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FOREWORD

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

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

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

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

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

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

Vienna, August 2007 The Editors

News on the Atomic and Molecular Data Unit

Co-ordinated Reasearch Projects (CRP) are the main tool by which the Atomic and Molecular Data Unit (AMD Unit) collects and evaluates data for the establishment of recommended numerical databases for use in the fusion energy research. The AMD unit operates three to four CRPs simultaneously. A CRP is a three to five-year joint project involving approximately 12 laboratories, research teams or institutions, performing coordinated research to achieve a certain well defined goal (e.g. establishment of a particular database, data generation, compilation and assessment for specific types of A+M collision processes, or classes of such processes, etc.). Results of two completed CRPs, "Data for molecular processes in edge plasmas" and "Atomic and molecular data for fusion diagnostics", are in press in the IAEA APID Series: volumes 13 and 14. The new data have been introduced into ALADDIN, the A+M Data Unit's numerical database (http://www-amdis.iaea.org/ALADDIN/). The CRP on "Atomic and molecular data for plasma modelling" held its second Research Coodinated Meeting (RCM) in June 2007. The CRP on "Atomic data for heavy element impurities" will hold its second RCM on 26-28 September 2007. The CRP on "Data for surface composition dynamics relevant to erosion processes" will hold its first RCM on 17-19 October 2007. More information on the CRPs are available in previous editions of the Bulletin and on the A+M Data Unit web site.

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

The ability to carry out calculations of A+M data through Internet interfaces is of great interest to estimate parameters such as cross sections when no reliable data have been measured or calculated. The A+M Data Unit has encouraged this web calculation approach and already provides such web tools on the Unit home page to calculate various cross sections and rate coefficients. Recently, the web interface to the Los Alamos codes was modified to include GIPPER, a code for calculations of ionization cprocesses including electron impact ionization, photoionization and autoionization.

GIPPER is part of the theoretical atomic physics and applications code family at Los Alamos. Similarly to ACE, which is already available for excitation cross sections calculations, GIPPER uses the atomic structure data calculated by the CATS code to calculate ionization cross sections. Photoionization, electron collisional ionization, and autoionization cross sections can be calculated using configuration average, multiplet terms, or fine structure levels. Three different methods are available for the electron impact ionization: the scaled hydrogenic method developed by Sampson and co-workers, the binary encounter method and the distorted wave method. Relativistic calculations in GIPPER have not yet been implemented in the web interface.

http://aphysics2.lanl.gov/tempweb/lanl/

The web search engine for atomic data GENIE has been improved. Some minor bugs were corrected. New javascript facilities were introduced. Finally new processes (radiative and dielectronic recombinaison) were added. The next version of GENIE will include molecular data.

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

Advanced developments in computer technologies offer exciting opportunities for new distributed tools and applications in various fields of physics. The convenient and reliable exchange of data is clearly an important component of such applications. To this end, in 2003, the AMD Unit initiated a collaboration with the DCN (Data Centre Network) on a new standard for atomic, molecular and particle surface interaction data exchange (AM/PSI) based on XML (eXtensible Markup Language).

This work is supported by the IAEA in collaboration with the following institutions: NIST, ORNL, KAERI, JAEA and Observatoire Paris-Meudon and progress has been reported during the ICAMDATA meetings. A first workshop "A+M/PSI Data Exchange" was organized at NIST, Gaithersburg, USA, on 3-4 May 2007. The next one is scheduled in Paris in spring 2008. More information will be posted on the IAEA A+M Data Unit web site.

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

NIST is the principal data centre providing spectroscopic data to the Bulletin. Dr. Jeff Fuhr and Dr. Alexander Kramida at NIST undertook the important task of recovering gasps in the bibliographic data from a number of missing publications, going back to early 1990s'. This explains the inclusion of spectroscopic data from year 1995 to 2007 in this edition of the Bulletin. NIST Bibliographic atomic spectroscopic data are also available on line through the three databases: "Atomic Transition Probability", "Atomic Energy Levels and Spectra" and "Atomic Spectral Line Broadening".

http://physics.nist.gov/PhysRefData/ASBib1/index.html.

Contents

Chapter 1

The Atomic and Molecular Data Information System

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

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

AMBDAS, **A**tomic and **M**olecular **B**ibliographic **D**ata **S**ystem, is an on-line bibliographic data retrieval system. It contains more than 40,000 bibliographic entries with atomic, molecular and plasma-surface interaction data of interest to fusion research, dating back to 1950. Entries may be retrieved by author, process, reactants, type of reference, year of publication and data source (theoretical or experimental). The interface is a web-based application, easy to use with no required registration. AMBDAS data are regurlarly published in the International Bulletin on Atomic and Molecular Data for Fusion.

ALADDIN, **A L**abelled **A**tomic **D**ata **IN**terface, is a database system developed to provide a standard and flexible format and interface for the exchange and management of numerical atomic, molecular and plasma-material interaction data of interest to fusion research, originally designed by R. Hulse at the Princeton Plasma Physics Laboratory. This system has been adopted by the IAEA and the Atomic Data Centre Network, an international group of fourteen data centres from several countries, for the exchange of data since 1988.
AMDIS provides a web interface to the ALADDIN Database, accessible from the Unit homepage at **http://www-amdis.iaea.org**. Simple to use, the interface facilitates searches for recommended or evaluated atomic, molecular, plasma-surface interaction and material properties data. An ALADDIN entry consists of searchable labels that characterize the process, reactants; the source of the data, date, laboratory or data centre, and reference; comment lines and the numerical data. When possible all requested data are displayed in the same units to permit easy comparison. A unit conversion tool is available and all results can be displayed in tabular and graphical mode.

Chapter 2

INDEXATION

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He^{-}	Energy Levels, Wavelengths	Exp	124
He	Energy Levels, Wavelengths	Exp	130
He	Energy Levels, Wavelengths	Th	150
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^{4}**He**	Energy Levels, Wavelengths	Exp	178
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^{4}**He**	Energy Levels, Wavelengths	E/T	205
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^{3}**He**	Energy Levels, Wavelengths	E/T	328
^{4}**He**	Energy Levels, Wavelengths	E/T	328
He	Energy Levels, Wavelengths	E/T	328
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^{4}**He**	Energy Levels, Wavelengths	Exp	344
He	Energy Levels, Wavelengths	Exp	344
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^{4}**He**	Energy Levels, Wavelengths	Exp	400
He	Energy Levels, Wavelengths	Exp	400
He	Energy Levels, Wavelengths	Exp	401
He	Energy Levels, Wavelengths	Exp	443
^{4}**He**	Energy Levels, Wavelengths	Exp	451
He	Energy Levels, Wavelengths	Exp	451
^{4}**He**	Energy Levels, Wavelengths	Exp	452
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^{4}**He**	Energy Levels, Wavelengths	Exp	459
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He	Energy Levels, Wavelengths	Exp	511
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^{4}**He**	Energy Levels, Wavelengths	Exp	521
He	Energy Levels, Wavelengths	Exp	521
^{4}**He**	Energy Levels, Wavelengths	Exp	544
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^{4}**He**	Energy Levels, Wavelengths	Exp	592
He	Energy Levels, Wavelengths	Exp	592
^{3}**He**	Energy Levels, Wavelengths	Exp	619
^{4}**He**	Energy Levels, Wavelengths	Exp	619
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He^{-}	Energy Levels, Wavelengths	E/T	622
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^{4}**He**	Energy Levels, Wavelengths	Exp	683
He	Energy Levels, Wavelengths	Exp	683
He	Energy Levels, Wavelengths	E/T	708
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He	Energy Levels, Wavelengths	Exp	747
He	Energy Levels, Wavelengths	Exp	761
^{4}**He**	Energy Levels, Wavelengths	Exp	795
He	Energy Levels, Wavelengths	Exp	795
He	Energy Levels, Wavelengths	Exp	808
^{3}**He**	Energy Levels, Wavelengths	Exp	812
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^{4}**He**	Energy Levels, Wavelengths	Exp	832
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^{8}**Li**	Energy Levels, Wavelengths	Exp	126
^{9}**Li**	Energy Levels, Wavelengths	Exp	126
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^{7}**Li**	Energy Levels, Wavelengths	Exp	216
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^{6}**Li**	Energy Levels, Wavelengths	Exp	223
^{7}**Li**	Energy Levels, Wavelengths	Exp	223
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$^{7}\mathbf{Li}$	Energy Levels, Wavelengths	Th	583
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Li	Energy Levels, Wavelengths	Exp	825
Li	Energy Levels, Wavelengths	Exp	828
Li	Trans. prob., Oscill. Strengths	Th	837
$^{9}\mathbf{Be}$	Energy Levels, Wavelengths	Th	44
Be	Energy Levels, Wavelengths	Th	44
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$^{9}\mathbf{Be}^{2+}$	Energy Levels, Wavelengths	Th	86
$^{9}\mathbf{Be}$	Energy Levels, Wavelengths	Th	104
$^{9}\mathbf{Be}$	Energy Levels, Wavelengths	E/T	127
Be	Energy Levels, Wavelengths	E/T	127
$^{9}\mathbf{Be}^{0+--+}$	Energy Levels, Wavelengths	E/T	127
$\mathbf{Be}^{0+--+}$	Energy Levels, Wavelengths	E/T	127
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Be	Energy Levels, Wavelengths	Th	175
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$\mathbf{Be}^{0+--+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Be}^{0+--2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Be}^{3+}$	Energy Levels, Wavelengths	E/T	205
Be	Energy Levels, Wavelengths	Exp	226

$^{9}\mathbf{Be}$	Energy Levels, Wavelengths	Th	272
$^{9}\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Exp	278
$\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Exp	278
$\mathbf{Be}^{2+}$	Energy Levels, Wavelengths	Th	373
$^{9}\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Th	393
$\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Th	393
$\mathbf{Be}$	Energy Levels, Wavelengths	Exp	495
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$\mathbf{Be}^{+}$	Energy Levels, Wavelengths	E/T	554
$^{9}\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Exp	602
$\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Exp	602
$\mathbf{Be}$	Energy Levels, Wavelengths	Exp	657
$\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Th	727
$\mathbf{Be}$	Energy Levels, Wavelengths	Th	735
$\mathbf{Be}^{-}$	Energy Levels, Wavelengths	Exp	744
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$\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Exp	767
$\mathbf{Be}^{-}$	Energy Levels, Wavelengths	Exp	788
$\mathbf{Be}$	Trans. prob., Oscill. Strengths	Th	899
$^{10}\mathbf{B}^{+}$	Energy Levels, Wavelengths	E/T	73
$^{11}\mathbf{B}^{+}$	Energy Levels, Wavelengths	E/T	73
$\mathbf{B}^{+}$	Energy Levels, Wavelengths	E/T	73
$^{11}\mathbf{B}^{3+}$	Energy Levels, Wavelengths	Th	86
$^{11}\mathbf{B}^{+}$	Energy Levels, Wavelengths	Th	104
$^{10}\mathbf{B}^{0+--2+}$	Energy Levels, Wavelengths	E/T	205
$^{11}\mathbf{B}^{0+--2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{B}^{0+--2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{B}^{3+--4+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{B}^{+}$	Energy Levels, Wavelengths	Exp	260
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$^{10}\mathbf{B}^{+}$	Energy Levels, Wavelengths	Exp	514
$^{11}\mathbf{B}^{+}$	Energy Levels, Wavelengths	Exp	514
$\mathbf{B}^{+}$	Energy Levels, Wavelengths	Exp	514
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$^{11}\mathbf{B}^{+}$	Energy Levels, Wavelengths	E/T	546
$\mathbf{B}^{+}$	Energy Levels, Wavelengths	E/T	546
$^{10}\mathbf{B}^{2+}$	Energy Levels, Wavelengths	Exp	576
$^{11}\mathbf{B}^{2+}$	Energy Levels, Wavelengths	Exp	576
$\mathbf{B}^{2+}$	Energy Levels, Wavelengths	Exp	576
$\mathbf{B}^{4+}$	Energy Levels, Wavelengths	Th	682
$\mathbf{B}^{-}$	Energy Levels, Wavelengths	Exp	724
$\mathbf{B}$	Energy Levels, Wavelengths	Th	736
$\mathbf{B}$	Trans. prob., Oscill. Strengths	Th	908
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$^{12}\mathbf{C}$	Energy Levels, Wavelengths	Exp	65
$^{13}\mathbf{C}$	Energy Levels, Wavelengths	Exp	65
$\mathbf{C}$	Energy Levels, Wavelengths	Exp	65
$^{13}\mathbf{C}^{4+}$	Energy Levels, Wavelengths	Th	86
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$^{11}\mathbf{C}^{2+}$	Energy Levels, Wavelengths	Th	104
$\mathbf{C}$	Energy Levels, Wavelengths	Exp	118
$^{12}\mathbf{C}^{5+}$	Energy Levels, Wavelengths	Th	125
$\mathbf{C}^{5+}$	Energy Levels, Wavelengths	Th	125
$^{13}\mathbf{C}^{0+--+}$	Energy Levels, Wavelengths	E/T	205

$\mathbf{C}^{0+-3+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{C}^{0+-4+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{C}^{5+}$	Energy Levels, Wavelengths	E/T	205
$^{11}\mathbf{C}^{2+}$	Energy Levels, Wavelengths	Th	272
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$\mathbf{C}^{4+}$	Energy Levels, Wavelengths	Exp	340
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$\mathbf{C}$	Energy Levels, Wavelengths	Exp	449
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$^{13}\mathbf{C}$	Energy Levels, Wavelengths	Exp	515
$\mathbf{C}$	Energy Levels, Wavelengths	Exp	515
$\mathbf{C}^{3+}$	Energy Levels, Wavelengths	E/T	520
$\mathbf{C}^{3+}$	Energy Levels, Wavelengths	E/T	523
$^{13}\mathbf{C}$	Energy Levels, Wavelengths	Exp	526
$\mathbf{C}$	Energy Levels, Wavelengths	Exp	526
$\mathbf{C}^{+}$	Energy Levels, Wavelengths	Exp	527
$\mathbf{C}$	Energy Levels, Wavelengths	Exp	528
$\mathbf{C}^{-}$	Energy Levels, Wavelengths	Exp	531
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$\mathbf{C}^{3+}$	Energy Levels, Wavelengths	Exp	623
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$\mathbf{C}^{3+}$	Energy Levels, Wavelengths	Exp	804
$\mathbf{C}^{4+}$	Trans. prob., Oscill. Strengths	Th	906
$\mathbf{C}^{2+}$	Trans. prob., Oscill. Strengths	Th	914
$^{14}\mathbf{N}^{3+}$	Energy Levels, Wavelengths	Th	104
$\mathbf{N}$	Energy Levels, Wavelengths	Exp	118
$^{14}\mathbf{N}^{6+}$	Energy Levels, Wavelengths	Exp	160
$\mathbf{N}^{6+}$	Energy Levels, Wavelengths	Exp	160
$\mathbf{N}^{0+--4+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{N}^{5+--6+}$	Energy Levels, Wavelengths	E/T	205
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$\mathbf{N}^{3+}$	Energy Levels, Wavelengths	E/T	350
$\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Th	373
$\mathbf{N}^{6+}$	Energy Levels, Wavelengths	Exp	391
$^{14}\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp	392
$^{15}\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp	392
$\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp	392
$\mathbf{N}$	Energy Levels, Wavelengths	Exp	449
$\mathbf{N}^{4+--5+}$	Energy Levels, Wavelengths	Exp	469
$\mathbf{N}^{4+}$	Energy Levels, Wavelengths	E/T	523
$\mathbf{N}$	Energy Levels, Wavelengths	Exp	526
$^{14}\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp	553
$^{15}\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp	553
$\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp	553
$\mathbf{N}^{3+}$	Energy Levels, Wavelengths	Exp	565

$\mathbf{N}^{4+}$	Energy Levels, Wavelengths	Exp	608
$\mathbf{N}$	Energy Levels, Wavelengths	Th	634
$^{14}\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp	679
$\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp	679
$\mathbf{N}^{6+}$	Energy Levels, Wavelengths	Th	682
$\mathbf{N}$	Energy Levels, Wavelengths	Exp	697
$\mathbf{N}^{4+}$	Energy Levels, Wavelengths	E/T	738
$\mathbf{N}^{+}$	Energy Levels, Wavelengths	Exp	755
$\mathbf{N}^{4+}$	Energy Levels, Wavelengths	Exp	787
$\mathbf{N}$	Energy Levels, Wavelengths	Exp	792
$\mathbf{N}$	Trans. prob., Oscill. Strengths	Th	868
$\mathbf{N}$	Trans. prob., Oscill. Strengths	Th	885
$\mathbf{N}$	Trans. prob., Oscill. Strengths	Exp	887
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$\mathbf{O}^{3+}$	Energy Levels, Wavelengths	Th	49
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$\mathbf{O}^{+}$	Energy Levels, Wavelengths	Exp	107
$\mathbf{O}^{+}$	Energy Levels, Wavelengths	Exp	108
$\mathbf{O}^{4+-5+}$	Energy Levels, Wavelengths	Exp	110
$\mathbf{O}$	Energy Levels, Wavelengths	Exp	121
$^{16}\mathbf{O}^{7+}$	Energy Levels, Wavelengths	Th	125
$\mathbf{O}^{7+}$	Energy Levels, Wavelengths	Th	125
$^{16}\mathbf{O}^{7+}$	Energy Levels, Wavelengths	Exp	128
$\mathbf{O}^{7+}$	Energy Levels, Wavelengths	Exp	128
$\mathbf{O}^{5+}$	Energy Levels, Wavelengths	Th	147
$\mathbf{O}^{-}$	Energy Levels, Wavelengths	Exp	159
$\mathbf{O}$	Energy Levels, Wavelengths	Th	162
$\mathbf{O}^{3+}$	Energy Levels, Wavelengths	Th	170
$\mathbf{O}^{3+}$	Energy Levels, Wavelengths	Exp	171
$\mathbf{O}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{O}^{0+-6+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{O}^{2+-5+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{O}^{+}$	Energy Levels, Wavelengths	E/T	208
$\mathbf{O}^{4+}$	Energy Levels, Wavelengths	Exp	261
$\mathbf{O}^{4+}$	Energy Levels, Wavelengths	Exp	262
$^{17}\mathbf{O}^{4+}$	Energy Levels, Wavelengths	Th	272
$\mathbf{O}^{5+-7+}$	Energy Levels, Wavelengths	Exp	331
$\mathbf{O}^{-}$	Energy Levels, Wavelengths	E/T	348
$\mathbf{O}^{6+}$	Energy Levels, Wavelengths	Th	373
$^{17}\mathbf{O}$	Energy Levels, Wavelengths	Exp	409
$\mathbf{O}$	Energy Levels, Wavelengths	Exp	409
$\mathbf{O}^{4+-6+}$	Energy Levels, Wavelengths	Exp	430
$\mathbf{O}^{3+}$	Energy Levels, Wavelengths	Th	435
$\mathbf{O}$	Energy Levels, Wavelengths	Exp	449
$\mathbf{O}^{5+}$	Energy Levels, Wavelengths	Exp	462
$\mathbf{O}^{4+}$	Energy Levels, Wavelengths	Exp	465
$\mathbf{O}^{-}$	Energy Levels, Wavelengths	Th	476
$\mathbf{O}^{-}$	Energy Levels, Wavelengths	Exp	477
$\mathbf{O}^{5+}$	Energy Levels, Wavelengths	Th	510
$\mathbf{O}$	Energy Levels, Wavelengths	Exp	517
$\mathbf{O}^{5+}$	Energy Levels, Wavelengths	E/T	523
$\mathbf{O}$	Energy Levels, Wavelengths	Exp	526
$\mathbf{O}$	Energy Levels, Wavelengths	Th	634
$\mathbf{O}^{6+}$	Energy Levels, Wavelengths	E/T	647
$\mathbf{O}^{4+}$	Energy Levels, Wavelengths	Exp	764
$\mathbf{O}$	Energy Levels, Wavelengths	Exp	789
$\mathbf{O}^{4+}$	Energy Levels, Wavelengths	E/T	813

$\mathbf{O}$	Trans. prob., Oscill. Strengths	Th	834
$\mathbf{O}^{3+}$	Trans. prob., Oscill. Strengths	Th	866
$\mathbf{O}^{2+}$	Trans. prob., Oscill. Strengths	Th	883
$\mathbf{O}^{4+}$	Trans. prob., Oscill. Strengths	Th	894
$\mathbf{F}^{-}$	Energy Levels, Wavelengths	Th	44
$\mathbf{F}^{7+}$	Energy Levels, Wavelengths	Th	53
$^{20}\mathbf{F}^{5+}$	Energy Levels, Wavelengths	Th	104
$\mathbf{F}^{4+}$	Energy Levels, Wavelengths	Exp	171
$\mathbf{F}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{F}^{0+\text{--}6+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{F}^{3+\text{--}5+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{F}^{6+}$	Energy Levels, Wavelengths	Exp	237
$^{20}\mathbf{F}^{5+}$	Energy Levels, Wavelengths	Th	272
$\mathbf{F}^{5+\text{--}6+}$	Energy Levels, Wavelengths	E/T	302
$\mathbf{F}^{7+}$	Energy Levels, Wavelengths	Th	373
$^{19}\mathbf{F}^{7+}$	Energy Levels, Wavelengths	Exp	392
$\mathbf{F}^{7+}$	Energy Levels, Wavelengths	Exp	392
$^{19}\mathbf{F}^{7+}$	Energy Levels, Wavelengths	Exp	456
$\mathbf{F}^{7+}$	Energy Levels, Wavelengths	Exp	456
$^{19}\mathbf{F}^{+}$	Energy Levels, Wavelengths	Exp	545
$\mathbf{F}^{+}$	Energy Levels, Wavelengths	Exp	545
$^{19}\mathbf{F}$	Energy Levels, Wavelengths	Exp	609
$\mathbf{F}$	Energy Levels, Wavelengths	Exp	609
$\mathbf{F}$	Energy Levels, Wavelengths	Exp	676
$\mathbf{F}^{8+}$	Energy Levels, Wavelengths	Th	682
$\mathbf{F}$	Energy Levels, Wavelengths	Exp	707
$\mathbf{F}$	Trans. prob., Oscill. Strengths	Th	870
$\mathbf{Ne}^{+\text{--}2+}$	Energy Levels, Wavelengths	Exp	5
$\mathbf{Ne}^{+}$	Energy Levels, Wavelengths	Exp	11
$\mathbf{Ne}^{+}$	Energy Levels, Wavelengths	E/T	12
$\mathbf{Ne}^{7+}$	Energy Levels, Wavelengths	E/T	13
$\mathbf{Ne}^{6+}$	Energy Levels, Wavelengths	E/T	14
$\mathbf{Ne}^{2+}$	Energy Levels, Wavelengths	E/T	15
$\mathbf{Ne}^{4+\text{--}5+}$	Energy Levels, Wavelengths	Exp	19
$\mathbf{Ne}^{8+}$	Energy Levels, Wavelengths	Th	31
$^{20}\mathbf{Ne}$	Energy Levels, Wavelengths	Th	44
$\mathbf{Ne}$	Energy Levels, Wavelengths	Th	44
$\mathbf{Ne}^{8+}$	Energy Levels, Wavelengths	Th	53
$\mathbf{Ne}^{9+}$	Energy Levels, Wavelengths	Exp	69
$\mathbf{Ne}^{+}$	Energy Levels, Wavelengths	Exp	89
$^{22}\mathbf{Ne}^{6+}$	Energy Levels, Wavelengths	Th	104
$\mathbf{Ne}^{0+\text{--}2+}$	Energy Levels, Wavelengths	Exp	118
$\mathbf{Ne}$	Energy Levels, Wavelengths	Exp	120
$\mathbf{Ne}^{0+\text{--}+}$	Energy Levels, Wavelengths	Th	122
$\mathbf{Ne}$	Energy Levels, Wavelengths	E/T	136
$\mathbf{Ne}^{+}$	Energy Levels, Wavelengths	Exp	139
$\mathbf{Ne}$	Energy Levels, Wavelengths	Exp	142
$\mathbf{Ne}^{8+}$	Energy Levels, Wavelengths	Th	151
$\mathbf{Ne}^{5+}$	Energy Levels, Wavelengths	Exp	171
$\mathbf{Ne}^{4+\text{--}7+}$	Energy Levels, Wavelengths	Exp	182
$\mathbf{Ne}^{6+}$	Energy Levels, Wavelengths	Exp	202
$\mathbf{Ne}^{0+\text{--}6+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Ne}^{4+\text{--}5+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Ne}^{+}$	Energy Levels, Wavelengths	Exp	217
$\mathbf{Ne}$	Energy Levels, Wavelengths	Exp	247
$\mathbf{Ne}$	Energy Levels, Wavelengths	E/T	251
$\mathbf{Ne}^{6+}$	Energy Levels, Wavelengths	Exp	261

Ne^{6+}	Energy Levels, Wavelengths	Exp	262
^{22}**Ne**$^{6+}$	Energy Levels, Wavelengths	Th	272
Ne	Energy Levels, Wavelengths	Exp	286
Ne^{+}	Energy Levels, Wavelengths	Exp	295
Ne^{6+}	Energy Levels, Wavelengths	Exp	324
Ne^{6+}–$^{7+}$	Energy Levels, Wavelengths	E/T	363
Ne^{3+}	Energy Levels, Wavelengths	E/T	364
Ne^{6+}–$^{7+}$	Energy Levels, Wavelengths	Exp	371
Ne^{8+}	Energy Levels, Wavelengths	Th	373
Ne^{8+}	Energy Levels, Wavelengths	Exp	378
Ne	Energy Levels, Wavelengths	Exp	395
Ne	Energy Levels, Wavelengths	Exp	405
Ne	Energy Levels, Wavelengths	Exp	406
Ne^{8+}	Energy Levels, Wavelengths	Exp	411
Ne^{5+}	Energy Levels, Wavelengths	E/T	437
Ne^{6+}	Energy Levels, Wavelengths	E/T	437
Ne^{8+}	Energy Levels, Wavelengths	E/T	437
Ne^{6+}	Energy Levels, Wavelengths	Exp	461
Ne^{6+}	Energy Levels, Wavelengths	Exp	465
Ne	Energy Levels, Wavelengths	E/T	479
Ne^{5+}–$^{9+}$	Energy Levels, Wavelengths	Exp	485
Ne	Energy Levels, Wavelengths	Exp	486
Ne^{0+}–$^{+}$	Energy Levels, Wavelengths	E/T	488
Ne^{+}	Energy Levels, Wavelengths	E/T	488
Ne^{7+}	Energy Levels, Wavelengths	E/T	494
Ne^{5+}	Energy Levels, Wavelengths	E/T	506
Ne^{4+}	Energy Levels, Wavelengths	Exp	508
Ne^{3+}	Energy Levels, Wavelengths	Exp	509
Ne^{7+}	Energy Levels, Wavelengths	Th	510
Ne^{7+}	Energy Levels, Wavelengths	E/T	538
Ne^{6+}	Energy Levels, Wavelengths	Exp	563
Ne	Energy Levels, Wavelengths	Exp	574
Ne^{3+}	Energy Levels, Wavelengths	Exp	585
Ne^{3+}–$^{6+}$	Energy Levels, Wavelengths	Exp	585
Ne^{6+}	Energy Levels, Wavelengths	Exp	585
Ne^{6+}	Energy Levels, Wavelengths	Exp	601
Ne	Energy Levels, Wavelengths	E/T	606
Ne^{6+}	Energy Levels, Wavelengths	E/T	607
Ne^{6+}–$^{7+}$	Energy Levels, Wavelengths	E/T	607
Ne^{7+}	Energy Levels, Wavelengths	E/T	612
Ne	Energy Levels, Wavelengths	Exp	625
Ne^{4+}	Energy Levels, Wavelengths	E/T	626
Ne	Energy Levels, Wavelengths	E/T	639
Ne^{2+}	Energy Levels, Wavelengths	Exp	643
Ne^{3+}	Energy Levels, Wavelengths	Exp	660
Ne^{2+}	Energy Levels, Wavelengths	Exp	662
Ne^{3+}–$^{4+}$	Energy Levels, Wavelengths	Exp	667
Ne^{9+}	Energy Levels, Wavelengths	Th	682
Ne	Energy Levels, Wavelengths	E/T	722
Ne^{+}	Energy Levels, Wavelengths	E/T	722
Ne	Energy Levels, Wavelengths	Exp	745
Ne^{+}	Energy Levels, Wavelengths	Exp	753
Ne^{4+}	Energy Levels, Wavelengths	Exp	753
Ne	Energy Levels, Wavelengths	Exp	818
Ne^{8+}	Energy Levels, Wavelengths	Exp	832
Ne	Trans. prob., Oscill. Strengths	Exp	895
Na	Energy Levels, Wavelengths	E/T	205

$\mathbf{Na}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Na}^{9+}$	Energy Levels, Wavelengths	Th	373
$\mathbf{Na}^{9+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Na}^{9+}$	Energy Levels, Wavelengths	Exp	411
Na	Energy Levels, Wavelengths	Exp	449
Na	Energy Levels, Wavelengths	Exp	517
$^{23}\mathbf{Na}^{0+\text{--}+}$	Energy Levels, Wavelengths	Exp	529
$\mathbf{Na}^{0+\text{--}+}$	Energy Levels, Wavelengths	Exp	529
$\mathbf{Na}^{5+\text{--}7+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{Na}^{6+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{Na}^{7+}$	Energy Levels, Wavelengths	Exp	585
Na	Energy Levels, Wavelengths	Exp	726
$\mathbf{Na}^{3+}$	Energy Levels, Wavelengths	Exp	753
Na	Energy Levels, Wavelengths	Exp	756
Na	Energy Levels, Wavelengths	Exp	828
Mg	Energy Levels, Wavelengths	Exp	6
$^{24}\mathbf{Mg}$	Energy Levels, Wavelengths	Th	44
Mg	Energy Levels, Wavelengths	Th	44
$\mathbf{Mg}^{10+\text{--}11+}$	Energy Levels, Wavelengths	Exp	134
$^{25}\mathbf{Mg}$	Energy Levels, Wavelengths	Th	157
Mg	Energy Levels, Wavelengths	Th	157
$\mathbf{Mg}^{4+\text{--}9+}$	Energy Levels, Wavelengths	Exp	183
$^{24}\mathbf{Mg}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T	205
$^{25}\mathbf{Mg}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T	205
$^{26}\mathbf{Mg}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Mg}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Mg}^{0+\text{--}3+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp	241
$\mathbf{Mg}^{9+}$	Energy Levels, Wavelengths	E/T	284
Mg	Energy Levels, Wavelengths	Exp	311
$\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp	326
$\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp	359
$\mathbf{Mg}^{10+}$	Energy Levels, Wavelengths	Th	373
$\mathbf{Mg}^{10+}$	Energy Levels, Wavelengths	Exp	378
Mg	Energy Levels, Wavelengths	Exp	385
$^{24}\mathbf{Mg}^{10+}$	Energy Levels, Wavelengths	Exp	392
$\mathbf{Mg}^{10+}$	Energy Levels, Wavelengths	Exp	392
$\mathbf{Mg}^{10+}$	Energy Levels, Wavelengths	Exp	411
$^{24}\mathbf{Mg}^{10+}$	Energy Levels, Wavelengths	Exp	423
$\mathbf{Mg}^{10+}$	Energy Levels, Wavelengths	Exp	423
Mg	Energy Levels, Wavelengths	Exp	449
$\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp	449
Mg	Energy Levels, Wavelengths	Exp	450
Mg	Energy Levels, Wavelengths	Th	501
$^{24}\mathbf{Mg}^{0+\text{--}+}$	Energy Levels, Wavelengths	Exp	516
$\mathbf{Mg}^{0+\text{--}+}$	Energy Levels, Wavelengths	Exp	516
Mg	Energy Levels, Wavelengths	Exp	517
$\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp	517
$\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp	547
$\mathbf{Mg}^{11+}$	Energy Levels, Wavelengths	Exp	549
$\mathbf{Mg}^{4+\text{--}8+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{Mg}^{5+\text{--}8+}$	Energy Levels, Wavelengths	Exp	585
Mg	Energy Levels, Wavelengths	Th	617
$\mathbf{Mg}^{4+}$	Energy Levels, Wavelengths	Exp	753
$\mathbf{Mg}^{6+}$	Energy Levels, Wavelengths	Exp	753
Mg	Energy Levels, Wavelengths	Exp	756
$\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp	756

$^{25}\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp	767
$\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp	767
$\mathbf{Mg}$	Energy Levels, Wavelengths	Exp	772
$\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp	774
$\mathbf{Mg}^{9+}$	Energy Levels, Wavelengths	Exp	775
$\mathbf{Mg}$	Energy Levels, Wavelengths	E/T	794
$\mathbf{Mg}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Mg}^{4+}$	Trans. prob., Oscill. Strengths	Th	839
$\mathbf{Mg}$	Trans. prob., Oscill. Strengths	Th	899
$^{26}\mathbf{Al}^{5+}$	Energy Levels, Wavelengths	Exp	26
$^{27}\mathbf{Al}^{5+}$	Energy Levels, Wavelengths	Exp	26
$\mathbf{Al}^{5+}$	Energy Levels, Wavelengths	Exp	26
$\mathbf{Al}^{11+\text{--}12+}$	Energy Levels, Wavelengths	Th	28
$\mathbf{Al}^{+}$	Energy Levels, Wavelengths	E/T	88
$\mathbf{Al}^{+}$	Energy Levels, Wavelengths	Exp	118
$\mathbf{Al}$	Energy Levels, Wavelengths	Th	173
$\mathbf{Al}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Al}^{0+\text{--}4+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Al}^{2+}$	Energy Levels, Wavelengths	Exp	241
$\mathbf{Al}$	Energy Levels, Wavelengths	Exp	253
$\mathbf{Al}$	Energy Levels, Wavelengths	Exp	256
$\mathbf{Al}^{8+\text{--}10+}$	Energy Levels, Wavelengths	Exp	273
$\mathbf{Al}^{10+\text{--}12+}$	Energy Levels, Wavelengths	Exp	316
$\mathbf{Al}^{8+\text{--}10+}$	Energy Levels, Wavelengths	Exp	330
$\mathbf{Al}^{11+}$	Energy Levels, Wavelengths	Th	346
$\mathbf{Al}^{12+}$	Energy Levels, Wavelengths	Th	346
$\mathbf{Al}^{+\text{--}2+}$	Energy Levels, Wavelengths	Exp	359
$\mathbf{Al}^{10+}$	Energy Levels, Wavelengths	E/T	361
$\mathbf{Al}^{+}$	Energy Levels, Wavelengths	Exp	381
$\mathbf{Al}^{2+}$	Energy Levels, Wavelengths	Exp	381
$\mathbf{Al}$	Energy Levels, Wavelengths	Exp	449
$^{27}\mathbf{Al}$	Energy Levels, Wavelengths	Exp	473
$\mathbf{Al}$	Energy Levels, Wavelengths	Exp	473
$\mathbf{Al}$	Energy Levels, Wavelengths	Exp	517
$\mathbf{Al}^{-}$	Energy Levels, Wavelengths	Exp	556
$\mathbf{Al}$	Energy Levels, Wavelengths	Exp	572
$\mathbf{Al}^{2+}$	Energy Levels, Wavelengths	Exp	578
$\mathbf{Al}^{5+\text{--}9+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{Al}^{-}$	Energy Levels, Wavelengths	Exp	611
$\mathbf{Al}^{11+}$	Energy Levels, Wavelengths	Exp	691
$\mathbf{Al}^{7+\text{--}10+}$	Energy Levels, Wavelengths	Exp	710
$\mathbf{Al}^{5+\text{--}11+}$	Energy Levels, Wavelengths	Exp	714
$\mathbf{Al}^{+}$	Energy Levels, Wavelengths	Exp	730
$\mathbf{Al}$	Energy Levels, Wavelengths	Th	742
$^{26}\mathbf{Al}$	Energy Levels, Wavelengths	Exp	748
$^{27}\mathbf{Al}$	Energy Levels, Wavelengths	Exp	748
$\mathbf{Al}$	Energy Levels, Wavelengths	Exp	748
$\mathbf{Al}$	Energy Levels, Wavelengths	Exp	756
$\mathbf{Al}$	Energy Levels, Wavelengths	Th	816
$\mathbf{Al}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Al}$	Trans. prob., Oscill. Strengths	Th	913
$\mathbf{Si}^{4+\text{--}6+}$	Energy Levels, Wavelengths	Exp	29
$\mathbf{Si}^{4+}$	Energy Levels, Wavelengths	Exp	43
$\mathbf{Si}^{9+}$	Energy Levels, Wavelengths	E/T	60
$\mathbf{Si}^{12+\text{--}13+}$	Energy Levels, Wavelengths	Exp	69
$\mathbf{Si}^{+}$	Energy Levels, Wavelengths	Exp	96
$\mathbf{Si}^{2+}$	Energy Levels, Wavelengths	Exp	96

$\mathbf{Si}^{5+-11+}$	Energy Levels, Wavelengths	Exp	184
$\mathbf{Si}^{0+-3+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Si}^{0+-5+}$	Energy Levels, Wavelengths	E/T	205
$^{28}\mathbf{Si}^{12+}$	Energy Levels, Wavelengths	Exp	211
$\mathbf{Si}^{12+}$	Energy Levels, Wavelengths	Exp	211
$\mathbf{Si}^{12+}$	Energy Levels, Wavelengths	Th	218
$\mathbf{Si}^{11+}$	Energy Levels, Wavelengths	E/T	220
$\mathbf{Si}^{2+}$	Energy Levels, Wavelengths	Exp	225
$\mathbf{Si}^{2+}$	Energy Levels, Wavelengths	Exp	235
$\mathbf{Si}^{3+}$	Energy Levels, Wavelengths	Exp	235
$\mathbf{Si}^{13+}$	Energy Levels, Wavelengths	Exp	293
$\mathbf{Si}^{11+}$	Energy Levels, Wavelengths	Th	296
$\mathbf{Si}^{12+}$	Energy Levels, Wavelengths	Th	296
$\mathbf{Si}^{12+}$	Energy Levels, Wavelengths	Exp	299
$\mathbf{Si}^{13+}$	Energy Levels, Wavelengths	Exp	299
$\mathbf{Si}^{+}$	Energy Levels, Wavelengths	Exp	319
$\mathbf{Si}^{11+}$	Energy Levels, Wavelengths	E/T	358
$\mathbf{Si}^{12+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Si}^{+}$	Energy Levels, Wavelengths	Exp	381
$\mathbf{Si}^{3+}$	Energy Levels, Wavelengths	Exp	381
$\mathbf{Si}^{12+}$	Energy Levels, Wavelengths	Exp	411
Si	Energy Levels, Wavelengths	Exp	449
$\mathbf{Si}^{7+}$	Energy Levels, Wavelengths	E/T	487
Si	Energy Levels, Wavelengths	Exp	517
$\mathbf{Si}^{-}$	Energy Levels, Wavelengths	Exp	531
$\mathbf{Si}^{+}$	Energy Levels, Wavelengths	Exp	572
$\mathbf{Si}^{+}$	Energy Levels, Wavelengths	Exp	577
$\mathbf{Si}^{11+}$	Energy Levels, Wavelengths	E/T	580
$\mathbf{Si}^{6+-10+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{Si}^{10+}$	Energy Levels, Wavelengths	Exp	588
$\mathbf{Si}^{8+-11+}$	Energy Levels, Wavelengths	Exp	595
$\mathbf{Si}^{6+}$	Energy Levels, Wavelengths	E/T	614
$\mathbf{Si}^{10+}$	Energy Levels, Wavelengths	Exp	712
Si	Energy Levels, Wavelengths	Exp	756
$\mathbf{Si}^{11+}$	Energy Levels, Wavelengths	Th	784
$\mathbf{Si}^{+}$	Energy Levels, Wavelengths	Th	816
$\mathbf{Si}^{2+}$	Energy Levels, Wavelengths	E/T	819
$\mathbf{Si}^{12+}$	Trans. prob., Oscill. Strengths	Th	838
Si	Trans. prob., Oscill. Strengths	Exp	861
$\mathbf{P}^{0+-4+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{P}^{0+-6+}$	Energy Levels, Wavelengths	E/T	205
P	Energy Levels, Wavelengths	Exp	449
$\mathbf{P}^{8+-10+}$	Energy Levels, Wavelengths	Exp	585
P	Energy Levels, Wavelengths	Exp	756
$\mathbf{P}^{+}$	Trans. prob., Oscill. Strengths	Th	843
$\mathbf{S}^{6+-7+}$	Energy Levels, Wavelengths	Exp	43
$\mathbf{S}^{9+}$	Energy Levels, Wavelengths	E/T	51
$\mathbf{S}^{13+-14+}$	Energy Levels, Wavelengths	Exp	115
$\mathbf{S}^{-}$	Energy Levels, Wavelengths	Exp	159
$\mathbf{S}^{9+-15+}$	Energy Levels, Wavelengths	Exp	187
$\mathbf{S}^{0+-5+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{S}^{0+-6+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{S}^{9+}$	Energy Levels, Wavelengths	Exp	378
S	Energy Levels, Wavelengths	Exp	449
$\mathbf{S}^{9+}$	Energy Levels, Wavelengths	E/T	487
$\mathbf{S}^{4+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{S}^{8+}$	Energy Levels, Wavelengths	Exp	585

