474. A. Makhoute, D. Khalil, M. Zitane, M. Bouzidi
The second Born approximation in electron-atom collisions in the presence of a laser field.
J. Phys. B **35**, 957 (2002)

e + H	Inter. of Atomic part. with Fields	200.00 eV	Th

1475. E. A. Volkova, A. M. Popov, O. V. Tikhonova
Resonant multiphoton ionization of the 1s state of a hydrogen atom in a strong laser field.
Opt. Spectrosc. **88**, 1 (2000)

H	Inter. of Atomic part. with Fields	5.00 eV	Th

1476. J. Shertzer, C. H. Greene
Nonadiabatic dipole polarizabilities of $\mathbf{H_2{}^+}$ and $\mathbf{D_2{}^+}$ ground states.
Phys. Rev. A **58**, 1082 (1998)

$\mathbf{H_2{}^{1+}}$	Inter. of Atomic part. with Fields		Th
$\mathbf{D_2{}^{1+}}$	Inter. of Atomic part. with Fields		Th

1477. R. J. Rafac, C. E. Tanner
Measurement of the ratio of the cesium D-line transition strengths.
Phys. Rev. A **58**, 1087 (1998)

Cs	Inter. of Atomic part. with Fields		Ex

1478. D. Azinovic, R. Bruckmeier, C. Wunderlich, H. Figger, G. Theodorakopoulos, I. D. Petsalakis
Dynamics on the ground-state potential surfaces of $\mathbf{H_3}$ and its isotopomeres from their uv spectra.
Phys. Rev. A **58**, 1115 (1998)

$\mathbf{H_3}$	Inter. of Atomic part. with Fields	3.10-6.20 eV	Ex
$\mathbf{HD_2}$	Inter. of Atomic part. with Fields	3.10-6.20 eV	Ex
$\mathbf{D_3}$	Inter. of Atomic part. with Fields	3.10-6.20 eV	Ex

1479. M. Meyer, A. Marquette, A. N. Grum-Grzhimailo, U. Kleiman, B. Lohmann
Polarization analysis of fluorescence probing the alignment of $\mathbf{Xe^+}$ ions in the resonant Auger decay of the Xe* $\mathbf{4d_{5/2}{}^{-1}6p}$ photoexcited state.
Phys. Rev. A **64**, 022703 (2001)

Xe	Inter. of Atomic part. with Fields	2.03-3.10 eV	Ex

1480. P. Schmelcher, T. Detmer, L. S. Cederbaum
Excited states of the hydrogen molecule in magnetic fields: The triplet Σ states of the parallel configuration.
Phys. Rev. A **64**, 023410 (2001)

H	Inter. of Atomic part. with Fields		Th
H + H	Inter. of Atomic part. with Fields		Th

1481. S. Boehm, S. Schippers, W. Shi, A. Mueller, N. Djuric, G. H. Dunn, W. Zong, B. Jelenkovic, H. Danared, N. Ekloew, P. Glans, R. Schuch
Influence of electromagnetic fields on the dielectronic recombination of $\mathbf{Ne^{7+}}$ ions.
Phys. Rev. A **64**, 032707 (2001)

e + Ne^{7+}	Inter. of Atomic part. with Fields	18.00 eV	Ex

1482. K. A. Bates, J. Masae, C. Vasilescu, D. Schumacher
Highly perturbed states of barium in a static electric field.
Phys. Rev. A **64**, 033409 (2001)

Ba	Inter. of Atomic part. with Fields		Ex

1483. O. V. Gritsenko, E. J. Baerends
Orbital structure of the Kohn-Sham exchange potential and exchange kernel and the field-counteracting potential for molecules in an electric field.
Phys. Rev. A **64**, 042506 (2001)

He_2	Inter. of Atomic part. with Fields		Th

1484. A. Cionga, F. Ehlotzky, G. Zloh
Elastic electron scattering by excited hydrogen atoms in a laser field.
Phys. Rev. A **64**, 043401 (2001)

e + H	Inter. of Atomic part. with Fields	100.00-500.00 eV	Th
e + H^*	Inter. of Atomic part. with Fields	100.00-500.00 eV	Th

1485. X. Guan, B. Li, L. Wu
Strong magnetic-field effects on the states of the helium negative ion below the He (N=2) threshold.
Phys. Rev. A **64**, 043402 (2001)

He^{-1+}	Inter. of Atomic part. with Fields		Th

1486. I. Kawata, H. Kono, A. D. Bandrauk
Mechanism of enhanced ionization of linear $H_3{}^+$ in intense laser fields.
Phys. Rev. A **64**, 043411 (2001)