$\mathbf{S}^{8+–11+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{S}^{9+–11+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{S}^{2+}$	Energy Levels, Wavelengths	Exp	753
S	Energy Levels, Wavelengths	Exp	756
$\mathbf{S}^{13+}$	Energy Levels, Wavelengths	Th	784
$\mathbf{S}^{3+}$	Energy Levels, Wavelengths	Th	816
$\mathbf{S}^{2+}$	Trans. prob., Oscill. Strengths	Th	843
S	Trans. prob., Oscill. Strengths	Th	872
$\mathbf{S}^{+}$	Trans. prob., Oscill. Strengths	Th	872
$\mathbf{Cl}^{-}$	Energy Levels, Wavelengths	Th	44
Cl	Energy Levels, Wavelengths	Exp	118
$\mathbf{Cl}^{0+–5+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Cl}^{0+–6+}$	Energy Levels, Wavelengths	E/T	205
Cl	Energy Levels, Wavelengths	Exp	474
$^{35}\mathbf{Cl}$	Energy Levels, Wavelengths	Exp	482
$^{37}\mathbf{Cl}$	Energy Levels, Wavelengths	Exp	482
Cl	Energy Levels, Wavelengths	Exp	482
Cl	Energy Levels, Wavelengths	E/T	491
$\mathbf{Cl}^{9+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{Cl}^{4+}$	Energy Levels, Wavelengths	Exp	719
Cl	Energy Levels, Wavelengths	Exp	820
Cl	Trans. prob., Oscill. Strengths	Exp	846
Cl	Trans. prob., Oscill. Strengths	Th	870
Cl	Trans. prob., Oscill. Strengths	Th	902
$\mathbf{Ar}^{12+–14+}$	Energy Levels, Wavelengths	Th	20
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Th	31
Ar	Energy Levels, Wavelengths	Exp	39
$^{40}\mathbf{Ar}$	Energy Levels, Wavelengths	Th	44
Ar	Energy Levels, Wavelengths	Th	44
$\mathbf{Ar}^{9+}$	Energy Levels, Wavelengths	Th	48
$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	Th	48
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Th	53
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	69
Ar	Energy Levels, Wavelengths	Exp	78
$\mathbf{Ar}^{9+}$	Energy Levels, Wavelengths	Th	91
$\mathbf{Ar}^{+}$	Energy Levels, Wavelengths	Th	92
$\mathbf{Ar}^{6+}$	Energy Levels, Wavelengths	E/T	98
$\mathbf{Ar}^{12+–15+}$	Energy Levels, Wavelengths	E/T	117
$\mathbf{Ar}^{12+}$	Energy Levels, Wavelengths	Th	131
$\mathbf{Ar}^{9+–10+}$	Energy Levels, Wavelengths	Exp	134
$\mathbf{Ar}^{5+}$	Energy Levels, Wavelengths	Th	140
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Th	144
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Th	151
$\mathbf{Ar}^{8+–15+}$	Energy Levels, Wavelengths	E/T	191
$\mathbf{Ar}^{6+}$	Energy Levels, Wavelengths	Exp	196
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Exp	199
$\mathbf{Ar}^{0+–+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Ar}^{0+–6+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Ar}^{3+–5+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Ar}^{9+}$	Energy Levels, Wavelengths	Exp	210
$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	Exp	210
$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	Exp	210
Ar	Energy Levels, Wavelengths	Exp	212
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Th	214
$\mathbf{Ar}^{9+}$	Energy Levels, Wavelengths	Exp	215
$\mathbf{Ar}^{10+}$	Energy Levels, Wavelengths	Exp	215
$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	Exp	215

$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	Exp	215
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Th	218
$\mathbf{Ar}^{0+--+}$	Energy Levels, Wavelengths	Exp	224
$\mathbf{Ar}^{4+}$	Energy Levels, Wavelengths	Th	254
$\mathbf{Ar}^{+}$	Energy Levels, Wavelengths	E/T	283
$\mathbf{Ar}^{9+--16+}$	Energy Levels, Wavelengths	E/T	283
$\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	285
$\mathbf{Ar}^{7+}$	Energy Levels, Wavelengths	E/T	297
$\mathbf{Ar}^{8+}$	Energy Levels, Wavelengths	E/T	297
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Exp	300
$\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	318
$\mathbf{Ar}^{13+--15+}$	Energy Levels, Wavelengths	Exp	335
$\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	347
$\mathbf{Ar}^{+--3+}$	Energy Levels, Wavelengths	Exp	356
$\mathbf{Ar}^{6+--8+}$	Energy Levels, Wavelengths	E/T	362
$\mathbf{Ar}^{7+}$	Energy Levels, Wavelengths	E/T	362
$\mathbf{Ar}^{8+}$	Energy Levels, Wavelengths	Exp	377
$\mathbf{Ar}^{10+--12+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Ar}^{11+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Ar}^{+}$	Energy Levels, Wavelengths	Exp	396
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Exp	407
$\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	413
$\mathbf{Ar}^{8+}$	Energy Levels, Wavelengths	E/T	417
$\mathbf{Ar}^{+}$	Energy Levels, Wavelengths	Exp	418
$\mathbf{Ar}^{9+--15+}$	Energy Levels, Wavelengths	E/T	425
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	439
$\mathbf{Ar}^{2+}$	Energy Levels, Wavelengths	Exp	441
$^{40}\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	498
$\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	498
$^{40}\mathbf{Ar}$	Energy Levels, Wavelengths	E/T	499
$\mathbf{Ar}$	Energy Levels, Wavelengths	E/T	499
$^{36}\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	505
$^{38}\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	505
$^{40}\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	505
$\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	505
$\mathbf{Ar}^{0+--+}$	Energy Levels, Wavelengths	Exp	518
$\mathbf{Ar}^{-}$	Energy Levels, Wavelengths	E/T	540
$\mathbf{Ar}$	Energy Levels, Wavelengths	E/T	540
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	541
$\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	571
$\mathbf{Ar}^{6+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{Ar}^{10+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{Ar}^{11+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{Ar}^{9+--12+}$	Energy Levels, Wavelengths	Exp	600
$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	Exp	600
$\mathbf{Ar}^{10+}$	Energy Levels, Wavelengths	Exp	603
$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	Exp	603
$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	Exp	603
$\mathbf{Ar}^{12+}$	Energy Levels, Wavelengths	Exp	605
$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	E/T	610
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Exp	616
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	616
$\mathbf{Ar}^{6+}$	Energy Levels, Wavelengths	Th	617
$\mathbf{Ar}^{2+}$	Energy Levels, Wavelengths	Exp	643
$\mathbf{Ar}$	Energy Levels, Wavelengths	E/T	653
$\mathbf{Ar}$	Energy Levels, Wavelengths	Exp	654
$\mathbf{Ar}^{4+}$	Energy Levels, Wavelengths	Exp	667

Ar	Energy Levels, Wavelengths	Exp	681
$\mathbf{Ar}^{17+}$	Energy Levels, Wavelengths	Th	682
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Exp	696
$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	Exp	704
$\mathbf{Ar}^{4+}$	Energy Levels, Wavelengths	E/T	728
Ar	Energy Levels, Wavelengths	E/T	731
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	733
$\mathbf{Ar}^{-}$	Energy Levels, Wavelengths	Exp	743
$\mathbf{Ar}^{8+}$	Energy Levels, Wavelengths	E/T	749
$\mathbf{Ar}^{2+}$	Energy Levels, Wavelengths	Exp	753
$\mathbf{Ar}^{4+}$	Energy Levels, Wavelengths	Exp	753
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	759
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	770
$\mathbf{Ar}^{17+}$	Energy Levels, Wavelengths	Exp	770
$\mathbf{Ar}^{+}$	Energy Levels, Wavelengths	Exp	771
$\mathbf{Ar}^{+-2+}$	Energy Levels, Wavelengths	Exp	771
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	777
$\mathbf{Ar}^{14+-16+}$	Energy Levels, Wavelengths	Exp	782
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Th	784
$\mathbf{Ar}^{+}$	Energy Levels, Wavelengths	Th	786
$\mathbf{Ar}^{14+-17+}$	Energy Levels, Wavelengths	Exp	797
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	798
$\mathbf{Ar}^{3+}$	Energy Levels, Wavelengths	E/T	803
Ar	Energy Levels, Wavelengths	Exp	806
$\mathbf{Ar}^{+}$	Energy Levels, Wavelengths	Exp	806
$\mathbf{Ar}^{4+}$	Energy Levels, Wavelengths	E/T	826
Ar	Energy Levels, Wavelengths	Exp	828
$\mathbf{Ar}^{15+}$	Energy Levels, Wavelengths	Exp	832
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp	832
$\mathbf{Ar}^{10+}$	Trans. prob., Oscill. Strengths	Th	873
Ar	Trans. prob., Oscill. Strengths	Th	898
$\mathbf{Ar}^{16+}$	Trans. prob., Oscill. Strengths	Th	906
$\mathbf{Ar}^{6+}$	Trans. prob., Oscill. Strengths	Th	911
$\mathbf{K}^{-}$	Energy Levels, Wavelengths	Exp	138
K	Energy Levels, Wavelengths	E/T	205
$\mathbf{K}^{0+-2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{K}^{11+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{K}^{12+}$	Energy Levels, Wavelengths	Exp	378
K	Energy Levels, Wavelengths	Exp	449
K	Energy Levels, Wavelengths	Exp	517
K	Energy Levels, Wavelengths	Th	688
K	Energy Levels, Wavelengths	Exp	726
$\mathbf{K}^{5+}$	Energy Levels, Wavelengths	Exp	753
K	Energy Levels, Wavelengths	Exp	756
K	Energy Levels, Wavelengths	Exp	828
$^{40}\mathbf{Ca}$	Energy Levels, Wavelengths	Th	44
Ca	Energy Levels, Wavelengths	Th	44
$\mathbf{Ca}^{17+-18+}$	Energy Levels, Wavelengths	Exp	115
$^{43}\mathbf{Ca}$	Energy Levels, Wavelengths	Th	157
Ca	Energy Levels, Wavelengths	Th	157
Ca	Energy Levels, Wavelengths	Exp	224
$\mathbf{Ca}^{12+-14+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Ca}^{13+}$	Energy Levels, Wavelengths	Exp	378
Ca	Energy Levels, Wavelengths	Exp	449
$\mathbf{Ca}^{+}$	Energy Levels, Wavelengths	Exp	449
Ca	Energy Levels, Wavelengths	Exp	517
$\mathbf{Ca}^{+}$	Energy Levels, Wavelengths	Exp	517

$\mathbf{Ca}^{8+}$	Energy Levels, Wavelengths	Exp	585
Ca	Energy Levels, Wavelengths	E/T	606
$\mathbf{Ca}^{0+–+}$	Energy Levels, Wavelengths	Exp	756
$^{43}\mathbf{Ca}^{+}$	Energy Levels, Wavelengths	Exp	767
$\mathbf{Ca}^{+}$	Energy Levels, Wavelengths	Exp	774
$\mathbf{Ca}^{7+}$	Energy Levels, Wavelengths	Th	816
$\mathbf{Ca}^{0+–+}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Ca}^{6+}$	Trans. prob., Oscill. Strengths	Th	843
$\mathbf{Sc}^{0+–2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Sc}^{0+–4+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Sc}^{2+}$	Energy Levels, Wavelengths	E/T	239
$\mathbf{Sc}^{12+}$	Energy Levels, Wavelengths	E/T	306
Sc	Energy Levels, Wavelengths	Exp	449
Sc	Energy Levels, Wavelengths	Exp	517
$\mathbf{Sc}^{+}$	Energy Levels, Wavelengths	Exp	517
$\mathbf{Sc}^{0+–+}$	Energy Levels, Wavelengths	Exp	756
$\mathbf{Ti}^{11+}$	Energy Levels, Wavelengths	Exp	17
$\mathbf{Ti}^{14+}$	Energy Levels, Wavelengths	Exp	17
$\mathbf{Ti}^{15+–18+}$	Energy Levels, Wavelengths	Exp	17
$\mathbf{Ti}^{16+}$	Energy Levels, Wavelengths	Exp	17
$\mathbf{Ti}^{17+}$	Energy Levels, Wavelengths	Exp	17
$\mathbf{Ti}^{3+}$	Energy Levels, Wavelengths	E/T	45
Ti	Energy Levels, Wavelengths	E/T	74
$\mathbf{Ti}^{9+}$	Energy Levels, Wavelengths	Th	140
$\mathbf{Ti}^{9+}$	Energy Levels, Wavelengths	Th	146
$\mathbf{Ti}^{11+–12+}$	Energy Levels, Wavelengths	Exp	168
$\mathbf{Ti}^{14+–18+}$	Energy Levels, Wavelengths	Exp	168
$\mathbf{Ti}^{16+–17+}$	Energy Levels, Wavelengths	Exp	168
$\mathbf{Ti}^{0+–2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Ti}^{0+–4+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Ti}^{12+–13+}$	Energy Levels, Wavelengths	E/T	305
$\mathbf{Ti}^{21+}$	Energy Levels, Wavelengths	Exp	323
$\mathbf{Ti}^{2+}$	Energy Levels, Wavelengths	E/T	327
$\mathbf{Ti}^{10+}$	Energy Levels, Wavelengths	Exp	336
$\mathbf{Ti}^{14+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Ti}^{15+}$	Energy Levels, Wavelengths	Exp	378
Ti	Energy Levels, Wavelengths	Exp	449
$\mathbf{Ti}^{+}$	Energy Levels, Wavelengths	Exp	449
Ti	Energy Levels, Wavelengths	Exp	517
$\mathbf{Ti}^{+}$	Energy Levels, Wavelengths	Exp	517
$\mathbf{Ti}^{12+}$	Energy Levels, Wavelengths	E/T	618
$^{47}\mathbf{Ti}$	Energy Levels, Wavelengths	Exp	635
$^{49}\mathbf{Ti}$	Energy Levels, Wavelengths	Exp	635
Ti	Energy Levels, Wavelengths	Exp	635
$^{47}\mathbf{Ti}$	Energy Levels, Wavelengths	Exp	636
Ti	Energy Levels, Wavelengths	Exp	636
Ti	Energy Levels, Wavelengths	Th	637
$\mathbf{Ti}^{19+}$	Energy Levels, Wavelengths	Exp	672
$\mathbf{Ti}^{4+}$	Energy Levels, Wavelengths	E/T	674
$\mathbf{Ti}^{10+}$	Energy Levels, Wavelengths	E/T	674
$\mathbf{Ti}^{11+}$	Energy Levels, Wavelengths	E/T	674
$\mathbf{Ti}^{12+}$	Energy Levels, Wavelengths	E/T	721
$\mathbf{Ti}^{20+}$	Energy Levels, Wavelengths	Exp	733
$\mathbf{Ti}^{0+–+}$	Energy Levels, Wavelengths	Exp	756
$^{47}\mathbf{Ti}$	Energy Levels, Wavelengths	Exp	760
$^{49}\mathbf{Ti}$	Energy Levels, Wavelengths	Exp	760
Ti	Energy Levels, Wavelengths	Exp	760

$\mathbf{Ti}^{20+}$	Energy Levels, Wavelengths	Exp	769
$^{47}\mathbf{Ti}$	Energy Levels, Wavelengths	Exp	822
$^{49}\mathbf{Ti}$	Energy Levels, Wavelengths	Exp	822
Ti	Energy Levels, Wavelengths	Exp	822
Ti	Energy Levels, Wavelengths	Exp	828
$\mathbf{Ti}^{2+-21+}$	Energy Levels, Wavelengths	Exp	832
$\mathbf{Ti}^{18+}$	Energy Levels, Wavelengths	Exp	832
$\mathbf{Ti}^{5+}$	Trans. prob., Oscill. Strengths	Th	842
Ti	Trans. prob., Oscill. Strengths	Exp	860
$\mathbf{Ti}^{+}$	Trans. prob., Oscill. Strengths	Th	862
$\mathbf{Ti}^{3+}$	Trans. prob., Oscill. Strengths	Th	896
$\mathbf{Ti}^{17+}$	Trans. prob., Oscill. Strengths	Th	912
$\mathbf{Ti}^{18+}$	Trans. prob., Oscill. Strengths	Th	912
$\mathbf{V}^{0+-2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{V}^{0+-4+}$	Energy Levels, Wavelengths	E/T	205
$^{51}\mathbf{V}$	Energy Levels, Wavelengths	Exp	303
V	Energy Levels, Wavelengths	Exp	303
$\mathbf{V}^{14+}$	Energy Levels, Wavelengths	E/T	306
$\mathbf{V}^{21+}$	Energy Levels, Wavelengths	Exp	410
V	Energy Levels, Wavelengths	Exp	449
V	Energy Levels, Wavelengths	Exp	517
$\mathbf{V}^{+}$	Energy Levels, Wavelengths	Exp	517
$^{50}\mathbf{V}$	Energy Levels, Wavelengths	Exp	570
$^{51}\mathbf{V}$	Energy Levels, Wavelengths	Exp	570
V	Energy Levels, Wavelengths	Exp	570
$\mathbf{V}^{20+-22+}$	Energy Levels, Wavelengths	Exp	597
V	Energy Levels, Wavelengths	E/T	627
$\mathbf{V}^{3+-5+}$	Energy Levels, Wavelengths	E/T	695
$\mathbf{V}^{0+-+}$	Energy Levels, Wavelengths	Exp	756
$^{51}\mathbf{V}$	Energy Levels, Wavelengths	Exp	814
V	Energy Levels, Wavelengths	Exp	814
$\mathbf{V}^{3+-22+}$	Energy Levels, Wavelengths	Exp	832
Cr	Energy Levels, Wavelengths	Exp	84
$\mathbf{Cr}^{0+-+}$	Energy Levels, Wavelengths	Exp	118
$\mathbf{Cr}^{+}$	Energy Levels, Wavelengths	Exp	118
$\mathbf{Cr}^{10+}$	Energy Levels, Wavelengths	E/T	174
$\mathbf{Cr}^{0+-2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Cr}^{0+-4+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Cr}^{15+-17+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Cr}^{17+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Cr}^{19+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Cr}^{0+-+}$	Energy Levels, Wavelengths	Exp	382
$\mathbf{Cr}^{+}$	Energy Levels, Wavelengths	Exp	386
Cr	Energy Levels, Wavelengths	Exp	449
$\mathbf{Cr}^{+}$	Energy Levels, Wavelengths	Exp	504
Cr	Energy Levels, Wavelengths	Exp	517
$\mathbf{Cr}^{+}$	Energy Levels, Wavelengths	Exp	517
$\mathbf{Cr}^{-}$	Energy Levels, Wavelengths	Exp	562
$\mathbf{Cr}^{2+}$	Energy Levels, Wavelengths	E/T	613
$\mathbf{Cr}^{+}$	Energy Levels, Wavelengths	Th	655
$\mathbf{Cr}^{14+}$	Energy Levels, Wavelengths	Exp	669
$\mathbf{Cr}^{14+}$	Energy Levels, Wavelengths	Exp	670
$\mathbf{Cr}^{12+}$	Energy Levels, Wavelengths	E/T	674
$\mathbf{Cr}^{3+-5+}$	Energy Levels, Wavelengths	E/T	695
Cr	Energy Levels, Wavelengths	Exp	732
$\mathbf{Cr}^{0+-+}$	Energy Levels, Wavelengths	Exp	756
$\mathbf{Cr}^{21+}$	Energy Levels, Wavelengths	Exp	766

$\mathbf{Cr}^{22+}$	Energy Levels, Wavelengths	Exp	766
Cr	Energy Levels, Wavelengths	Exp	828
$\mathbf{Cr}^{4+--23+}$	Energy Levels, Wavelengths	Exp	832
$\mathbf{Cr}^{+}$	Trans. prob., Oscill. Strengths	Exp	859
$^{55}\mathbf{Mn}^{+}$	Energy Levels, Wavelengths	E/T	25
$\mathbf{Mn}^{+}$	Energy Levels, Wavelengths	E/T	25
$^{55}\mathbf{Mn}$	Energy Levels, Wavelengths	Exp	36
Mn	Energy Levels, Wavelengths	Exp	36
Mn	Energy Levels, Wavelengths	E/T	67
Mn	Energy Levels, Wavelengths	Th	79
$\mathbf{Mn}^{11+}$	Energy Levels, Wavelengths	E/T	174
$\mathbf{Mn}^{6+}$	Energy Levels, Wavelengths	Exp	190
Mn	Energy Levels, Wavelengths	Exp	194
$\mathbf{Mn}^{0+--+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Mn}^{0+--3+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Mn}^{5+}$	Energy Levels, Wavelengths	Exp	206
$^{55}\mathbf{Mn}$	Energy Levels, Wavelengths	E/T	245
Mn	Energy Levels, Wavelengths	E/T	245
$\mathbf{Mn}^{5+}$	Energy Levels, Wavelengths	Exp	370
$\mathbf{Mn}^{16+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Mn}^{16+--18+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Mn}^{21+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Mn}^{8+}$	Energy Levels, Wavelengths	Exp	397
$\mathbf{Mn}^{+}$	Energy Levels, Wavelengths	Exp	448
Mn	Energy Levels, Wavelengths	Exp	449
Mn	Energy Levels, Wavelengths	Exp	517
$\mathbf{Mn}^{+}$	Energy Levels, Wavelengths	Exp	517
$\mathbf{Mn}^{6+}$	Energy Levels, Wavelengths	E/T	648
$\mathbf{Mn}^{24+}$	Energy Levels, Wavelengths	Exp	672
$\mathbf{Mn}^{+}$	Energy Levels, Wavelengths	E/T	694
$\mathbf{Mn}^{3+}$	Energy Levels, Wavelengths	E/T	695
$\mathbf{Mn}^{3+--5+}$	Energy Levels, Wavelengths	E/T	695
$\mathbf{Mn}^{23+}$	Energy Levels, Wavelengths	Exp	733
$\mathbf{Mn}^{+}$	Energy Levels, Wavelengths	E/T	737
$\mathbf{Mn}^{5+--24+}$	Energy Levels, Wavelengths	Exp	832
$\mathbf{Mn}^{+}$	Trans. prob., Oscill. Strengths	Th	835
$\mathbf{Fe}^{+--2+}$	Energy Levels, Wavelengths	Exp	19
$\mathbf{Fe}^{19+}$	Energy Levels, Wavelengths	Th	21
$\mathbf{Fe}^{11+}$	Energy Levels, Wavelengths	E/T	22
$\mathbf{Fe}^{22+}$	Energy Levels, Wavelengths	E/T	23
$\mathbf{Fe}^{6+}$	Energy Levels, Wavelengths	Exp	24
$\mathbf{Fe}^{6+}$	Energy Levels, Wavelengths	Th	27
$\mathbf{Fe}^{24+}$	Energy Levels, Wavelengths	Th	31
$\mathbf{Fe}^{14+--18+}$	Energy Levels, Wavelengths	Exp	35
$\mathbf{Fe}^{16+--23+}$	Energy Levels, Wavelengths	Th	37
$\mathbf{Fe}^{13+}$	Energy Levels, Wavelengths	Th	52
$\mathbf{Fe}^{18+}$	Energy Levels, Wavelengths	Th	111
$\mathbf{Fe}^{9+}$	Energy Levels, Wavelengths	Exp	112
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Th	113
$\mathbf{Fe}^{12+}$	Energy Levels, Wavelengths	Th	114
$\mathbf{Fe}^{25+}$	Energy Levels, Wavelengths	Exp	115
$\mathbf{Fe}^{3+}$	Energy Levels, Wavelengths	Th	116
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp	134
$\mathbf{Fe}^{13+}$	Energy Levels, Wavelengths	Th	140
$\mathbf{Fe}^{23+}$	Energy Levels, Wavelengths	Th	144
$\mathbf{Fe}^{24+}$	Energy Levels, Wavelengths	Th	151
$\mathbf{Fe}^{12+}$	Energy Levels, Wavelengths	E/T	152

$\mathbf{Fe}^{11+--12+}$	Energy Levels, Wavelengths	E/T	174
$\mathbf{Fe}^{12+}$	Energy Levels, Wavelengths	E/T	174
Fe	Energy Levels, Wavelengths	Exp	186
$\mathbf{Fe}^{7+}$	Energy Levels, Wavelengths	Exp	190
$\mathbf{Fe}^{14+--15+}$	Energy Levels, Wavelengths	Th	195
$\mathbf{Fe}^{0+--2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Fe}^{0+--4+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Fe}^{6+}$	Energy Levels, Wavelengths	Exp	206
$\mathbf{Fe}^{19+--20+}$	Energy Levels, Wavelengths	Exp	207
$\mathbf{Fe}^{8+}$	Energy Levels, Wavelengths	Th	222
$\mathbf{Fe}^{14+--15+}$	Energy Levels, Wavelengths	Th	222
$\mathbf{Fe}^{17+}$	Energy Levels, Wavelengths	E/T	230
$\mathbf{Fe}^{17+--23+}$	Energy Levels, Wavelengths	E/T	230
$\mathbf{Fe}^{20+--24+}$	Energy Levels, Wavelengths	E/T	230
$\mathbf{Fe}^{12+}$	Energy Levels, Wavelengths	Th	254
$\mathbf{Fe}^{6+--9+}$	Energy Levels, Wavelengths	Exp	274
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp	276
$\mathbf{Fe}^{17+--23+}$	Energy Levels, Wavelengths	E/T	281
$\mathbf{Fe}^{18+}$	Energy Levels, Wavelengths	E/T	282
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp	332
$\mathbf{Fe}^{16+--23+}$	Energy Levels, Wavelengths	Exp	335
$\mathbf{Fe}^{14+}$	Energy Levels, Wavelengths	Exp	336
$\mathbf{Fe}^{15+}$	Energy Levels, Wavelengths	Th	349
$\mathbf{Fe}^{6+}$	Energy Levels, Wavelengths	Exp	370
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Fe}^{18+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Fe}^{19+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Fe}^{20+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Fe}^{21+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Fe}^{22+}$	Energy Levels, Wavelengths	Exp	378
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp	379
$\mathbf{Fe}^{19+}$	Energy Levels, Wavelengths	Exp	380
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp	383
$\mathbf{Fe}^{2+}$	Energy Levels, Wavelengths	Exp	384
$\mathbf{Fe}^{10+}$	Energy Levels, Wavelengths	Th	387
$\mathbf{Fe}^{9+}$	Energy Levels, Wavelengths	Exp	397
$\mathbf{Fe}^{7+}$	Energy Levels, Wavelengths	E/T	403
Fe	Energy Levels, Wavelengths	Exp	449
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp	449
$\mathbf{Fe}^{20+--22+}$	Energy Levels, Wavelengths	Exp	453
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp	512
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp	513
Fe	Energy Levels, Wavelengths	Exp	517
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp	517
$\mathbf{Fe}^{22+}$	Energy Levels, Wavelengths	Th	534
Fe	Energy Levels, Wavelengths	Exp	568
$\mathbf{Fe}^{7+--11+}$	Energy Levels, Wavelengths	Exp	585
$\mathbf{Fe}^{7+}$	Energy Levels, Wavelengths	Exp	599
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp	628
Fe	Energy Levels, Wavelengths	Exp	642
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp	661
$\mathbf{Fe}^{20+}$	Energy Levels, Wavelengths	E/T	664
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp	665
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp	666
$\mathbf{Fe}^{11+}$	Energy Levels, Wavelengths	Exp	668
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp	669
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp	670

$\mathbf{Fe}^{22+–24+}$	Energy Levels, Wavelengths	Exp	672
$\mathbf{Fe}^{14+}$	Energy Levels, Wavelengths	E/T	674
$\mathbf{Fe}^{6+}$	Energy Levels, Wavelengths	E/T	686
$\mathbf{Fe}^{7+}$	Energy Levels, Wavelengths	E/T	686
$\mathbf{Fe}^{3+–5+}$	Energy Levels, Wavelengths	E/T	695
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp	702
$\mathbf{Fe}^{5+}$	Energy Levels, Wavelengths	E/T	717
$\mathbf{Fe}^{9+}$	Energy Levels, Wavelengths	Exp	741
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp	753
$\mathbf{Fe}^{0+–+}$	Energy Levels, Wavelengths	Exp	756
$\mathbf{Fe}^{9+}$	Energy Levels, Wavelengths	Th	786
$\mathbf{Fe}^{24+}$	Energy Levels, Wavelengths	Th	801
$\mathbf{Fe}^{13+}$	Energy Levels, Wavelengths	Th	816
$\mathbf{Fe}^{19+–22+}$	Energy Levels, Wavelengths	Exp	830
$\mathbf{Fe}^{6+–25+}$	Energy Levels, Wavelengths	Exp	832
$\mathbf{Fe}^{15+}$	Trans. prob., Oscill. Strengths	Th	833
$\mathbf{Fe}^{24+}$	Trans. prob., Oscill. Strengths	Th	841
$\mathbf{Fe}^{12+}$	Trans. prob., Oscill. Strengths	Th	843
$\mathbf{Fe}^{+}$	Trans. prob., Oscill. Strengths	Th	844
$\mathbf{Fe}^{0+–15+}$	Trans. prob., Oscill. Strengths	Th	847
$\mathbf{Fe}^{16+–22+}$	Trans. prob., Oscill. Strengths	Th	848
$\mathbf{Fe}^{+}$	Trans. prob., Oscill. Strengths	Th	850
$\mathbf{Fe}^{8+}$	Trans. prob., Oscill. Strengths	Th	852
$\mathbf{Fe}^{17+}$	Trans. prob., Oscill. Strengths	Th	853
$\mathbf{Fe}^{17+}$	Trans. prob., Oscill. Strengths	Th	854
$\mathbf{Fe}^{21+}$	Trans. prob., Oscill. Strengths	Th	856
$\mathbf{Fe}^{15+}$	Trans. prob., Oscill. Strengths	Th	857
$\mathbf{Fe}^{3+}$	Trans. prob., Oscill. Strengths	Th	858
Fe	Trans. prob., Oscill. Strengths	Exp	861
$\mathbf{Fe}^{8+}$	Trans. prob., Oscill. Strengths	Th	867
$\mathbf{Fe}^{10+}$	Trans. prob., Oscill. Strengths	Th	872
$\mathbf{Fe}^{14+}$	Trans. prob., Oscill. Strengths	Th	893
$\mathbf{Fe}^{16+}$	Trans. prob., Oscill. Strengths	Th	901
$\mathbf{Fe}^{0+–+}$	Trans. prob., Oscill. Strengths	E/T	904
$\mathbf{Fe}^{7+–8+}$	Trans. prob., Oscill. Strengths	Th	907
$\mathbf{Co}^{12+}$	Energy Levels, Wavelengths	E/T	174
$\mathbf{Co}^{0+–2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Co}^{0+–4+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Co}^{7+}$	Energy Levels, Wavelengths	Exp	370
$\mathbf{Co}^{18+}$	Energy Levels, Wavelengths	Exp	378
Co	Energy Levels, Wavelengths	Exp	449
Co	Energy Levels, Wavelengths	Exp	517
$\mathbf{Co}^{-}$	Energy Levels, Wavelengths	Exp	532
$\mathbf{Co}^{24+}$	Energy Levels, Wavelengths	Exp	672
$\mathbf{Co}^{3+–4+}$	Energy Levels, Wavelengths	E/T	695
$\mathbf{Co}^{3+–5+}$	Energy Levels, Wavelengths	E/T	695
$\mathbf{Co}^{0+–+}$	Energy Levels, Wavelengths	Exp	756
$\mathbf{Co}^{7+–26+}$	Energy Levels, Wavelengths	Exp	832
$\mathbf{Ni}^{18+–25+}$	Energy Levels, Wavelengths	Th	37
$\mathbf{Ni}^{15+}$	Energy Levels, Wavelengths	Th	52
$\mathbf{Ni}^{6+}$	Energy Levels, Wavelengths	E/T	101
$\mathbf{Ni}^{12+–19+}$	Energy Levels, Wavelengths	Exp	105
$\mathbf{Ni}^{15+–18+}$	Energy Levels, Wavelengths	Exp	105
$\mathbf{Ni}^{15+}$	Energy Levels, Wavelengths	Th	140
$\mathbf{Ni}^{14+}$	Energy Levels, Wavelengths	E/T	174
$\mathbf{Ni}^{24+}$	Energy Levels, Wavelengths	Th	176
$^{58}\mathbf{Ni}$	Energy Levels, Wavelengths	Exp	192

^{60}**Ni**	Energy Levels, Wavelengths	Exp	192
Ni	Energy Levels, Wavelengths	Exp	192
Ni^{0+--+}	Energy Levels, Wavelengths	E/T	205
Ni^{0+--3+}	Energy Levels, Wavelengths	E/T	205
Ni^{16+}	Energy Levels, Wavelengths	E/T	257
Ni$^{16+--17+}$	Energy Levels, Wavelengths	E/T	257
Ni^{17+}	Energy Levels, Wavelengths	E/T	257
Ni^{16+}	Energy Levels, Wavelengths	Exp	336
Ni^{+}	Energy Levels, Wavelengths	Exp	386
Ni^{11+}	Energy Levels, Wavelengths	Exp	388
Ni^{+}	Energy Levels, Wavelengths	E/T	404
Ni^{18+}	Energy Levels, Wavelengths	E/T	438
Ni	Energy Levels, Wavelengths	Exp	449
Ni^{+}	Energy Levels, Wavelengths	Exp	454
Ni$^{10+--13+}$	Energy Levels, Wavelengths	Exp	460
Ni$^{24+--26+}$	Energy Levels, Wavelengths	Exp	466
Ni^{15+}	Energy Levels, Wavelengths	E/T	468
Ni^{26+}	Energy Levels, Wavelengths	Exp	489
Ni^{9+}	Energy Levels, Wavelengths	E/T	493
Ni	Energy Levels, Wavelengths	Exp	517
Ni^{+}	Energy Levels, Wavelengths	Exp	517
Ni^{25+}	Energy Levels, Wavelengths	Exp	530
Ni^{-}	Energy Levels, Wavelengths	Exp	532
Ni	Energy Levels, Wavelengths	Exp	584
Ni^{18+}	Energy Levels, Wavelengths	Exp	673
Ni^{3+--5+}	Energy Levels, Wavelengths	E/T	695
Ni^{11+}	Energy Levels, Wavelengths	Exp	741
Ni^{0+--+}	Energy Levels, Wavelengths	Exp	756
Ni^{11+}	Energy Levels, Wavelengths	Th	786
Ni	Energy Levels, Wavelengths	Exp	828
Ni$^{8+--27+}$	Energy Levels, Wavelengths	Exp	832
Ni^{+}	Trans. prob., Oscill. Strengths	Exp	849
Ni^{18+}	Trans. prob., Oscill. Strengths	Th	851
Ni^{5+}	Trans. prob., Oscill. Strengths	Th	882
^{63}**Cu**	Energy Levels, Wavelengths	Exp	83
^{65}**Cu**	Energy Levels, Wavelengths	Exp	83
Cu	Energy Levels, Wavelengths	Exp	83
Cu^{15+}	Energy Levels, Wavelengths	E/T	174
Cu^{0+--+}	Energy Levels, Wavelengths	E/T	205
Cu^{0+--3+}	Energy Levels, Wavelengths	E/T	205
Cu$^{18+--21+}$	Energy Levels, Wavelengths	E/T	321
Cu^{19+}	Energy Levels, Wavelengths	E/T	321
Cu	Energy Levels, Wavelengths	Exp	483
Cu	Energy Levels, Wavelengths	Exp	517
Cu^{-}	Energy Levels, Wavelengths	Exp	562
Cu	Energy Levels, Wavelengths	Exp	568
Cu^{17+}	Energy Levels, Wavelengths	Th	617
Cu	Energy Levels, Wavelengths	E/T	641
Cu^{3+--5+}	Energy Levels, Wavelengths	E/T	695
Cu^{4+}	Energy Levels, Wavelengths	E/T	695
Cu^{12+}	Energy Levels, Wavelengths	Exp	741
Cu^{18+}	Energy Levels, Wavelengths	Exp	775
Cu^{19+}	Energy Levels, Wavelengths	Exp	775
Cu^{12+}	Energy Levels, Wavelengths	Th	786
Cu$^{18+--21+}$	Energy Levels, Wavelengths	Exp	800
Cu$^{9+--28+}$	Energy Levels, Wavelengths	Exp	832
Cu^{+}	Trans. prob., Oscill. Strengths	E/T	845

^{64}**Zn**	Energy Levels, Wavelengths	Th	44
Zn	Energy Levels, Wavelengths	Th	44
$\mathbf{Zn}^{16+}$	Energy Levels, Wavelengths	Th	95
$\mathbf{Zn}^{18+--21+}$	Energy Levels, Wavelengths	Exp	143
$\mathbf{Zn}^{16+}$	Energy Levels, Wavelengths	E/T	174
$\mathbf{Zn}^{0+--+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Zn}^{0+--3+}$	Energy Levels, Wavelengths	E/T	205
Zn	Energy Levels, Wavelengths	Exp	386
$\mathbf{Zn}^{+}$	Energy Levels, Wavelengths	Exp	386
Zn	Energy Levels, Wavelengths	Exp	449
$\mathbf{Zn}^{26+--27+}$	Energy Levels, Wavelengths	Exp	466
Zn	Energy Levels, Wavelengths	Exp	517
$\mathbf{Zn}^{27+}$	Energy Levels, Wavelengths	Exp	530
$\mathbf{Zn}^{26+}$	Energy Levels, Wavelengths	Th	564
$\mathbf{Zn}^{3+--5+}$	Energy Levels, Wavelengths	E/T	695
Zn	Energy Levels, Wavelengths	Exp	756
Zn	Energy Levels, Wavelengths	Exp	828
Zn	Trans. prob., Oscill. Strengths	Th	899
$\mathbf{Ga}^{0+--2+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Ga}^{0+--3+}$	Energy Levels, Wavelengths	E/T	205
$\mathbf{Ga}^{20+}$	Energy Levels, Wavelengths	E/T	674
$\mathbf{Ga}^{3+--5+}$	Energy Levels, Wavelengths	E/T	695
$\mathbf{Ga}^{5+}$	Energy Levels, Wavelengths	E/T	695
Ga	Trans. prob., Oscill. Strengths	Th	908
$\mathbf{Ge}^{30+}$	Energy Levels, Wavelengths	Th	119
Ge	Energy Levels, Wavelengths	Exp	186
$\mathbf{Ge}^{21+}$	Energy Levels, Wavelengths	Th	298
$\mathbf{Ge}^{18+}$	Energy Levels, Wavelengths	Th	315
Ge-Bi	Energy Levels, Wavelengths	Exp	389
$\mathbf{Ge\text{-}Se}^{0+--5+}$	Energy Levels, Wavelengths	Exp	389
$\mathbf{Ge\text{-}Bi}^{+}$	Energy Levels, Wavelengths	Exp	389
$\mathbf{Ge\text{-}Hf}^{2+}$	Energy Levels, Wavelengths	Exp	389
$\mathbf{Ge}^{22+}$	Energy Levels, Wavelengths	E/T	438
Ge	Energy Levels, Wavelengths	Exp	449
Ge	Energy Levels, Wavelengths	Exp	517
$\mathbf{Ge}^{-}$	Energy Levels, Wavelengths	Exp	531
$\mathbf{Ge}^{30+}$	Energy Levels, Wavelengths	Exp	671
$\mathbf{Ge}^{31+}$	Energy Levels, Wavelengths	Exp	671
$\mathbf{Ge}^{31+}$	Energy Levels, Wavelengths	Th	682
$\mathbf{Ge}^{28+}$	Energy Levels, Wavelengths	Th	703
$\mathbf{Ge}^{30+}$	Energy Levels, Wavelengths	Exp	776
$\mathbf{Ge}^{15+}$	Energy Levels, Wavelengths	Th	786
$\mathbf{As}^{5+}$	Energy Levels, Wavelengths	E/T	543
$\mathbf{Se}^{6+}$	Energy Levels, Wavelengths	E/T	543
$\mathbf{Se}^{22+}$	Energy Levels, Wavelengths	E/T	674
$\mathbf{Br}^{-}$	Energy Levels, Wavelengths	Th	44
$\mathbf{Br\text{-}Kr}^{0+--6+}$	Energy Levels, Wavelengths	Exp	389
$\mathbf{Br}^{25+}$	Energy Levels, Wavelengths	E/T	426
$\mathbf{Br}^{7+}$	Energy Levels, Wavelengths	E/T	543
$\mathbf{Br}^{25+}$	Energy Levels, Wavelengths	Exp	778
Br	Trans. prob., Oscill. Strengths	Th	870
$\mathbf{Kr}^{+--2+}$	Energy Levels, Wavelengths	Exp	38
^{84}**Kr**	Energy Levels, Wavelengths	Th	44
Kr	Energy Levels, Wavelengths	Th	44
Kr	Energy Levels, Wavelengths	Exp	62
$\mathbf{Kr}^{8+}$	Energy Levels, Wavelengths	E/T	76
$\mathbf{Kr}^{22+}$	Energy Levels, Wavelengths	Th	95

Kr^{33+}	Energy Levels, Wavelengths	Th	132
Kr	Energy Levels, Wavelengths	Exp	177
Kr^{+}	Energy Levels, Wavelengths	Exp	186
Kr$^{27+—35+}$	Energy Levels, Wavelengths	Exp	197
^{83}**Kr**	Energy Levels, Wavelengths	Exp	229
^{84}**Kr**	Energy Levels, Wavelengths	Exp	229
Kr	Energy Levels, Wavelengths	Exp	229
^{83}**Kr**$^{0+—+}$	Energy Levels, Wavelengths	Exp	229
Kr^{0+--+}	Energy Levels, Wavelengths	Exp	229
Kr$^{24+—27+}$	Energy Levels, Wavelengths	Exp	231
Kr^{18+}	Energy Levels, Wavelengths	E/T	232
Kr	Energy Levels, Wavelengths	Exp	238
Kr^{22+}	Energy Levels, Wavelengths	Th	254
^{78}**Kr**	Energy Levels, Wavelengths	Exp	259
^{80}**Kr**	Energy Levels, Wavelengths	Exp	259
^{82}**Kr**	Energy Levels, Wavelengths	Exp	259
^{84}**Kr**	Energy Levels, Wavelengths	Exp	259
^{86}**Kr**	Energy Levels, Wavelengths	Exp	259
Kr	Energy Levels, Wavelengths	Exp	259
Kr^{6+}	Energy Levels, Wavelengths	E/T	271
Kr^{6+}	Energy Levels, Wavelengths	E/T	288
Kr$^{11+—18+}$	Energy Levels, Wavelengths	Exp	289
Kr^{22+}	Energy Levels, Wavelengths	Exp	289
Kr^{25+}	Energy Levels, Wavelengths	Th	298
Kr$^{0+--22+}$	Energy Levels, Wavelengths	Exp	307
Kr$^{8+--21+}$	Energy Levels, Wavelengths	Exp	309
Kr^{33+}	Energy Levels, Wavelengths	E/T	312
^{86}**Kr**	Energy Levels, Wavelengths	Exp	319
Kr	Energy Levels, Wavelengths	Exp	319
Kr^{4+}	Energy Levels, Wavelengths	E/T	320
Kr	Energy Levels, Wavelengths	Exp	329
Kr$^{26+—31+}$	Energy Levels, Wavelengths	Exp	335
Kr^{22+}	Energy Levels, Wavelengths	Exp	343
Kr^{16+}	Energy Levels, Wavelengths	Exp	351
Kr^{2+}	Energy Levels, Wavelengths	Exp	355
Kr	Energy Levels, Wavelengths	Exp	406
Kr^{6+}	Energy Levels, Wavelengths	E/T	414
Kr$^{24+—28+}$	Energy Levels, Wavelengths	E/T	432
Kr^{+}	Energy Levels, Wavelengths	Exp	433
Kr^{25+}	Energy Levels, Wavelengths	Exp	440
Kr^{26+}	Energy Levels, Wavelengths	Exp	440
Kr	Energy Levels, Wavelengths	Exp	458
Kr$^{17+—18+}$	Energy Levels, Wavelengths	Exp	463
Kr^{22+}	Energy Levels, Wavelengths	Exp	463
Kr^{7+}	Energy Levels, Wavelengths	E/T	536
Kr^{8+}	Energy Levels, Wavelengths	E/T	543
Kr^{3+}	Energy Levels, Wavelengths	E/T	566
Kr^{24+}	Energy Levels, Wavelengths	Th	617
Kr^{18+}	Energy Levels, Wavelengths	Exp	620
Kr^{21+}	Energy Levels, Wavelengths	Exp	620
Kr^{22+}	Energy Levels, Wavelengths	Exp	620
Kr	Energy Levels, Wavelengths	Exp	651
Kr$^{32+—34+}$	Energy Levels, Wavelengths	Exp	672
Kr^{32+}	Energy Levels, Wavelengths	Th	703
Kr^{34+}	Energy Levels, Wavelengths	Exp	706
Kr^{23+}	Energy Levels, Wavelengths	Exp	719
^{83}**Kr**$^{+}$	Energy Levels, Wavelengths	Exp	725

Kr^{+}	Energy Levels, Wavelengths	Exp	725
Kr^{2+}	Energy Levels, Wavelengths	E/T	729
Kr	Energy Levels, Wavelengths	Exp	734
Kr^{34+}	Energy Levels, Wavelengths	Exp	758
Kr^{2+}	Energy Levels, Wavelengths	Exp	821
Kr^{4+--9+}	Energy Levels, Wavelengths	E/T	827
$Kr^{4+--35+}$	Energy Levels, Wavelengths	E/T	827
$Kr^{17+--32+}$	Energy Levels, Wavelengths	E/T	827
$Kr^{17+--35+}$	Energy Levels, Wavelengths	E/T	827
$Kr^{33+--35+}$	Energy Levels, Wavelengths	E/T	827
Kr	Energy Levels, Wavelengths	Exp	828
Kr^{25+}	Energy Levels, Wavelengths	Exp	831
Kr^{26+}	Energy Levels, Wavelengths	Exp	831
Kr^{4+--9+}	Energy Levels, Wavelengths	Exp	832
$Kr^{4+--35+}$	Energy Levels, Wavelengths	Exp	832
Kr^{5+}	Energy Levels, Wavelengths	Exp	832
$Kr^{17+--35+}$	Energy Levels, Wavelengths	Exp	832
$Kr^{24+--27+}$	Energy Levels, Wavelengths	Exp	832
Kr^{+}	Trans. prob., Oscill. Strengths	Exp	869
Kr^{24+}	Trans. prob., Oscill. Strengths	Th	881
Kr^{+}	Trans. prob., Oscill. Strengths	Exp	890
$Kr^{32+--33+}$	Trans. prob., Oscill. Strengths	Exp	910
Rb	Energy Levels, Wavelengths	Exp	389
Rb-Y^{0+--3+}	Energy Levels, Wavelengths	Exp	389
Rb	Energy Levels, Wavelengths	Th	688
Rb	Energy Levels, Wavelengths	Exp	828
Rb	Trans. prob., Oscill. Strengths	E/T	916
^{88}Sr	Energy Levels, Wavelengths	Th	44
Sr	Energy Levels, Wavelengths	Th	44
^{87}Sr	Energy Levels, Wavelengths	Th	157
Sr	Energy Levels, Wavelengths	Th	157
Sr^{+}	Energy Levels, Wavelengths	Exp	449
$Sr^{27+--29+}$	Energy Levels, Wavelengths	Exp	453
Sr	Energy Levels, Wavelengths	Exp	517
Sr^{+}	Energy Levels, Wavelengths	Exp	517
Sr^{10+}	Energy Levels, Wavelengths	E/T	543
Sr^{+}	Energy Levels, Wavelengths	Exp	756
$^{87}Sr^{+}$	Energy Levels, Wavelengths	Exp	767
Sr^{0+--+}	Energy Levels, Wavelengths	Exp	828
Sr-Ru^{0+--+}	Trans. prob., Oscill. Strengths	E/T	916
Y^{+}	Energy Levels, Wavelengths	Exp	449
Y	Energy Levels, Wavelengths	Exp	517
Y^{+}	Energy Levels, Wavelengths	Exp	517
$Y^{25+--27+}$	Energy Levels, Wavelengths	Exp	598
Zr^{2+}	Energy Levels, Wavelengths	Th	165
Zr	Energy Levels, Wavelengths	Th	258
^{87}Zr	Energy Levels, Wavelengths	Exp	265
^{88}Zr	Energy Levels, Wavelengths	Exp	265
^{89}Zr	Energy Levels, Wavelengths	Exp	265
^{91}Zr	Energy Levels, Wavelengths	Exp	265
^{92}Zr	Energy Levels, Wavelengths	Exp	265
^{94}Zr	Energy Levels, Wavelengths	Exp	265
^{96}Zr	Energy Levels, Wavelengths	Exp	265
^{97}Zr	Energy Levels, Wavelengths	Exp	265
^{98}Zr	Energy Levels, Wavelengths	Exp	265
^{99}Zr	Energy Levels, Wavelengths	Exp	265
^{100}Zr	Energy Levels, Wavelengths	Exp	265

^{101}**Zr**	Energy Levels, Wavelengths	Exp	265
^{102}**Zr**	Energy Levels, Wavelengths	Exp	265
Zr	Energy Levels, Wavelengths	Exp	265
Zr	Energy Levels, Wavelengths	E/T	322
Zr	Energy Levels, Wavelengths	E/T	325
Zr-Mo^{0+-4+}	Energy Levels, Wavelengths	Exp	389
Zr$^{28+-31+}$	Energy Levels, Wavelengths	E/T	432
^{91}**Zr**	Energy Levels, Wavelengths	E/T	436
Zr	Energy Levels, Wavelengths	E/T	436
Zr	Energy Levels, Wavelengths	Exp	517
Zr^{+}	Energy Levels, Wavelengths	Exp	517
Zr	Energy Levels, Wavelengths	Exp	559
^{90}**Zr**	Energy Levels, Wavelengths	Exp	581
^{91}**Zr**	Energy Levels, Wavelengths	Exp	581
Zr	Energy Levels, Wavelengths	Exp	581
Zr^{26+}	Energy Levels, Wavelengths	Exp	598
Zr^{28+}	Energy Levels, Wavelengths	Exp	598
Zr^{2+}	Energy Levels, Wavelengths	E/T	629
Zr	Energy Levels, Wavelengths	Exp	645
Zr^{3+}	Energy Levels, Wavelengths	Exp	659
Zr^{2+}	Energy Levels, Wavelengths	Exp	687
Zr^{30+}	Energy Levels, Wavelengths	E/T	693
Zr^{36+}	Energy Levels, Wavelengths	Th	703
Zr	Energy Levels, Wavelengths	Exp	828
Zr^{+}	Trans. prob., Oscill. Strengths	E/T	855
Zr^{+}	Trans. prob., Oscill. Strengths	E/T	864
Zr^{2+}	Trans. prob., Oscill. Strengths	E/T	888
Zr^{2+}	Trans. prob., Oscill. Strengths	Th	900
^{93}**Nb**	Energy Levels, Wavelengths	E/T	3
Nb	Energy Levels, Wavelengths	E/T	3
^{93}**Nb**	Energy Levels, Wavelengths	Exp	4
Nb	Energy Levels, Wavelengths	Exp	4
Nb^{3+}	Energy Levels, Wavelengths	E/T	61
Nb^{3+}	Energy Levels, Wavelengths	Th	165
Nb	Energy Levels, Wavelengths	Exp	166
Nb$^{28+-32+}$	Energy Levels, Wavelengths	Exp	201
Nb^{31+}	Energy Levels, Wavelengths	Exp	201
Nb	Energy Levels, Wavelengths	E/T	269
Nb^{+}	Energy Levels, Wavelengths	E/T	415
Nb$^{29+-33+}$	Energy Levels, Wavelengths	E/T	432
Nb^{0+-+}	Energy Levels, Wavelengths	Exp	454
Nb	Energy Levels, Wavelengths	Exp	517
Nb^{2+}	Energy Levels, Wavelengths	E/T	555
Nb$^{27+-29+}$	Energy Levels, Wavelengths	Exp	598
Nb^{24+}	Energy Levels, Wavelengths	Th	786
Nb^{+}	Energy Levels, Wavelengths	E/T	793
Nb^{30+}	Energy Levels, Wavelengths	Exp	805
Mo^{39+}	Energy Levels, Wavelengths	Th	132
Mo^{4+}	Energy Levels, Wavelengths	E/T	145
Mo^{+}	Energy Levels, Wavelengths	Exp	213
Mo$^{23+-27+}$	Energy Levels, Wavelengths	E/T	232
Mo^{+}	Energy Levels, Wavelengths	E/T	248
Mo^{31+}	Energy Levels, Wavelengths	Th	298
Mo^{14+}	Energy Levels, Wavelengths	Exp	399
Mo$^{30+-34+}$	Energy Levels, Wavelengths	E/T	432
Mo^{39+}	Energy Levels, Wavelengths	E/T	480
Mo	Energy Levels, Wavelengths	Exp	517

Mo^{+}	Energy Levels, Wavelengths	Exp	517
Mo^{-}	Energy Levels, Wavelengths	Exp	562
Mo^{38+}	Energy Levels, Wavelengths	Th	564
Mo^{30+}	Energy Levels, Wavelengths	Th	617
Mo^{14+}	Energy Levels, Wavelengths	Th	658
Mo^{30+}	Energy Levels, Wavelengths	E/T	674
Mo^{32+}	Energy Levels, Wavelengths	E/T	693
Mo^{38+}	Energy Levels, Wavelengths	Th	703
Mo^{16+}	Energy Levels, Wavelengths	Exp	709
Mo^{28+}	Energy Levels, Wavelengths	Exp	719
Mo^{30+}—$^{32+}$	Energy Levels, Wavelengths	Exp	802
Mo	Energy Levels, Wavelengths	Exp	828
Mo^{5+}–$^{34+}$	Energy Levels, Wavelengths	Exp	832
Mo^{5+}–$^{41+}$	Energy Levels, Wavelengths	Exp	832
Mo^{30+}—$^{33+}$	Energy Levels, Wavelengths	Exp	832
Mo^{37+}—$^{41+}$	Energy Levels, Wavelengths	Exp	832
Mo	Trans. prob., Oscill. Strengths	Th	835
Mo^{5+}	Trans. prob., Oscill. Strengths	Th	879
Tc^{0+}–$^{2+}$	Energy Levels, Wavelengths	Exp	389
Tc^{+}	Trans. prob., Oscill. Strengths	Th	835
Ru^{0+}–$^{3+}$	Energy Levels, Wavelengths	Exp	389
Ru	Energy Levels, Wavelengths	Exp	517
Ru	Energy Levels, Wavelengths	Exp	828
Rh^{31+}	Energy Levels, Wavelengths	Th	95
Rh^{31+}	Energy Levels, Wavelengths	Exp	200
Rh^{31+}	Energy Levels, Wavelengths	Th	315
Rh^{0+}–$^{2+}$	Energy Levels, Wavelengths	Exp	389
Rh	Energy Levels, Wavelengths	Exp	517
Rh^{-}	Energy Levels, Wavelengths	Exp	532
Rh^{15+}	Trans. prob., Oscill. Strengths	Th	891
Rh	Trans. prob., Oscill. Strengths	E/T	916
Pd-In^{0+}–$^{3+}$	Energy Levels, Wavelengths	Exp	389
Pd^{18+}	Energy Levels, Wavelengths	Exp	399
Pd^{-}	Energy Levels, Wavelengths	Exp	532
Pd	Energy Levels, Wavelengths	Exp	584
Pd	Energy Levels, Wavelengths	Exp	828
Pd-Sb^{0+}–$^{+}$	Trans. prob., Oscill. Strengths	E/T	916
Ag^{43+}	Energy Levels, Wavelengths	Exp	81
Ag^{19+}	Energy Levels, Wavelengths	E/T	149
Ag^{36+}	Energy Levels, Wavelengths	Th	298
Ag^{33+}	Energy Levels, Wavelengths	Th	315
Ag^{25+}	Energy Levels, Wavelengths	Exp	341
Ag^{19+}	Energy Levels, Wavelengths	Exp	376
Ag^{19+}	Energy Levels, Wavelengths	Exp	399
Ag^{44+}	Energy Levels, Wavelengths	E/T	480
Ag	Energy Levels, Wavelengths	Exp	483
Ag^{-}	Energy Levels, Wavelengths	Exp	562
Ag	Energy Levels, Wavelengths	Exp	584
Ag^{43+}	Energy Levels, Wavelengths	Th	703
Ag^{37+}	Energy Levels, Wavelengths	Exp	733
Ag	Energy Levels, Wavelengths	Exp	828
Ag^{17+}	Trans. prob., Oscill. Strengths	Th	891
^{114}Cd	Energy Levels, Wavelengths	Th	44
Cd	Energy Levels, Wavelengths	Th	44
^{111}Cd	Energy Levels, Wavelengths	Exp	83
^{113}Cd	Energy Levels, Wavelengths	Exp	83
Cd	Energy Levels, Wavelengths	Exp	83

Cd	Energy Levels, Wavelengths	Exp	94
Cd^{20+}	Energy Levels, Wavelengths	E/T	246
^{114}**Cd**	Energy Levels, Wavelengths	Exp	319
Cd	Energy Levels, Wavelengths	Exp	319
Cd^{20+}	Energy Levels, Wavelengths	Exp	399
Cd	Energy Levels, Wavelengths	Exp	828
^{113}**In**$^{46+}$	Energy Levels, Wavelengths	Th	75
^{113}**In**	Energy Levels, Wavelengths	Exp	83
^{115}**In**	Energy Levels, Wavelengths	Exp	83
In	Energy Levels, Wavelengths	Exp	83
In^{37+}	Energy Levels, Wavelengths	Exp	453
In	Energy Levels, Wavelengths	Exp	828
Sn^{8+-11+}	Energy Levels, Wavelengths	Exp	66
Sn^{46+}	Energy Levels, Wavelengths	Exp	81
Sn^{+}	Energy Levels, Wavelengths	E/T	189
Sn^{28+}	Energy Levels, Wavelengths	Exp	341
Sn^{0+-4+}	Energy Levels, Wavelengths	Exp	389
Sn^{22+}	Energy Levels, Wavelengths	Exp	399
Sn^{47+}	Energy Levels, Wavelengths	Exp	412
Sn^{-}	Energy Levels, Wavelengths	Exp	531
Sn^{46+}	Energy Levels, Wavelengths	Th	703
Sn	Energy Levels, Wavelengths	Exp	828
^{121}**Sb**$^{48+}$	Energy Levels, Wavelengths	Th	75
^{123}**Sb**$^{48+}$	Energy Levels, Wavelengths	Th	75
Sb^{29+}	Energy Levels, Wavelengths	E/T	342
Sb^{29+}	Energy Levels, Wavelengths	E/T	360
Sb^{5+}	Energy Levels, Wavelengths	E/T	375
Sb^{0+-5+}	Energy Levels, Wavelengths	Exp	389
Te^{6+}	Energy Levels, Wavelengths	E/T	375
Te-Cs^{0+-6+}	Energy Levels, Wavelengths	Exp	389
Te	Energy Levels, Wavelengths	Exp	828
Te	Trans. prob., Oscill. Strengths	E/T	916
I^{-}	Energy Levels, Wavelengths	Th	44
^{127}**I**$^{50+}$	Energy Levels, Wavelengths	Th	75
I^{2+}	Energy Levels, Wavelengths	E/T	163
I^{3+}	Energy Levels, Wavelengths	E/T	164
I^{7+}	Energy Levels, Wavelengths	E/T	375
I	Trans. prob., Oscill. Strengths	E/T	916
Xe$^{17+-25+}$	Energy Levels, Wavelengths	Exp	30
Xe^{26+}	Energy Levels, Wavelengths	E/T	33
^{132}**Xe**	Energy Levels, Wavelengths	Th	44
Xe	Energy Levels, Wavelengths	Th	44
^{128}**Xe**	Energy Levels, Wavelengths	Exp	64
^{129}**Xe**	Energy Levels, Wavelengths	Exp	64
^{130}**Xe**	Energy Levels, Wavelengths	Exp	64
^{131}**Xe**	Energy Levels, Wavelengths	Exp	64
^{132}**Xe**	Energy Levels, Wavelengths	Exp	64
^{134}**Xe**	Energy Levels, Wavelengths	Exp	64
^{136}**Xe**	Energy Levels, Wavelengths	Exp	64
Xe	Energy Levels, Wavelengths	Exp	64
Xe^{7+-11+}	Energy Levels, Wavelengths	Exp	66
Xe^{50+}	Energy Levels, Wavelengths	Exp	81
Xe^{40+}	Energy Levels, Wavelengths	Th	95
Xe^{52+}	Energy Levels, Wavelengths	Th	119
Xe^{8+-11+}	Energy Levels, Wavelengths	E/T	123
Xe^{10+}	Energy Levels, Wavelengths	E/T	148
Xe	Energy Levels, Wavelengths	Exp	155

Xe	Energy Levels, Wavelengths	E/T	172
$\mathbf{Xe}^{0+-2+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{0+-8+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{0+-10+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{9+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{10+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{11+-24+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{18+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{24+-28+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{25+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{26+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{27+-49+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{42+-44+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{50+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{50+-51+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{51+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{52+}$	Energy Levels, Wavelengths	E/T	180
$\mathbf{Xe}^{53+}$	Energy Levels, Wavelengths	E/T	180
$^{129}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	212
$^{131}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	212
Xe	Energy Levels, Wavelengths	Exp	212
$\mathbf{Xe}^{42+}$	Energy Levels, Wavelengths	Exp	227
$\mathbf{Xe}^{43+}$	Energy Levels, Wavelengths	Exp	227
$\mathbf{Xe}^{49+}$	Energy Levels, Wavelengths	Exp	227
$\mathbf{Xe}^{50+}$	Energy Levels, Wavelengths	Exp	227
$\mathbf{Xe}^{51+}$	Energy Levels, Wavelengths	Exp	227
$\mathbf{Xe}^{26+-30+}$	Energy Levels, Wavelengths	Exp	231
$\mathbf{Xe}^{10+}$	Energy Levels, Wavelengths	Exp	266
$\mathbf{Xe}^{18+}$	Energy Levels, Wavelengths	Exp	289
$\mathbf{Xe}^{30+-33+}$	Energy Levels, Wavelengths	Exp	289
$\mathbf{Xe}^{35+-37+}$	Energy Levels, Wavelengths	Exp	289
$\mathbf{Xe}^{43+}$	Energy Levels, Wavelengths	Th	298
$\mathbf{Xe}^{40+}$	Energy Levels, Wavelengths	Th	315
$\mathbf{Xe}^{25+-27+}$	Energy Levels, Wavelengths	Exp	335
$\mathbf{Xe}^{43+-45+}$	Energy Levels, Wavelengths	E/T	339
$^{124}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	352
$^{126}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	352
$^{128}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	352
$^{129}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	352
$^{130}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	352
$^{131}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	352
$^{132}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	352
$^{134}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	352
$^{136}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	352
Xe	Energy Levels, Wavelengths	Exp	352
$\mathbf{Xe}^{+}$	Energy Levels, Wavelengths	Exp	353
$\mathbf{Xe}^{2+}$	Energy Levels, Wavelengths	Exp	355
$\mathbf{Xe}^{8+}$	Energy Levels, Wavelengths	E/T	375
$^{129}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	394
$^{131}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	394
Xe	Energy Levels, Wavelengths	Exp	394
$\mathbf{Xe}^{4+-7+}$	Energy Levels, Wavelengths	E/T	402
Xe	Energy Levels, Wavelengths	Exp	406
$\mathbf{Xe}^{51+}$	Energy Levels, Wavelengths	Exp	412
$\mathbf{Xe}^{5+}$	Energy Levels, Wavelengths	E/T	416
$\mathbf{Xe}^{+}$	Energy Levels, Wavelengths	Exp	433
Xe	Energy Levels, Wavelengths	Exp	442

$\mathbf{Xe}^{8+--11+}$	Energy Levels, Wavelengths	Exp	444
$\mathbf{Xe}^{+}$	Energy Levels, Wavelengths	Exp	457
$\mathbf{Xe}^{31+--32+}$	Energy Levels, Wavelengths	Exp	463
$\mathbf{Xe}^{32+}$	Energy Levels, Wavelengths	E/T	464
$^{129}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	471
$^{131}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	471
$\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	471
$\mathbf{Xe}^{51+}$	Energy Levels, Wavelengths	E/T	480
$\mathbf{Xe}^{25+--28+}$	Energy Levels, Wavelengths	E/T	490
$\mathbf{Xe}^{5+}$	Energy Levels, Wavelengths	E/T	497
$\mathbf{Xe}^{26+}$	Energy Levels, Wavelengths	E/T	503
$\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	560
$\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	561
$\mathbf{Xe}^{50+}$	Energy Levels, Wavelengths	Th	564
$\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	573
$\mathbf{Xe}^{7+}$	Energy Levels, Wavelengths	E/T	575
$\mathbf{Xe}^{9+}$	Energy Levels, Wavelengths	E/T	575
$\mathbf{Xe}^{2+}$	Energy Levels, Wavelengths	Exp	579
$\mathbf{Xe}^{50+}$	Energy Levels, Wavelengths	Th	650
$\mathbf{Xe}^{52+}$	Energy Levels, Wavelengths	Exp	671
$\mathbf{Xe}^{53+}$	Energy Levels, Wavelengths	Exp	671
$^{129}\mathbf{Xe}^{+}$	Energy Levels, Wavelengths	Exp	680
$\mathbf{Xe}^{+}$	Energy Levels, Wavelengths	Exp	680
$\mathbf{Xe}^{53+}$	Energy Levels, Wavelengths	Th	682
$\mathbf{Xe}^{44+}$	Energy Levels, Wavelengths	E/T	700
$\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	701
$\mathbf{Xe}^{50+}$	Energy Levels, Wavelengths	Th	703
$\mathbf{Xe}^{32+}$	Energy Levels, Wavelengths	E/T	705
$\mathbf{Xe}^{4+--5+}$	Energy Levels, Wavelengths	Exp	718
$^{129}\mathbf{Xe}^{+}$	Energy Levels, Wavelengths	Exp	723
$^{133}\mathbf{Xe}^{+}$	Energy Levels, Wavelengths	Exp	723
$\mathbf{Xe}^{+}$	Energy Levels, Wavelengths	Exp	723
$\mathbf{Xe}^{5+}$	Energy Levels, Wavelengths	Exp	750
$\mathbf{Xe}^{7+}$	Energy Levels, Wavelengths	E/T	751
$\mathbf{Xe}^{31+}$	Energy Levels, Wavelengths	Exp	765
$\mathbf{Xe}^{32+}$	Energy Levels, Wavelengths	Exp	765
$\mathbf{Xe}^{52+}$	Energy Levels, Wavelengths	Exp	776
$\mathbf{Xe}^{3+}$	Energy Levels, Wavelengths	E/T	799
$\mathbf{Xe}^{6+}$	Energy Levels, Wavelengths	E/T	807
$\mathbf{Xe}^{7+}$	Energy Levels, Wavelengths	E/T	807
$\mathbf{Xe}^{40+--44+}$	Energy Levels, Wavelengths	Exp	811
$\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Xe}$	Energy Levels, Wavelengths	Exp	829
$^{129}\mathbf{Xe}^{0+--+}$	Energy Levels, Wavelengths	Exp	832
$^{131}\mathbf{Xe}^{0+--+}$	Energy Levels, Wavelengths	Exp	832
$\mathbf{Xe}^{0+--+}$	Energy Levels, Wavelengths	Exp	832
$\mathbf{Xe}^{23+}$	Trans. prob., Oscill. Strengths	Th	865
$\mathbf{Xe}^{26+}$	Trans. prob., Oscill. Strengths	Th	871
$\mathbf{Xe}$	Trans. prob., Oscill. Strengths	Th	877
$\mathbf{Xe}^{+}$	Trans. prob., Oscill. Strengths	Exp	884
$\mathbf{Xe}$	Trans. prob., Oscill. Strengths	Th	886
$\mathbf{Xe}^{26+}$	Trans. prob., Oscill. Strengths	Th	889
$\mathbf{Xe}^{39+--45+}$	Trans. prob., Oscill. Strengths	Th	897
$\mathbf{Xe}^{40+--41+}$	Trans. prob., Oscill. Strengths	Th	897
$\mathbf{Xe}^{0+--+}$	Trans. prob., Oscill. Strengths	E/T	916
$^{133}\mathbf{Cs}^{52+}$	Energy Levels, Wavelengths	Th	75
$\mathbf{Cs}^{+}$	Energy Levels, Wavelengths	Exp	78

Cs^{3+}	Energy Levels, Wavelengths	E/T	80
Cs^{9+}	Energy Levels, Wavelengths	E/T	375
Cs	Energy Levels, Wavelengths	Exp	389
Cs	Energy Levels, Wavelengths	Th	688
Cs^{53+}	Energy Levels, Wavelengths	Exp	776
Cs	Energy Levels, Wavelengths	Exp	828
Cs	Trans. prob., Oscill. Strengths	E/T	916
^{138}**Ba**	Energy Levels, Wavelengths	Th	44
Ba	Energy Levels, Wavelengths	Th	44
Ba	Energy Levels, Wavelengths	Exp	181
Ba^{+}	Energy Levels, Wavelengths	Exp	181
Ba$^{28+—36+}$	Energy Levels, Wavelengths	Exp	289
Ba^{10+}	Energy Levels, Wavelengths	E/T	375
Ba$^{0+—3+}$	Energy Levels, Wavelengths	Exp	389
Ba$^{31+—34+}$	Energy Levels, Wavelengths	Exp	463
Ba^{34+}	Energy Levels, Wavelengths	E/T	464
Ba^{+}	Energy Levels, Wavelengths	Exp	517
Ba^{46+}	Energy Levels, Wavelengths	Exp	541
Ba^{54+}	Energy Levels, Wavelengths	Exp	596
Ba^{45+}	Energy Levels, Wavelengths	Exp	597
Ba^{46+}	Energy Levels, Wavelengths	Exp	597
Ba$^{33+—34+}$	Energy Levels, Wavelengths	Exp	603
Ba	Energy Levels, Wavelengths	E/T	606
Ba^{46+}	Energy Levels, Wavelengths	E/T	700
Ba^{33+}	Energy Levels, Wavelengths	Exp	765
Ba^{34+}	Energy Levels, Wavelengths	Exp	765
^{131}**Ba**$^{+}$	Energy Levels, Wavelengths	Exp	767
^{133}**Ba**$^{+}$	Energy Levels, Wavelengths	Exp	767
^{135}**Ba**$^{+}$	Energy Levels, Wavelengths	Exp	767
^{137}**Ba**$^{+}$	Energy Levels, Wavelengths	Exp	767
^{138}**Ba**$^{+}$	Energy Levels, Wavelengths	Exp	767
Ba^{+}	Energy Levels, Wavelengths	Exp	767
Ba$^{0+—+}$	Energy Levels, Wavelengths	Exp	828
Ba$^{0+—+}$	Trans. prob., Oscill. Strengths	E/T	916
^{139}**La**$^{54+}$	Energy Levels, Wavelengths	Th	75
La^{46+}	Energy Levels, Wavelengths	Th	298
La^{11+}	Energy Levels, Wavelengths	E/T	375
La$^{0+—4+}$	Energy Levels, Wavelengths	Exp	389
La	Energy Levels, Wavelengths	Exp	517
La^{+}	Energy Levels, Wavelengths	Exp	517
La^{50+}	Energy Levels, Wavelengths	Exp	517
La	Energy Levels, Wavelengths	Exp	828
La$^{0+—+}$	Trans. prob., Oscill. Strengths	E/T	916
Ce^{+}	Energy Levels, Wavelengths	Exp	223
Ce$^{0+—5+}$	Energy Levels, Wavelengths	Exp	389
Ce^{+}	Energy Levels, Wavelengths	Exp	517
Ce	Energy Levels, Wavelengths	Exp	828
Ce^{+}	Trans. prob., Oscill. Strengths	E/T	916
Pr^{3+}	Energy Levels, Wavelengths	E/T	34
Pr^{13+}	Energy Levels, Wavelengths	E/T	71
^{141}**Pr**$^{56+}$	Energy Levels, Wavelengths	Th	75
Pr^{11+}	Energy Levels, Wavelengths	E/T	77
Pr^{2+}	Energy Levels, Wavelengths	Exp	223
Pr$^{0+—4+}$	Energy Levels, Wavelengths	Exp	389
Pr^{+}	Energy Levels, Wavelengths	Exp	517
Pr^{49+}	Energy Levels, Wavelengths	E/T	700
Pr	Energy Levels, Wavelengths	Exp	828

Pr-Nd^{0+--+}	Trans. prob., Oscill. Strengths	E/T	916
Nd^{14+}	Energy Levels, Wavelengths	E/T	71
Nd^{12+}	Energy Levels, Wavelengths	E/T	77
Nd^{12+}	Energy Levels, Wavelengths	E/T	82
Nd^{+}	Energy Levels, Wavelengths	Exp	223
Nd^{38+}	Energy Levels, Wavelengths	E/T	342
Nd^{38+}	Energy Levels, Wavelengths	E/T	360
Nd-Gd^{0+--2+}	Energy Levels, Wavelengths	Exp	389
Nd^{38+}	Energy Levels, Wavelengths	E/T	464
Nd^{32+}	Energy Levels, Wavelengths	E/T	507
Nd^{+}	Energy Levels, Wavelengths	Exp	517
Nd^{50+}	Energy Levels, Wavelengths	E/T	693
Nd^{56+}	Energy Levels, Wavelengths	Th	703
Nd^{38+}	Energy Levels, Wavelengths	E/T	705
Nd	Energy Levels, Wavelengths	Exp	828
Pm	Energy Levels, Wavelengths	Exp	828
Sm^{+}	Energy Levels, Wavelengths	Exp	223
Sm^{35+}	Energy Levels, Wavelengths	Exp	453
Sm^{34+}	Energy Levels, Wavelengths	E/T	507
Sm^{+}	Energy Levels, Wavelengths	Exp	517
Sm	Energy Levels, Wavelengths	Exp	828
Sm-Eu^{0+--+}	Trans. prob., Oscill. Strengths	E/T	916
^{151}**Eu**$^{60+}$	Energy Levels, Wavelengths	Th	75
Eu^{60+}	Energy Levels, Wavelengths	Th	75
Eu^{+}	Energy Levels, Wavelengths	Exp	449
Eu	Energy Levels, Wavelengths	Exp	517
Eu^{+}	Energy Levels, Wavelengths	Exp	517
Eu^{53+}	Energy Levels, Wavelengths	E/T	693
Eu^{59+}	Energy Levels, Wavelengths	Th	703
^{150}**Eu**$^{+}$	Energy Levels, Wavelengths	Exp	767
^{151}**Eu**$^{+}$	Energy Levels, Wavelengths	Exp	767
^{152}**Eu**$^{+}$	Energy Levels, Wavelengths	Exp	767
Eu	Energy Levels, Wavelengths	Exp	828
Gd^{+}	Energy Levels, Wavelengths	Exp	223
Gd^{42+}	Energy Levels, Wavelengths	E/T	464
Gd^{36+}	Energy Levels, Wavelengths	E/T	507
Gd^{+}	Energy Levels, Wavelengths	Exp	517
Gd^{42+}	Energy Levels, Wavelengths	E/T	705
Gd	Energy Levels, Wavelengths	Exp	828
Gd	Trans. prob., Oscill. Strengths	E/T	916
^{159}**Tb**$^{62+}$	Energy Levels, Wavelengths	Th	75
Tb^{62+}	Energy Levels, Wavelengths	Th	75
Tb-Dy^{0+--3+}	Energy Levels, Wavelengths	Exp	389
Tb	Energy Levels, Wavelengths	Exp	828
Tb^{+}	Trans. prob., Oscill. Strengths	E/T	916
Dy^{64+}	Energy Levels, Wavelengths	Th	119
Dy^{+}	Energy Levels, Wavelengths	Exp	223
Dy^{38+}	Energy Levels, Wavelengths	E/T	507
Dy^{+}	Energy Levels, Wavelengths	Exp	517
Dy^{64+}	Energy Levels, Wavelengths	Exp	671
Dy^{65+}	Energy Levels, Wavelengths	Exp	671
Dy^{65+}	Energy Levels, Wavelengths	Th	682
Dy^{2+}	Energy Levels, Wavelengths	Exp	687
Dy^{64+}	Energy Levels, Wavelengths	Exp	776
Dy	Energy Levels, Wavelengths	Exp	828
Dy-Hf^{0+--+}	Trans. prob., Oscill. Strengths	E/T	916
^{165}**Ho**$^{64+}$	Energy Levels, Wavelengths	Th	75

$\mathbf{Ho}^{64+}$	Energy Levels, Wavelengths	Th	75
$\mathbf{Ho}^{+}$	Energy Levels, Wavelengths	Exp	109
$\mathbf{Ho}^{0+-2+}$	Energy Levels, Wavelengths	Exp	389
$^{165}\mathbf{Ho}^{66+}$	Energy Levels, Wavelengths	Th	390
$\mathbf{Ho}^{66+}$	Energy Levels, Wavelengths	Th	390
$\mathbf{Ho}^{39+}$	Energy Levels, Wavelengths	E/T	507
$^{165}\mathbf{Ho}$	Energy Levels, Wavelengths	Exp	529
Ho	Energy Levels, Wavelengths	Exp	529
Ho	Energy Levels, Wavelengths	Exp	828
$\mathbf{Er}^{+}$	Energy Levels, Wavelengths	Exp	223
$\mathbf{Er\text{-}Lu}^{0+-3+}$	Energy Levels, Wavelengths	Exp	389
$\mathbf{Er}^{40+}$	Energy Levels, Wavelengths	Exp	778
Er	Energy Levels, Wavelengths	Exp	828
$\mathbf{Tm}^{+}$	Energy Levels, Wavelengths	Exp	223
Tm	Energy Levels, Wavelengths	Exp	828
$^{174}\mathbf{Yb}$	Energy Levels, Wavelengths	Th	44
Yb	Energy Levels, Wavelengths	Th	44
$\mathbf{Yb}^{40+}$	Energy Levels, Wavelengths	Exp	141
$\mathbf{Yb}^{41+}$	Energy Levels, Wavelengths	Exp	141
$^{171}\mathbf{Yb}$	Energy Levels, Wavelengths	Th	157
$^{173}\mathbf{Yb}$	Energy Levels, Wavelengths	Th	157
Yb	Energy Levels, Wavelengths	Th	157
$\mathbf{Yb}^{40+}$	Energy Levels, Wavelengths	Exp	219
$\mathbf{Yb}^{+}$	Energy Levels, Wavelengths	Exp	223
$\mathbf{Yb}^{41+}$	Energy Levels, Wavelengths	Exp	240
$\mathbf{Yb}^{48+}$	Energy Levels, Wavelengths	E/T	342
$\mathbf{Yb}^{48+}$	Energy Levels, Wavelengths	E/T	360
$\mathbf{Yb}^{48+}$	Energy Levels, Wavelengths	E/T	419
$\mathbf{Yb}^{42+}$	Energy Levels, Wavelengths	E/T	507
$\mathbf{Yb}^{66+}$	Energy Levels, Wavelengths	Th	703
$^{171}\mathbf{Yb}^{+}$	Energy Levels, Wavelengths	Exp	767
$^{173}\mathbf{Yb}^{+}$	Energy Levels, Wavelengths	Exp	767
Yb	Energy Levels, Wavelengths	Exp	828
$^{175}\mathbf{Lu}^{68+}$	Energy Levels, Wavelengths	Th	75
$\mathbf{Lu}^{68+}$	Energy Levels, Wavelengths	Th	75
Lu	Energy Levels, Wavelengths	Exp	828
$\mathbf{Hf}^{0+-+}$	Energy Levels, Wavelengths	Exp	389
$\mathbf{Hf}^{44+}$	Energy Levels, Wavelengths	E/T	507
Hf	Energy Levels, Wavelengths	Exp	828
$^{181}\mathbf{Ta}$	Energy Levels, Wavelengths	Exp	9
Ta	Energy Levels, Wavelengths	Exp	9
$^{181}\mathbf{Ta}$	Energy Levels, Wavelengths	Exp	70
Ta	Energy Levels, Wavelengths	Exp	70
$^{181}\mathbf{Ta}^{70+}$	Energy Levels, Wavelengths	Th	75
$\mathbf{Ta}^{70+}$	Energy Levels, Wavelengths	Th	75
$\mathbf{Ta}^{45+}$	Energy Levels, Wavelengths	Th	137
$^{181}\mathbf{Ta}$	Energy Levels, Wavelengths	Exp	161
Ta	Energy Levels, Wavelengths	Exp	161
Ta	Energy Levels, Wavelengths	E/T	233
$\mathbf{Ta}^{2+}$	Energy Levels, Wavelengths	E/T	249
$\mathbf{Ta}^{+}$	Energy Levels, Wavelengths	Exp	250
$\mathbf{Ta}^{+}$	Energy Levels, Wavelengths	Exp	277
Ta	Energy Levels, Wavelengths	Exp	294
$\mathbf{Ta}^{+}$	Energy Levels, Wavelengths	Exp	314
$\mathbf{Ta}^{+}$	Energy Levels, Wavelengths	Th	369
Ta	Energy Levels, Wavelengths	Exp	372
$\mathbf{Ta}^{0+-2+}$	Energy Levels, Wavelengths	Exp	389

Ta^{45+}	Energy Levels, Wavelengths	E/T	424
Ta	Energy Levels, Wavelengths	Exp	445
Ta^{45+}	Energy Levels, Wavelengths	E/T	507
^{181}**Ta**	Energy Levels, Wavelengths	Exp	638
Ta	Energy Levels, Wavelengths	Exp	638
Ta^{3+}	Energy Levels, Wavelengths	E/T	685
^{179}**Ta**	Energy Levels, Wavelengths	Exp	715
Ta	Energy Levels, Wavelengths	Exp	715
Ta	Energy Levels, Wavelengths	Exp	809
Ta	Energy Levels, Wavelengths	Exp	810
Ta	Trans. prob., Oscill. Strengths	E/T	903
Ta	Trans. prob., Oscill. Strengths	E/T	916
W	Energy Levels, Wavelengths	E/T	7
W$^{+–4+}$	Energy Levels, Wavelengths	E/T	7
W^{5+}	Energy Levels, Wavelengths	E/T	7
W^{6+}	Energy Levels, Wavelengths	E/T	7
W$^{7+–44+}$	Energy Levels, Wavelengths	E/T	7
W^{45+}	Energy Levels, Wavelengths	E/T	7
W^{46+}	Energy Levels, Wavelengths	E/T	7
W$^{47+–71+}$	Energy Levels, Wavelengths	E/T	7
W$^{72+–73+}$	Energy Levels, Wavelengths	E/T	7
W	Energy Levels, Wavelengths	E/T	16
W$^{0+–+}$	Energy Levels, Wavelengths	E/T	16
W^{+}	Energy Levels, Wavelengths	E/T	16
W$^{39+–45+}$	Energy Levels, Wavelengths	Exp	87
W^{72+}	Energy Levels, Wavelengths	Th	119
W^{46+}	Energy Levels, Wavelengths	Th	133
W^{44+}	Energy Levels, Wavelengths	Exp	141
W^{45+}	Energy Levels, Wavelengths	Exp	141
W^{44+}	Energy Levels, Wavelengths	Exp	219
W^{45+}	Energy Levels, Wavelengths	Exp	240
W$^{37+–45+}$	Energy Levels, Wavelengths	Exp	290
W$^{39+–47+}$	Energy Levels, Wavelengths	Exp	337
W$^{29+–35+}$	Energy Levels, Wavelengths	Exp	354
W$^{36+–41+}$	Energy Levels, Wavelengths	Exp	354
W$^{0+–3+}$	Energy Levels, Wavelengths	Exp	389
W^{52+}	Energy Levels, Wavelengths	E/T	419
W^{52+}	Energy Levels, Wavelengths	Exp	422
W^{+}	Energy Levels, Wavelengths	E/T	428
W	Energy Levels, Wavelengths	Exp	517
W$^{37+–47+}$	Energy Levels, Wavelengths	Th	525
W$^{39+–45+}$	Energy Levels, Wavelengths	Exp	558
W^{64+}	Energy Levels, Wavelengths	Exp	596
W$^{39+–45+}$	Energy Levels, Wavelengths	E/T	644
W^{72+}	Energy Levels, Wavelengths	Exp	671
W^{73+}	Energy Levels, Wavelengths	Exp	671
W^{73+}	Energy Levels, Wavelengths	Th	682
W^{4+}	Energy Levels, Wavelengths	E/T	685
W^{7+}	Energy Levels, Wavelengths	E/T	690
W^{70+}	Energy Levels, Wavelengths	Th	703
W^{52+}	Energy Levels, Wavelengths	E/T	705
W	Energy Levels, Wavelengths	Exp	763
W^{72+}	Energy Levels, Wavelengths	Exp	776
W^{46+}	Energy Levels, Wavelengths	Exp	778
W^{+}	Energy Levels, Wavelengths	Exp	815
W	Energy Levels, Wavelengths	Exp	828
W^{43+}	Trans. prob., Oscill. Strengths	Th	865