$H_3{}^{1+}$	Inter. of Atomic part. with Fields		Th

1487. J. S. Cohen
Reexamination of over-the-barrier and tunneling ionization of the hydrogen atom in an intense field.
Phys. Rev. A **64**, 043412 (2001)

H	Inter. of Atomic part. with Fields		Th

1488. G. D. Gillen, M. A. Walker, L. D. van Woerkom
Enhanced double ionization with circularly polarized light.
Phys. Rev. A **64**, 043413 (2001)

Mg	Inter. of Atomic part. with Fields	1.55 eV	Ex

1489. B. L. Tolra, C. Drag, P. Pillet
Observation of cold state-selected cesium molecules formed by stimulated Raman photoassociation.
Phys. Rev. A **64**, 061401 (2001)

Cs + Cs	Inter. of Atomic part. with Fields	0.13 mK	Ex

1490. X. Chu, S.-I. Chu
Time-dependent density-functional theory for molecular processes in strong fields: Study of multiphoton processes and dynamical response of individual valence electrons of N_2 in intense laser fields.
Phys. Rev. A **64**, 063404 (2001)

N_2	Inter. of Atomic part. with Fields	1.17-1.55 eV	Th

1491. W. Chism, L. E. Reichl
Rydberg atoms in circular polarization: Classical stabilization in optical frequency fields.
Phys. Rev. A **65**, 021404 (2002)

H	Inter. of Atomic part. with Fields	10^{12}-10^{15} W/cm2	Th

1492. L. N. Gaier, C. H. Keitel
Relativistic classical Monte Carlo simulations of stabilization of hydrogenlike ions in intense laser pulses.
Phys. Rev. A **65**, 023406 (2002)

H	Inter. of Atomic part. with Fields		Th
$\mathbf{He}^{1+}$	Inter. of Atomic part. with Fields		Th
$\mathbf{Li}^{2+}$	Inter. of Atomic part. with Fields		Th

1493. G. N. Rockwell, V. F. Hoffman, Th. Clausen, R. Bluemel
Realistic three-dimensional computations of microwave-ionization curves of hydrogen Rydberg atoms.
Phys. Rev. A **65**, 025401 (2002)

H	Inter. of Atomic part. with Fields	200.00-500.00 V/cm	Th

1494. W. Becken, P. Schmelcher
Electromagnetic transitions of the helium atom in a strong magnetic field.
Phys. Rev. A **65**, 033416 (2002)

He	Inter. of Atomic part. with Fields		Th

1495. S. Vucic
e-H collisions in a resonant monochromatic or bichromatic laser field.
Phys. Rev. A **65**, 033521 (2002)

e + H	Inter. of Atomic part. with Fields	10^{9}-10^{11} W/cm2	Th

1496. D. B. Milosevicand, F. Ehlotzky
Rescattering effects in soft-x-ray generation by laser-assisted electron-ion recombination.
Phys. Rev. A **65**, 042504 (2002)

e + H	Inter. of Atomic part. with Fields	500.00 eV	Th
e + He	Inter. of Atomic part. with Fields	500.00 eV	Th

1497. A. Datta, S. S. Bhattacharyya, B. Kim
Effects of chirping on the dissociation dynamics of $\mathbf{H}_2$ in a two-frequency laser field.
Phys. Rev. A **65**, 043404 (2002)

$\mathbf{H}_2$	Inter. of Atomic part. with Fields	13.10-13.10 eV	Th

1498. K. Ishikawa, K. Midorikawa
Two-photon ionization of $\mathbf{He}^{+}$ as a nonlinear optical effect in the soft-x-ray region.
Phys. Rev. A **65**, 043405 (2002)

$\mathbf{He}^{1+}$	Inter. of Atomic part. with Fields	40.60-42.00 eV	Th

1499. A. Volpi, J. L. Bohn
Magnetic-field effects in ultracold molecular collisions.
Phys. Rev. A **65**, 052712 (2002)

$\mathbf{He} + \mathbf{O}_2$	Inter. of Atomic part. with Fields	0.00-5.00 K	Th

1500. S. Boehm, S. Schippers, W. Shi, A. Mueller, N. Ekloew, R. Schuch, H. Danared, N. R. Badnell, D. M. Mitnik, D. C. Griffin
Measurement of the field-induced dielectronic-recombination-rate enhancement of $\mathbf{O}^{5+}$ ions differential in the Rydberg quantum number n.
Phys. Rev. A **65**, 052728 (2002)

e + $\mathbf{O}^{5+}$	Inter. of Atomic part. with Fields	2.00-12.00 eV	E/T

1501. S. Freund, R. Ubert, E. Floethmann, K. Welge, D. M. Wang, J. B. Delos
Absorption and recurrence spectra of hydrogen in crossed electric and magnetic fields.
Phys. Rev. A **65**, 053408 (2002)