$\mathbf{W}^{46+}$	Trans. prob., Oscill. Strengths	Th	889
$\mathbf{W}$	Trans. prob., Oscill. Strengths	Exp	905
$\mathbf{W}^{+}$	Trans. prob., Oscill. Strengths	Exp	905
$\mathbf{W\text{-}Re}^{0+\text{--}+}$	Trans. prob., Oscill. Strengths	E/T	916
$^{185}\mathbf{Re}^{72+}$	Energy Levels, Wavelengths	Th	75
$\mathbf{Re}^{72+}$	Energy Levels, Wavelengths	Th	75
$\mathbf{Re\text{-}Ir}^{0+\text{--}+}$	Energy Levels, Wavelengths	Exp	389
$^{185}\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Th	390
$^{187}\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Th	390
$\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Th	390
$\mathbf{Re}^{+}$	Energy Levels, Wavelengths	Exp	454
$^{185}\mathbf{Re}^{7+}$	Energy Levels, Wavelengths	Exp	529
$^{187}\mathbf{Re}^{7+}$	Energy Levels, Wavelengths	Exp	529
$\mathbf{Re}^{7+}$	Energy Levels, Wavelengths	Exp	529
$^{185}\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Exp	557
$^{187}\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Exp	557
$\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Exp	557
$\mathbf{Re}^{4+}$	Energy Levels, Wavelengths	E/T	713
$\mathbf{Re}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Re}^{+}$	Trans. prob., Oscill. Strengths	Th	835
$\mathbf{Re}$	Trans. prob., Oscill. Strengths	E/T	878
$\mathbf{Os}^{46+}$	Energy Levels, Wavelengths	Exp	141
$\mathbf{Os}^{47+}$	Energy Levels, Wavelengths	Exp	141
$\mathbf{Os}$	Energy Levels, Wavelengths	Exp	193
$\mathbf{Os}^{74+}$	Energy Levels, Wavelengths	Exp	671
$\mathbf{Os}^{75+}$	Energy Levels, Wavelengths	Exp	671
$\mathbf{Os}^{54+}$	Energy Levels, Wavelengths	E/T	705
$\mathbf{Os}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Os}$	Trans. prob., Oscill. Strengths	E/T	916
$\mathbf{Ir}$	Energy Levels, Wavelengths	Exp	193
$\mathbf{Ir}^{8+}$	Energy Levels, Wavelengths	E/T	551
$\mathbf{Ir}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Ir}$	Trans. prob., Oscill. Strengths	E/T	916
$\mathbf{Pt}^{0+\text{--}+}$	Energy Levels, Wavelengths	Exp	118
$\mathbf{Pt}^{0+\text{--}+}$	Energy Levels, Wavelengths	Exp	186
$\mathbf{Pt}^{56+}$	Energy Levels, Wavelengths	Exp	243
$\mathbf{Pt}^{7+}$	Energy Levels, Wavelengths	E/T	308
$\mathbf{Pt\text{-}Tl}^{0+\text{--}3+}$	Energy Levels, Wavelengths	Exp	389
$\mathbf{Pt}^{9+}$	Energy Levels, Wavelengths	E/T	551
$\mathbf{Pt}^{2+}$	Energy Levels, Wavelengths	E/T	754
$\mathbf{Pt}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Pt}^{0+\text{--}+}$	Trans. prob., Oscill. Strengths	E/T	916
$\mathbf{Au}^{64+\text{--}68+}$	Energy Levels, Wavelengths	E/T	2
$\mathbf{Au}^{64+\text{--}69+}$	Energy Levels, Wavelengths	E/T	2
$\mathbf{Au}$	Energy Levels, Wavelengths	Exp	93
$\mathbf{Au}^{65+}$	Energy Levels, Wavelengths	Th	95
$\mathbf{Au}^{49+}$	Energy Levels, Wavelengths	Exp	141
$\mathbf{Au}^{50+}$	Energy Levels, Wavelengths	Exp	141
$^{197}\mathbf{Au}^{76+}$	Energy Levels, Wavelengths	E/T	203
$\mathbf{Au}^{76+}$	Energy Levels, Wavelengths	E/T	203
$\mathbf{Au}^{49+}$	Energy Levels, Wavelengths	Exp	219
$\mathbf{Au}^{43+\text{--}51+}$	Energy Levels, Wavelengths	Exp	228
$\mathbf{Au}^{50+}$	Energy Levels, Wavelengths	Exp	240
$\mathbf{Au}^{57+}$	Energy Levels, Wavelengths	Exp	243
$\mathbf{Au}^{8+}$	Energy Levels, Wavelengths	E/T	308
$\mathbf{Au}^{65+}$	Energy Levels, Wavelengths	Th	315
$\mathbf{Au}^{57+}$	Energy Levels, Wavelengths	E/T	360

$\mathbf{Au}^{4+}$	Energy Levels, Wavelengths	E/T	429
$\mathbf{Au}^{46+–51+}$	Energy Levels, Wavelengths	Exp	431
Au	Energy Levels, Wavelengths	Exp	483
$\mathbf{Au}^{9+}$	Energy Levels, Wavelengths	E/T	537
$\mathbf{Au}^{4+}$	Energy Levels, Wavelengths	E/T	542
$\mathbf{Au}^{9+}$	Energy Levels, Wavelengths	E/T	550
$\mathbf{Au}^{10+}$	Energy Levels, Wavelengths	E/T	551
$\mathbf{Au}^{78+}$	Energy Levels, Wavelengths	Exp	604
$\mathbf{Au}^{+}$	Energy Levels, Wavelengths	E/T	624
$\mathbf{Au}^{2+}$	Energy Levels, Wavelengths	E/T	720
$\mathbf{Au}^{+}$	Energy Levels, Wavelengths	E/T	754
$\mathbf{Au}^{2+}$	Energy Levels, Wavelengths	E/T	754
$\mathbf{Au}^{65+–69+}$	Energy Levels, Wavelengths	Exp	811
Au	Energy Levels, Wavelengths	Exp	824
Au	Energy Levels, Wavelengths	Exp	828
Au	Trans. prob., Oscill. Strengths	E/T	916
$^{202}\mathbf{Hg}$	Energy Levels, Wavelengths	Th	44
Hg	Energy Levels, Wavelengths	Th	44
$^{199}\mathbf{Hg}^{+}$	Energy Levels, Wavelengths	Th	154
$^{201}\mathbf{Hg}^{+}$	Energy Levels, Wavelengths	Th	154
$\mathbf{Hg}^{+}$	Energy Levels, Wavelengths	Th	154
Hg	Energy Levels, Wavelengths	Exp	185
Hg	Energy Levels, Wavelengths	Exp	255
$\mathbf{Hg}^{12+}$	Energy Levels, Wavelengths	E/T	305
Hg	Energy Levels, Wavelengths	Exp	389
$\mathbf{Hg}^{+}$	Energy Levels, Wavelengths	Exp	389
$\mathbf{Hg\text{-}Bi}^{2+}$	Energy Levels, Wavelengths	Exp	389
$^{199}\mathbf{Hg}$	Energy Levels, Wavelengths	Exp	529
Hg	Energy Levels, Wavelengths	Exp	529
$\mathbf{Hg}^{10+}$	Energy Levels, Wavelengths	E/T	537
$\mathbf{Hg}^{10+}$	Energy Levels, Wavelengths	E/T	550
$\mathbf{Hg}^{11+}$	Energy Levels, Wavelengths	E/T	551
$^{199}\mathbf{Hg}^{+}$	Energy Levels, Wavelengths	Exp	767
$\mathbf{Hg}^{+}$	Energy Levels, Wavelengths	Exp	767
Hg	Energy Levels, Wavelengths	Exp	828
$\mathbf{Hg\text{-}Bi}^{0+–+}$	Trans. prob., Oscill. Strengths	E/T	916
$^{205}\mathbf{Tl}^{2+}$	Energy Levels, Wavelengths	Th	154
$\mathbf{Tl}^{2+}$	Energy Levels, Wavelengths	Th	154
$^{203}\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Exp	204
$^{205}\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Exp	204
$\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Exp	204
$\mathbf{Tl}^{59+}$	Energy Levels, Wavelengths	Exp	243
$\mathbf{Tl}^{+}$	Energy Levels, Wavelengths	Exp	389
$^{203}\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Th	390
$^{205}\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Th	390
$\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Th	390
$^{203}\mathbf{Tl}^{0+–+}$	Energy Levels, Wavelengths	Exp	529
$^{205}\mathbf{Tl}^{0+–+}$	Energy Levels, Wavelengths	Exp	529
$\mathbf{Tl}^{0+–+}$	Energy Levels, Wavelengths	Exp	529
Tl	Energy Levels, Wavelengths	Exp	828
Tl	Trans. prob., Oscill. Strengths	Th	908
$\mathbf{Pb}^{52+}$	Energy Levels, Wavelengths	Exp	141
$\mathbf{Pb}^{53+}$	Energy Levels, Wavelengths	Exp	141
$^{208}\mathbf{Pb}^{79+}$	Energy Levels, Wavelengths	E/T	203
$\mathbf{Pb}^{79+}$	Energy Levels, Wavelengths	E/T	203
$\mathbf{Pb}^{52+}$	Energy Levels, Wavelengths	Exp	219
$\mathbf{Pb}^{53+}$	Energy Levels, Wavelengths	Exp	240

$\mathbf{Pb}^{13+-14+}$	Energy Levels, Wavelengths	E/T	305
$\mathbf{Pb}^{0+-4+}$	Energy Levels, Wavelengths	Exp	389
$^{207}\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th	390
$\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th	390
$^{207}\mathbf{Pb}$	Energy Levels, Wavelengths	Exp	529
$\mathbf{Pb}$	Energy Levels, Wavelengths	Exp	529
$^{207}\mathbf{Pb}^{2+}$	Energy Levels, Wavelengths	Exp	529
$\mathbf{Pb}^{2+}$	Energy Levels, Wavelengths	Exp	529
$^{207}\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th	682
$\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th	682
$\mathbf{Pb}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Pb}^{80+}$	Trans. prob., Oscill. Strengths	Th	906
$^{209}\mathbf{Bi}^{80+}$	Energy Levels, Wavelengths	Th	75
$\mathbf{Bi}^{80+}$	Energy Levels, Wavelengths	Th	75
$\mathbf{Bi}^{81+}$	Energy Levels, Wavelengths	Th	119
$\mathbf{Bi}^{55+}$	Energy Levels, Wavelengths	Th	133
$\mathbf{Bi}^{53+}$	Energy Levels, Wavelengths	Exp	141
$\mathbf{Bi}^{54+}$	Energy Levels, Wavelengths	Exp	141
$\mathbf{Bi}^{14+-15+}$	Energy Levels, Wavelengths	E/T	305
$\mathbf{Bi}^{61+}$	Energy Levels, Wavelengths	E/T	342
$\mathbf{Bi}^{61+}$	Energy Levels, Wavelengths	E/T	360
$\mathbf{Bi}^{0+-5+}$	Energy Levels, Wavelengths	Exp	389
$^{209}\mathbf{Bi}^{82+}$	Energy Levels, Wavelengths	Th	390
$\mathbf{Bi}^{82+}$	Energy Levels, Wavelengths	Th	390
$\mathbf{Bi}^{61+}$	Energy Levels, Wavelengths	E/T	419
$\mathbf{Bi}^{80+}$	Energy Levels, Wavelengths	E/T	480
$^{209}\mathbf{Bi}^{3+}$	Energy Levels, Wavelengths	Exp	529
$\mathbf{Bi}^{3+}$	Energy Levels, Wavelengths	Exp	529
$\mathbf{Bi}^{81+}$	Energy Levels, Wavelengths	Exp	671
$\mathbf{Bi}^{82+}$	Energy Levels, Wavelengths	Exp	671
$^{209}\mathbf{Bi}^{82+}$	Energy Levels, Wavelengths	Th	682
$\mathbf{Bi}^{82+}$	Energy Levels, Wavelengths	Th	682
$\mathbf{Bi}^{79+}$	Energy Levels, Wavelengths	Th	703
$\mathbf{Bi}^{81+}$	Energy Levels, Wavelengths	Exp	776
$\mathbf{Bi}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Po}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{At}^{-}$	Energy Levels, Wavelengths	Th	44
$^{222}\mathbf{Rn}$	Energy Levels, Wavelengths	Th	44
$\mathbf{Rn}$	Energy Levels, Wavelengths	Th	44
$\mathbf{Rn}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Rn}^{84+}$	Trans. prob., Oscill. Strengths	Th	906
$\mathbf{Fr}$	Energy Levels, Wavelengths	Th	688
$\mathbf{Fr}$	Energy Levels, Wavelengths	Exp	828
$^{226}\mathbf{Ra}$	Energy Levels, Wavelengths	Th	44
$\mathbf{Ra}$	Energy Levels, Wavelengths	Th	44
$\mathbf{Ra}^{0+-+}$	Energy Levels, Wavelengths	Exp	828
$\mathbf{Th}^{60+}$	Energy Levels, Wavelengths	Exp	141
$\mathbf{Th}^{61+}$	Energy Levels, Wavelengths	Exp	141
$\mathbf{Th}^{60+}$	Energy Levels, Wavelengths	Exp	219
$^{232}\mathbf{Th}^{0+-2+}$	Energy Levels, Wavelengths	Exp	224
$\mathbf{Th}^{0+-2+}$	Energy Levels, Wavelengths	Exp	224
$\mathbf{Th}^{61+}$	Energy Levels, Wavelengths	Exp	240
$\mathbf{Th}^{0+-2+}$	Energy Levels, Wavelengths	Exp	389
$\mathbf{Th}^{0+-3+}$	Energy Levels, Wavelengths	Exp	389
$\mathbf{Th}^{87+}$	Energy Levels, Wavelengths	E/T	480
$\mathbf{Th}^{0+-+}$	Energy Levels, Wavelengths	Exp	518
$\mathbf{Th}^{82+-87+}$	Energy Levels, Wavelengths	Exp	672

Th^{87+}	Energy Levels, Wavelengths	Exp	672
Th^{80+}	Energy Levels, Wavelengths	E/T	693
Th^{86+}	Energy Levels, Wavelengths	Th	703
Th$^{76+--79+}$	Energy Levels, Wavelengths	Exp	769
Th$^{82+--87+}$	Energy Levels, Wavelengths	Exp	770
Th^{87+}	Energy Levels, Wavelengths	Exp	770
Th$^{80+--87+}$	Energy Levels, Wavelengths	Exp	777
Th	Energy Levels, Wavelengths	Exp	828
Th^{+}	Trans. prob., Oscill. Strengths	E/T	916
U^{90+}	Energy Levels, Wavelengths	Th	31
U^{64+}	Energy Levels, Wavelengths	Th	133
U^{62+}	Energy Levels, Wavelengths	Exp	141
U^{63+}	Energy Levels, Wavelengths	Exp	141
U^{90+}	Energy Levels, Wavelengths	Th	151
U^{88+}	Energy Levels, Wavelengths	E/T	203
^{238}**U**$^{89+}$	Energy Levels, Wavelengths	E/T	203
U^{89+}	Energy Levels, Wavelengths	E/T	203
U^{62+}	Energy Levels, Wavelengths	Exp	219
U^{81+}	Energy Levels, Wavelengths	Exp	236
U^{63+}	Energy Levels, Wavelengths	Exp	240
U^{0+--+}	Energy Levels, Wavelengths	Exp	252
U^{0+--2+}	Energy Levels, Wavelengths	Exp	389
U^{0+--5+}	Energy Levels, Wavelengths	Exp	389
U^{89+}	Energy Levels, Wavelengths	E/T	480
U^{91+}	Energy Levels, Wavelengths	Exp	604
U^{89+}	Energy Levels, Wavelengths	Exp	672
U^{91+}	Energy Levels, Wavelengths	Th	682
U^{82+}	Energy Levels, Wavelengths	E/T	693
U^{88+}	Energy Levels, Wavelengths	Th	703
U^{89+}	Energy Levels, Wavelengths	Exp	770
U	Energy Levels, Wavelengths	Exp	828
U^{61+}	Trans. prob., Oscill. Strengths	Th	865
U^{90+}	Trans. prob., Oscill. Strengths	Th	906
U^{0+--+}	Trans. prob., Oscill. Strengths	E/T	916
Pu	Energy Levels, Wavelengths	E/T	34
Pu	Energy Levels, Wavelengths	Exp	828
Am	Energy Levels, Wavelengths	Exp	828
Cm^{0+--+}	Energy Levels, Wavelengths	E/T	34
Cm	Energy Levels, Wavelengths	Exp	828
Bk	Energy Levels, Wavelengths	E/T	34
Cf	Energy Levels, Wavelengths	E/T	34
Es^{0+--+}	Energy Levels, Wavelengths	E/T	34
Fm	Energy Levels, Wavelengths	E/T	34
Fm^{96+}	Energy Levels, Wavelengths	Th	703
^{259}**No**	Energy Levels, Wavelengths	Th	44
No	Energy Levels, Wavelengths	Th	44
D	Energy Levels, Wavelengths	E/T	57
D	Energy Levels, Wavelengths	Exp	99
D	Energy Levels, Wavelengths	Exp	135
D	Energy Levels, Wavelengths	E/T	167
D	Energy Levels, Wavelengths	E/T	205
D	Energy Levels, Wavelengths	Exp	374
D	Energy Levels, Wavelengths	Exp	446
D	Energy Levels, Wavelengths	Exp	455
D	Energy Levels, Wavelengths	Exp	526
D^{-}	Energy Levels, Wavelengths	Exp	533
D	Energy Levels, Wavelengths	Exp	582

D	Energy Levels, Wavelengths	Exp	594
D	Energy Levels, Wavelengths	E/T	740
D	Energy Levels, Wavelengths	Exp	780
D	Energy Levels, Wavelengths	Exp	796
D	Energy Levels, Wavelengths	Exp	823
H Z= 1-3	Energy Levels, Wavelengths	E/T	205
H Z= 1-92	Energy Levels, Wavelengths	Th	768
He Z= 2-10	Energy Levels, Wavelengths	Th	8
He Z= 2-100	Energy Levels, Wavelengths	Th	10
He Z= 30-80 step 10	Energy Levels, Wavelengths	Th	31
He Z= 2-109	Energy Levels, Wavelengths	Th	40
He Z= 2-10	Energy Levels, Wavelengths	Th	58
He Z= 12-26	Energy Levels, Wavelengths	E/T	63
He Z= 2-10	Energy Levels, Wavelengths	Th	68
He Z= 1-8	Energy Levels, Wavelengths	E/T	85
He Z= 3-10	Energy Levels, Wavelengths	Th	86
He Z= 30-80 step 10	Energy Levels, Wavelengths	Th	151
He Z= 2-3	Energy Levels, Wavelengths	E/T	205
He Z= 6-10	Energy Levels, Wavelengths	Th	218
He Z= 1-10	Energy Levels, Wavelengths	Th	367
He Z= 13-17	Energy Levels, Wavelengths	Th	640
He Z= 6-54	Energy Levels, Wavelengths	Th	699
He Z= 12-19	Energy Levels, Wavelengths	Th	801
He Z= 26-76	Trans. prob., Oscill. Strengths	Th	906
Li Z= 3-60	Energy Levels, Wavelengths	Th	50
Li Z= 3-10	Energy Levels, Wavelengths	Th	68
Li Z= 49-59 step 2	Energy Levels, Wavelengths	Th	75
Li Z= 11-20	Energy Levels, Wavelengths	Th	100
Li Z= 6-8	Energy Levels, Wavelengths	Th	132
Li Z= 12-16	Energy Levels, Wavelengths	Th	132
Li Z= 18-29	Energy Levels, Wavelengths	Th	132
Li Z= 11-20	Energy Levels, Wavelengths	E/T	188
Li Z= 3-100	Energy Levels, Wavelengths	E/T	333
Li Z= 3-5	Energy Levels, Wavelengths	Th	368
Li Z= 7-10	Energy Levels, Wavelengths	E/T	427
Li Z= 3-50	Energy Levels, Wavelengths	E/T	467
Li Z= 24-26	Energy Levels, Wavelengths	E/T	480
Li Z= 28-30	Energy Levels, Wavelengths	E/T	480
Li Z= 32-36 step 2	Energy Levels, Wavelengths	E/T	480
Li Z= 3-50	Energy Levels, Wavelengths	Th	548
Li Z= 3-54	Energy Levels, Wavelengths	Th	552
Li Z= 3-8	Energy Levels, Wavelengths	Th	569
Li Z= 3-10	Energy Levels, Wavelengths	Th	583
Li Z= 3-100	Energy Levels, Wavelengths	Th	688
Li Z= 6-54	Energy Levels, Wavelengths	Th	699
Li Z= 6-54	Energy Levels, Wavelengths	Th	757
Li Z= 5-9	Energy Levels, Wavelengths	Th	784
Li Z= 6-9	Energy Levels, Wavelengths	Th	784
Li Z= 10-92	Energy Levels, Wavelengths	Th	785
Li Z= 6-54	Energy Levels, Wavelengths	Th	801
Li Z= 5-92	Trans. prob., Oscill. Strengths	Th	892
Be Z= 4-60	Energy Levels, Wavelengths	Th	50
Be Z= 4-10	Energy Levels, Wavelengths	Th	102
Be Z= 4-10	Energy Levels, Wavelengths	Th	104
Be Z= 5-6	Energy Levels, Wavelengths	E/T	156
Be Z= 4-10	Energy Levels, Wavelengths	Th	272
Be Z= 4-50	Energy Levels, Wavelengths	E/T	467

Be Z= 4-12	Energy Levels, Wavelengths	Th	492
Be Z= 4-10	Energy Levels, Wavelengths	Th	501
Be Z= 7-28	Energy Levels, Wavelengths	Th	564
Be Z= 6-30	Energy Levels, Wavelengths	Th	650
Be Z= 6-54	Energy Levels, Wavelengths	Th	699
Be Z= 4-30	Energy Levels, Wavelengths	Th	703
Be Z= 79-80	Energy Levels, Wavelengths	Th	703
Be Z= 7-10	Energy Levels, Wavelengths	Th	711
Be Z= 6-10	Energy Levels, Wavelengths	Th	781
Be Z= 12-26 step 2	Energy Levels, Wavelengths	Th	781
Be Z= 8-19	Energy Levels, Wavelengths	Th	817
Be Z= 7-10	Trans. prob., Oscill. Strengths	Th	875
Be Z= 16-19	Trans. prob., Oscill. Strengths	Th	912
Be Z= 4-10	Trans. prob., Oscill. Strengths	Th	915
B Z= 31-60	Energy Levels, Wavelengths	E/T	32
B Z= 5-10	Energy Levels, Wavelengths	Th	41
B Z= 5-10	Energy Levels, Wavelengths	Th	42
B Z= 5-60	Energy Levels, Wavelengths	Th	50
B Z= 8-10	Energy Levels, Wavelengths	E/T	234
B Z= 5-50	Energy Levels, Wavelengths	E/T	467
B Z= 2-30	Energy Levels, Wavelengths	Th	524
B Z= 5-100	Energy Levels, Wavelengths	Th	692
B Z= 6-54	Energy Levels, Wavelengths	Th	699
B Z= 16-19	Trans. prob., Oscill. Strengths	Th	912
C Z= 6-60	Energy Levels, Wavelengths	Th	50
C Z= 6-50	Energy Levels, Wavelengths	E/T	467
C Z= 8-30	Energy Levels, Wavelengths	Th	698
N Z= 7-60	Energy Levels, Wavelengths	Th	50
N Z= 7-50	Energy Levels, Wavelengths	E/T	467
O Z= 8-60	Energy Levels, Wavelengths	Th	50
O Z= 20-30 step 2	Energy Levels, Wavelengths	Th	209
O Z= 29-30	Energy Levels, Wavelengths	Exp	221
O Z= 8-50	Energy Levels, Wavelengths	E/T	467
F Z= 9-60	Energy Levels, Wavelengths	Th	50
F Z= 29-30	Energy Levels, Wavelengths	Exp	221
F Z= 20-25	Energy Levels, Wavelengths	E/T	357
F Z= 20-26	Energy Levels, Wavelengths	E/T	357
F Z= 9-50	Energy Levels, Wavelengths	E/T	467
F Z= 10-24	Energy Levels, Wavelengths	Exp	675
Ne Z= 10-60	Energy Levels, Wavelengths	Th	50
Ne Z= 29-30	Energy Levels, Wavelengths	Exp	221
Ne Z= 20-36	Energy Levels, Wavelengths	E/T	426
Ne Z= 10-50	Energy Levels, Wavelengths	E/T	467
Ne Z= 10-17	Energy Levels, Wavelengths	Th	663
Ne Z= 21-23	Energy Levels, Wavelengths	Exp	669
Ne Z= 21-23	Energy Levels, Wavelengths	Exp	670
Ne Z= 10-36	Energy Levels, Wavelengths	E/T	693
Ne Z= 46-48	Energy Levels, Wavelengths	E/T	693
Ne Z= 50-54	Energy Levels, Wavelengths	E/T	693
Ne Z= 56-57	Energy Levels, Wavelengths	E/T	693
Ne Z= 68-74 step 2	Energy Levels, Wavelengths	E/T	693
Ne Z= 78-80	Energy Levels, Wavelengths	E/T	693
Ne Z= 82-83	Energy Levels, Wavelengths	E/T	693
Ne Z= 18-92	Energy Levels, Wavelengths	E/T	700
Ne Z= 77-78	Energy Levels, Wavelengths	E/T	700
Ne Z= 27-30	Energy Levels, Wavelengths	E/T	783
Na Z= 15-30	Energy Levels, Wavelengths	Th	298

Na Z= 16-18	Energy Levels, Wavelengths	Exp	301
Na Z= 11-18	Energy Levels, Wavelengths	Th	349
Na Z= 11-50	Energy Levels, Wavelengths	E/T	467
Na Z= 11-16	Energy Levels, Wavelengths	Th	535
Na Z= 11-100	Energy Levels, Wavelengths	Th	688
Na Z= 27-30	Energy Levels, Wavelengths	E/T	783
Na Z= 11-26	Trans. prob., Oscill. Strengths	Th	872
Na Z= 27-36	Trans. prob., Oscill. Strengths	Th	874
Mg Z= 13-42	Energy Levels, Wavelengths	Th	420
Mg Z= 12-50	Energy Levels, Wavelengths	E/T	467
Mg Z= 12-26	Trans. prob., Oscill. Strengths	Th	872
Mg Z= 53-58	Trans. prob., Oscill. Strengths	Th	880
Al Z= 15-42	Energy Levels, Wavelengths	Th	313
Al Z= 13-50	Energy Levels, Wavelengths	E/T	467
Al Z= 15-42	Energy Levels, Wavelengths	Exp	719
Al Z= 24-32 step 2	Trans. prob., Oscill. Strengths	Th	863
Al Z= 13-26	Trans. prob., Oscill. Strengths	Th	872
Si Z= 40-42	Energy Levels, Wavelengths	Th	95
Si Z= 24-30	Energy Levels, Wavelengths	E/T	174
Si Z= 28-30	Energy Levels, Wavelengths	Th	315
Si Z= 34-36	Energy Levels, Wavelengths	Th	315
Si Z= 38-42	Energy Levels, Wavelengths	Th	315
Si Z= 14-50	Energy Levels, Wavelengths	E/T	467
Si Z= 38-79	Energy Levels, Wavelengths	E/T	484
Si Z= 14-26	Trans. prob., Oscill. Strengths	Th	872
P Z= 26-32	Energy Levels, Wavelengths	Th	169
P Z= 15-50	Energy Levels, Wavelengths	E/T	467
P Z= 15-26	Trans. prob., Oscill. Strengths	Th	872
S Z= 16-50	Energy Levels, Wavelengths	E/T	467
S Z= 18-100	Energy Levels, Wavelengths	E/T	689
S Z= 16-26	Trans. prob., Oscill. Strengths	Th	872
Cl Z= 18-32	Energy Levels, Wavelengths	Th	434
Cl Z= 17-50	Energy Levels, Wavelengths	E/T	467
Cl Z= 17-26	Trans. prob., Oscill. Strengths	Th	872
Ar Z= 22-42	Energy Levels, Wavelengths	E/T	232
Ar Z= 18-50	Energy Levels, Wavelengths	E/T	467
Ar Z= 18-26	Trans. prob., Oscill. Strengths	Th	872
Ar Z= 24-26	Trans. prob., Oscill. Strengths	Th	872
K Z= 19-20	Energy Levels, Wavelengths	Th	349
Ti Z= 53-56	Energy Levels, Wavelengths	E/T	342
Ti Z= 62-64	Energy Levels, Wavelengths	E/T	342
Ti Z= 72-75	Energy Levels, Wavelengths	E/T	342
Ti Z= 78-79	Energy Levels, Wavelengths	E/T	342
Ti Z= 53-56	Energy Levels, Wavelengths	E/T	360
Ti Z= 62-63	Energy Levels, Wavelengths	E/T	360
Ti Z= 62-64	Energy Levels, Wavelengths	E/T	360
Ti Z= 72-78	Energy Levels, Wavelengths	E/T	360
Ti Z= 52-83	Energy Levels, Wavelengths	E/T	419
Ti Z= 37-103	Energy Levels, Wavelengths	E/T	464
Ti Z= 54-56	Energy Levels, Wavelengths	E/T	464
Ti Z= 56-72 step 4	Energy Levels, Wavelengths	E/T	705
Ni Z= 30-100	Energy Levels, Wavelengths	E/T	33
Ni Z= 40-42	Energy Levels, Wavelengths	E/T	76
Ni Z= 44-46	Energy Levels, Wavelengths	E/T	76
Ni Z= 50-90 step 10	Energy Levels, Wavelengths	Th	133
Ni Z= 47-92	Energy Levels, Wavelengths	Th	408
Ni Z= 36-54	Energy Levels, Wavelengths	E/T	475

Ni Z= 40-42	Energy Levels, Wavelengths		E/T	475
Ni Z= 39-42	Energy Levels, Wavelengths		E/T	543
Ni Z= 39-60	Energy Levels, Wavelengths		E/T	543
Ni Z= 46-48	Energy Levels, Wavelengths		E/T	543
Ni Z= 72-74	Energy Levels, Wavelengths		Exp	832
Ni Z= 30-100	Trans. prob., Oscill. Strengths		Th	876
Ni Z= 36-92	Trans. prob., Oscill. Strengths		Th	876
Ni Z= 30-100	Trans. prob., Oscill. Strengths		Th	889
Ni Z= 60-92	Trans. prob., Oscill. Strengths		Th	889
Ni Z= 30-100	Trans. prob., Oscill. Strengths		Th	909
Zn Z= 30-42	Trans. prob., Oscill. Strengths		Th	891
Ga Z= 31-56	Energy Levels, Wavelengths		E/T	631
Ga Z= 31-92	Energy Levels, Wavelengths		E/T	631
Ga Z= 70-92	Trans. prob., Oscill. Strengths		Th	840
Ga Z= 31-47	Trans. prob., Oscill. Strengths		Th	865
Ga Z= 31-100	Trans. prob., Oscill. Strengths		Th	865
Rh Z= 55-58	Energy Levels, Wavelengths		E/T	575
Pd Z= 55-58	Energy Levels, Wavelengths		E/T	287
Pd Z= 54-58	Energy Levels, Wavelengths		E/T	304
Ag Z= 55-57	Energy Levels, Wavelengths		E/T	575
Au Z= 79-83	Energy Levels, Wavelengths		Th	154

2.2 Atomic and Molecular Collisions

2.2.1 Photon Collisions

hν + Na	Fluorescence	2.1 eV	Exp	917
hν + He	Photoionization	2-20 keV	Th	918
hν + He	Photoionization	91.45 eV	Exp	919
hν + He	Photoionization	45 eV	Th	920
hν + Ar	Photoionization	90-330 eV	Exp	921
hν + He	Photoexcitation		Th	922
hν + H_2	Photoexcitation		Th	922
hν + D_2	Photoexcitation		Th	922
hν + He	Photoionization		Th	922
hν + H_2	Photoionization		Th	922
hν + D_2	Photoionization		Th	922
hν + Li^+	Photoexcitation	200 eV	Th	923
hν + Li^+	Photoionization	200 eV	Th	923
hν + Li	Photoionization	200-400 eV	Th	924
hν + Be	Photoionization	200-400 eV	Th	924
hν + ${D_3}^+$	Photodissociation		Th	925
hν + ${D_{13}}^+$	Photodissociation		Th	925
hν + ${H_{13}}^+$	Photodissociation		Th	925
hν + H_2	Photoionization	800 nm	Th	926
hν + He	Photoionization	13 eV	Exp	927
hν + He	Photoionization	13 eV	Th	928
hν + CO	Photodissociation	780 nm	Exp	929
hν + CO	Photoionization	780 nm	Exp	929
hν + $SiCl_4$	Photoexcitation	100-225 eV	Exp	930
hν + Rb	Photoionization	61 eV	Th	931
hν + C^-	Photodetachment	0-11 eV	Th	932
hν + I^-	Photodetachment	0-30 eV	Th	933
hν + Xe	Photoionization	0-30 eV	Th	933
hν + N_2	Fluorescence	$2-4x10^{14}$ W/cm^2	Th	934

hν + $\mathbf{O_2}$	Fluorescence	$2-4x10^{14}$ W/cm^2	Th	934
hν + $\mathbf{N_2}$	Photoionization	$2-4x10^{14}$ W/cm^2	Th	934
hν + $\mathbf{O_2}$	Photoionization	$2-4x10^{14}$ W/cm^2	Th	934
hν + $\mathbf{H_2}^+$	Photodissociation	10^{14} W/cm^2	E/T	935
hν + $\mathbf{D_2}^+$	Photodissociation	10^{14} W/cm^2	E/T	935
hν + $\mathbf{Cl}^-$	Photodetachment	38-85 eV	Exp	936
hν + $\mathbf{Cl}^-$	Photoionization	38-85 eV	Exp	936
hν + $\mathbf{O_2}$	Photodissociation	550-1800 nm	Exp	937
hν + $\mathbf{O_2}$	Photoionization	550-1800 nm	Exp	937
hν + **Ne**	Photoionization	800 nm	Exp	938
hν + **Ar**	Photoionization	800 nm	Exp	938
hν + $\mathbf{CH_3F}$	Photoexcitation	288.8-687.8 eV	Exp	939
hν + $\mathbf{CH_3F}$	Photoionization	288.8-687.8 eV	Exp	939
hν + **Sr**	Photoionization	190-210 eV	E/T	940
hν + **Ar**	Photoionization	250-253 eV	E/T	941
hν + **He**	Photodissociation	79.1 eV	Th	942
hν + **He**	Photoexcitation	79.1 eV	Th	942
hν + $\mathbf{CO_2}$	Photoionization	540.5-546.5 eV	Exp	943
hν + $\mathbf{Fe}^{15+}$	Photoionization	1-37 keV	Th	944
hν + $\mathbf{U}^{81+}$	Photoionization	1-37 keV	Th	944
hν + **Kr**	Photoionization	1850 eV	Exp	945
hν + $\mathbf{H_2}$	Photodissociation	266 nm	Th	946
hν + $\mathbf{H_2}^+$	Photodissociation	266 nm	Th	946
hν + $\mathbf{S}^-$	Photodetachment	150-240 eV	Exp	947
hν + $\mathbf{S}^-$	Photoionization	150-240 eV	Exp	947
hν + **I**	Photoionization	50-200 eV	E/T	948
hν + $\mathbf{I}^+$	Photoionization	50-200 eV	E/T	948
hν + $\mathbf{Xe}^+$	Photoionization	50-200 eV	E/T	948
hν + **He**	Photoionization	0.1-1 keV	E/T	949
hν + **Ne**	Photoexcitation	near-threshold	Th	950
hν + **Ne**	Photoionization	near-threshold	Th	950
hν + $\mathbf{H_2}^+$	Photodissociation	785 nm	Exp	951
hν + $\mathbf{D_2}^+$	Photodissociation	785 nm	Exp	951
hν + $\mathbf{S}^{11+}$	Photoexcitation		Th	952
hν + $\mathbf{S}^{12+}$	Photoexcitation		Th	952
hν + $\mathbf{Cl}^{12+}$	Photoexcitation		Th	952
hν + $\mathbf{Cl}^{13+}$	Photoexcitation		Th	952
hν + $\mathbf{Ar}^{13+}$	Photoexcitation		Th	952
hν + $\mathbf{Ar}^{14+}$	Photoexcitation		Th	952
hν + $\mathbf{K}^{14+}$	Photoexcitation		Th	952
hν + $\mathbf{K}^{15+}$	Photoexcitation		Th	952
hν + $\mathbf{Ti}^{17+}$	Photoexcitation		Th	952
hν + $\mathbf{Ti}^{18+}$	Photoexcitation		Th	952
hν + $\mathbf{Fe}^{9+}$	Photoexcitation		Exp	953
hν + $\mathbf{Fe}^{10+}$	Photoexcitation		Exp	953
hν + $\mathbf{Fe}^{13+}$	Photoexcitation		Exp	953
hν + **He**	Photoionization	390 nm	Th	954
hν + **Na**	Photoionization	8-10 eV	Th	955
hν + $\mathbf{Na}^*$	Photoionization	8-10 eV	Th	955
hν + $\mathbf{H_2}$	Photoionization	15.47-15.75 eV	Exp	956
hν + **He**	Photoionization	69-76 eV	Th	957
hν + $\mathbf{He}^*$	Photoionization	69-76 eV	Th	957
hν + **Ne**	Photoexcitation	870 eV	E/T	958
hν + **Ne**	Photoionization	870 eV	E/T	958
hν + **H**	Photoionization	6.5-22 eV	Th	959
hν + **He**	Photoionization	6.5-22 eV	Th	959
hν + **Ne**	Photoionization	870 eV	Th	960

hν + H_2	Photodissociation	30-10,000 eV	Th	961
hν + H_2	Photoionization	30-10,000 eV	Th	961
hν + H^-	Photoionization		Th	962
hν + He	Photoionization		Th	962
hν + Li^+	Photoionization		Th	962
hν + He^+	Fluorescence	1.75 eV	Exp	963
hν + H_2	Photoexcitation	800 nm	Th	964
hν + H_2	Photoionization	800 nm	Th	964
hν + F^-	Photodetachment	20-62 eV	E/T	965
hν + F^-	Photoionization	20-62 eV	E/T	965
hν + $H_2{}^+$	Photodissociation	$2x10^{14}$ W/cm^2	Exp	966
hν + H	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th	967
hν + He	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th	967
hν + Ne	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th	967
hν + Ne^+	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th	967
hν + Ar	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th	967
hν + Ar^+	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th	967
hν + Rb	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th	967
hν + $H_2{}^+$	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th	967
hν + He	Fluorescence	64 eV	Exp	968
hν + He	Photoexcitation	64 eV	Exp	968
hν + CO^+	Photodissociation	20.5-34.5 eV	Exp	969
hν + CO^+	Photoionization	20.5-34.5 eV	Exp	969
hν + $H_2{}^+$	Photoionization	1 GeV/u	Th	970
hν + Ne	Photoionization	803-816 eV	E/T	971
hν + H_2	Photodissociation	27-38 eV	E/T	972
hν + H_2	Fluorescence	27-38 eV	E/T	972
hν + Gd	Photoionization	59.54 keV	Exp	973
hν + Dy	Photoionization	59.54 keV	Exp	973
hν + Er	Photoionization	59.54 keV	Exp	973
hν + Yb	Photoionization	59.54 keV	Exp	973
hν + Hf	Photoionization	59.54 keV	Exp	973
hν + Ta	Photoionization	59.54 keV	Exp	973
hν + Te	Photoexcitation	50-130 eV	E/T	974
hν + Te^+	Photoexcitation	50-130 eV	E/T	974
hν + Te^{2+}	Photoexcitation	50-130 eV	E/T	974
hν + Te^{3+}	Photoexcitation	50-130 eV	E/T	974
hν + Al^+	Photoionization	20-160 eV	E/T	975
hν + CO_2	Photodissociation	540-580 eV	E/T	976
hν + CO_2	Photoionization	540-580 eV	E/T	976
hν + He	Total Absorption, Scattering	400-850 nm	E/T	977
hν + Na	Total Absorption, Scattering	400-850 nm	E/T	977
hν + K	Total Absorption, Scattering	400-850 nm	E/T	977
hν + Kr^+	Photoexcitation	82-92 nm	E/T	978
hν + Kr^+	Photoionization	82-92 nm	E/T	978
hν + Sc	Photoionization	29-41 eV	E/T	979
hν + Ar	Fluorescence	806 nm	Exp	980
hν + Arn	Fluorescence	806 nm	Exp	980
hν + Arn(H_2O)m	Fluorescence	806 nm	Exp	980
hν + N_2	Photoionization	800 nm	Exp	981
hν + NO	Photoionization	800 nm	Exp	981
hν + O_2	Photoionization	800 nm	Exp	981
hν + Xe	Photoionization	64-71 eV	E/T	982
hν + N_2	Photodissociation	406-412 eV	Exp	983
hν + Ne	Photoionization	867 eV	E/T	984
hν + Ne^*	Photoionization	867 eV	E/T	984
hν + CO	Photoexcitation	60,000-96,000 cm^{-1}	Exp	985

hν + $\mathbf{Kr^+}$	Photoexcitation		Th	986
hν + $\mathbf{Kr^{2+}}$	Photoexcitation		Th	986
hν + $\mathbf{Kr^+}$	Photoionization		Th	986
hν + $\mathbf{Kr^{2+}}$	Photoionization		Th	986
hν + **OCS**	Photoionization	200 eV	Exp	987
hν + **Kr**	Photoionization	93.7-783 eV	Exp	988
hν + **Xe**	Photoionization	93.7-783 eV	Exp	988
hν + **He**	Photoionization	810 nm	E/T	989
hν + **H**	Photoionization	1.93 eV	Th	990
hν + **Xe**	Photoionization	1.93 eV	Th	990
hν + **He**	Photoionization	11.2-49.50 eV	Th	991
hν + $\mathbf{He^*}$	Photoionization	11.2-49.50 eV	Th	991
hν + **He**	Photoionization	2-30 eV	Th	992
hν + $\mathbf{H_2}$	Photoionization	2-30 eV	Th	992
hν + **Kr**	Fluorescence	91-92.8 eV	Exp	993
hν + **Kr**	Photoexcitation	91-92.8 eV	Exp	993
hν + **Kr**	Photoionization	91-92.8 eV	Exp	993
hν + $\mathbf{Sn^+}$	Total Absorption, Scattering	30-65 eV	E/T	994
hν + $\mathbf{Sn^{3+}}$	Total Absorption, Scattering	30-65 eV	E/T	994
hν + $\mathbf{C_{60}}^+$	Photoionization	7-50 eV	Th	995
hν + **Na**	Photoionization	420-630 K	E/T	996
hν + $\mathbf{Na^*}$	Photoionization	420-630 K	E/T	996
hν + $\mathbf{H_2}$	Photoexcitation	100,000 cm^{-1}	Th	997
hν + **HD**	Photoexcitation	100,000 cm^{-1}	Th	997
hν + $\mathbf{Cr^+}$	Photoexcitation	4850-2050 $\AA$	Exp	998
hν + $\mathbf{Fe^{23+}}$	Photoexcitation	0-1.4$x10^7$ cm^{-1}	Th	999
hν + $\mathbf{Hf^+}$	Photoexcitation	3000 $\AA$	Exp	1000
hν + **Pd**	Photoexcitation	400 $\AA$	E/T	1001
hν + $\mathbf{Fe^+}$	Photoexcitation	9000 $\AA$	Th	1002
hν + $\mathbf{Ni^+}$	Photoexcitation	1317 $\AA$	Exp	1003
hν + $\mathbf{Fe^+}$	Photoexcitation	2.0 μ m	Th	1004
hν + $\mathbf{Fe^{5+}}$	Photoexcitation	16 $\AA$	Th	1005
hν + $\mathbf{Fe^{6+}}$	Photoexcitation	16 $\AA$	Th	1005
hν + $\mathbf{Fe^{7+}}$	Photoexcitation	16 $\AA$	Th	1005
hν + $\mathbf{Fe^{8+}}$	Photoexcitation	16 $\AA$	Th	1005
hν + $\mathbf{Fe^{9+}}$	Photoexcitation	16 $\AA$	Th	1005
hν + $\mathbf{Fe^{10+}}$	Photoexcitation	16 $\AA$	Th	1005
hν + $\mathbf{Fe^{11+}}$	Photoexcitation	16 $\AA$	Th	1005
hν + $\mathbf{Fe^{12+}}$	Photoexcitation	16 $\AA$	Th	1005
hν + $\mathbf{Fe^{13+}}$	Photoexcitation	16 $\AA$	Th	1005
hν + $\mathbf{Fe^{14+}}$	Photoexcitation	16 $\AA$	Th	1005
hν + $\mathbf{Fe^{15+}}$	Photoexcitation	16 $\AA$	Th	1005
hν + **Na**	Photoionization	355 nm	Th	1006
hν + $\mathbf{Na^*}$	Photoionization	355 nm	Th	1006
hν + $\mathbf{N_2}$	Photoexcitation	99.5-93.5 nm	Th	1007
hν + $\mathbf{N_2}$	Photoionization	430 eV	E/T	1008
hν + $\mathbf{Fe^{21+}}$	Photoexcitation	5.0 keV	Th	1009
hν + $\mathbf{NH_3}$	Photoexcitation	140-220 nm	Exp	1010
hν + $\mathbf{ND_3}$	Photoexcitation	140-220 nm	Exp	1010
hν + $\mathbf{NH_2D}$	Photoexcitation	140-220 nm	Exp	1010
hν + $\mathbf{NHD_2}$	Photoexcitation	140-220 nm	Exp	1010
hν + **CO**	Photoexcitation	1000 $\AA$	Exp	1011
hν + **He**	Photoionization	0-60 eV	Exp	1012
hν + **Li**	Photoionization	0-60 eV	Exp	1012
hν + **Be**	Photoionization	0-60 eV	Exp	1012
hν + **Na**	Photoionization	0-60 eV	Exp	1012

hν + $\mathbf{H_2}$	Photoionization	0-60 eV	Exp	1012
hν + **Ta**	Elastic Scattering	24-136 keV	Th	1013
hν + **Hg**	Elastic Scattering	24-136 keV	Th	1013
hν + **Pb**	Elastic Scattering	24-136 keV	Th	1013
hν + **C**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Al**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Si**	Elastic Scattering	17.5 keV	Exp	1014
hν + **S**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Ti**	Elastic Scattering	17.5 keV	Exp	1014
hν + **V**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Co**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Ni**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Cu**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Zn**	Elastic Scattering	17.5 keV	Exp	1014
hν + **As**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Se**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Rb**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Sr**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Ru**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Ag**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Cd**	Elastic Scattering	17.5 keV	Exp	1014
hν + **In**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Sn**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Sb**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Ba**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Nd**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Eu**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Gd**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Dy**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Ho**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Tm**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Yb**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Lu**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Ta**	Elastic Scattering	17.5 keV	Exp	1014
hν + **W**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Ir**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Pt**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Au**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Hg**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Tl**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Pb**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Bi**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Th**	Elastic Scattering	17.5 keV	Exp	1014
hν + **Tb**	Photoionization	124 keV	Exp	1015
hν + **Dy**	Photoionization	124 keV	Exp	1015
hν + **Ho**	Photoionization	124 keV	Exp	1015
hν + **Er**	Photoionization	124 keV	Exp	1015
hν + **Tm**	Photoionization	124 keV	Exp	1015
hν + **Yb**	Photoionization	124 keV	Exp	1015
hν + **Lu**	Photoionization	124 keV	Exp	1015
hν + **Hf**	Photoionization	124 keV	Exp	1015
hν + **Ta**	Photoionization	124 keV	Exp	1015
hν + **W**	Photoionization	124 keV	Exp	1015
hν + **Re**	Photoionization	124 keV	Exp	1015
hν + **Os**	Photoionization	124 keV	Exp	1015
hν + **Ir**	Photoionization	124 keV	Exp	1015
hν + **Pt**	Photoionization	124 keV	Exp	1015

hν + Au	Photoionization	124 keV	Exp	1015
hν + Hg	Photoionization	124 keV	Exp	1015
hν + Tl	Photoionization	124 keV	Exp	1015
hν + Pb	Photoionization	124 keV	Exp	1015
hν + Bi	Photoionization	124 keV	Exp	1015
hν + Th	Photoionization	124 keV	Exp	1015
hν + U	Photoionization	124 keV	Exp	1015
hν + He	Photoexcitation	78 eV	Exp	1016
hν + He	Photoionization	78 eV	Exp	1016
hν + H_2	Photodissociation	76 eV	Exp	1017
hν + H_2	Photoionization	76 eV	Exp	1017
hν + N_2	Photoexcitation	0.5 cm^{-1}	Th	1018
hν + O_2	Photoexcitation	0-20 eV	Th	1019
nhν + O_2	Photodissociation	550-1800 nm	Exp	937
nhν + O_2	Photoionization	550-1800 nm	Exp	937
nhν + Ne	Photoionization	800 nm	Exp	938
nhν + Ar	Photoionization	800 nm	Exp	938
nhν + H_2	Photodissociation	266 nm	Th	946
nhν + ${H_2}^+$	Photodissociation	266 nm	Th	946
nhν + He	Photoionization	390 nm	Th	954
nhν + H	Photoionization	6.5-22 eV	Th	959
nhν + He	Photoionization	6.5-22 eV	Th	959
nhν + He	Photoionization	810 nm	E/T	989
nhν + H	Photoionization	1.93 eV	Th	990
nhν + Xe	Photoionization	1.93 eV	Th	990
nhν + He	Photoionization	11.2-49.50 eV	Th	991
nhν + He^*	Photoionization	11.2-49.50 eV	Th	991
nhν + He	Photoionization	2-30 eV	Th	992
nhν + H_2	Photoionization	2-30 eV	Th	992

2.2.2 Electron Collisions

e + U^{89+}	Angular Scattering	2.18-218 MeV/u	Th	1020
e + U^{91+}	Angular Scattering	2.18-218 MeV/u	Th	1020
e + U^{89+}	Recombination	2.18-218 MeV/u	Th	1020
e + U^{91+}	Recombination	2.18-218 MeV/u	Th	1020
e + Zn	Angular Scattering	15-60 eV	E/T	1021
e + Zn	Excitation	15-60 eV	E/T	1021
e + ${He_2}^+$	Dissociation	$10^{-4} - 50$ eV	Exp	1022
e + ${He_2}^+$	Recombination	$10^{-4} - 50$ eV	Exp	1022
e + ${He_2}^+$	Excitation	$10^{-4} - 50$ eV	Exp	1022
e + Ne	Excitation	2500 eV	E/T	1023
e + ${H_2}^+$	Excitation	10-250 eV	Th	1024
e + ${H_2}^+$	Ionization	10-250 eV	Th	1024
e + OCS	Elastic Scattering	0-2 eV	Th	1025
e + N_2	Ionization	35.6-400 eV	Th	1026
e + Fe^+	Excitation	0-10 Ry	Th	1027
e + ${H_3}^+$	Dissociation	$10^{-3} - 10$ eV	Th	1028
e + H_2D^+	Dissociation	$10^{-3} - 10$ eV	Th	1028
e + ${HD_2}^+$	Dissociation	$10^{-3} - 10$ eV	Th	1028
e + ${H_3}^+$	Recombination	$10^{-3} - 10$ eV	Th	1028
e + H_2D^+	Recombination	$10^{-3} - 10$ eV	Th	1028
e + ${HD_2}^+$	Recombination	$10^{-3} - 10$ eV	Th	1028
e + ${He_2}^{2+}$	Dissociation	1-15 eV	Th	1029
e + ${He_2}^{2+}$	Recombination	1-15 eV	Th	1029
e + Xe	Excitation	0.5-10 eV	Exp	1030

e + H	Ionization	15 eV	Th	1031
e + Ar	Ionization	113.5-200 eV	Th	1032
e + $\mathbf{C_2H_2}$	Excitation	300-800 eV	Th	1033
e + $\mathbf{C_3H_4}$	Ionization	25-1000 eV	Exp	1034
e + $\mathbf{HeH^+}$	Dissociation	0-2 eV	Th	1035
e + $\mathbf{HeH^+}$	Recombination	0-2 eV	Th	1035
e + Ar	Angular Scattering	113.5-200 eV	Th	1036
e + Ar	Ionization	113.5-200 eV	Th	1036
e + He	Ionization	2080 eV	E/T	1037
e + $\mathbf{CO_2}$	Excitation	250-500 eV	Th	1038
e + $\mathbf{C_4H_6}$	Excitation	250-500 eV	Th	1038
e + $\mathbf{Pb^+}$	Ionization	0-1000 eV	E/T	1039
e + $\mathbf{Pb^{2+}}$	Ionization	0-1000 eV	E/T	1039
e + $\mathbf{Pb^{3+}}$	Ionization	0-1000 eV	E/T	1039
e + $\mathbf{Pb^{4+}}$	Ionization	0-1000 eV	E/T	1039
e + $\mathbf{Pb^{5+}}$	Ionization	0-1000 eV	E/T	1039
e + $\mathbf{Pb^{6+}}$	Ionization	0-1000 eV	E/T	1039
e + $\mathbf{Pb^{7+}}$	Ionization	0-1000 eV	E/T	1039
e + $\mathbf{Pb^{8+}}$	Ionization	0-1000 eV	E/T	1039
e + $\mathbf{Pb^{9+}}$	Ionization	0-1000 eV	E/T	1039
e + $\mathbf{Pb^{10+}}$	Ionization	0-1000 eV	E/T	1039
e + H	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{He^+}$	Ionization	10-10,000 eV	Th	1040
e + Li	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{C^{5+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{N^{4+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{N^{6+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{O^{5+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{O^{7+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{Ne^{8+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{Ti^{19+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{V^{20+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{Cr^{21+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{Mn^{22+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{Fe^{23+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{Mo^{41+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{Dy^{65+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{U^{89+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{U^{90+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{U^{91+}}$	Ionization	10-10,000 eV	Th	1040
e + $\mathbf{N_2}$	Angular Scattering	75.6 eV	Th	1041
e + $\mathbf{N_2}$	Ionization	75.6 eV	Th	1041
e + $\mathbf{Mo^+}$	Ionization	15-150 eV	Th	1042
e + He	Elastic Scattering	4-22 eV	Th	1043
e + He	Angular Scattering	4-22 eV	Th	1043
e + $\mathbf{Be^+}$	Ionization	0-200 eV	E/T	1044
e + $\mathbf{B^{2+}}$	Ionization	0-200 eV	E/T	1044
e + $\mathbf{C^{3+}}$	Ionization	0-200 eV	E/T	1044
e + $\mathbf{N^{4+}}$	Ionization	0-200 eV	E/T	1044
e + $\mathbf{O^{5+}}$	Ionization	0-200 eV	E/T	1044
e + $\mathbf{F^{6+}}$	Ionization	0-200 eV	E/T	1044
e + $\mathbf{Ne^{7+}}$	Ionization	0-200 eV	E/T	1044
e + $\mathbf{Na^{8+}}$	Ionization	0-200 eV	E/T	1044
e + $\mathbf{Mg^{9+}}$	Ionization	0-200 eV	E/T	1044
e + $\mathbf{Al^{10+}}$	Ionization	0-200 eV	E/T	1044
e + $\mathbf{H_2O}$	Dissociation	20-200 eV	Exp	1045
e + $\mathbf{H_2O}$	Ionization	20-200 eV	Exp	1045

e + C_6H_{14}	Elastic Scattering	0.4-1000 eV	Exp	1046
e + C_6H_{12}	Elastic Scattering	0.4-1000 eV	Exp	1046
e + C_6H_{14}	Excitation	0.4-1000 eV	Exp	1046
e + C_6H_{12}	Excitation	0.4-1000 eV	Exp	1046
e + C_6H_{14}	Ionization	0.4-1000 eV	Exp	1046
e + C_6H_{12}	Ionization	0.4-1000 eV	Exp	1046
e + Kr	Elastic Scattering	1.5-30 eV	Th	1047
e + Kr^*	Elastic Scattering	1.5-30 eV	Th	1047
e + Kr	Excitation	1.5-30 eV	Th	1047
e + Kr^*	Excitation	1.5-30 eV	Th	1047
e + Cl_2^-	Dissociation	0-200 eV	Exp	1048
e + Cl_2^-	Detachment	0-200 eV	Exp	1048
e + He	Excitation	1000-1600 eV	Exp	1049
e + He	Ionization	1000-1600 eV	Exp	1049
e + C_2H_4	Elastic Scattering	0.5-20 eV	Th	1050
e + C_2H_4	Angular Scattering	0.5-20 eV	Th	1050
e + C_2H_4	Total Scattering	0.5-20 eV	Th	1050
e + Xe	Ionization	10-28 keV	Exp	1051
e + W^{+}	Ionization	0-250 keV	Th	1052
e + W^{2+}	Ionization	0-250 keV	Th	1052
e + W^{3+}	Ionization	0-250 keV	Th	1052
e + W^{4+}	Ionization	0-250 keV	Th	1052
e + W^{5+}	Ionization	0-250 keV	Th	1052
e + W^{6+}	Ionization	0-250 keV	Th	1052
e + W^{7+}	Ionization	0-250 keV	Th	1052
e + W^{8+}	Ionization	0-250 keV	Th	1052
e + W^{9+}	Ionization	0-250 keV	Th	1052
e + W^{10+}	Ionization	0-250 keV	Th	1052
e + W^{11+}	Ionization	0-250 keV	Th	1052
e + W^{12+}	Ionization	0-250 keV	Th	1052
e + W^{13+}	Ionization	0-250 keV	Th	1052
e + W^{14+}	Ionization	0-250 keV	Th	1052
e + W^{15+}	Ionization	0-250 keV	Th	1052
e + W^{16+}	Ionization	0-250 keV	Th	1052
e + W^{17+}	Ionization	0-250 keV	Th	1052
e + W^{18+}	Ionization	0-250 keV	Th	1052
e + W^{19+}	Ionization	0-250 keV	Th	1052
e + W^{20+}	Ionization	0-250 keV	Th	1052
e + W^{21+}	Ionization	0-250 keV	Th	1052
e + W^{22+}	Ionization	0-250 keV	Th	1052
e + W^{23+}	Ionization	0-250 keV	Th	1052
e + W^{24+}	Ionization	0-250 keV	Th	1052
e + W^{25+}	Ionization	0-250 keV	Th	1052
e + W^{26+}	Ionization	0-250 keV	Th	1052
e + W^{27+}	Ionization	0-250 keV	Th	1052
e + W^{28+}	Ionization	0-250 keV	Th	1052
e + W^{29+}	Ionization	0-250 keV	Th	1052
e + W^{30+}	Ionization	0-250 keV	Th	1052
e + W^{31+}	Ionization	0-250 keV	Th	1052
e + W^{32+}	Ionization	0-250 keV	Th	1052
e + W^{33+}	Ionization	0-250 keV	Th	1052
e + W^{34+}	Ionization	0-250 keV	Th	1052
e + W^{35+}	Ionization	0-250 keV	Th	1052
e + W^{36+}	Ionization	0-250 keV	Th	1052
e + W^{37+}	Ionization	0-250 keV	Th	1052
e + W^{38+}	Ionization	0-250 keV	Th	1052
e + W^{39+}	Ionization	0-250 keV	Th	1052

e + W^{40+}	Ionization	0-250 keV	Th	1052
e + W^{41+}	Ionization	0-250 keV	Th	1052
e + W^{42+}	Ionization	0-250 keV	Th	1052
e + W^{43+}	Ionization	0-250 keV	Th	1052
e + W^{44+}	Ionization	0-250 keV	Th	1052
e + W^{45+}	Ionization	0-250 keV	Th	1052
e + W^{46+}	Ionization	0-250 keV	Th	1052
e + W^{47+}	Ionization	0-250 keV	Th	1052
e + W^{48+}	Ionization	0-250 keV	Th	1052
e + W^{49+}	Ionization	0-250 keV	Th	1052
e + W^{50+}	Ionization	0-250 keV	Th	1052
e + W^{51+}	Ionization	0-250 keV	Th	1052
e + W^{52+}	Ionization	0-250 keV	Th	1052
e + W^{53+}	Ionization	0-250 keV	Th	1052
e + W^{54+}	Ionization	0-250 keV	Th	1052
e + W^{55+}	Ionization	0-250 keV	Th	1052
e + W^{56+}	Ionization	0-250 keV	Th	1052
e + W^{57+}	Ionization	0-250 keV	Th	1052
e + W^{58+}	Ionization	0-250 keV	Th	1052
e + W^{59+}	Ionization	0-250 keV	Th	1052
e + W^{60+}	Ionization	0-250 keV	Th	1052
e + W^{61+}	Ionization	0-250 keV	Th	1052
e + W^{62+}	Ionization	0-250 keV	Th	1052
e + W^{63+}	Ionization	0-250 keV	Th	1052
e + W^{64+}	Ionization	0-250 keV	Th	1052
e + W^{65+}	Ionization	0-250 keV	Th	1052
e + W^{66+}	Ionization	0-250 keV	Th	1052
e + W^{67+}	Ionization	0-250 keV	Th	1052
e + W^{68+}	Ionization	0-250 keV	Th	1052
e + W^{69+}	Ionization	0-250 keV	Th	1052
e + W^{70+}	Ionization	0-250 keV	Th	1052
e + W^{71+}	Ionization	0-250 keV	Th	1052
e + W^{72+}	Ionization	0-250 keV	Th	1052
e + W^{73+}	Ionization	0-250 keV	Th	1052
e + CH_4	Dissociation	0-500 eV	Th	1053
e + He^+	Ionization	200-500 eV	Th	1054
e + H_2O	Ionization	25 eV	Th	1055
e + CF_4	Excitation	0.1-2 eV	Exp	1056
e + Na	Angular Scattering	10-75 eV	Exp	1057
e + Mg	Angular Scattering	10-75 eV	Exp	1057
e + K	Angular Scattering	10-75 eV	Exp	1057
e + Ca	Angular Scattering	10-75 eV	Exp	1057
e + Na	Ionization	10-75 eV	Exp	1057
e + Mg	Ionization	10-75 eV	Exp	1057
e + K	Ionization	10-75 eV	Exp	1057
e + Ca	Ionization	10-75 eV	Exp	1057
e + He	Angular Scattering	26.3-40.7 eV	Th	1058
e + He	Ionization	26.3-40.7 eV	Th	1058
e + CF	Attachment	0-2 eV	Th	1059
e + CF	Dissociation	0-2 eV	Th	1059
e + CF	Excitation	0-2 eV	Th	1059
e + Ar	Angular Scattering	12-24 keV	Exp	1060
e + Ar	Ionization	12-24 keV	Exp	1060
e + C_4H_8O	Elastic Scattering	2-21 eV	Exp	1061
e + CS_2	Elastic Scattering	0-10 eV	Th	1062
e + CS_2	Angular Scattering	0-10 eV	Th	1062
e + Kr	Elastic Scattering	20-260 eV	E/T	1063

e + Kr	Angular Scattering	20-260 eV	E/T	1063
e + CHF_3	Elastic Scattering	20-500 eV	Exp	1064
e + CHF_3	Angular Scattering	20-500 eV	Exp	1064
e + Ca	Elastic Scattering	10-100 eV	E/T	1065
e + Ca	Excitation	10-100 eV	Th	1066
e + He^+	Line Broadening	1.75 eV	Exp	1067
e + He^+	Fluorescence	1.75 eV	Exp	1067
e + H_2	Excitation	4087 eV	Th	1068
e + H_2	Ionization	4087 eV	Th	1068
e + Ba	Elastic Scattering	20 eV	Exp	1069
e + Ba^*	Elastic Scattering	20 eV	Exp	1069
e + Ba	Excitation	20 eV	Exp	1069
e + Ba^*	Excitation	20 eV	Exp	1069
e + Pb^+	Ionization	20-1000 eV	Exp	1070
e + Pb^{2+}	Ionization	20-1000 eV	Exp	1070
e + Pb^{3+}	Ionization	20-1000 eV	Exp	1070
e + Pb^{4+}	Ionization	20-1000 eV	Exp	1070
e + Pb^{5+}	Ionization	20-1000 eV	Exp	1070
e + Pb^{6+}	Ionization	20-1000 eV	Exp	1070
e + Pb^{7+}	Ionization	20-1000 eV	Exp	1070
e + Pb^{8+}	Ionization	20-1000 eV	Exp	1070
e + Pb^{9+}	Ionization	20-1000 eV	Exp	1070
e + Ar	Elastic Scattering	2-10 eV	Th	1071
e + Ar	Angular Scattering	2-10 eV	Th	1071
e + CO_2	Angular Scattering	20-100 eV	Exp	1072
e + CO_2	Ionization	20-100 eV	Exp	1072
e + Fe^+	Excitation	30-100,000 K	Th	1073
e + H	Elastic Scattering	0.026-218 eV	Th	1074
e + He	Elastic Scattering	0.026-218 eV	Th	1074
e + He^+	Elastic Scattering	0.026-218 eV	Th	1074
e + H	Excitation	0.026-218 eV	Th	1074
e + He	Excitation	0.026-218 eV	Th	1074
e + He^+	Excitation	0.026-218 eV	Th	1074
e + $H_2{}^+$	Ionization	20-160 eV	E/T	1075
e + Rb	Angular Scattering	20 eV	Th	1076
e + Rb	Excitation	20 eV	Th	1076
e + Rb	Elastic Scattering	15-80 eV	E/T	1077
e + Rb	Angular Scattering	15-80 eV	E/T	1077
e + Rb	Excitation	15-80 eV	E/T	1077
e + C_2F_6	Dissociation	30-1000 eV	Exp	1078
e + C_2F_6	Elastic Scattering	30-1000 eV	Exp	1078
e + C_2F_6	Angular Scattering	30-1000 eV	Exp	1078
e + C_2F_6	Ionization	30-1000 eV	Exp	1078
e + Yb	Angular Scattering	10-40 eV	Exp	1079
e + Yb	Excitation	10-40 eV	Exp	1079
e + Cs	Elastic Scattering	5-100 eV	Exp	1080
e + N	Excitation	2-120 eV	Th	1081
e + N_2	Elastic Scattering	0.8-5 eV	Exp	1082
e + N_2	Excitation	0.8-5 eV	Exp	1082
e + Li	Excitation		Th	1083
e + CH	Elastic Scattering	0.1-20 eV	Th	1084
e + CH_2	Elastic Scattering	0.1-20 eV	Th	1084
e + CH_3	Elastic Scattering	0.1-20 eV	Th	1084
e + CH_4	Elastic Scattering	0.1-20 eV	Th	1084
e + CH	Angular Scattering	0.1-20 eV	Th	1084
e + CH_2	Angular Scattering	0.1-20 eV	Th	1084
e + CH_3	Angular Scattering	0.1-20 eV	Th	1084

e + CH_4	Angular Scattering	0.1-20 eV	Th	1084
e + C^{2+}	Recombination	0-100,000 K	Th	1085
e + CH_2O	Elastic Scattering	0.008-20 eV	Th	1086
e + CH_2O	Angular Scattering	0.008-20 eV	Th	1086
e + CH_2O	Total Scattering	0.008-20 eV	Th	1086
e + O_3	Elastic Scattering	0-15 eV	Th	1087
e + O_3	Angular Scattering	0-15 eV	Th	1087
e + O_3	Total Scattering	0-15 eV	Th	1087
e + O_3	Excitation	0-15 eV	Th	1087
e + Mg	Angular Scattering	20 eV	Exp	1088
e + Mg	Excitation	20 eV	Exp	1088
e + He	Excitation	200-570 eV	E/T	1089
e + He	Ionization	200-570 eV	E/T	1089
e + H_2	Angular Scattering	12-30 eV	Th	1090
e + H_2	Excitation	12-30 eV	Th	1090
e + C^{2+}	Recombination	$10-10^7$ K	E/T	1091
e + N^{3+}	Recombination	$10-10^7$ K	E/T	1091
e + O^{4+}	Recombination	$10-10^7$ K	E/T	1091
e + Ca^{12+}	Excitation	40-200 Ry	Th	1092
e + Fe^{17+}	Excitation	0-20 Ry	Th	1093
e + Fe^{3+}	Excitation	3.3-6.0 log $T_e(k)$	Th	1094
e + Ne^{+}	Recombination	$0-10^5$ eV	Th	1095
e + Na^{2+}	Recombination	$0-10^5$ eV	Th	1095
e + Mg^{3+}	Recombination	$0-10^5$ eV	Th	1095
e + Al^{4+}	Recombination	$0-10^5$ eV	Th	1095
e + Si^{5+}	Recombination	$0-10^5$ eV	Th	1095
e + P^{6+}	Recombination	$0-10^5$ eV	Th	1095
e + S^{7+}	Recombination	$0-10^5$ eV	Th	1095
e + Cl^{8+}	Recombination	$0-10^5$ eV	Th	1095
e + Ar^{9+}	Recombination	$0-10^5$ eV	Th	1095
e + K^{10+}	Recombination	$0-10^5$ eV	Th	1095
e + Ca^{11+}	Recombination	$0-10^5$ eV	Th	1095
e + Sc^{12+}	Recombination	$0-10^5$ eV	Th	1095
e + Ti^{13+}	Recombination	$0-10^5$ eV	Th	1095
e + V^{14+}	Recombination	$0-10^5$ eV	Th	1095
e + Cr^{15+}	Recombination	$0-10^5$ eV	Th	1095
e + Mn^{16+}	Recombination	$0-10^5$ eV	Th	1095
e + Fe^{17+}	Recombination	$0-10^5$ eV	Th	1095
e + Co^{18+}	Recombination	$0-10^5$ eV	Th	1095
e + Ni^{19+}	Recombination	$0-10^5$ eV	Th	1095
e + Cu^{20+}	Recombination	$0-10^5$ eV	Th	1095
e + Zn^{21+}	Recombination	$0-10^5$ eV	Th	1095
e + Kr^{27+}	Recombination	$0-10^5$ eV	Th	1095
e + Mo^{33+}	Recombination	$0-10^5$ eV	Th	1095
e + Xe^{45+}	Recombination	$0-10^5$ eV	Th	1095
e + He^{+}	Recombination	$0-10^5$ eV	Th	1096
e + Li^{2+}	Recombination	$0-10^5$ eV	Th	1096
e + Be^{3+}	Recombination	$0-10^5$ eV	Th	1096
e + B^{4+}	Recombination	$0-10^5$ eV	Th	1096
e + C^{5+}	Recombination	$0-10^5$ eV	Th	1096
e + N^{6+}	Recombination	$0-10^5$ eV	Th	1096
e + O^{7+}	Recombination	$0-10^5$ eV	Th	1096
e + F^{8+}	Recombination	$0-10^5$ eV	Th	1096
e + Ne^{9+}	Recombination	$0-10^5$ eV	Th	1096
e + Na^{10+}	Recombination	$0-10^5$ eV	Th	1096
e + Mg^{11+}	Recombination	$0-10^5$ eV	Th	1096
e + Al^{12+}	Recombination	$0-10^5$ eV	Th	1096

e + Si^{13+}	Recombination	$0 - 10^5$ eV	Th	1096
e + P^{14+}	Recombination	$0 - 10^5$ eV	Th	1096
e + S^{15+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Cl^{16+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Ar^{17+}	Recombination	$0 - 10^5$ eV	Th	1096
e + K^{18+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Ca^{19+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Sc^{20+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Ti^{21+}	Recombination	$0 - 10^5$ eV	Th	1096
e + V^{22+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Cr^{23+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Mn^{24+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Fe^{25+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Co^{26+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Ni^{27+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Cu^{28+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Zn^{29+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Kr^{35+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Mo^{41+}	Recombination	$0 - 10^5$ eV	Th	1096
e + Xe^{53+}	Recombination	$0 - 10^5$ eV	Th	1096
e + S^{4+}	Excitation	4.0-6.0 log T(k)	Th	1097
e + Fe^{16+}	Excitation	1-100 Ry	Th	1098
e + Fe^{17+}	Excitation	1-100 Ry	Th	1098
e + Fe^{18+}	Excitation	1-100 Ry	Th	1098
e + Fe^{19+}	Excitation	1-100 Ry	Th	1098
e + Fe^{20+}	Excitation	1-100 Ry	Th	1098
e + Fe^{21+}	Excitation	1-100 Ry	Th	1098
e + Fe^{22+}	Excitation	1-100 Ry	Th	1098
e + Fe^{22+}	Recombination	0.0-100.0 eV	E/T	1099
e + H_2	Excitation	0-6 eV	Th	1100
e + Fe^{+}	Ionization	50-1000 eV	Th	1101
e + Fe^{3+}	Ionization	50-1000 eV	Th	1101
e + CH_4	Excitation	0-2000 eV	Th	1102
e + CH_4	Ionization	0-2000 eV	Th	1102
e + N_2	Ionization	35.6-400 eV	Th	1103
e + H_2	Ionization	10-60 eV	E/T	1104
e + La	Excitation	0-900 eV	Exp	1105
e + Pr	Excitation	0-900 eV	Exp	1105
e + Ho	Excitation	0-900 eV	Exp	1105
e + Tm	Excitation	0-900 eV	Exp	1105
e + Lu	Excitation	0-900 eV	Exp	1105
e + La	Ionization	0-900 eV	Exp	1105
e + Pr	Ionization	0-900 eV	Exp	1105
e + Ho	Ionization	0-900 eV	Exp	1105
e + Tm	Ionization	0-900 eV	Exp	1105
e + Lu	Ionization	0-900 eV	Exp	1105
e + Ne	Bremsstrahlung	28-50 keV	Exp	1106
e + Ar	Bremsstrahlung	28-50 keV	Exp	1106
e + Kr	Bremsstrahlung	28-50 keV	Exp	1106
e + Xe	Bremsstrahlung	28-50 keV	Exp	1106
e + Ar	Angular Scattering	750 eV	Exp	1107
e + Kr	Angular Scattering	750 eV	Exp	1107
e + Ar	Ionization	750 eV	Exp	1107
e + Kr	Ionization	750 eV	Exp	1107
e + He	Angular Scattering	6 keV; 100 MeV/amu	Th	1108
e + He	Ionization	6 keV; 100 MeV/amu	Th	1108
e + He	Elastic Scattering	1.5-20 eV	E/T	1109

$\mathbf{e + N_2}$	Elastic Scattering	1.5-20 eV	E/T	1109
$\mathbf{e + N_2O}$	Elastic Scattering	1.5-20 eV	E/T	1109
$\mathbf{e + He}$	Angular Scattering	1.5-20 eV	E/T	1109
$\mathbf{e + N_2}$	Angular Scattering	1.5-20 eV	E/T	1109
$\mathbf{e + N_2O}$	Angular Scattering	1.5-20 eV	E/T	1109
$\mathbf{e + Ne}$	Excitation	1.5-20 eV	E/T	1109
$\mathbf{e + N_2}$	Excitation	1.5-20 eV	E/T	1109
$\mathbf{e + H_2}$	Elastic Scattering	0.1-20 eV	Th	1110
$\mathbf{e + H_2}$	Angular Scattering	0.1-20 eV	Th	1110
$\mathbf{e + N_2}$	Angular Scattering	0.1-20 eV	Th	1110
$\mathbf{e + H_2}$	Excitation	0.1-20 eV	Th	1110
$\mathbf{e + N_2}$	Excitation	0.1-20 eV	Th	1110
$\mathbf{e + Ti}$	Ionization	10-120 keV	Exp	1111
$\mathbf{e + Ni}$	Ionization	10-120 keV	Exp	1111
$\mathbf{e + Cu}$	Ionization	10-120 keV	Exp	1111
$\mathbf{e + Ag}$	Ionization	10-120 keV	Exp	1111
$\mathbf{e + Au}$	Ionization	10-120 keV	Exp	1111
$\mathbf{e + CH_4}$	Ionization	10-28 keV	Exp	1112
$\mathbf{e + C_3H_8}$	Ionization	10-28 keV	Exp	1112
$\mathbf{e + B^{4+}}$	Ionization	$10-10^4$ eV	Th	1113
$\mathbf{e + C^{4+}}$	Ionization	$10-10^4$ eV	Th	1113
$\mathbf{e + N^{6+}}$	Ionization	$10-10^4$ eV	Th	1113
$\mathbf{e + O^{7+}}$	Ionization	$10-10^4$ eV	Th	1113
$\mathbf{e + Ne^{8+}}$	Ionization	$10-10^4$ eV	Th	1113
$\mathbf{e + Mo^{41+}}$	Ionization	$10-10^4$ eV	Th	1113
$\mathbf{e + Dy^{65+}}$	Ionization	$10-10^4$ eV	Th	1113
$\mathbf{e + Au^{78+}}$	Ionization	$10-10^4$ eV	Th	1113
$\mathbf{e + Bi^{82+}}$	Ionization	$10-10^4$ eV	Th	1113
$\mathbf{e + U^{90+}}$	Ionization	$10-10^4$ eV	Th	1113
$\mathbf{e + U^{91+}}$	Ionization	$10-10^4$ eV	Th	1113
$\mathbf{e + O^{6+}}$	Recombination	0.1-1260 eV	Th	1114
$\mathbf{e + N_2}$	Elastic Scattering	0-6 eV	E/T	1115
$\mathbf{e + CF_4}$	Elastic Scattering	0-6 eV	E/T	1115
$\mathbf{e + N_2}$	Angular Scattering	0-6 eV	E/T	1115
$\mathbf{e + CF_4}$	Angular Scattering	0-6 eV	E/T	1115
$\mathbf{e + N_2}$	Excitation	0-6 eV	E/T	1115
$\mathbf{e + CF_4}$	Excitation	0-6 eV	E/T	1115
$\mathbf{e + N_2}$	Electron Collisions	0-6 eV	E/T	1115
$\mathbf{e + CF_4}$	Electron Collisions	0-6 eV	E/T	1115
$\mathbf{e + He}$	Excitation	112-319 eV	E/T	1116
$\mathbf{e + He}$	Ionization	112-319 eV	E/T	1116
$\mathbf{e + H_2}$	Dissociation	250 eV	E/T	1117
$\mathbf{e + H_2}$	Angular Scattering	250 eV	E/T	1117
$\mathbf{e + H_2}$	Ionization	250 eV	E/T	1117
$\mathbf{e + Fe^{17+}}$	Excitation	0-3.0 keV	E/T	1118
$\mathbf{e + Fe^{18+}}$	Excitation	0-3.0 keV	E/T	1118
$\mathbf{e + Fe^{19+}}$	Excitation	0-3.0 keV	E/T	1118
$\mathbf{e + Fe^{20+}}$	Excitation	0-3.0 keV	E/T	1118
$\mathbf{e + Fe^{21+}}$	Excitation	0-3.0 keV	E/T	1118
$\mathbf{e + Fe^{22+}}$	Excitation	0-3.0 keV	E/T	1118
$\mathbf{e + Fe^{23+}}$	Excitation	0-3.0 keV	E/T	1118

2.2.3 Heavy Particles Collisions

$\mathbf{H^+ + H_2}$	Ionization	1-5 MeV	Exp	1119
$\mathbf{H^+ + He}$	Charge Transfer	1.4-5.8 MeV	E/T	1122

H^+ + He	Ionization	1.4-5.8 MeV	E/T	1122
H + OH	Interaction Potentials		Th	1126
H^+ + H	Charge Transfer	1-1000 eV	Th	1127
H^+ + H	Ionization	1-1000 eV	Th	1127
H^+ + He	Excitation	25 keV/u	Th	1130
H^+ + He	Ionization	25 keV/u	Th	1130
H^+ + $H_2{}^+$	Charge Transfer	4-25 keV/u	Th	1131
H^+ + $H_2{}^+$	Excitation	4-25 keV/u	Th	1131
H^+ + CO	Dissociation	10-14,000 keV	Exp	1132
H^+ + CO	Charge Transfer	10-14,000 keV	Exp	1132
H^+ + CO	Ionization	10-14,000 keV	Exp	1132
H + F	Interaction Potentials		Th	1134
H^+ + He	Interaction Potentials	0-2 eV	Th	1135
H^+ + H_2	Charge Transfer	1-1.3 MeV	E/T	1144
H^+ + H_2	Excitation	1-1.3 MeV	E/T	1144
H^+ + H_2	Ionization	4 MeV	Exp	1146
H + H	Interaction Potentials	0-4 a.u.	Th	1148
H + H_2	Interaction Potentials	2-8 a_0	E/T	1150
H^+ + H	Charge Transfer	1-100 keV	Th	1151
H^+ + H	Excitation	1-100 keV	Th	1151
H^+ + Si	Ionization	1-3 MeV	Exp	1152
H^+ + He	Total Scattering	75 keV	Th	1154
H^+ + He	Ionization	75 keV	Th	1154
H^- + He	Detachment	200 keV	Exp	1155
H^- + He	Ionization	200 keV	Exp	1155
H^+ + Na	Charge Transfer	2-100 keV	E/T	1161
H^+ + Na	Excitation	2-100 keV	E/T	1161
H^+ + Na	Ionization	2-100 keV	E/T	1161
H^+ + S^{3+}	Excitation	100-40,000 eV	Th	1163
H^+ + Ar^{13+}	Excitation	100-40,000 eV	Th	1163
H^+ + Fe^{13+}	Excitation	100-40,000 eV	Th	1163
H^+ + CO_2	Dissociation	6 MeV	E/T	1169
H^+ + CO_2	Ionization	6 MeV	E/T	1169
H^+ + H	Charge Transfer	1-1000 keV	E/T	1174
H^+ + H	Excitation	1-1000 keV	E/T	1174
H^+ + H_2O	Dissociation	3-24 keV	Exp	1175
H^+ + H_2O	Ionization	3-24 keV	Exp	1175
H^+ + Na	Excitation	0.5-50 keV	E/T	1176
H + D	Association	10-1000 deg K	Th	1177
H + D	Interaction Potentials	10-1000 deg K	Th	1177
H + D	Fluorescence	10-1000 deg K	Th	1177
H + SiO	Excitation	2000-4000 K	Th	1185
H^+ + H_2O	Charge Transfer	10-10,000 eV	Th	1187
H^+ + H_2	Interchange reaction	0.0-2.0 eV	Th	1189
H^+ + D_2	Interchange reaction	0.0-2.0 eV	Th	1189
H^+ + CO	Elastic Scattering	9.5 eV	Th	1195
H^+ + CO	Charge Transfer	9.5 eV	Th	1195
H^+ + H	Ionization	$10^{-3} - 10$ MeV	Th	1207
H^+ + He	Ionization	$10^{-3} - 10$ MeV	Th	1207
H^+ + Ti	Ionization	$10^{-3} - 10$ MeV	Th	1207
H^+ + Cu	Ionization	$10^{-3} - 10$ MeV	Th	1207
H^+ + Se	Ionization	$10^{-3} - 10$ MeV	Th	1207
H^+ + Nb	Ionization	$10^{-3} - 10$ MeV	Th	1207
H^+ + Au	Ionization	$10^{-3} - 10$ MeV	Th	1207
H^+ + H	Charge Transfer	0.5-145 keV	Th	1208
H^+ + H	Ionization	20 keV	Th	1209
H^+ + H_2	Charge Transfer	0.5-100 eV	Th	1210