H	Inter. of Atomic part. with Fields	3.40 eV	E/T

1502. M. Forre, H. M. Nilsen, J. P. Hansen
Dynamics of a H(n) atom in time-dependent electric and magnetic fields.
Phys. Rev. A **65**, 053409 (2002)

H	Inter. of Atomic part. with Fields		E/T

1503. V. Kokoouline, C. Drag, P. Pillet, F. Masnou-Seeuws
Lu-Fano plot for interpretation of the photoassociation spectra.
Phys. Rev. A **65**, 062710 (2002)

Cs + **Cs**	Inter. of Atomic part. with Fields		Th

1504. W. R. Anderson, M. P. Robinson, J.D.D. Martin, T. F. Gallagher
Dephasing of resonant energy transfer in a cold Rydberg gas.
Phys. Rev. A **65**, 063404 (2002)

$\mathbf{Rb}^*$ + $\mathbf{Rb}^*$	Inter. of Atomic part. with Fields	3.00-3.40 V/cm	Ex
Rb + **Rb**	Inter. of Atomic part. with Fields	3.00-3.40 V/cm	Ex

1505. R. G. DeVoe, C. Kurtsiefer
Experimental study of anomalous heating and trap instabilities in a microscopic ^{137}Ba ion trap.
Phys. Rev. A **65**, 063407 (2002)

$\mathbf{Ba}^{1+}$	Inter. of Atomic part. with Fields		Ex

1506. C. M. Dion, A. Ben Haj-Yedder, E. Cances, C. Le Bris, A. Keller, O. Atabek
Optimal laser control of orientation: The kicked molecule.
Phys. Rev. A **65**, 063408 (2002)

HCN	Inter. of Atomic part. with Fields	0.06-0.17 eV	Th

1507. D. V. Kupriyanov, I. M. Sokolov, A. V. Slavgorodskii
Polarization-sensitive coherent control of atomic collisions with nonclassical light.
Phys. Rev. A **65**, 063412 (2002)

Mg + **Ne**	Inter. of Atomic part. with Fields		Th

1508. A. Hoffknecht, O. Uwira, S. Schennach, A. Frank, J. Haselbauer, W. Spies, N. Angert, P. H. Mokler, R. L. Becker, M. Kleinod, S. Schippers, A. Mueller
Influence of magnetic fields on recombination rates of $\mathbf{Au}^{25+}$.
Phys. Scr. **T80**, 316 (1999)

e + $\mathbf{Au}^{25+}$	Inter. of Atomic part. with Fields	0.00-1.00 eV	Ex

1509. S. Schippers, T. Bartsch, S. Boehm, G. Gwinner, D. Schwalm, A. Wolf, R. A. Phaneuf, R. H. Schuch, A. Mueller
Field enhanced dielectronic recombination of lithiumlike $\mathbf{Ti}^{19+}$ and $\mathbf{Ni}^{25+}$ ions.
Phys. Scr. **T92**, 391 (2001)

e + $\mathbf{Ti}^{19+}$	Inter. of Atomic part. with Fields		Ex
e + $\mathbf{Ni}^{25+}$	Inter. of Atomic part. with Fields		Ex

1510. S. Boehm, S. Schippers, W. Shi, A. Mueller, N. Djuric, G. H. Dunn, W. Zong, B. Jelencovic, N. Eklow, P. Glans, R. Schuch, H. Dananred, N. R. Badnell
Influence of electromagnetic fields on the dielectronic recombination of $\mathbf{Ne}^{7+}$ and $\mathbf{O}^{5+}$ ions.
Phys. Scr. **T92**, 395 (2001)

e + $\mathbf{O}^{5+}$	Inter. of Atomic part. with Fields		Ex
e + $\mathbf{Ne}^{7+}$	Inter. of Atomic part. with Fields		Ex

1511. A. Hoffknecht, C. Brandau, T. Bartsch, C. Coehme, H. Knopp, S. Schippers, A. Mueller, C. Kozhuharov, K. Beckert, F. Bosch, B. Franzke, A. Kraemer, P. H. Mokler, F. Nolden, M. Steck, Th. Stoehlker, Z. Stachura
Recombination of bare $\mathbf{Bi}^{83+}$ ions with electrons.
Phys. Scr. **T92**, 398 (2001)

e + $\mathbf{Bi}^{83+}$	Inter. of Atomic part. with Fields	0.00-100.00 eV	Ex

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