$\mathbf{H^+ + H_2^+}$	Charge Transfer	0.5-100 eV	Th	1210
$\mathbf{H^- + He}$	Ionization	5-25 keV	Th	1213
H + He	Ionization	5-25 keV	Th	1213
$\mathbf{H^+ + In}$	Ionization	1-10 MeV	Exp	1215
$\mathbf{H^+ + Sn}$	Ionization	1-10 MeV	Exp	1215
$\mathbf{H^+ + Y}$	Excitation	75-300 keV	Exp	1220
$\mathbf{H^+ + Zr}$	Excitation	75-300 keV	Exp	1220
$\mathbf{H^+ + Nb}$	Excitation	75-300 keV	Exp	1220
$\mathbf{H^+ + Mo}$	Excitation	75-300 keV	Exp	1220
$\mathbf{H^+ + Rh}$	Excitation	75-300 keV	Exp	1220
$\mathbf{H^+ + Pd}$	Excitation	75-300 keV	Exp	1220
$\mathbf{H^+ + Ag}$	Excitation	75-300 keV	Exp	1220
$\mathbf{H^+ + Sn}$	Excitation	75-300 keV	Exp	1220
$\mathbf{H^+ + Y}$	Ionization	75-300 keV	Exp	1220
$\mathbf{H^+ + Zr}$	Ionization	75-300 keV	Exp	1220
$\mathbf{H^+ + Nb}$	Ionization	75-300 keV	Exp	1220
$\mathbf{H^+ + Mo}$	Ionization	75-300 keV	Exp	1220
$\mathbf{H^+ + Rh}$	Ionization	75-300 keV	Exp	1220
$\mathbf{H^+ + Pd}$	Ionization	75-300 keV	Exp	1220
$\mathbf{H^+ + Ag}$	Ionization	75-300 keV	Exp	1220
$\mathbf{H^+ + Sn}$	Ionization	75-300 keV	Exp	1220
$\mathbf{H^+ + A}$	Excitation	0.5-3.0 MeV	Exp	1227
$\mathbf{H^+ + A}$	Ionization	0.5-3.0 MeV	Exp	1227
$\mathbf{H^+ + Ta}$	Excitation	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + W}$	Excitation	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + Pt}$	Excitation	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + Au}$	Excitation	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + Pb}$	Excitation	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + Bi}$	Excitation	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + Ta}$	Ionization	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + W}$	Ionization	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + Pt}$	Ionization	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + Au}$	Ionization	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + Pb}$	Ionization	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + Bi}$	Ionization	0.7-2.4 MeV	Exp	1228
$\mathbf{H^+ + C}$	Elastic Scattering	1.8-6.0 MeV	Exp	1229
$\mathbf{H^+ + Si}$	Elastic Scattering	1.8-6.0 MeV	Exp	1229
$\mathbf{H^+ + C}$	Interaction Potentials	1.8-6.0 MeV	Exp	1229
$\mathbf{H^+ + Si}$	Interaction Potentials	1.8-6.0 MeV	Exp	1229
$\mathbf{H^+ + Sm}$	Excitation	1-2.5 MeV	E/T	1230
$\mathbf{H^+ + Yb}$	Excitation	1-2.5 MeV	E/T	1230
$\mathbf{H^+ + Sm}$	Ionization	1-2.5 MeV	E/T	1230
$\mathbf{H^+ + Yb}$	Ionization	1-2.5 MeV	E/T	1230
$\mathbf{H^+ + Cr}$	Excitation	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + Cu}$	Excitation	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + Ge}$	Excitation	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + Ag}$	Excitation	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + W}$	Excitation	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + Au}$	Excitation	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + Cr}$	Ionization	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + Cu}$	Ionization	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + Ge}$	Ionization	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + Ag}$	Ionization	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + W}$	Ionization	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + Au}$	Ionization	0.3-3.5 MeV	Exp	1232
$\mathbf{H^+ + Li}$	Elastic Scattering	3-7 MeV	Exp	1233
$\mathbf{H^+ + C}$	Elastic Scattering	3-7 MeV	Exp	1233

$\mathbf{H^+ + F}$	Elastic Scattering	3-7 MeV	Exp	1233
$\mathbf{H^+ + Li}$	Excitation	3-5.7 MeV	Exp	1234
$\mathbf{H^+ + F}$	Excitation	3-5.7 MeV	Exp	1234
$\mathbf{H^+ + Li}$	Ionization	3-5.7 MeV	Exp	1234
$\mathbf{H^+ + F}$	Ionization	3-5.7 MeV	Exp	1234
$\mathbf{H^+ + Si}$	Ionization	100 keV	E/T	1236
$\mathbf{H^+ + Y}$	Ionization	100 keV	E/T	1236
$\mathbf{He^{2+} + C^{5+}}$	Charge Transfer	30-10,000 keV/u	Th	1124
$\mathbf{He^{2+} + C^{5+}}$	Ionization	30-10,000 keV/u	Th	1124
$\mathbf{He^{2+} + H_2{}^+}$	Charge Transfer	6 keV/u	Th	1125
$\mathbf{He^+ + He}$	Excitation	25 keV/u	Th	1130
$\mathbf{He^+ + He}$	Ionization	25 keV/u	Th	1130
$\mathbf{He^{2+} + H_2{}^+}$	Charge Transfer	4-25 keV/u	Th	1131
$\mathbf{He^{2+} + H_2{}^+}$	Excitation	4-25 keV/u	Th	1131
$\mathbf{He^{2+} + CO_2}$	Charge Transfer	25-400 eV/amu	Exp	1141
$\mathbf{He^{2+} + N_2}$	Charge Transfer	25-400 eV/amu	Exp	1141
$\mathbf{He^{2+} + NH_3}$	Charge Transfer	25-400 eV/amu	Exp	1141
$\mathbf{He^{2+} + O_2}$	Charge Transfer	25-400 eV/amu	Exp	1141
$\mathbf{He^+ + He}$	Ionization	20-40 keV	Exp	1145
$\mathbf{He^{2+} + He}$	Ionization	20-40 keV	Exp	1145
$\mathbf{He^{2+} + H_2O}$	Ionization	6-10 MeV/u	Exp	1156
$\mathbf{He^{2+} + H_2}$	Dissociation	1-2 a.u.	Exp	1158
$\mathbf{He^{2+} + H_2}$	Total Scattering	1-2 a.u.	Exp	1158
$\mathbf{He^{2+} + H_2O}$	Dissociation	1-5 keV	Th	1162
$\mathbf{He^+ + CF_4}$	Fluorescence	1-5000 eV	Exp	1171
$\mathbf{He^+ + H_2O}$	Dissociation	3-24 keV	Exp	1175
$\mathbf{He^{2+} + H_2O}$	Dissociation	3-24 keV	Exp	1175
$\mathbf{He^+ + H_2O}$	Ionization	3-24 keV	Exp	1175
$\mathbf{He^{2+} + H_2O}$	Ionization	3-24 keV	Exp	1175
He + SO	Excitation	50-300 K	Th	1180
He + CS	Interchange reaction	10-300 K	Th	1181
$\mathbf{He^{2+} + H_2O}$	Charge Transfer	0.2-10.0 keV/amu	Exp	1186
$\mathbf{He^{2+} + CH_4}$	Charge Transfer	0.2-10.0 keV/amu	Exp	1186
$\mathbf{He^{2+} + CO}$	Charge Transfer	0.2-10.0 keV/amu	Exp	1186
$\mathbf{He^{2+} + CO_2}$	Charge Transfer	0.2-10.0 keV/amu	Exp	1186
$\mathbf{He^{2+} + H_2}$	Charge Transfer	0.5-145 keV	Th	1208
$\mathbf{He^{2+} + In}$	Ionization	1-10 MeV	Exp	1215
$\mathbf{He^{2+} + Sn}$	Ionization	1-10 MeV	Exp	1215
$\mathbf{He^+ + Er}$	Ionization	0.75-6.0 MeV	E/T	1216
$\mathbf{He^+ + Yb}$	Ionization	0.75-6.0 MeV	E/T	1216
$\mathbf{He^+ + Lu}$	Ionization	0.75-6.0 MeV	E/T	1216
$\mathbf{He^{2+} + C}$	Elastic Scattering	8-11.7 MeV	Exp	1235
$\mathbf{He^{2+} + C}$	Total Scattering	8-11.7 MeV	Exp	1235
Li + Li	Association	600-1200 K	Th	1129
Li + Li	Ionization	600-1200 K	Th	1129
$\mathbf{Li^{2+} + He^{2+}}$	Charge Transfer	6-148 keV	Exp	1159
$\mathbf{Li^{2+} + Li^{3+}}$	Charge Transfer	6-148 keV	Exp	1159
$\mathbf{Li + H_2}$	Interchange reaction	0.0-2.0 eV	Th	1192
$\mathbf{Li^{2+} + In}$	Ionization	1-10 MeV	Exp	1215
$\mathbf{Li^{2+} + Sn}$	Ionization	1-10 MeV	Exp	1215
$\mathbf{Li^{3+} + In}$	Ionization	1-10 MeV	Exp	1215
$\mathbf{Li^{3+} + Sn}$	Ionization	1-10 MeV	Exp	1215
$\mathbf{Be + H_2}$	Interaction Potentials		Th	1134
$\mathbf{Be^+ + Cr}$	Excitation	0.3-3.5 MeV	Exp	1232
$\mathbf{Be^+ + Cu}$	Excitation	0.3-3.5 MeV	Exp	1232
$\mathbf{Be^+ + Ge}$	Excitation	0.3-3.5 MeV	Exp	1232
$\mathbf{Be^+ + Ag}$	Excitation	0.3-3.5 MeV	Exp	1232

Be^{+} + W	Excitation	0.3-3.5 MeV	Exp	1232
Be^{+} + Au	Excitation	0.3-3.5 MeV	Exp	1232
Be^{+} + Cr	Ionization	0.3-3.5 MeV	Exp	1232
Be^{+} + Cu	Ionization	0.3-3.5 MeV	Exp	1232
Be^{+} + Ge	Ionization	0.3-3.5 MeV	Exp	1232
Be^{+} + Ag	Ionization	0.3-3.5 MeV	Exp	1232
Be^{+} + W	Ionization	0.3-3.5 MeV	Exp	1232
Be^{+} + Au	Ionization	0.3-3.5 MeV	Exp	1232
B + H	Interaction Potentials		Th	1134
C^{3+} + Ne	Charge Transfer	1-5 MeV	E/T	1120
C^{3+} + Ne	Ionization	1-5 MeV	E/T	1120
C^{6+} + H	Charge Transfer	1-1000 eV	Th	1123
C^{4+} + CH_4	Charge Transfer	200-1500 eV/u	Exp	1128
C + H_2	Interaction Potentials		Th	1134
C^{-} + H_2	Dissociation	v=1.07-2.14 a.u.	Exp	1138
C^{-} + H_2	Ionization	v=1.07-2.14 a.u.	Exp	1138
C^{4+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164
C^{5+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164
C^{6+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164
C^{4+} + C	Ionization	100-40,000 keV/u	E/T	1164
C^{5+} + C	Ionization	100-40,000 keV/u	E/T	1164
C^{6+} + C	Ionization	100-40,000 keV/u	E/T	1164
C^{4+} + H	Charge Transfer	3-11 a.u.	Th	1170
C^{4+} + H	Interaction Potentials	3-11 a.u.	Th	1170
C^{5+} + He	Total Scattering	3.5-75 MeV	Th	1173
C^{5+} + He	Ionization	3.5-75 MeV	Th	1173
C^{+} + H	Association	0-1000 K	Th	1184
C + H_2	Interchange reaction	80 MeV	Th	1202
C^{4+} + La	Ionization	35-60 MeV	Exp	1211
C^{4+} + Ce	Ionization	35-60 MeV	Exp	1211
C^{4+} + Nd	Ionization	35-60 MeV	Exp	1211
C^{4+} + Sm	Ionization	35-60 MeV	Exp	1211
C^{6+} + He	Total Scattering	6 keV; 100 MeV/amu	Th	1212
C^{6+} + He	Ionization	6 keV; 100 MeV/amu	Th	1212
C^{6+} + H_2	Charge Transfer	1-5 MeV	Exp	1217
C^{6+} + D_2	Charge Transfer	1-5 MeV	Exp	1217
C^{6+} + H	Total Scattering	2.5 MeV/amu	Th	1223
C^{6+} + H	Ionization	2.5 MeV/amu	Th	1223
N + N	Interaction Potentials		Th	1134
N + H_3	Interaction Potentials		Th	1134
N^{2+} + H	Charge Transfer	0.001-10,000 eV	Th	1183
N + H_2	Interchange reaction	0.0-0.5 eV	Th	1191
N + H_2	Interchange reaction	9,909,5 eV	Th	1194
N + H_2	Interchange reaction	1.0 eV	Th	1205
N^{7+} + O	Charge Transfer	1-100 eV/u	Th	1221
N^{7+} + O	Excitation	1-100 eV/u	Th	1221
O + H + H	Interaction Potentials		Th	1126
O + H_2	Interaction Potentials		Th	1126
O^{6+} + H_2O	Charge Transfer	200-1500 eV/u	Exp	1128
O^{6+} + CH_4	Charge Transfer	200-1500 eV/u	Exp	1128
O^{6+} + CO_2	Charge Transfer	200-1500 eV/u	Exp	1128
O^{-} + H_2	Dissociation	v=1.07-2.14 a.u.	Exp	1138
O^{-} + N_2	Dissociation	v=1.07-2.14 a.u.	Exp	1138
O^{-} + H_2	Ionization	v=1.07-2.14 a.u.	Exp	1138
O^{-} + N_2	Ionization	v=1.07-2.14 a.u.	Exp	1138
O^{7+} + He	Excitation	0.1-100 GeV/u	Th	1153
O^{7+} + He	Ionization	0.1-100 GeV/u	Th	1153

O^{6+} + Na	Charge Transfer	1-9 keV/u	E/T	1168
O^{6+} + Na	Ionization	1-9 keV/u	E/T	1168
O^{7+} + He	Total Scattering	3.5-75 MeV	Th	1173
O^{7+} + He	Ionization	3.5-75 MeV	Th	1173
O^{2+} + H	Charge Transfer	0.001-10,000 eV	Th	1183
O^{+} + H_2	Charge Transfer	10-10,000 eV	Th	1187
O^{+} + H_2	Interchange reaction	0.01-6.0 eV	Th	1188
O^{+} + HD	Interchange reaction	0.01-6.0 eV	Th	1188
O^{+} + D_2	Interchange reaction	0.01-6.0 eV	Th	1188
O + H_2	Interchange reaction	0-0.6 eV	Th	1197
O^{+} + H_2	Interchange reaction	0.00-0.75 eV	Th	1200
O + H	Excitation	1000-10,000 K	Th	1206
O^{5+} + H_2	Charge Transfer	0.5-145 keV	Th	1208
O^{5+} + La	Ionization	35-60 MeV	Exp	1211
O^{5+} + Ce	Ionization	35-60 MeV	Exp	1211
O^{5+} + Nd	Ionization	35-60 MeV	Exp	1211
O^{5+} + Sm	Ionization	35-60 MeV	Exp	1211
O^{5+} + CO	Excitation	2.2 keV/amu	Exp	1219
O^{8+} + H	Charge Transfer	1-100 eV/u	Th	1221
O^{8+} + H	Excitation	1-100 eV/u	Th	1221
O^{3+} + He	Excitation	32 MeV	Exp	1224
O^{3+} + He	Ionization	32 MeV	Exp	1224
O^{7+} + CO	Dissociation	6.7-13.6 MeV/u	Exp	1226
F^{2+} + H	Charge Transfer	0.02-10 keV/u	Th	1147
F^{2+} + H	Excitation	0.02-10 keV/u	Th	1147
F + H_2	Interchange reaction	1.18-4.00 kcal/mol	Exp	1204
F + HD	Interchange reaction	1.18-4.00 kcal/mol	Exp	1204
Ne^{8+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164
Ne^{9+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164
Ne^{10+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164
Ne^{8+} + C	Ionization	100-40,000 keV/u	E/T	1164
Ne^{9+} + C	Ionization	100-40,000 keV/u	E/T	1164
Ne^{10+} + C	Ionization	100-40,000 keV/u	E/T	1164
Ne^{+} + CF_4	Fluorescence	1-5000 eV	Exp	1171
Ne^{2+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp	1214
Ne^{2+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp	1214
Ne^{2+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp	1214
Ne^{3+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp	1214
Ne^{3+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp	1214
Ne^{3+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp	1214
Ne^{4+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp	1214
Ne^{4+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp	1214
Ne^{4+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp	1214
Na + Na	Association	600-1200 K	Th	1129
Na + Na	Ionization	600-1200 K	Th	1129
Na + Rb	Interaction Potentials	2-14 $\AA$	Exp	1149
Na + Na	Association	420-630 K	E/T	1178
Na^{*} + Na	Association	420-630 K	E/T	1178
Mg^{10+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164
Mg^{11+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164
Mg^{12+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164
Mg^{10+} + C	Ionization	100-40,000 keV/u	E/T	1164
Mg^{11+} + C	Ionization	100-40,000 keV/u	E/T	1164
Mg^{12+} + C	Ionization	100-40,000 keV/u	E/T	1164
Si^{12+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164
Si^{13+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164
Si^{14+} + C	Charge Transfer	100-40,000 keV/u	E/T	1164

$\mathbf{Si^{12+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Si^{13+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Si^{14+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Si^{15+} + H_2}$	Dissociation	6.7-13.6 MeV/u	Exp	1226
$\mathbf{Si^{15+} + D_2}$	Dissociation	6.7-13.6 MeV/u	Exp	1226
$\mathbf{S^{2+} + He}$	Charge Transfer	1-10,000 eV	Th	1139
$\mathbf{S^{2+} + He}$	Interaction Potentials	1-10,000 eV	Th	1139
$\mathbf{S^{-} + N}$	Interaction Potentials	2-6 bohr	Th	1172
$\mathbf{S + N^{-}}$	Interaction Potentials	2-6 bohr	Th	1172
$\mathbf{S^{15+} + H_2}$	Dissociation	13.6 MeV/u	Exp	1237
$\mathbf{S^{15+} + D_2}$	Dissociation	13.6 MeV/u	Exp	1237
$\mathbf{S^{15+} + H_2}$	Excitation	13.6 MeV/u	Exp	1237
$\mathbf{S^{15+} + D_2}$	Excitation	13.6 MeV/u	Exp	1237
$\mathbf{S^{15+} + H_2}$	Ionization	13.6 MeV/u	Exp	1237
$\mathbf{S^{15+} + D_2}$	Ionization	13.6 MeV/u	Exp	1237
$\mathbf{Cl^{4+} + H_2}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{17+} + H}$	Charge Transfer	80 keV	E/T	1140
$\mathbf{Ar^{17+} + D}$	Charge Transfer	80 keV	E/T	1140
$\mathbf{Ar^{13+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{14+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{15+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{16+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{17+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{18+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{13+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{14+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{15+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{16+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{17+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{18+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Ar^{2+} + H_2}$	Charge Transfer	0.5-145 keV	Th	1208
$\mathbf{Ar^{+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{Ar^{+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{Ar^{+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{Ar^{2+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{Ar^{2+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{Ar^{2+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{Ar^{11+} + H_2}$	Charge Transfer	1-5 MeV	Exp	1217
$\mathbf{Ar^{11+} + D_2}$	Charge Transfer	1-5 MeV	Exp	1217
$\mathbf{Ar^{4+} + N_2}$	Charge Transfer	200-250 eV	Exp	1218
$\mathbf{Ar^{4+} + O_2}$	Charge Transfer	200-250 eV	Exp	1218
$\mathbf{Ar^{4+} + CF_4}$	Charge Transfer	200-250 eV	Exp	1218
$\mathbf{Ar^{5+} + N_2}$	Charge Transfer	200-250 eV	Exp	1218
$\mathbf{Ar^{5+} + O_2}$	Charge Transfer	200-250 eV	Exp	1218
$\mathbf{Ar^{5+} + CF_4}$	Charge Transfer	200-250 eV	Exp	1218
$\mathbf{Ar^{4+} + N_2}$	Interaction Potentials	200-250 eV	Exp	1218
$\mathbf{Ar^{4+} + O_2}$	Interaction Potentials	200-250 eV	Exp	1218
$\mathbf{Ar^{4+} + CF_4}$	Interaction Potentials	200-250 eV	Exp	1218
$\mathbf{Ar^{5+} + N_2}$	Interaction Potentials	200-250 eV	Exp	1218
$\mathbf{Ar^{5+} + O_2}$	Interaction Potentials	200-250 eV	Exp	1218
$\mathbf{Ar^{5+} + CF_4}$	Interaction Potentials	200-250 eV	Exp	1218
$\mathbf{K + Rb}$	Association	Ultracold	Exp	1133
$\mathbf{K + Rb}$	Interaction Potentials	Ultracold	Exp	1133
$\mathbf{Sc + He}$	Interaction Potentials		Th	1136
$\mathbf{Ti + He}$	Interaction Potentials		Th	1136
$\mathbf{Fe^{19+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{20+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164

$\mathbf{Fe^{21+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{22+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{23+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{24+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{25+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{26+} + C}$	Charge Transfer	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{19+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{20+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{21+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{22+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{23+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{24+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{25+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{26+} + C}$	Ionization	100-40,000 keV/u	E/T	1164
$\mathbf{Fe^{24+} + N_2}$	Charge Transfer	10 eV/amu	Exp	1182
$\mathbf{Fe^{25+} + N_2}$	Charge Transfer	10 eV/amu	Exp	1182
$\mathbf{Ni^{25+} + H_2O}$	Dissociation	11.7 MeV	E/T	1160
$\mathbf{Ni^{25+} + HDO}$	Dissociation	11.7 MeV	E/T	1160
$\mathbf{Ni^{25+} + H_2O}$	Charge Transfer	11.7 MeV	E/T	1160
$\mathbf{Ni^{25+} + HDO}$	Charge Transfer	11.7 MeV	E/T	1160
$\mathbf{Ni^{25+} + H_2O}$	Ionization	11.7 MeV	E/T	1160
$\mathbf{Ni^{25+} + HDO}$	Ionization	11.7 MeV	E/T	1160
$\mathbf{Ni^{24+} + CO_2}$	Dissociation	6.7-13.6 MeV/u	Exp	1226
$\mathbf{Ni^{25+} + H_2O}$	Dissociation	6.7-13.6 MeV/u	Exp	1226
$\mathbf{Ni^{25+} + HDO}$	Dissociation	6.7-13.6 MeV/u	Exp	1226
$\mathbf{Kr^{35+} + H}$	Excitation	0.1-100 GeV/u	Th	1153
$\mathbf{Kr^{35+} + H}$	Ionization	0.1-100 GeV/u	Th	1153
Sr + He	Line Broadening	660-1390 K	Exp	1121
Sr + Ne	Line Broadening	660-1390 K	Exp	1121
Sr + Ar	Line Broadening	660-1390 K	Exp	1121
Sr + Kr	Line Broadening	660-1390 K	Exp	1121
Sr + Xe	Line Broadening	660-1390 K	Exp	1121
Sr + He	Interaction Potentials	660-1390 K	Exp	1121
Sr + Ne	Interaction Potentials	660-1390 K	Exp	1121
Sr + Ar	Interaction Potentials	660-1390 K	Exp	1121
Sr + Kr	Interaction Potentials	660-1390 K	Exp	1121
Sr + Xe	Interaction Potentials	660-1390 K	Exp	1121
$\mathbf{Xe^{3+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{Xe^{3+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{Xe^{3+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{Xe^{44+} + H_2O}$	Dissociation	6.7-13.6 MeV/u	Exp	1226
$\mathbf{Au^{24+} + He}$	Total Scattering	3.6 MeV/u	Th	1157
$\mathbf{Au^{53+} + He}$	Total Scattering	3.6 MeV/u	Th	1157
$\mathbf{Au^{24+} + He}$	Ionization	3.6 MeV/u	Th	1157
$\mathbf{Au^{53+} + He}$	Ionization	3.6 MeV/u	Th	1157
$\mathbf{U^{91+} + H^+}$	Ionization	1 GeV/u	Th	1165
$\mathbf{U^{92+} + H_2{}^+}$	Ionization	1 GeV/u	Th	1166
$\mathbf{U^{4+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{U^{4+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{U^{4+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{U^{6+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{U^{6+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{U^{6+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{U^{10+} + Ar}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{U^{10+} + Xe}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{U^{10+} + N_2}$	Ionization	1.4-4.8 MeV/amu	Exp	1214
$\mathbf{U^{73+} + Au}$	Excitation	69 MeV/u	Exp	1225

$\mathbf{U^{86+} + Au}$	Excitation	69 MeV/u	Exp	1225
$\mathbf{U^{88+} + Au}$	Excitation	69 MeV/u	Exp	1225
$\mathbf{U^{91+} + Au}$	Excitation	69 MeV/u	Exp	1225
$\mathbf{H_2 + O}$	Interaction Potentials		Th	1134
$\mathbf{H_2 + H_2}$	Interchange reaction	0.0-6.0 eV	Th	1193
$\mathbf{H_2 + CO}$	Excitation	$10^{-6} - 15,000\ cm^{-1}$	Th	1198
$\mathbf{H_2 + C_2H}$	Interchange reaction	0-1.0 eV	Th	1203
$\mathbf{H_2{}^+ + H}$	Charge Transfer	0.5-100 eV	Th	1210
$\mathbf{H_3{}^+ + He}$	Dissociation	1-5 keV	Exp	1231
$\mathbf{H_3{}^+ + He}$	Total Scattering	1-5 keV	Exp	1231
$\mathbf{HD_2{}^+ + He}$	Dissociation	1-5 keV	Exp	1231
$\mathbf{HD_2{}^+ + He}$	Total Scattering	1-5 keV	Exp	1231
$\mathbf{D^+ + H_2}$	Interchange reaction	0.0-2.0 eV	Th	1189
$\mathbf{D + OH}$	Interchange reaction	0-500 K	Th	1190
$\mathbf{D_3{}^+ + He}$	Dissociation	1-5 keV	Exp	1231
$\mathbf{D_3{}^+ + He}$	Total Scattering	1-5 keV	Exp	1231
$\mathbf{CH + H_3}$	Interaction Potentials		Th	1134
$\mathbf{CH^+ + O^-}$	Interchange reaction	0.01-10.00 eV	Exp	1201
$\mathbf{CH_4 + CH_4}$	Interchange reaction	163-297 K	Th	1143
$\mathbf{CH_4 + CH_4}$	Energy Transfer	163-297 K	Th	1143
$\mathbf{CO + H_2}$	Excitation	1-520 cm^{-1}	Th	1179
$\mathbf{N_2{}^+ + He}$	De-excitation	$10^{-6} - 2000\ cm^{-1}$	Th	1142
$\mathbf{N_2{}^+ + He}$	Dissociation	1-5 keV	Exp	1222
$\mathbf{N_2{}^+ + Ar}$	Dissociation	1-5 keV	Exp	1222
$\mathbf{N_2{}^+ + He}$	Total Scattering	1-5 keV	Exp	1222
$\mathbf{N_2{}^+ + Ar}$	Total Scattering	1-5 keV	Exp	1222
$\mathbf{Ne_2 + H_2}$	Line Broadening	300 K	Exp	1167
$\mathbf{Ne_2{}^* + H_2}$	Line Broadening	300 K	Exp	1167
$\mathbf{Ne_2 + H_2}$	Dissociation	300 K	Exp	1167
$\mathbf{Ne_2{}^* + H_2}$	Dissociation	300 K	Exp	1167
$\mathbf{Ne_2 + H_2}$	Energy Transfer	300 K	Exp	1167
$\mathbf{Ne_2{}^* + H_2}$	Energy Transfer	300 K	Exp	1167
$\mathbf{Ne_2 + H_2}$	Excitation	300 K	Exp	1167
$\mathbf{Ne_2{}^* + H_2}$	Excitation	300 K	Exp	1167
$\mathbf{OH + H}$	Interchange reaction	100-1000 K	Th	1196
$\mathbf{OH + D}$	Interchange reaction	100-1000 K	Th	1196
$\mathbf{OH^- + C_2H_2}$	Interchange reaction	0.37-1.40 eV	E/T	1199
$\mathbf{C_3{}^+ + He}$	Ionization	v=2.6 a.u.	Exp	1137
$\mathbf{C_5{}^+ + He}$	Ionization	v=2.6 a.u.	Exp	1137
$\mathbf{C_8{}^+ + He}$	Ionization	v=2.6 a.u.	Exp	1137
$\mathbf{C_{10}{}^+ + He}$	Ionization	v=2.6 a.u.	Exp	1137
$\mathbf{C_4{}^+ + He}$	Ionization	v=2.6 a.u.	Exp	1137
$\mathbf{C_7{}^+ + He}$	Ionization	v=2.6 a.u.	Exp	1137
$\mathbf{C_9{}^+ + He}$	Ionization	v=2.6 a.u.	Exp	1137
$\mathbf{C_6{}^+ + He}$	Ionization	v=2.6 a.u.	Exp	1137

2.3 Surface Interactions

$\mathbf{H^+ + Al}$	Secondary Electron Emission	100 keV	Th	1238
$\mathbf{H^+ + Al}$	Reflection	98 keV	E/T	1239
$\mathbf{H^+ + W}$	Trapping, Detrapping	20-40 keV	Exp	1245
$\mathbf{H^- + Pd}$	Neutraliz., Ioniz., Dissoc.	1 keV	Th	1262
$\mathbf{H^- + Ag}$	Neutraliz., Ioniz., Dissoc.	1 keV	Th	1262
$\mathbf{H^+ + Si}$	Surface Interactions	210-420 keV	Exp	1267
$\mathbf{H^+ + Ti}$	Trapping, Detrapping	1.7-5.0 keV	Exp	1277

H^+ + V	Trapping, Detrapping	1.7-5.0 keV	Exp	1277
H^+ + Cr	Trapping, Detrapping	1.7-5.0 keV	Exp	1277
H^+ + Ti	Trapping, Detrapping		Th	1278
H^+ + V	Trapping, Detrapping		Th	1278
H^+ + Cr	Trapping, Detrapping		Th	1278
H^+ + Si	Reflection	100 keV	E/T	1279
H^+ + Y	Reflection	100 keV	E/T	1279
H^+ + Cu	Reflection	6 eV; 5 keV	E/T	1302
H^- + Cu	Neutraliz., Ioniz., Dissoc.	6 eV; 5 keV	E/T	1302
H + Si	Reflection	1-4 keV	Th	1306
H^+ + Mg	Secondary Electron Emission	10-100 eV	Th	1312
He^+ + Al	Secondary Electron Emission	15-500 eV	Th	1242
He^+ + Cu	Secondary Electron Emission	15-500 eV	Th	1242
He^+ + Au	Secondary Electron Emission	15-500 eV	Th	1242
He^+ + Al	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th	1242
He^+ + Cu	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th	1242
He^+ + Au	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th	1242
He^+ + W	Trapping, Detrapping	1.3 MeV	Exp	1244
He^+ + W	Trapping, Detrapping	20-40 keV	Exp	1245
He^+ + W	Trapping, Detrapping	1.3 MeV	Exp	1246
He^+ + H_2O	Sputtering	15 keV	Exp	1259
He^+ + KCl	Secondary Electron Emission	2 MeV	Exp	1270
He^+ + SiO_2	Sputtering	250-550 keV	Exp	1275
He^+ + Ti	Trapping, Detrapping	1.7-5.0 keV	Exp	1277
He^+ + V	Trapping, Detrapping	1.7-5.0 keV	Exp	1277
He^+ + Cr	Trapping, Detrapping	1.7-5.0 keV	Exp	1277
He^+ + SiC	Trapping, Detrapping		Th	1278
He^+ + Ar	Sputtering	0-10 keV	E/T	1300
He^+ + CH_4	Sputtering	0-10 keV	E/T	1300
He^+ + N_2	Sputtering	0-10 keV	E/T	1300
He^+ + SiH	Reflection	3 keV	Exp	1301
He^+ + SiH	Secondary Electron Emission	3 keV	Exp	1301
He^+ + Xe	Reflection	10-500 eV	Exp	1309
He^+ + Xe	Secondary Electron Emission	10-500 eV	Exp	1309
Li^+ + Li	Sputtering	200-1000 eV	Th	1257
C^+ + U	Chemical Reactions	33 keV	Exp	1304
O^{8+} + C	Secondary Electron Emission	2 keV/amu	Exp	1261
O^{8+} + Si	Secondary Electron Emission	2 keV/amu	Exp	1261
O^{8+} + Au	Secondary Electron Emission	2 keV/amu	Exp	1261
O^{8+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp	1261
Ne^+ + Mg	Reflection	100-400 eV	Exp	1241
Ne^+ + Al	Reflection	100-400 eV	Exp	1241
Ne^+ + Si	Reflection	100-400 eV	Exp	1241
Ne^+ + P	Reflection	100-400 eV	Exp	1241
Ne^+ + Mg	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp	1241
Ne^+ + Al	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp	1241
Ne^+ + Si	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp	1241
Ne^+ + P	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp	1241
Ne^+ + PERT	Sputtering	1-5 keV	Exp	1255
Ne^+ + Mg	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Al	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Si	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Ti	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Y	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Zr	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Nb	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Te	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269

Ne^+ + Nd	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Gd	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Dy	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Ta	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Au	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + Hf	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + At	Neutraliz., Ioniz., Dissoc.	320 eV	Exp	1269
Ne^+ + MgO	Secondary Electron Emission	0-2000 eV	Exp	1276
Ne + Al	Secondary Electron Emission	3-5 keV	Exp	1281
Na^+ + Ru	Secondary Electron Emission	50 eV	Exp	1286
Na^+ + Au	Sputtering	50 eV	Exp	1286
Na^+ + CeO_2	Reflection	1-4.5 keV	Exp	1308
Si^+ + Al	Sputtering	1-5 keV	E/T	1288
Ar^+ + PERT	Sputtering	1-5 keV	Exp	1255
Ar^+ + H_2O	Sputtering	15 keV	Exp	1259
Ar^+ + Ni	Sputtering	2 keV	Th	1263
Ar^+ + Cu	Sputtering	2 keV	Th	1263
Ar^{15+} + Be	Reflection		Exp	1265
Ar^{16+} + Be	Reflection		Exp	1265
Ar^{17+} + Be	Reflection		Exp	1265
Ar^{18+} + Be	Reflection		Exp	1265
Ar^+ + Ge	Sputtering	1-5 keV	Exp	1266
Ar^+ + GeH_4	Sputtering	1-5 keV	Exp	1266
Ar^+ + SiH_4	Sputtering	1-5 keV	Exp	1266
Ar + Si	Reflection	3 keV	Th	1268
Ar^+ + C	Sputtering	10 keV	Exp	1273
Ar + Al	Secondary Electron Emission	3-5 keV	Exp	1281
Ar^+ + Si	Sputtering	3 keV	E/T	1284
Ar^+ + Ge	Sputtering	3 keV	E/T	1284
Ar^+ + H_2O	Sputtering	100 keV	Exp	1285
Ar^+ + Ni	Sputtering	4 keV	Exp	1287
Ar^+ + NiAl	Sputtering	4 keV	Exp	1287
Ar^+ + Ni_3Al	Sputtering	4 keV	Exp	1287
Ar^+ + Pt	Reflection	5 keV	Th	1303
Ar^+ + Pt	Sputtering	5 keV	Th	1303
Ar^+ + NiAl	Sputtering	4 keV	Exp	1310
Ar^+ + Ni_3Al	Sputtering	4 keV	Exp	1310
K + Na	Adsorption, Desorption	300 deg K; 200 eV	Exp	1292
K + SiO_2	Adsorption, Desorption	300 deg K; 200 eV	Exp	1292
Kr^+ + Al	Sputtering	20-160 keV	Exp	1258
Kr^+ + Be	Surface Interactions	5 keV	Exp	1274
Kr^+ + BeO	Surface Interactions	5 keV	Exp	1274
Kr^+ + Be	Sputtering	5 keV	Exp	1274
Kr^+ + BeO	Sputtering	5 keV	Exp	1274
Kr^+ + Al	Secondary Electron Emission	1-8 keV	Exp	1282
Xe^+ + Mo	Sputtering	30-125 eV	Exp	1253
Xe^+ + Ta	Sputtering	30-125 eV	Exp	1253
Xe^+ + W	Sputtering	30-125 eV	Exp	1253
Xe^+ + PERT	Sputtering	1-5 keV	Exp	1255
Xe^+ + Au	Sputtering	0.1-200 keV	Th	1256
Xe^{12+} + C	Secondary Electron Emission	2 keV/amu	Exp	1261
Xe^{12+} + Si	Secondary Electron Emission	2 keV/amu	Exp	1261
Xe^{12+} + Au	Secondary Electron Emission	2 keV/amu	Exp	1261
Xe^{12+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp	1261
Xe^{20+} + C	Secondary Electron Emission	2 keV/amu	Exp	1261
Xe^{20+} + Si	Secondary Electron Emission	2 keV/amu	Exp	1261
Xe^{20+} + Au	Secondary Electron Emission	2 keV/amu	Exp	1261

$\mathbf{Xe^{20+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{24+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{24+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{24+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{24+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{26+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{26+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{26+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{26+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{28+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{28+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{28+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{28+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{30+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{30+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{30+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{30+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{34+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{34+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{34+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{34+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{38+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{38+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{38+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{38+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{40+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{40+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{40+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{40+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{44+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{44+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{44+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{44+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{48+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{48+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{48+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{48+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{52+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{52+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{52+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{52+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Xe^{6+} + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{6+} + H + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{10+} + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{10+} + H + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{11+} + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{11+} + H + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{14+} + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{14+} + H + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{19+} + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{19+} + H + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{20+} + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{20+} + H + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{22+} + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{22+} + H + Si}$	Desorption	30 keV	Exp	1272
$\mathbf{Xe^{6+} + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{6+} + H + Si}$	Sputtering	30 keV	Exp	1272

$\mathbf{Xe^{10+} + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{10+} + H + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{11+} + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{11+} + H + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{14+} + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{14+} + H + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{19+} + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{19+} + H + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{20+} + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{20+} + H + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{22+} + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{22+} + H + Si}$	Sputtering	30 keV	Exp	1272
$\mathbf{Xe^{26+} + Si}$	Desorption	520-1000 keV	Exp	1299
$\mathbf{Xe^{26+} + H_2 + Si}$	Desorption	520-1000 keV	Exp	1299
$\mathbf{Xe^{34+} + Si}$	Desorption	520-1000 keV	Exp	1299
$\mathbf{Xe^{34+} + H_2 + Si}$	Desorption	520-1000 keV	Exp	1299
$\mathbf{Xe^{44+} + Si}$	Desorption	520-1000 keV	Exp	1299
$\mathbf{Xe^{44+} + H_2 + Si}$	Desorption	520-1000 keV	Exp	1299
$\mathbf{Xe^{50+} + Si}$	Desorption	520-1000 keV	Exp	1299
$\mathbf{Xe^{50+} + H_2 + Si}$	Desorption	520-1000 keV	Exp	1299
$\mathbf{Xe^{26+} + Si}$	Sputtering	520-1000 keV	Exp	1299
$\mathbf{Xe^{26+} + H_2 + Si}$	Sputtering	520-1000 keV	Exp	1299
$\mathbf{Xe^{34+} + Si}$	Sputtering	520-1000 keV	Exp	1299
$\mathbf{Xe^{34+} + H_2 + Si}$	Sputtering	520-1000 keV	Exp	1299
$\mathbf{Xe^{44+} + Si}$	Sputtering	520-1000 keV	Exp	1299
$\mathbf{Xe^{44+} + H_2 + Si}$	Sputtering	520-1000 keV	Exp	1299
$\mathbf{Xe^{50+} + Si}$	Sputtering	520-1000 keV	Exp	1299
$\mathbf{Xe^{50+} + H_2 + Si}$	Sputtering	520-1000 keV	Exp	1299
$\mathbf{Au^{52+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{52+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{52+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{52+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{58+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{58+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{58+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{58+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{64+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{64+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{64+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{64+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{69+} + C}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{69+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{69+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{69+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp	1261
$\mathbf{Au^{+} + ZnS}$	Sputtering	2 MeV	Exp	1271
$\mathbf{h\nu + H_2O}$	Desorption	0.32-0.42 eV	Exp	1247
$\mathbf{h\nu + Si}$	Desorption	98-690 eV	Exp	1248
$\mathbf{h\nu + TiO_2}$	Desorption	98-690 eV	Exp	1248
$\mathbf{h\nu + SiO_2}$	Desorption	98-690 eV	Exp	1248
$\mathbf{h\nu + H_2O + Si}$	Desorption	98-690 eV	Exp	1248
$\mathbf{h\nu + H_2O + SiO_2}$	Desorption	98-690 eV	Exp	1248
$\mathbf{h\nu + Pt}$	Desorption		Th	1249
$\mathbf{h\nu + NO + Pt}$	Desorption		Th	1249
$\mathbf{h\nu + C}$	Desorption	150-600 eV	Exp	1250
$\mathbf{h\nu + H + C}$	Desorption	150-600 eV	Exp	1250
$\mathbf{h\nu + D + C}$	Desorption	150-600 eV	Exp	1250
$\mathbf{h\nu + RbI}$	Desorption	4-6 eV	Exp	1251

hν + Ne	Desorption	16-22 eV	Exp	1252
hν + Ar	Desorption	16-22 eV	Exp	1252
hν + Kr	Desorption	16-22 eV	Exp	1252
hν + Ti	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1254
hν + V	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1254
hν + Zr	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1254
hν + MgO	Desorption	4.7 eV	E/T	1293
hν + C	Desorption	3.5 eV	Exp	1294
hν + NO + C	Desorption	3.5 eV	Exp	1294
hν + Si	Desorption	108 eV	Exp	1295
hν + O + Si	Desorption	108 eV	Exp	1295
hν + H_2O + Ne	Desorption	6-1000 eV	Exp	1296
hν + H_2O + Ar	Desorption	6-1000 eV	Exp	1296
hν + H_2O + Kr	Desorption	6-1000 eV	Exp	1296
hν + H_2O + Xe	Desorption	6-1000 eV	Exp	1296
hν + H_2O	Desorption	525-555 eV	Exp	1297
hν + D_2O	Desorption	525-555 eV	Exp	1297
hν + SiO_2	Desorption	390-450 eV	Exp	1298
hν + N_2O + SiO_2	Desorption	390-450 eV	Exp	1298
e + Ti	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1254
e + V	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1254
e + Zr	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp	1254
e + BeO	Secondary Electron Emission	0-10 keV	E/T	1264
e + SiO_2	Secondary Electron Emission	0-10 keV	E/T	1264
e + LiF	Secondary Electron Emission	0-10 keV	E/T	1264
e + BaF_2	Secondary Electron Emission	0-10 keV	E/T	1264
e + MgO	Secondary Electron Emission	0-10 keV	E/T	1264
e + KCl	Secondary Electron Emission	0-10 keV	E/T	1264
e + KBr	Secondary Electron Emission	0-10 keV	E/T	1264
e + KI	Secondary Electron Emission	0-10 keV	E/T	1264
e + Al	Reflection	300-2000 eV	Th	1280
e + Au	Reflection	300-2000 eV	Th	1280
e + C	Secondary Electron Emission	1-30 keV	Exp	1289
e + Ga	Secondary Electron Emission	1-30 keV	Exp	1289
e + H_2O	Desorption	100 eV	Exp	1290
e + LiF	Desorption	300-600 eV	Exp	1291
e + NaCl	Desorption	300-600 eV	Exp	1291
e + Na + SiO_2	Desorption	300 deg K; 200 eV	Exp	1292
e + K + SiO_2	Desorption	300 deg K; 200 eV	Exp	1292
e + Ba + SiO_2	Desorption	300 deg K; 200 eV	Exp	1292
e + Ge	Sputtering	0-150 eV	Exp	1305
e + W	Sputtering	0-150 eV	Exp	1305
e + Cs + Ge	Sputtering	0-150 eV	Exp	1305
e + Cs + W	Sputtering	0-150 eV	Exp	1305
H_2^+ + C	Sputtering	10-250 eV	Exp	1243
H_2 + UO_2	Trapping, Detrapping	700 deg K	Exp	1260
H_2^+ + Si	Surface Interactions	210-420 keV	Exp	1267
H_2 + W	Neutraliz., Ioniz., Dissoc.	4.5 eV	Exp	1307
H_3^+ + H_2O	Sputtering	15 keV	Exp	1259
D^+ + W	Trapping, Detrapping	20-40 keV	Exp	1245
D^+ + Ti	Trapping, Detrapping	1.7-5.0 keV	Exp	1277
D^+ + V	Trapping, Detrapping	1.7-5.0 keV	Exp	1277
D^+ + Cr	Trapping, Detrapping	1.7-5.0 keV	Exp	1277
D_2^+ + C	Sputtering	10-250 eV	Exp	1243
D_2 + UO_2	Trapping, Detrapping	700 deg K	Exp	1260
D_2 + LiF	Reflection	300 deg K	Exp	1283
N_2^+ + C	Secondary Electron Emission	100-400 keV/u	Th	1240

$\mathbf{N_2{}^+ + H_2O}$	Sputtering	15 keV	Exp	1259
$\mathbf{N_2{}^+ + C}$	Secondary Electron Emission	30 keV	Exp	1311

2.4 Particle Beam-Matter Interactions

$\mathbf{H^+ + Al + Mg}$	Part. Beam-Matter Interaction	100 keV	Th	1313
$\mathbf{H^+ + Al + Mg}$	Part. Beam-Matter Interaction	98 keV	E/T	1314
$\mathbf{H^+ + Na + Mg}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th	1316
$\mathbf{H^+ + Mg + Mg}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th	1316
$\mathbf{H^+ + K + Mg}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th	1316
$\mathbf{H^+ + Al + Mg}$	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1326
$\mathbf{H^+ + Ag + Mg}$	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1326
$\mathbf{H^+ + H_2O + Mg}$	Part. Beam-Matter Interaction	1.7-2.0 MeV	Exp	1335
$\mathbf{H + Al + Mg}$	Part. Beam-Matter Interaction	2-10 eV	Th	1337
$\mathbf{H^+ + H_2O + Mg}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1338
$\mathbf{H^+ + N_2 + Mg}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1338
$\mathbf{H^+ + O_2 + Mg}$	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1338
$\mathbf{H^+ + H_2O + Mg}$	Part. Beam-Matter Interaction	$10^{-3} - 1$ MeV	E/T	1340
$\mathbf{H^+ + C + Mg}$	Part. Beam-Matter Interaction	10-10,000 keV/amu	Th	1341
$\mathbf{H^+ + Ni + Mg}$	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp	1344
$\mathbf{H^+ + H_2O + Mg}$	Part. Beam-Matter Interaction	50-10,000 keV	Th	1345
$\mathbf{H^+ + Ti + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{H^+ + Fe + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{H^+ + Ge + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{H^+ + Pd + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{H^+ + LiF + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{H^+ + Si_3N_4 + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{H^+ + Au + Mg}$	Part. Beam-Matter Interaction	0.33-10 keV	Exp	1352
$\mathbf{He^+ + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
$\mathbf{He^+ + SiO_2 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
$\mathbf{He^+ + ZrO_2 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
$\mathbf{He^+ + Al + Mg}$	Part. Beam-Matter Interaction	0.1-3.0 MeV	Exp	1321
$\mathbf{He^+ + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp	1322
$\mathbf{He^{2+} + He + Mg}$	Part. Beam-Matter Interaction	25-500 eV	Th	1324
$\mathbf{He^{2+} + Ne + Mg}$	Part. Beam-Matter Interaction	25-500 eV	Th	1324
$\mathbf{He^{2+} + Ar + Mg}$	Part. Beam-Matter Interaction	25-500 eV	Th	1324
$\mathbf{He^+ + Al + Mg}$	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1325
$\mathbf{He^+ + Ag + Mg}$	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1325
$\mathbf{He + C + Mg}$	Part. Beam-Matter Interaction		Th	1332
$\mathbf{He^+ + ZrO_2 + Mg}$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1343
$\mathbf{He^+ + Ta_2O_5 + Mg}$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1343
$\mathbf{He^+ + Nb_2O_5 + Mg}$	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1343
$\mathbf{He^{2+} + Ni + Mg}$	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp	1344
$\mathbf{He^+ + Ti + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{He^+ + Fe + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{He^+ + Ge + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{He^+ + Pd + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{He^+ + LiF + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{He^+ + Si_3N_4 + Mg}$	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th	1346
$\mathbf{He^+ + Al + Mg}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1347
$\mathbf{He^+ + Ti + Mg}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1347
$\mathbf{He^+ + Co + Mg}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1347
$\mathbf{He^+ + Cu + Mg}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1347
$\mathbf{He^+ + Ag + Mg}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1347
$\mathbf{He^+ + Ta + Mg}$	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1347

He^{+} + Au + Mg	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp	1347
He^{+} + C + Mg	Part. Beam-Matter Interaction	1.4-4.0 MeV	Exp	1349
He^{+} + H + Mg	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp	1350
He^{+} + C + Mg	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp	1350
He^{2+} + Fe + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
He^{2+} + Ag + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
He^{2+} + Au + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
Li^{2+} + Al_2O_3 + Mg	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
Li^{2+} + SiO_2 + Mg	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
Li^{2+} + ZrO_2 + Mg	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
Li^{+} + Al + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1325
Li^{+} + Ag + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1325
Li^{+} + Al + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1326
Li^{+} + Ag + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1326
Li^{+} + C + Mg	Part. Beam-Matter Interaction		Th	1332
Li^{+} + Ag + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1338
Li^{+} + H_2O + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1338
Li^{+} + N_2 + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1338
Li^{+} + O_2 + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1338
Li^{+} + Al + Mg	Part. Beam-Matter Interaction		Th	1348
Li^{+} + H + Mg	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp	1350
Li^{+} + C + Mg	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp	1350
Be^{+} + SiC + Mg	Part. Beam-Matter Interaction	40-680 keV/u	E/T	1327
B^{4+} + Al_2O_3 + Mg	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
B^{4+} + SiO_2 + Mg	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
B^{4+} + ZrO_2 + Mg	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
B^{+} + Al + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1325
B^{+} + Ag + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1325
B^{+} + Al + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1326
B^{+} + Ag + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp	1326
B^{+} + Fe + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
B^{+} + Ag + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
B^{+} + Au + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
C^{4+} + C + Mg	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
C^{5+} + C + Mg	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
C^{6+} + C + Mg	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
C^{+} + Al_2O_3 + Mg	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp	1322
C^{+} + C + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1338
C^{+} + ZrO_2 + Mg	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1343
C^{+} + Si + Mg	Part. Beam-Matter Interaction	1.8 MeV/amu	Exp	1354
N^{6+} + Al_2O_3 + Mg	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
N^{6+} + SiO_2 + Mg	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
N^{6+} + ZrO_2 + Mg	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T	1318
O^{+} + Al_2O_3 + Mg	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp	1322
O^{+} + Al + Mg	Part. Beam-Matter Interaction		Th	1348
O^{+} + Fe + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
O^{+} + Ag + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
O^{+} + Au + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
F^{+} + Ta_2O_5 + Mg	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1343
F^{+} + Nb_2O_5 + Mg	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T	1343
Ne^{8+} + C + Mg	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
Ne^{9+} + C + Mg	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
Ne^{10+} + C + Mg	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
Ne^{7+} + C + Mg	Part. Beam-Matter Interaction	2 MeV/u	Th	1334
Ne^{8+} + C + Mg	Part. Beam-Matter Interaction	2 MeV/u	Th	1334
Ne^{9+} + C + Mg	Part. Beam-Matter Interaction	2 MeV/u	Th	1334
Ne^{10+} + C + Mg	Part. Beam-Matter Interaction	2 MeV/u	Th	1334

$\mathbf{Mg^{10+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Mg^{11+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Mg^{12+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Al^{+} + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp	1322
$\mathbf{Al^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{Al^{+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{Al^{+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{Si^{12+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Si^{13+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Si^{14+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Si^{+} + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp	1322
$\mathbf{Si^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	84-237 MeV	Exp	1328
$\mathbf{Si^{+} + Ga + Mg}$	Part. Beam-Matter Interaction	84-237 MeV	Exp	1328
$\mathbf{Si^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{Si^{+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{Si^{+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{S^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	84-237 MeV	Exp	1328
$\mathbf{S^{+} + Ga + Mg}$	Part. Beam-Matter Interaction	84-237 MeV	Exp	1328
$\mathbf{Ar^{13+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Ar^{14+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Ar^{15+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Ar^{16+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Ar^{17+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Ar^{18+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Ca^{15+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp	1317
$\mathbf{Ca^{16+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp	1317
$\mathbf{Ca^{17+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp	1317
$\mathbf{Ca^{18+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp	1317
$\mathbf{Ca^{19+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp	1317
$\mathbf{Ca^{+} + SiC + Mg}$	Part. Beam-Matter Interaction	40-680 keV/u	E/T	1327
$\mathbf{Ca^{+} + C + Mg}$	Part. Beam-Matter Interaction	5-250 MeV	Exp	1351
$\mathbf{Ca^{+} + Ni + Mg}$	Part. Beam-Matter Interaction	5-250 MeV	Exp	1351
$\mathbf{Ca^{+} + Au + Mg}$	Part. Beam-Matter Interaction	5-250 MeV	Exp	1351
$\mathbf{Ti^{+} + SiC + Mg}$	Part. Beam-Matter Interaction	40-680 keV/u	E/T	1327
$\mathbf{Fe^{19+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Fe^{20+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Fe^{21+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Fe^{22+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Fe^{23+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Fe^{24+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Fe^{25+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Fe^{26+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T	1319
$\mathbf{Ni^{13+} + C + Mg}$	Part. Beam-Matter Interaction	1 MeV/u	Th	1330
$\mathbf{Ni^{17+} + C + Mg}$	Part. Beam-Matter Interaction	1 MeV/u	Th	1330
$\mathbf{Ni^{22+} + C + Mg}$	Part. Beam-Matter Interaction	1 MeV/u	Th	1330
$\mathbf{Cu^{+} + H_2 + Mg}$	Part. Beam-Matter Interaction	100 keV/u	E/T	1339
$\mathbf{Cu^{+} + N_2 + Mg}$	Part. Beam-Matter Interaction	100 keV/u	E/T	1339
$\mathbf{Cu^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{Cu^{+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{Cu^{+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{Zn^{+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	60 keV	Exp	1355
$\mathbf{Kr^{+} + Al + Mg}$	Part. Beam-Matter Interaction	20-160 keV	Exp	1323
$\mathbf{Xe^{+} + C + Mg}$	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th	1331
$\mathbf{Ba^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{Ba^{+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{Ba^{+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
$\mathbf{Au^{+} + C + Mg}$	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th	1331

Au^+ + C + Mg	Part. Beam-Matter Interaction	1-1000 keV	Th	1342
Au^+ + Fe + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
Au^+ + Ag + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
Au^+ + Au + Mg	Part. Beam-Matter Interaction	6-86 MeV	Exp	1353
Pb^{56+} + Si + Mg	Part. Beam-Matter Interaction	29 MeV/u	E/T	1329
Pb^+ + C + Mg	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th	1331
U^{91+} + Si + Mg	Part. Beam-Matter Interaction	29 MeV/u	E/T	1329
U^+ + C + Mg	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th	1331
U^{81+} + B + Mg	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1333
U^{81+} + C + Mg	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1333
U^{81+} + Ne + Mg	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1333
U^{81+} + Si + Mg	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1333
U^{81+} + Cl + Mg	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1333
U^{81+} + Ti + Mg	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1333
U^{81+} + Cu + Mg	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1333
U^{81+} + Br + Mg	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1333
U^{81+} + Pd + Mg	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1333
U^{81+} + Xe + Mg	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1333
U^{81+} + Au + Mg	Part. Beam-Matter Interaction	60-200 MeV/u	Exp	1333
e + Ar + Mg	Part. Beam-Matter Interaction	$10^2 - 10^5$ eV	E/T	1320
e + Al + Mg	Part. Beam-Matter Interaction	0.01-10 MeV	Th	1336
e + Si + Mg	Part. Beam-Matter Interaction	0.01-10 MeV	Th	1336
D^+ + Ni + Mg	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp	1344
D^+ + Au + Mg	Part. Beam-Matter Interaction	0.33-10 keV	Exp	1352
${N_2}^+$ + C + Mg	Part. Beam-Matter Interaction	100-400 keV/u	Th	1315
A^+ + A + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T	1338
${C_2}^+$ + Si + Mg	Part. Beam-Matter Interaction	1.8 MeV/amu	Exp	1354
He + He Z= ?-? + Mg	Part. Beam-Matter Interaction	25-500 eV	Th	1324
Ne + He Z= ?-? + Mg	Part. Beam-Matter Interaction	25-500 eV	Th	1324
Al + He Z= ?-? + Mg	Part. Beam-Matter Interaction	25-500 eV	Th	1324

2.5 Interactions of Atomic Particles with Fields

H + Mg	Atom Field Interaction	0.001-0.009 a.u.	Th	1363
H^* + Mg	Atom Field Interaction	0.001-0.009 a.u.	Th	1363
H + Mg	Atom Field Interaction	8.9-36 GHz	Th	1365
H + Mg	Atom Field Interaction	$10^{-3} - 0.2$ a.u.	Th	1366
H + Mg	Atom Field Interaction	$0 - 10^{13}$ Ga	Th	1367
H + Mg	Atom Field Interaction		Th	1368
H + Mg	Atom Field Interaction	1.93 eV	Th	1371
H + Mg	Atom Field Interaction		Th	1375
H^* + Mg	Atom Field Interaction		Th	1375
He + Mg	Atom Field Interaction	810 nm	E/T	1370
He + Mg	Atom Field Interaction	11.2-49.50 eV	Th	1373
He^* + Mg	Atom Field Interaction	11.2-49.50 eV	Th	1373
He + Mg	Atom Field Interaction	2-30 eV	Th	1374
He + Mg	Atom Field Interaction	318.8 nm	Exp	1376
Li + Mg	Atom Field Interaction	8.9-36 GHz	Th	1365
Li + Mg	Atom Field Interaction		Th	1369
B + Mg	Atom Field Interaction		Th	1375
F^- + Mg	Atom Field Interaction		Th	1375
Ne + Mg	Atom Field Interaction	800 nm	Exp	1359
Ne + Mg	Atom Field Interaction		Th	1375
Na + Mg	Atom Field Interaction	8.9-36 GHz	Th	1365
Ar + Mg	Atom Field Interaction	800 nm	Exp	1359

K + Mg	Atom Field Interaction	0-1 T	Th	1361
Rb + Mg	Atom Field Interaction	0-1 T	Th	1361
Rb + Rb + Mg	Atom Field Interaction	10 cm/s	Exp	1364
Rb + Rb* + Mg	Atom Field Interaction	10 cm/s	Exp	1364
Rb + Mg	Atom Field Interaction	8.9-36 GHz	Th	1365
I$^-$ + Mg	Atom Field Interaction		Th	1375
Xe + Mg	Atom Field Interaction	1.93 eV	Th	1371
Xe + Mg	Atom Field Interaction		Th	1375
Cs + Mg	Atom Field Interaction	0-1 T	Th	1361
Cs + Mg	Atom Field Interaction	0.001-0.009 a.u.	Th	1363
Cs* + Mg	Atom Field Interaction	0.001-0.009 a.u.	Th	1363
Ba$^+$ + Mg	Atom Field Interaction	0-1 T	Th	1361
Au + Mg	Atom Field Interaction	0-1 T	Th	1361
Au$^+$ + Mg	Atom Field Interaction		Exp	1372
Tl + Mg	Atom Field Interaction	0-1 T	Th	1361
Fr + Mg	Atom Field Interaction	0-1 T	Th	1361
e + He + Mg	Atom Field Interaction	4-22 eV	Th	1357
e + He$^+$ + Mg	Atom Field Interaction	200-500 eV	Th	1362
H_2 + Mg	Atom Field Interaction	2-30 eV	Th	1374
$H_3{}^{2+}$ + Mg	Atom Field Interaction		Th	1356
CH_4 + Mg	Atom Field Interaction	163-297 K	Th	1360
O_2 + Mg	Atom Field Interaction	550-1800 nm	Exp	1358

Chapter 3

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Nb	Energy Levels, Wavelengths	E/T

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Nb	Energy Levels, Wavelengths	Exp

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$\mathbf{W^{5+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{W^{6+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{W^{7+--44+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{W^{45+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{W^{46+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{W^{47+--71+}}$	Energy Levels, Wavelengths	E/T
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Ta	Energy Levels, Wavelengths	Exp

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W^{0+--+}	Energy Levels, Wavelengths	E/T
W^{+}	Energy Levels, Wavelengths	E/T

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Ti^{14+}	Energy Levels, Wavelengths	Exp
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$^{27}\mathbf{Al}^{5+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Al}^{5+}$	Energy Levels, Wavelengths	Exp

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Pu	Energy Levels, Wavelengths	E/T
$\mathbf{Cm}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T
Bk	Energy Levels, Wavelengths	E/T
Cf	Energy Levels, Wavelengths	E/T
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Fm	Energy Levels, Wavelengths	E/T

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Mn	Energy Levels, Wavelengths	Exp

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$^{4}\mathbf{He}$	Energy Levels, Wavelengths	Th
He	Energy Levels, Wavelengths	Th
$^{9}\mathbf{Be}$	Energy Levels, Wavelengths	Th

Be	Energy Levels, Wavelengths	Th
F^-	Energy Levels, Wavelengths	Th
^{20}Ne	Energy Levels, Wavelengths	Th
Ne	Energy Levels, Wavelengths	Th
^{24}Mg	Energy Levels, Wavelengths	Th
Mg	Energy Levels, Wavelengths	Th
Cl^-	Energy Levels, Wavelengths	Th
^{40}Ar	Energy Levels, Wavelengths	Th
Ar	Energy Levels, Wavelengths	Th
^{40}Ca	Energy Levels, Wavelengths	Th
Ca	Energy Levels, Wavelengths	Th
^{64}Zn	Energy Levels, Wavelengths	Th
Zn	Energy Levels, Wavelengths	Th
Br^-	Energy Levels, Wavelengths	Th
^{84}Kr	Energy Levels, Wavelengths	Th
Kr	Energy Levels, Wavelengths	Th
^{88}Sr	Energy Levels, Wavelengths	Th
Sr	Energy Levels, Wavelengths	Th
^{114}Cd	Energy Levels, Wavelengths	Th
Cd	Energy Levels, Wavelengths	Th
I^-	Energy Levels, Wavelengths	Th
^{132}Xe	Energy Levels, Wavelengths	Th
Xe	Energy Levels, Wavelengths	Th
^{138}Ba	Energy Levels, Wavelengths	Th
Ba	Energy Levels, Wavelengths	Th
^{174}Yb	Energy Levels, Wavelengths	Th
Yb	Energy Levels, Wavelengths	Th
^{202}Hg	Energy Levels, Wavelengths	Th
Hg	Energy Levels, Wavelengths	Th
At^-	Energy Levels, Wavelengths	Th
^{222}Rn	Energy Levels, Wavelengths	Th
Rn	Energy Levels, Wavelengths	Th
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Be Z= 4-60	Energy Levels, Wavelengths	Th
B Z= 5-60	Energy Levels, Wavelengths	Th
C Z= 6-60	Energy Levels, Wavelengths	Th
N Z= 7-60	Energy Levels, Wavelengths	Th
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Be^+	Energy Levels, Wavelengths	E/T

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Relativistic Many-Body Perturbation Calculations of Boron-like Silicon, Si X
Phys. Scr. 72-2-3, 181-199 (2005)

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

61. A. Tauheed, J. Reader
Spectrum and Energy Levels of Triply-Ionized Niobium (Nb IV)
Phys. Scr. 72-2-3, 158-180 (2005)

Nb^{3+}	Energy Levels, Wavelengths	E/T

62. Z.-S. Yuan, L.-F. Zhu, X.-J. Liu, W.-B. Li, H.-D. Cheng, J.-M. Sun, K.-Z. Xu
Inner-Shell Excitations of Krypton 3d Investigated by Electron Impact with High Resolution
Phys. Rev. A 71, 064701 (2005)

Kr	Energy Levels, Wavelengths	Exp

63. A. N. Artemyev, V. M. Shabaev, V. A. Yerokhin, G. Plunien, G. Soff
QED Calculation of the n = 1 and n = 2 Energy Levels in He-like Ions
Phys. Rev. A 71, 062104 (2005)

He Z= 12-26	Energy Levels, Wavelengths	E/T

64. H. J. Wörner, M. Grütter, E. Vliegen, F. Merkt
Role of Nuclear Spin in Photoionization: Hyperfine-Resolved Photoionization of Xe and Multichannel Quantum Defect Theory Analysis
Phys. Rev. A 73, 059904 (2005)

^{128}**Xe**	Energy Levels, Wavelengths	Exp
^{129}**Xe**	Energy Levels, Wavelengths	Exp
^{130}**Xe**	Energy Levels, Wavelengths	Exp
^{131}**Xe**	Energy Levels, Wavelengths	Exp
^{132}**Xe**	Energy Levels, Wavelengths	Exp
^{134}**Xe**	Energy Levels, Wavelengths	Exp
^{136}**Xe**	Energy Levels, Wavelengths	Exp
Xe	Energy Levels, Wavelengths	Exp

65. I. Labazan, E. Reinhold, W. Ubachs, V. V. Flambaum
Wavelength Calibration of the C I Line at 94.5 nm for Comparison with Quasar Data
Phys. Rev. A 71, 040501 (2005)

^{12}**C**	Energy Levels, Wavelengths	Exp
^{13}**C**	Energy Levels, Wavelengths	Exp
C	Energy Levels, Wavelengths	Exp

66. E. R. Kieft, K. Garloff, J. J. A. M. van der Mullen, V. Banine
Comparison of Experimental and Simulated Extreme Ultraviolet Spectra of Xenon and Tin Discharges
Phys. Rev. E 71, 036402 (2005)

$\mathbf{Sn}^{8+-11+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{7+-11+}$	Energy Levels, Wavelengths	Exp

67. A. Penttilä, S. Heinäsmäki, M. Harkoma, S. Fritzche, R. Sankari, S. Aksela, H. Aksela
Effects of Electron Correlation on the Decay Process Following 3p Photoionization in Atomic Manganese
Phys. Rev. A 71, 022715 (2005)

Mn	Energy Levels, Wavelengths	E/T

68. Z. Zhou, S.-I Chu
Spin-Dependent Localized Hartree-Fock Density-Functional Calculation of Singly, Doubly, and Triply Excited and Rydberg States of He- and Li-like Ions
Phys. Rev. A 71, 022513 (2005)

He Z= 2-10	Energy Levels, Wavelengths	Th
Li Z= 3-10	Energy Levels, Wavelengths	Th

69. M. A. Gearba, R. A. Komara, S. R. Lundeen, C. W. Fehrenbach, B. D. DePaola
Stark-Induced X-ray Emission from H-like and He-like Rydberg Ions
Phys. Rev. A 71, 013424 (2005)

$\mathbf{Ne}^{9+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Si}^{12+-13+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp

70. N. Jaritz, L. Windholz, D. Messnarz, H. Jäger, R. Engleman Jr.
Investigation of the Hyperfine Structure of Ta I Lines (IX)
Phys. Scr. 71-6, 611-620 (2005)

^{181}**Ta**	Energy Levels, Wavelengths	Exp
Ta	Energy Levels, Wavelengths	Exp

71. S. S. Churilov, A. N. Ryabtsev, J.-F. Wyart, W.-Ü L. Tchang-Brillet, Y. N. Joshi
Analysis of the Spectra of Pd-like Praseodymium and Neodymium (Pr XIV and Nd XV)
Phys. Scr. 71-6, 589-598 (2005)

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

72. K. Tsigutkin, E. Stambulchik, Y. Maron, A. Tauschwitz
Determination of the Li I 4d-4f Energy Separation Using Active Spectroscopy
Phys. Scr. 71-5, 502-506 (2005)

Li	Energy Levels, Wavelengths	Exp

73. A. N. Ryabtsev, I. Kink, Y. Awaya, J. O. Ekberg, S. Mannervik, A. Ölme, I. Martinson
Additions to the Spectrum and Energy Levels and a Critical Compilation of Singly-Ionized Boron, B II
Phys. Scr. 71-5, 489-501 (2005)

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

74. U. Litzén
Extended Analysis of the Ti I Spectrum: 3d-4f, 4d-4f and 4f-5g Transitions
Phys. Scr. 71-5, 471-478 (2005)

Ti	Energy Levels, Wavelengths	E/T

75. E. Y. Korzinin, N. S. Oreshkina, V. M. Shabaev
Hyperfine Splitting of Low-Lying Levels in Heavy Li-like Ions
Phys. Scr. 71, 464-470 (2005)

Li Z= 49-59 step 2	Energy Levels, Wavelengths	Th
$^{113}\mathbf{In}^{46+}$	Energy Levels, Wavelengths	Th
$^{121}\mathbf{Sb}^{48+}$	Energy Levels, Wavelengths	Th
$^{123}\mathbf{Sb}^{48+}$	Energy Levels, Wavelengths	Th
$^{127}\mathbf{I}^{50+}$	Energy Levels, Wavelengths	Th
$^{133}\mathbf{Cs}^{52+}$	Energy Levels, Wavelengths	Th
$^{139}\mathbf{La}^{54+}$	Energy Levels, Wavelengths	Th
$^{141}\mathbf{Pr}^{56+}$	Energy Levels, Wavelengths	Th
$^{151}\mathbf{Eu}^{60+}$	Energy Levels, Wavelengths	Th
$\mathbf{Eu}^{60+}$	Energy Levels, Wavelengths	Th
$^{159}\mathbf{Tb}^{62+}$	Energy Levels, Wavelengths	Th
$\mathbf{Tb}^{62+}$	Energy Levels, Wavelengths	Th
$^{165}\mathbf{Ho}^{64+}$	Energy Levels, Wavelengths	Th
$\mathbf{Ho}^{64+}$	Energy Levels, Wavelengths	Th
$^{175}\mathbf{Lu}^{68+}$	Energy Levels, Wavelengths	Th
$\mathbf{Lu}^{68+}$	Energy Levels, Wavelengths	Th
$^{181}\mathbf{Ta}^{70+}$	Energy Levels, Wavelengths	Th
$\mathbf{Ta}^{70+}$	Energy Levels, Wavelengths	Th
$^{185}\mathbf{Re}^{72+}$	Energy Levels, Wavelengths	Th
$\mathbf{Re}^{72+}$	Energy Levels, Wavelengths	Th
$^{209}\mathbf{Bi}^{80+}$	Energy Levels, Wavelengths	Th
$\mathbf{Bi}^{80+}$	Energy Levels, Wavelengths	Th

76. S. S. Churilov, A. N. Ryabtsev, J.-F. Wyart
Analysis of the 4-4 Transitions in the Ni-like Kr IX Spectrum
Phys. Scr. 71-5, 457-463 (2005)

Ni Z= 40-42	Energy Levels, Wavelengths	E/T
Ni Z= 44-46	Energy Levels, Wavelengths	E/T
$\mathbf{Kr}^{8+}$	Energy Levels, Wavelengths	E/T

77. S. S. Churilov, Y. N. Joshi
Analysis of the $4f^2$ - 4f5g Transitions in Cd-like Pr XII and Nd XIII
Phys. Scr. 71-5, 453-456 (2005)

$\mathbf{Pr}^{11+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Nd}^{12+}$	Energy Levels, Wavelengths	E/T

78. C. J. Sansonetti, K. L. Andrew
Spectrum of Singly-Ionized Cesium (Cs II)
Phys. Scr. 71-4, 362-394 (2005)

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

79. F. G. Acar, Günay Başar, Gönül Başar, İ. K. Öztürk, S. Kröger
Hyperfine Structure Investigation of Mn I Part II: Theoretical Studies of the Odd Configurations
Phys. Scr. 71-3, 245-250 (2005)

Mn	Energy Levels, Wavelengths	Th

80. A. Tauheed, S. Jabeen, Y. N. Joshi
Extended Analysis of Three-Times Ionized Cesium: Cs IV
Phys. Scr. 71, 193-197 (2005)

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

81. D. Feili, B. Zimmermann, C. Neacsu, Ph. Bosselmann, K.-H. Schartner, F. Folkmann, A. E. Livingston, E. Träbert, P. H. Mokler
$2s^2\ {}^1S_0$ - 2s2p ${}^3P_1$ Intercombination Transition Wavelengths in Be-like Ag^{43+}, Sn^{46+}, and Xe^{50+} Ions
Phys. Scr. 71-1, 48-51 (2005)

$\mathbf{Ag}^{43+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Sn}^{46+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{50+}$	Energy Levels, Wavelengths	Exp

82. S. S. Churilov, Y. N. Joshi, A. N. Ryabtsev
Analysis of the Thirteenth Spectrum of Neodymium, Nd XIII
Phys. Scr. 71, 43-47 (2005)

$\mathbf{Nd}^{12+}$	Energy Levels, Wavelengths	E/T

83. T. Laurila, R. Oikari, R. Hernberg
Tunable Diode Laser Spectroscopy of Copper, Cadmium and Indium at 325 nm
Spectrochimica Acta, Part B 60, 783-791 (2005)

^{63}**Cu**	Energy Levels, Wavelengths	Exp
^{65}**Cu**	Energy Levels, Wavelengths	Exp
Cu	Energy Levels, Wavelengths	Exp
^{111}**Cd**	Energy Levels, Wavelengths	Exp
^{113}**Cd**	Energy Levels, Wavelengths	Exp
Cd	Energy Levels, Wavelengths	Exp
^{113}**In**	Energy Levels, Wavelengths	Exp
^{115}**In**	Energy Levels, Wavelengths	Exp
In	Energy Levels, Wavelengths	Exp

84. B. Furmann, A. Jarosz, D. Stefańska, J. Dembczyński, E. Stachowska
Isotope Shift in Chromium
Spectrochimica Acta, Part B 60, 33-40 (2005)

Cr	Energy Levels, Wavelengths	Exp

85. Y.-X. Liu, Z.-H. Zhao, Y.-Q. Wang, Y.-H. Chen
Variational Calculation and Relativistic Corrections to the Nonrelativistic Ground Energies of the Helium Atom and the Helium-like Ions
Acta Phys. Sin. 54-6, 2620-2624 (2005)

He Z= 1-8	Energy Levels, Wavelengths	E/T

86. A. M. Frolov
Highly Accurate Three-Body Wavefunctions for the $2^3S(L = 0)$ States in Two-Electron Ions
J. Phys. B 38-17, 3233-3249 (2005)

He Z= 3-10	Energy Levels, Wavelengths	Th
^{3}**He**	Energy Levels, Wavelengths	Th
^{6}**Li**$^{+}$	Energy Levels, Wavelengths	Th
^{7}**Li**$^{+}$	Energy Levels, Wavelengths	Th
^{9}**Be**$^{2+}$	Energy Levels, Wavelengths	Th
^{11}**B**$^{3+}$	Energy Levels, Wavelengths	Th
^{13}**C**$^{4+}$	Energy Levels, Wavelengths	Th

87. T. Pütterich, R. Neu, C. Biedermann, R. Radtke, ASDEX Upgrade Team
Disentangling the Emissions of Highly Ionized Tungsten in the Range 4-14 nm
J. Phys. B 38-16, 3071-3082 (2005)

W$^{39+-45+}$	Energy Levels, Wavelengths	Exp

88. C. E. Hudson, J. B. West, K. L. Bell, A. Aguilar, R. A. Phaneuf, F. Folkmann, H. Kjeldsen, J. Bozek, A. S. Schlachter, C. Cisneros
A Theoretical and Experimental Study of the Photoionization of Al II
J. Phys. B 38, 2911-2932 (2005)

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

89. A. De Fanis, G. Prümper, U. Hergenhahn, E. Kukk, T. Tanaka, M. Kitajima, H. Tanaka, S. Fritzsche, N. M. Kabachnik, K. Ueda
Investigation of Valence Inter-Multiplet Auger Transitions in Ne Following 1s Photoelectron Recapture
J. Phys. B 38, 2229-2243 (2005)

Ne^{+}	Energy Levels, Wavelengths	Exp

90. S. W. J. Scully, A. Aguilar, E. D. Emmons, R. A. Phabeuf, M. Halka, D. Leitner, J. C. Levin, M. S. Lubell, R. Püttner, A. S. Schlachter, A. M. Covington, S. Schippers, A. Müller, B. M. McLaughlin
K-Shell Photoionization of Be-like Carbon Ions: Experiment and Theory for C^{2+}
J. Opt. B 38, 1967-1975 (2005)

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

91. P. Bogdanovich, R. Karpuškienė
The Theoretical Study of the Overlapping Configurations $2s2p^53l$ and $2s^22p^44l$ in Ar X
J. Phys. B 38-10, 1557-1568 (2005)

$\mathbf{Ar^{9+}}$	Energy Levels, Wavelengths	Th

92. B. Saha, S. Fritzsche
M1 and E2 Transitions in Ar II
J. Phys. B 38-8, 1161-1171 (2005)

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

93. S. F. Dyubko, V. A. Efremov, V. G. Gerasimov, K. B. MacAdam
Millimetre-Wave Spectroscopy of Au I Rydberg States: S, P and D Terms
J. Phys. B 38-8, 1107-1118 (2005)

Au	Energy Levels, Wavelengths	Exp

94. A. Nadeem, M. Nawaz, S. Hussain, S. A. Bhatti, M. A. Baig
Two-Step Laser Spectroscopy of the Highly Excited Even-Parity Levels of Cadmium
J. Phys. B 38-7, 867-875 (2005)

Cd	Energy Levels, Wavelengths	Exp

95. M. Huang, M. Andersson, T. Brage, R. Hutton, P. Jönsson, C. Chen, Y. Zou
Multiconfiguration Dirac-Hartree-Fock Calculations for Intercombination Lines in Silicon-like Ions
J. Phys. B 38-5, 503-508 (2005)

Si Z= 40-42	Energy Levels, Wavelengths	Th
$\mathbf{Zn^{16+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Kr^{22+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Rh^{31+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Xe^{40+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Au^{65+}}$	Energy Levels, Wavelengths	Th

96. R. A. Komara, M. A. Gearba, C. W. Fehrenbach, S. R. Lundeen
Ion Properties from High-L Rydberg Fine Structure: Dipole Polarizability of Si^{2+}
J. Phys. B 38, S87-S95 (2005)

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

97. M. Anwar-ul-Haq, S. Mahmood, M. Riaz, R. Ali, M. A. Baig
On the First Ionization Potential of Lithium
J. Phys. B 38, S77-S86 (2005)

Li	Energy Levels, Wavelengths	Exp

98. F. O. Borges, F. Bredice, G. H. Cavalcanti, M. Gallardo, M. Raineri, J. G. Reyna Almandos, A. G. Trigueiros
Extended Analysis of the Ar VII Spectrum in the Vacuum Ultraviolet Region
Eur. Phys. J. D 36-1, 23-27 (2005)

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

99. N. N. Kolachevsky
Hyperfine Structure of the Metastable Level in Hydrogen-like Atoms
Quantum Electron. 35-3, 207-218 (2005)

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

100. M.-H. Hu, Z.-W. Wang
Excitation Energies of $1s^2ns$ ($6 \leq n \leq 9$) States for Lithium-like Systems from Z = 11 to 20
Chin. Phys. Lett. 22-5, 1089-1092 (2005)

Li Z= 11-20	Energy Levels, Wavelengths	Th

101. R. R. Kildiyarova, S. S. Churilov, Y. N. Joshi, A. N. Ryabtsev
Analysis of the $3d^34f$ Configuration in Ni VII
J. Opt. Soc. Am. B 22-4, 884-897 (2005)

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

102. M. Zhang, B.-C. Gou
Relativistic Energy, Oscillator Strengths and Transition Rates of the $1s^22lnl$ $^1S(m)$ (n = 2-6, m 1-5) States for Be-like System
Int. J. Mod. Phys. C 16-6, 951-968 (2005)

Be Z= 4-10	Energy Levels, Wavelengths	Th

103. A. Pahl, P. Fendel, B. R. Henrich, J. Walz, T. W. Hänsch, K. S. E. Eikema
Generation of Continuous Coherent Radiation at Lyman-α and 1S-2P Spectroscopy of Atomic Hydrogen
Laser Phys. 15-1, 46-54 (2005)

H	Energy Levels, Wavelengths	Exp

104. M. Zhang, B.-C. Gou
Relativistic Energy, Fine Structure and Hyperfine Structure of the Low-Lying Excited States for Be-like system
Chin. Phys. 14-8, 1554-1558 (2005)

Be Z= 4-10	Energy Levels, Wavelengths	Th
$^{9}\mathbf{Be}$	Energy Levels, Wavelengths	Th
$^{11}\mathbf{B}^{+}$	Energy Levels, Wavelengths	Th
$^{11}\mathbf{C}^{2+}$	Energy Levels, Wavelengths	Th
$^{14}\mathbf{N}^{3+}$	Energy Levels, Wavelengths	Th
$^{17}\mathbf{O}^{4+}$	Energy Levels, Wavelengths	Th
$^{20}\mathbf{F}^{5+}$	Energy Levels, Wavelengths	Th
$^{22}\mathbf{Ne}^{6+}$	Energy Levels, Wavelengths	Th

105. Z.-H. Yang, S.-B. Du, X.-T. Zeng, H. Su, Y.-D. Wang, Y.-P. Zhang
Spectra of Highly Ionized Nickel
Chin. Phys. 14-5, 953-958 (2005)

$\mathbf{Ni}^{12+-19+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{15+-18+}$	Energy Levels, Wavelengths	Exp

106. G. W. F. Drake
Helium, Relativity and QED
Nucl. Phys. A737, 25-33 (2004)

He	Energy Levels, Wavelengths	E/T

107. K. P. M. Blagrave, P. G. Martin
On the O II Ground Configuration Energy Levels
Astrophys. J. 610, 813-819 (2004)

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

108. B. D. Sharpee, T. G. Slanger, D. L. Huestis, P. C. Cosby
Measurements of the Singly Ionized Oxygen Auroral Doublet Lines $\lambda\lambda$7320, 7330 Using High-Resolution Sky Spectra
Astrophys. J. 606, 605-610 (2004)

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

109. J. E. Lawler, C. Sneden, J. J. Cowan
Improved Atomic Data for Ho II and New Holmium Abundances for the Sun and Three Metal-Poor Stars
Astrophys. J. 604, 850-860 (2004)

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

110. M. Schmidt, P. Beiersdorfer, H. Chen, D. B. Thorn, E. Träbert, E. Behar
Laboratory Wavelengths of K-Shell Resonance Lines of O V and O VI
Astrophys. J. 604, 562-564 (2004)

$\mathbf{O}^{4+-5+}$	Energy Levels, Wavelengths	Exp

111. V. Jonauskas, F. P. Keenan, M. E. Foord, R. F. Heeter, S. J. Rose, G. J. Ferland, R. Kisielius, P. A. M. van Hoof, P. H. Norrington
Dirac-Fock Energy Levels and Transition Probabilities for Oxygen-like Fe XIX
Astron. Astrophys. 424, 363-369 (2004)

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

112. G. Del Zanna, K. A. Berrington, H. E. Mason
Benchmarking Atomic Data for Astrophysics: Fe X
Astron. Astrophys. 422, 731-749 (2004)

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

113. K. M. Aggarwal, F. P. Keenan, R. Kisielius
Radiative Rates for Transitions in Fe XVII
Astron. Astrophys. 420, 783-788 (2004)

$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Th

114. K. M. Aggarwal, F. P. Keenan
Electron Impact Excitation of Fe XIII
Astron. Astrophys. 418, 371-385 (2004)

Fe^{12+}	Energy Levels, Wavelengths	Th

115. K. J. H. Phillips, J. A. Rainnie, L. K. Harra, J. Dubau, F. P. Keenan, N. J. Peacock
Improved Data for Solar Flare X-ray Spectral Analysis
Astron. Astrophys. 416, 765-773 (2004)

S$^{13+–14+}$	Energy Levels, Wavelengths	Exp
Ca$^{17+–18+}$	Energy Levels, Wavelengths	Exp
Fe^{25+}	Energy Levels, Wavelengths	Exp

116. C. Froese Fischer, R. H. Rubin
Breit-Pauli Energy Levels, Transition Probabilities and Lifetimes for 3d^5 levels in Fe IV of Astrophysical Interest
Mon. Not. R. Astron. Soc. 355, 1400 (2004)

Fe^{3+}	Energy Levels, Wavelengths	Th

117. G. Y. Liang, G. Zhao, J. L. Zeng, J. R. Shi
Identification and Analysis of Soft X-ray Lines of Ar XIII-Ar XVI in Laboratory and Astrophysical Plasmas
Mon. Not. R. Astron. Soc. 350, 298-306 (2004)

Ar$^{12+–15+}$	Energy Levels, Wavelengths	E/T

118. C. J. Sansonetti, F. Kerber, J. Reader, M. R. Rosa
Characterization of the Far-Ultraviolet Spectrum of Pt/Cr-Ne Hollow Cathode Lamps as Used on the Space Telescope Imaging Spectrograph on Board the Hubble Space Telescope
Astrophys. J., Suppl. Ser. 153, 555-579 (2004)

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

119. S. Pruß-Hunzinger, M. Mattes, M. Sorg
Relativistic Ground State of the Heavy Helium-like Ions
Nuovo Cimento B 119-3, 277-312 (2004)

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

120. C. J. Sansonetti, M. M. Blackwell, E. B. Saloman
High-Resolution Observations of the Infrared Spectrum of Neutral Neon
J. Res. Nat. Inst. Stand. Technol. 109-3, 371-389 (2004)

Ne Energy Levels, Wavelengths Exp

121. T. G. Slanger, P. C. Cosby, D. L. Huestis, R. R. Meier
Oxygen Atom Rydberg Emission in the Equatorial Ionosphere from Radiative Recombination
J. Geophys. Res. 109-A10, A10309 (2004)

O Energy Levels, Wavelengths Exp

122. C. Froese Fischer, P. Jönsson, G. Tachiev
The Landé g-Factor in Atomic Spectroscopy
Mol. Phys. 102-11-12, 1177-1184 (2004)

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

123. N. Böwering, M. Martins, W. N. Partlo, I. V. Fomenkov
Extreme Ultraviolet Emission Spectra of Highly Ionized Xenon and their Comparison with Model Calculations
J. Appl. Phys. 95-1, 16-23 (2004)

$\mathbf{Xe}^{8+-11+}$ Energy Levels, Wavelengths E/T

124. R. C. Bilodeau, J. D. Bozek, A. Aguilar, G. D. Ackerman, G. Turri, N. Berrah
Photoexcitation of He$^-$ Hollow-Ion Resonances: Observation of the 2s2p^2 ^{4}P State
Phys. Rev. Lett. 93, 193001 (2004)

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

125. K. Pachucki, U. D. Jentschura, V. A. Yerokhin
Nonrelativistic QED Approach to the Bound-Electron g Factor
Phys. Rev. Lett. 94, 229902 (2004)

$^{12}\mathbf{C}^{5+}$	Energy Levels, Wavelengths	Th
$\mathbf{C}^{5+}$	Energy Levels, Wavelengths	Th
$^{16}\mathbf{O}^{7+}$	Energy Levels, Wavelengths	Th
$\mathbf{O}^{7+}$	Energy Levels, Wavelengths	Th

126. G. Ewald, W. Nörtershäuser, A. Dax, S. Götte, R. Kirchner, H.-J. Kluge, Th. Kühl, R. Sanchez, A. Wojtaszek, B. A. Bushaw, G. W. F. Drake, Z.-C. Yan, C. Zimmermann
Nuclear Charge Radii of ^{8,9}Li Determined by Laser Spectroscopy
Phys. Rev. Lett. 93, 113002 (2004)

$^{6}\mathbf{Li}$	Energy Levels, Wavelengths	Exp
$^{7}\mathbf{Li}$	Energy Levels, Wavelengths	Exp
$^{8}\mathbf{Li}$	Energy Levels, Wavelengths	Exp
$^{9}\mathbf{Li}$	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

127. K. Pachucki, J. Komasa
Relativistic and QED Corrections for the Beryllium Atom
Phys. Rev. Lett. 92, 213001 (2004)

$^{9}\mathbf{Be}$	Energy Levels, Wavelengths	E/T
Be	Energy Levels, Wavelengths	E/T
$^{9}\mathbf{Be}^{0+-+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Be}^{0+-+}$	Energy Levels, Wavelengths	E/T

128. J. Verdú, S. Djekić, S. Stahl, T. Valenzuela, M. Vogel, G. Werth, T. Beier, H.-J. Kluge, W. Quint
Electronic g Factor of Hydrogenlike Oxygen $^{16}\mathbf{O}^{7+}$
Phys. Rev. Lett. 92, 093002 (2004)

$^{16}\mathbf{O}^{7+}$	Energy Levels, Wavelengths	Exp
$\mathbf{O}^{7+}$	Energy Levels, Wavelengths	Exp

129. N. Kolachevsky, M. Fischer, S. G. Karshenboim, T. W. Hänsch
High-Precision Optical Measurement of the 2S Hyperfine Interval in Atomic Hydrogen
Phys. Rev. Lett. 92, 033003 (2004)

H	Energy Levels, Wavelengths	Exp

130. P. Cancio Pastor, G. Giusfredi, P. De Natale, G. Hagel, C. de Mauro, M. Inguscio
Absolute Frequency Measurements of the $2^3\mathbf{S}_1 \rightarrow 2^3\mathbf{P}_{0,1,2}$ Atomic Helium Transitions around 1083 nm
Phys. Rev. Lett. 92, 023001 (2004)

He	Energy Levels, Wavelengths	Exp

131. G. Liang, G. Dong, J. Zeng
Atomic Data and Spectral Line Intensities for Ar XIII
At. Data Nucl. Data Tables 88, 83-161 (2004)

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

132. U. I. Safronova, M. S. Safronova
Relativistic Many-Body Calculations of Energies for Doubly-Excited 1s2l2l' and 1s3l3l' States in Li-like Ions
Can. J. Phys. 82, 743-765 (2004)

Li Z= 6-8	Energy Levels, Wavelengths	Th
Li Z= 12-16	Energy Levels, Wavelengths	Th
Li Z= 18-29	Energy Levels, Wavelengths	Th
$\mathbf{Kr}^{33+}$	Energy Levels, Wavelengths	Th
$\mathbf{Mo}^{39+}$	Energy Levels, Wavelengths	Th

133. S. M. Hamasha, A. S. Shlyaptseva, U. I. Safronova
E1, E2, M1, and M2 Transitions in the Nickel Isoelectronic Sequence
Can. J. Phys. 82, 331-356 (2004)

Ni Z= 50-90 step 10	Energy Levels, Wavelengths	Th
$\mathbf{W}^{46+}$	Energy Levels, Wavelengths	Th
$\mathbf{Bi}^{55+}$	Energy Levels, Wavelengths	Th
$\mathbf{U}^{64+}$	Energy Levels, Wavelengths	Th

134. P. Beiersdorfer, E. W. Magee, E. Träbert, H. Chen, J. K. Lepson, M.-F. Gu, M. Schmidt
Flat-Field Grating Spectrometer for High-Resolution Soft X-Ray and Extreme Ultraviolet Measurements on an Electron Beam Ion Trap
Rev. Sci. Instrum. 75-10, 3723-3726 (2004)

$\mathbf{Mg}^{10+--11+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{9+--10+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp

135. N. Kolachevsky, P. Fendel, S. G. Karshenboim, T. W. Hänsch
2S Hyperfine Structure of Atomic Deuterium
Phys. Rev. A 70, 062503 (2004)

D	Energy Levels, Wavelengths	Exp

136. M. Oura, H. Yamaoka, Y. Senba, K. Ohashi, F. Koike
Observation of the [1s2s](^{3,1}S)nℓn$'\ell'$ ^{1}P Inner-Shell Doubly Excited States of Ne by Photoion Yield Spectroscopy
Phys. Rev. A 70, 062502 (2004)

Ne	Energy Levels, Wavelengths	E/T

137. J. Y. Zhong, C. Wang, J. Zhang, X. Lu, G. Zhao, J. L. Zeng, M. F. Gu, S. J. Wang
Driver-Pulse Configuration of the Nickel-like Ta X-ray Laser at 4.48 nm
Phys. Rev. A 70, 053803 (2004)

Ta^{45+}	Energy Levels, Wavelengths	Th

138. J. Sandström, G. Haeffler, I. Kiyan, U. Berzinsh, D. Hanstorp, D. J. Pegg, J. C. Hunnell, S. J. Ward
Effect of Polarization on Photodetachment Thresholds
Phys. Rev. A 70, 052707 (2004)

Li$^-$	Energy Levels, Wavelengths	Exp
K$^-$	Energy Levels, Wavelengths	Exp

139. A. De Fanis, G. Prümper, U. Hergenhahn, M. Oura, M. Kitajima, T. Tanaka, H. Tanaka, S. Fritzsche, N. M. Kabachnik, K. Ueda
Photoelectron Recapture as a Tool for the Spectroscopy of Ionic Rydberg States
Phys. Rev. A 70, 040702 (2004)

Ne$^+$	Energy Levels, Wavelengths	Exp

140. G. P. Gupta, K. M. Aggarwal, A. Z. Msezane
Comment on "Relativistic Many-Body Calculation of Energies of n = 3 States in Aluminumlike ions"
Phys. Rev. A 70, 036501 (2004)

Ar^{5+}	Energy Levels, Wavelengths	Th
Ti^{9+}	Energy Levels, Wavelengths	Th
Fe^{13+}	Energy Levels, Wavelengths	Th
Ni^{15+}	Energy Levels, Wavelengths	Th

141. E. Träbert, P. Beiersdorfer, H. Chen
Wavelengths of the 4s$_{1/2}$-4p$_{3/2}$ Resonance Lines in Cu- and Zn-like Heavy Ions
Phys. Rev. A 70, 032506 (2004)

Yb^{40+}	Energy Levels, Wavelengths	Exp
Yb^{41+}	Energy Levels, Wavelengths	Exp
W^{44+}	Energy Levels, Wavelengths	Exp
W^{45+}	Energy Levels, Wavelengths	Exp
Os^{46+}	Energy Levels, Wavelengths	Exp
Os^{47+}	Energy Levels, Wavelengths	Exp
Au^{49+}	Energy Levels, Wavelengths	Exp
Au^{50+}	Energy Levels, Wavelengths	Exp
Pb^{52+}	Energy Levels, Wavelengths	Exp
Pb^{53+}	Energy Levels, Wavelengths	Exp

$\mathbf{Bi^{53+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Bi^{54+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Th^{60+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Th^{61+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{U^{62+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{U^{63+}}$	Energy Levels, Wavelengths	Exp

142. M. Oura, Y. Tamenori, T. Hayaishi, Y. Kanai, H. Yoshii, K. Tsukamoto, F. Koike
Observation of the Angle-Resolved Resonant Auger Emission from the [1s2p](^{3,1}P)3p^2 ^{1}P Doubly Excited 2p-2h States of Ne
Phys. Rev. A 70, 022710 (2004)

Ne	Energy Levels, Wavelengths	Exp

143. K. B. Fournier, A. Ya. Faenov, T. A. Pikuz, A. I. Magunov, I. Yu. Skobelev, F. Flora, S. Bollanti, P. Di Lazzaro, D. Murra, V. S. Belyaev, V. I. Vinogradov, A. S. Kyrilov, A. P. Matafonov, M. Francucci, S. Martellucci, G. Petrocelli
Analysis of High-n Dielectronic Rydberg Satellites in the Spectra of Na-like Zn XX and Mg-like Zn XIX
Phys. Rev. E 70, 016406 (2004)

$\mathbf{Zn^{18+}}$—$^{21+}$	Energy Levels, Wavelengths	Exp

144. K. McKeown, K. M. Aggarwal, F. P. Keenan, S. J. Rose
Energy Levels and Radiative Rates for Li-like Ar XVI and Fe XXIV
Phys. Scr. 70, 295-303 (2004)

$\mathbf{Ar^{15+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Fe^{23+}}$	Energy Levels, Wavelengths	Th

145. L. Pan, D. R. Beck
Mo V J = 0,1 Energy Levels, Oscillator Strengths and Landé g-values
Phys. Scr. 70, 257-261 (2004)

$\mathbf{Mo^{4+}}$	Energy Levels, Wavelengths	E/T

146. G. P. Gupta, A. Z. Msezane
Energy Levels and Lifetimes of High Angular Momentum and High Spin Levels 3s3p3d (^{4}F$_J$) in Ti X
Phys. Scr. 70, 235-240 (2004)

$\mathbf{Ti^{9+}}$	Energy Levels, Wavelengths	Th

147. K. M. Aggarwal, F. P. Keenan
Electron Impact Excitation of O VI
Phys. Scr. 70, 222-234 (2004)

$\mathbf{O^{5+}}$	Energy Levels, Wavelengths	Th

148. S. S. Churilov, Y. N. Joshi, J. Reader, R. R. Kildiyarova
4p^{6}4d^8-(4d^{7}5p+4d^{7}4f+4p^{5}4d^9) Transitions in Xe XI
Phys. Scr. 70, 126-138 (2004)

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

149. A. Rahman, J. J. Rocca, J.-F. Wyart
Classification of the Nickel-like Silver Spectrum (Ag XX) from a Fast Capillary Discharge Plasma
Phys. Scr. 70, 21-25 (2004)

Ag^{19+}	Energy Levels, Wavelengths	E/T

150. T. K. Mukherjee, P. K. Mukherjee
Variational Calculation for the Doubly Excited State $(2p^2)^3P^e$ of Helium
Phys. Rev. A 69, 064501 (2004)

He	Energy Levels, Wavelengths	Th

151. O. Yu. Andreev, L. N. Labzowsky, G. Plunien, G. Soff
Calculation of Quasidegenerate Energy Levels of Two-Electron Ions
Phys. Rev. A 69, 062505 (2004)

He Z= 30-80 step 10	Energy Levels, Wavelengths	Th
Ne^{8+}	Energy Levels, Wavelengths	Th
Ar^{16+}	Energy Levels, Wavelengths	Th
Fe^{24+}	Energy Levels, Wavelengths	Th
U^{90+}	Energy Levels, Wavelengths	Th

152. M. J. Vilkas, Y. Ishikawa
Relativistic Many-Body Perturbation Calculations on Extreme Ultraviolet and Soft-X-ray Transition Energies In Siliconlike Iron
Phys. Rev. A 69, 062503 (2004)

Fe^{12+}	Energy Levels, Wavelengths	E/T

153. Y. H. Jiang, R. Püttner, M. Martins, R. Follath, J. M. Rost, G. Kaindl
Isotope Shifts of Double-Excitation Resonances in Helium
Phys. Rev. A 69, 052703 (2004)

He	Energy Levels, Wavelengths	Exp

154. U. I. Safronova, W. R. Johnson
Excitation Energies, Oscillator Strengths, and Lifetimes of Levels Along the Gold Isoelectronic Sequence
Phys. Rev. A 69, 052511 (2004)

Au Z= 79-83	Energy Levels, Wavelengths	Th
$^{199}Hg^{+}$	Energy Levels, Wavelengths	Th
$^{201}Hg^{+}$	Energy Levels, Wavelengths	Th
Hg^{+}	Energy Levels, Wavelengths	Th
$^{205}Tl^{2+}$	Energy Levels, Wavelengths	Th
Tl^{2+}	Energy Levels, Wavelengths	Th

155. J. G. Childers, B. A. deHarak, N. L. S. Martin
Ejected Electron Spectrum of Xe between the $^2P_{3/2}$ and $^2P_{1/2}$ Ionic Limits
Phys. Rev. A 69, 042713 (2004)

Xe	Energy Levels, Wavelengths	Exp

156. B.-C. Gou, F. Wang
Relativistic Energy, Fine Structure, and Hyperfine Structure of the High-Lying Core-Excited States $^5P(n)$ (n=1-7) and $^5S^{\circ}(m)$ (m=1-5) for Be-like Boron and Carbon
Phys. Rev. A 69, 042513 (2004)

Be Z= 5-6	Energy Levels, Wavelengths	E/T

157. S. G. Porsev, A. Derevianko
Hyperfine Quenching of the Metastable $^3P_{0,2}$ States in Divalent Atoms
Phys. Rev. A 69, 042506 (2004)

^{25}**Mg**	Energy Levels, Wavelengths	Th
Mg	Energy Levels, Wavelengths	Th
^{43}**Ca**	Energy Levels, Wavelengths	Th
Ca	Energy Levels, Wavelengths	Th
^{87}**Sr**	Energy Levels, Wavelengths	Th
Sr	Energy Levels, Wavelengths	Th
^{171}**Yb**	Energy Levels, Wavelengths	Th
^{173}**Yb**	Energy Levels, Wavelengths	Th
Yb	Energy Levels, Wavelengths	Th

158. D. Fregenal, E. Horsdal-Pedersen, L. B. Madsen, M. Førre, J. P. Hansen, V. N. Ostrovsky
Multiphoton Intrashell Resonances in Rydberg Atoms: Bloch-Siegert Shifts and Widths
Phys. Rev. A 69, 031401 (2004)

Li	Energy Levels, Wavelengths	Exp

159. A. K. Langworthy, D. M. Pendergrast, J. N. Yukich
Zeeman Transition Strengths in Photodetachment from O^- and S^-
Phys. Rev. A 69, 025401 (2004)

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

160. K. Hosaka, D. N. Crosby, K. Gaarde-Widdowson, C. J. Smith, J. D. Silver, T. Kinugawa, S. Ohtani, E. G. Myers
Laser Spectroscopy of Hydrogenlike Nitrogen in an Electron Beam Ion Trap
Phys. Rev. A 69, 011802 (2004)

$^{14}\mathbf{N}^{6+}$	Energy Levels, Wavelengths	Exp
$\mathbf{N}^{6+}$	Energy Levels, Wavelengths	Exp

161. N. Jaritz, G. H. Guthöhrlein, L. Windholz, D. Messnarz, R. Engleman Jr., J. C. Pickering, H. Jäger
Investigation of the Hyperfine Structure of Ta I Lines (VIII)
Phys. Scr. 69, 441-450 (2004)

^{181}**Ta**	Energy Levels, Wavelengths	Exp
Ta	Energy Levels, Wavelengths	Exp

162. J. Fan, N. W. Zheng, D. X. Ma, T. Wang
Calculation of the Energy Levels to High States in Atomic Oxygen
Phys. Scr. 69, 398-402 (2004)

O	Energy Levels, Wavelengths	Th

163. A. Tauheed, Y. N. Joshi, A. Naz
Extended Analysis of Doubly Ionized Iodine Spectrum: I III
Phys. Scr. 69, 289-296 (2004)

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

164. A. Tauheed, Y. N. Joshi, A. Naz
Extended Analysis of the Fourth Spectrum of Iodine: I IV
Phys. Scr. 69, 283-288 (2004)

I^{3+}	Energy Levels, Wavelengths	E/T

165. D. R. Beck, L. Pan
Ab Initio Energy Levels, Oscillator Strengths, and Landé g-Values for J=0, 1 States of Zr III and Nb IV
Phys. Scr. 69, 91-97 (2004)

Zr^{2+}	Energy Levels, Wavelengths	Th
Nb^{3+}	Energy Levels, Wavelengths	Th

166. S. Kröger, O. Scharf, G. H. Guthöhrlein
New and Revised Energy Levels of Atomic Niobium
Europhys. Lett. 66-3, 344-349 (2004)

Nb	Energy Levels, Wavelengths	Exp

167. J. Reader
Reference Wavelengths for Strong Lines of Atomic Hydrogen and Deuterium
Appl. Spectrosc. 58-12, 1469-1474 (2004)

H	Energy Levels, Wavelengths	E/T
D	Energy Levels, Wavelengths	E/T

168. Z. Yang, S. Du, H. Su, Y. Zhang, S. Ren, X. Zeng
Experimental Study of Highly Ionized Spectra of Titanium
Chin. Sci. Bull. 49-23, 2443-2446 (2004)

$Ti^{11+—12+}$	Energy Levels, Wavelengths	Exp
$Ti^{14+—18+}$	Energy Levels, Wavelengths	Exp
$Ti^{16+—17+}$	Energy Levels, Wavelengths	Exp

169. M. J. Vilkas, Y. Ishikawa
Relativistic Multireference Many-Body Perturbation Theory Calculations on Ions of the Phosphorus Isoelectronic Sequence
J. Phys. B 37-24, 4763-4778 (2004)

P Z= 26-32	Energy Levels, Wavelengths	Th

170. K. Koc
Ab Initio Calculation of $1s^2 2l' 3l' 4l''$ Energy Levels and E1 Transition Probabilities for O^{3+}
J. Phys. B 37, 3821-3835 (2004)

O^{3+}	Energy Levels, Wavelengths	Th

171. B. Lin, H. G. Berry, T. Shibata, A. E. Livingston, H.-P. Garnir, T. Bastin, J. Désesquelles
$1s2s2p^2 3p\ ^6L$-$1s2p^3 3p\ ^6P$ Transitions in O IV, F V and Ne VI
J. Phys. B 37, 2797-2809 (2004)

O^{3+}	Energy Levels, Wavelengths	Exp
F^{4+}	Energy Levels, Wavelengths	Exp
Ne^{5+}	Energy Levels, Wavelengths	Exp

172. M. Hanif, M. Aslam, R. Ali, S. A. Bhatti, M. A. Baig, D. Klar, M.-W. Ruf, I. D. Petrov, V. L. Sukhorukov, H. Hotop
Experimental and Theoretical Investigation of Odd $5p^5_{1/2}nl'$ Autoionizing Resonances in Xenon Atoms: Energy Dependence of the Reduced Widths
J. Phys. B 37, 1987-2009 (2004)

Xe	Energy Levels, Wavelengths	E/T

173. Y. Komninos, C. A. Nicolaides
Quantum Defect Theory for Coulomb and Other Potentials in the Framework of Configuration Interaction and Implementation to the Calculation of ^{2}D and ^{2}F$^\circ$ Perturbed Spectra of Al
J. Phys. B 37, 1817-1832 (2004)

Al	Energy Levels, Wavelengths	Th

174. M. J. Vilkas, Y. Ishikawa
High-Accuracy Calculations of Term Energies and Lifetimes of Silicon-like Ions with Nuclear Charges Z = 24-30
J. Phys. B 37, 1803-1816 (2004)

Si Z= 24-30	Energy Levels, Wavelengths	E/T
$\mathbf{Cr}^{10+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Mn}^{11+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Fe}^{11+--12+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Fe}^{12+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Co}^{12+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ni}^{14+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Cu}^{15+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Zn}^{16+}$	Energy Levels, Wavelengths	E/T

175. M. Nemouchi, A. Taleb, M. Godefroid
Isotope Shift in the Electron Affinity of Beryllium
J. Phys. B 37, 865-874 (2004)

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

176. J. A. Tully, M. C. Chidichimo
Radiative Data for Allowed Transitions in Ni XXV
J. Phys. B 37, 689-701 (2004)

$\mathbf{Ni}^{24+}$	Energy Levels, Wavelengths	Th

177. A. Ehresmann, S. Klumpp, L. Werner, H. Schmoranzer, S. Kammer, S. Mickat, K. H. Schartner, I. D. Petrov, Ph. V. Demekhin, V. L. Sukhorukov
Observation and Identification of Doubly Excited Kr I 4s^{2}4p^{4}5snℓ Rydberg Series
J. Phys. B 37, L251-L257 (2004)

Kr	Energy Levels, Wavelengths	Exp

178. E. B. Baklanov
Precision Laser Spectroscopy of Hydrogen and Helium Atoms
Quantum Electron. 34-8, 698-704 (2004)

H	Energy Levels, Wavelengths	Exp
^{4}**He**	Energy Levels, Wavelengths	Exp
He	Energy Levels, Wavelengths	Exp

179. O. Jitrik, C. F. Bunge
Transition Probabilities For Hydrogen-Like Atoms
J. Phys. Chem. Ref. Data 33-4, 1059-1070 (2004)

H	Energy Levels, Wavelengths	Th

180. E. B. Saloman
Energy Levels and Observed Spectral Lines of Xenon, Xe I through Xe LIV
J. Phys. Chem. Ref. Data 33-3, 765-921 (2004)

$\mathbf{Xe}^{0+-2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{0+-8+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{0+-10+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{9+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{10+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{11+-24+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{18+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{24+-28+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{25+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{26+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{27+-49+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{42+-44+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{50+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{50+-51+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{51+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{52+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{53+}$	Energy Levels, Wavelengths	E/T

181. J. J. Curry
Compilation of Wavelengths, Energy Levels, and Transition Probabilities for Ba I and Ba II
J. Phys. Chem. Ref. Data 33-3, 725-746 (2004)

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

182. L. I. Podobedova, J. R. Fuhr, J. Reader, W. L. Wiese
Atomic Spectral Tables for the Chandra X-ray Observatory. Part IV. Ne V-Ne VIII
J. Phys. Chem. Ref. Data 33-2, 525-540 (2004)

$\mathbf{Ne}^{4+-7+}$	Energy Levels, Wavelengths	Exp

183. L. I. Podobedova, D. E. Kelleher, J. Reader, W. L. Wiese
Atomic Spectral Tables for the Chandra X-Ray Observatory. Part III. Mg V-Mg X
J. Phys. Chem. Ref. Data 33-2, 495-524 (2004)

$\mathbf{Mg}^{4+-9+}$	Energy Levels, Wavelengths	Exp

184. L. I. Podobedova, D. E. Kelleher, J. Reader, W. L. Wiese
Atomic Spectral Tables for the Chandra X-ray Observatory. Part II. Si VI-Si XII
J. Phys. Chem. Ref. Data 33-2, 471-494 (2004)

$\mathbf{Si}^{5+-11+}$	Energy Levels, Wavelengths	Exp

185. M. A. Zia, M. A. Baig
Two-Step Laser Optogalvanic Spectroscopy of the Odd-Parity Rydberg States of Atomic Mercury
Eur. Phys. J. D 28, 323-330 (2004)

Hg	Energy Levels, Wavelengths	Exp

186. G. Nave, C. J. Sansonetti
Reference Wavelengths in the Spectra of Fe, Ge, and Pt in the Region Near 1935 Å
J. Opt. Soc. Am. B 21-2, 442-453 (2004)

Fe	Energy Levels, Wavelengths	Exp
Ge	Energy Levels, Wavelengths	Exp
Kr^{+}	Energy Levels, Wavelengths	Exp
Pt^{0+}—$^{+}$	Energy Levels, Wavelengths	Exp

187. Z.-H. Yang, Y.-D. Wang, X.-W. Ma, H.-P. Liu, H. Su, Y.-P. Zhang, G.-Q. Xiao
Spectra of Highly Ionized Sulfur Below 200 Å
Chin. Phys. Lett. 21-2, 287-290 (2004)

S^{9+}—$^{15+}$	Energy Levels, Wavelengths	Exp

188. M.-H. Hu, Z.-W. Wang
Energy and Fine Structure of $1s^2np$ ($n \leq 9$) States for Lithium-like Systems from Z = 11 to 20
Chin. Phys. 13-5, 662-669 (2004)

Li Z= 11-20	Energy Levels, Wavelengths	E/T

189. A. Alonso-Medina, C. Colón, C. Herrán Martínez
Transitions from Autoionized Single-Ionized Tin States: A Theoretical Study of the $5s5p(^3P^\circ)nl$ (nl = 5d, 6s) Levels of Sn II
Astrophys. J. 595, 550-554 (2003)

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

190. J. O. Ekberg, U. Feldman
New Identifications of Mn VII and Fe VIII Lines Belonging to Transitions of the Type $3p^64p$-$3p^64d$ and $3p^53d^2$-$3p^64d$
Astrophys. J. 595, 517-521 (2003)

Mn^{6+}	Energy Levels, Wavelengths	Exp
Fe^{7+}	Energy Levels, Wavelengths	Exp

191. J. K. Lepson, P. Beiersdorfer, E. Behar, S. M. Kahn
Emission-Line Spectra of Ar IX-Ar XVI in the Soft X-ray Region 20-50 Å
Astrophys. J. 590, 604-617 (2003)

Ar^{8+}–-$^{15+}$	Energy Levels, Wavelengths	E/T

192. S. Johansson, U. Litzén, H. Lundberg, Z. Zhang
Experimental f-Value and Isotopic Structure for the Ni I Line Blended with [O I] at 6300 Å
Astrophys. J. 584, L107-L110 (2003)

^{58}Ni	Energy Levels, Wavelengths	Exp
^{60}Ni	Energy Levels, Wavelengths	Exp
Ni	Energy Levels, Wavelengths	Exp

193. S. Ivarsson, J. Andersen, B. Nordström, X. Dai, S. Johansson, H. Lundberg, H. Nilsson, V. Hill, M. Lundqvist, J. F. Wyart
Improved Oscillator Strengths and Wavelengths for Os I and Ir I, and New Results on Early r-process Nucleosynthesis
Astron. Astrophys. 409, 1141-1149 (2003)

Os	Energy Levels, Wavelengths	Exp
Ir	Energy Levels, Wavelengths	Exp

194. P.-H. Lefèbvre, H.-P. Garnir, E. Biémont
Hyperfine Structure for Neutral Manganese Lines of Astrophysical Interest
Astron. Astrophys. 404, 1153-1158 (2003)

Mn	Energy Levels, Wavelengths	Exp

195. R. Kisielius, A. Hibbert, G. J. Ferland, M. E. Foord, S. J. Rose, P. A. M. van Hoof, F. P. Keenan
Inner-shell Photoexcitation of Fe XV and Fe XVI
Mon. Not. R. Astron. Soc. 344, 696-706 (2003)

$\mathbf{Fe}^{14+-15+}$	Energy Levels, Wavelengths	Th

196. Y. Morishita, Y. Kanai, K. Ando, R. Hutton, T. Brage, H. A. Torii, K. Komaki, H. Masuda, K. Ishii, F. B. Rosmej, Y. Yamazaki
Visible Light Spectroscopy of $\mathbf{Ar}^{6+}$ Ions in High Rydberg States Produced with a Microcapillary Target
Nucl. Instrum. Methods Phys. Res. B 205, 758-761 (2003)

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

197. H. Tawara, E. Takács, L. P. Ratliff, J. D. Gillaspy, K. Tókési
Cascade Transition X-rays from Electron Capture into Highly Charged Ions in Collisions with Neutral Gas Targets
Nucl. Instrum. Methods Phys. Res. B 205, 605-609 (2003)

$\mathbf{Kr}^{27+-35+}$	Energy Levels, Wavelengths	Exp

198. R. Bruch, H. Merabet, K. T. Chung
Excitation of Triply Excited $\mathbf{Be}^{+}$ ($2\ell n\ell' n'\ell''$) States in 300 and 500 KeV-$\mathbf{Be}^{+}$ + $\mathbf{CH}_4$ Collisions
Nucl. Instrum. Methods Phys. Res. B 205, 488-493 (2003)

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

199. C. Biedermann, R. Radtke, K. Fournier
Line Ratios and Wavelengths of Helium-like Argon n = 2 Satellite Transitions and Resonance Lines
Nucl. Instrum. Methods Phys. Res. B 205, 255-259 (2003)

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

200. M. Huang, R. Hutton, Y. Zou, K. Ando, H. Oyama
The Continuing Saga of the Si-like Intercombination Lines in Highly Charged Ions, Si-like Rhodium
Nucl. Instrum. Methods Phys. Res. B 205, 119-122 (2003)

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

201. M. C. Buchet-Poulizac, A. Cassimi, G. Cremer, J.-P. Grandin, D. Hennecart, X. Husson, E. Jacquet, J.-F. Wyart
Extreme UV Observation of 3-3 Transitions of Niobium in Near Neon-like Charge States
Nucl. Instrum. Methods Phys. Res. B 205, 106-113 (2003)

$\mathbf{Nb}^{28+-32+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Nb}^{31+}$	Energy Levels, Wavelengths	Exp

202. A. Bordenave-Montesquieu, P. Moretto-Capelle, D. Bordenave-Montesquieu
An Accurate Test of Calculated Positions and Lifetimes for $Ne^{6+}(ls3lnl')$ ^1L States (n = 3 and 4) Using a High-Resolution Electron Spectroscopy
Nucl. Instrum. Methods Phys. Res. B 205, 74-77 (2003)

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

203. C. Brandau, T. Bartsch, S. Böhm, C. Böhme, A. Hoffknecht, H. Knopp, S. Schippers, W. Shi, A. Müller, N. Grün, W. Scheid, T. Steih, F. Bosch, B. Franzke, C. Kozhuharov, P. H. Mokler, F. Nolden, M. Steck, T. Stöhlker, Z. Stachura
Autoionizing High-Rydberg States of Very Heavy Be-like Ions: A Tool for Precision Spectroscopy
Nucl. Instrum. Methods Phys. Res. B 205, 66-69 (2003)

$^{197}\mathbf{Au}^{76+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Au}^{76+}$	Energy Levels, Wavelengths	E/T
$^{208}\mathbf{Pb}^{79+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Pb}^{79+}$	Energy Levels, Wavelengths	E/T
$\mathbf{U}^{88+}$	Energy Levels, Wavelengths	E/T
$^{238}\mathbf{U}^{89+}$	Energy Levels, Wavelengths	E/T
$\mathbf{U}^{89+}$	Energy Levels, Wavelengths	E/T

204. P. Beiersdorfer, J. R. Crespo López-Urrutia, S. B. Utter, E. Träbert, M. G. H. Gustavsson, C. Forssén, A.-M. Mårtensson-Pendrill
Hyperfine Structure of Heavy Hydrogen-like Ions
Nucl. Instrum. Methods Phys. Res. B 205, 62-65 (2003)

$^{203}\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Exp
$^{205}\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Exp

205. D. C. Morton
Atomic Data for Resonance Absorption Lines. III. Wavelengths Longward of the Lyman Limit for the Elements Hydrogen to Gallium
Astrophys. J., Suppl. Ser. 149, 205-238 (2003)

H Z= 1-3	Energy Levels, Wavelengths	E/T
He Z= 2-3	Energy Levels, Wavelengths	E/T
H	Energy Levels, Wavelengths	E/T
$^{3}\mathbf{He}$	Energy Levels, Wavelengths	E/T
$^{4}\mathbf{He}$	Energy Levels, Wavelengths	E/T
$\mathbf{He}^{0+-+}$	Energy Levels, Wavelengths	E/T
$^{6}\mathbf{Li}$	Energy Levels, Wavelengths	E/T
$^{7}\mathbf{Li}$	Energy Levels, Wavelengths	E/T
Li	Energy Levels, Wavelengths	E/T
$\mathbf{Be}^{0+-+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Be}^{0+-2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Be}^{3+}$	Energy Levels, Wavelengths	E/T
$^{10}\mathbf{B}^{0+-2+}$	Energy Levels, Wavelengths	E/T
$^{11}\mathbf{B}^{0+-2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{B}^{0+-2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{B}^{3+-4+}$	Energy Levels, Wavelengths	E/T
$^{13}\mathbf{C}^{0+-+}$	Energy Levels, Wavelengths	E/T
$\mathbf{C}^{0+-3+}$	Energy Levels, Wavelengths	E/T

$\mathbf{C}^{0+\text{--}4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{C}^{5+}$	Energy Levels, Wavelengths	E/T
$\mathbf{N}^{0+\text{--}4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{N}^{5+\text{--}6+}$	Energy Levels, Wavelengths	E/T
O	Energy Levels, Wavelengths	E/T
$\mathbf{O}^{0+\text{--}6+}$	Energy Levels, Wavelengths	E/T
$\mathbf{O}^{2+\text{--}5+}$	Energy Levels, Wavelengths	E/T
F	Energy Levels, Wavelengths	E/T
$\mathbf{F}^{0+\text{--}6+}$	Energy Levels, Wavelengths	E/T
$\mathbf{F}^{3+\text{--}5+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ne}^{0+\text{--}6+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ne}^{4+\text{--}5+}$	Energy Levels, Wavelengths	E/T
Na	Energy Levels, Wavelengths	E/T
$\mathbf{Na}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T
$^{24}\mathbf{Mg}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T
$^{25}\mathbf{Mg}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T
$^{26}\mathbf{Mg}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Mg}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Mg}^{0+\text{--}3+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Al}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Al}^{0+\text{--}4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Si}^{0+\text{--}3+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Si}^{0+\text{--}5+}$	Energy Levels, Wavelengths	E/T
$\mathbf{P}^{0+\text{--}4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{P}^{0+\text{--}6+}$	Energy Levels, Wavelengths	E/T
$\mathbf{S}^{0+\text{--}5+}$	Energy Levels, Wavelengths	E/T
$\mathbf{S}^{0+\text{--}6+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Cl}^{0+\text{--}5+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Cl}^{0+\text{--}6+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ar}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ar}^{0+\text{--}6+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ar}^{3+\text{--}5+}$	Energy Levels, Wavelengths	E/T
K	Energy Levels, Wavelengths	E/T
$\mathbf{K}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Sc}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Sc}^{0+\text{--}4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ti}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ti}^{0+\text{--}4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{V}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{V}^{0+\text{--}4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Cr}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Cr}^{0+\text{--}4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Mn}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Mn}^{0+\text{--}3+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Fe}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Fe}^{0+\text{--}4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Co}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Co}^{0+\text{--}4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ni}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ni}^{0+\text{--}3+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Cu}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Cu}^{0+\text{--}3+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Zn}^{0+\text{--}+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Zn}^{0+\text{--}3+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ga}^{0+\text{--}2+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ga}^{0+\text{--}3+}$	Energy Levels, Wavelengths	E/T
D	Energy Levels, Wavelengths	E/T

206. J. O. Ekberg, U. Feldman
New Identifications of Mn VI and Fe VII Vacuum Ultraviolet Lines
Astrophys. J., Suppl. Ser. 148, 567-574 (2003)

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

207. D. W. Savin, S. M. Kahn, G. Gwinner, M. Grieser, R. Repnow, G. Saathoff, D. Schwalm, A. Wolf, A. Müller, S. Schippers, P. A. Závodszky, M. H. Chen, T. W. Gorczyca, O. Zatsarinny, M. F. Gu
Dielectronic Recombination of Fe XXI and Fe XXII via N = 2 → N′ = 2 Core Excitations
Astrophys. J., Suppl. Ser. 147, 421-435 (2003)

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

208. A. Aguilar, A. M. Covington, G. Hinojosa, R. A. Phaneuf, I. Álvarez, C. Cisneros, J. D. Bozek, I. Dominguez, M. M. Sant'Anna, A. S. Schlachter, S. N. Nahar, B. M. McLaughlin
Absolute Photoionization Cross Section Measurements of O II Ions from 29.7 to 46.2 eV
Astrophys. J., Suppl. Ser. 146, 467-477 (2003)

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

209. J. P. Marques, F. Parente, P. Indelicato
Relativistic Transition Energies and Radiative Transition Rates for Forbidden Transitions in the $1s^22s^22p^4$ Atomic Configuration for $20 \leq Z \leq 30$
Hyperfine Interact. 146, 121-125 (2003)

O Z= 20-30 step 2	Energy Levels, Wavelengths	Th

210. J. R. Crespo López-Urrutia, B. Bapat, I. Draganić, B. Feuerstein, D. Fischer, H. Lörch, R. Moshammer, J. Ullrich, R. D. Dubois, Y. Zou
Physics with Highly-Charged Ions in an EBIT
Hyperfine Interact. 146/147, 109-113 (2003)

$\mathbf{Ar}^{9+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	Exp

211. E. G. Myers, M. Redshaw, B. Roeder
Fast-Beam Laser Spectroscopy of Helium-like Silicon
Hyperfine Interact. 146, 103-108 (2003)

$^{28}\mathbf{Si}^{12+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Si}^{12+}$	Energy Levels, Wavelengths	Exp

212. A. Sasso, G. Pesce, G. Rusciano
High-Resolution and High-Sensitivity Laser Spectroscopy of Atoms and Molecules in the Near- and Mid-IR Spectral Regions
Phys. Scr. T105, 76-84 (2003)

Ar	Energy Levels, Wavelengths	Exp
$^{129}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
$^{131}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
Xe	Energy Levels, Wavelengths	Exp

213. H. Nilsson, S. Ivarsson, H. Sabel, C. M. Sikström, L. J. Curtis
Measurements of Transition Probabilities for Complex Ions
Phys. Scr. T105, 61-66 (2003)

Mo^{+}	Energy Levels, Wavelengths	Exp

214. M. Bitter, M. F. Gu, L. A. Vainshtein, P. Beiersdorfer, G. Bertschinger, O. Marchuk, R. Bell, B. LeBlanc, K. W. Hill, D. Johnson, L. Roquemore
New Benchmarks from Tokamak Experiments for Theoretical Calculations of the Dielectronic Satellite Spectra of Heliumlike Ions
Phys. Rev. Lett. 91, 265001 (2003)

Ar^{15+}	Energy Levels, Wavelengths	Th

215. I. Draganić, J. R. Crespo López-Urrutia, R. DuBois, S. Fritzsche, V. M. Shabaev, R. Soria Orts, I. I. Tupitsyn, Y. Zou, J. Ullrich
High Precision Wavelength Measurements of QED-Sensitive Forbidden Transitions in Highly Charged Argon Ions
Phys. Rev. Lett. 91, 183001 (2003)

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

216. B. A. Bushaw, W. Nörtershäuser, G. Ewald, A. Dax, G. W. F. Drake
Hyperfine Splitting, Isotope Shift, and Level Energy of the 3S States of ^{6,7}Li
Phys. Rev. Lett. 91, 043004 (2003)

^{6}**Li**	Energy Levels, Wavelengths	Exp
^{7}**Li**	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

217. K. Ueda, M. Kitajima, A. De Fanis, Y. Tamenori, H. Yamaoka, H. Shindo, T. Furuta, T. Tanaka, H. Tanaka, H. Yoshida, R. Sankari, S. Aksela, S. Fritzsche, N. M. Kabachnik
Doppler-Free Resonant Raman Auger Spectroscopy of Ne^{+} 2s2p^{5}3p Excited States
Phys. Rev. Lett. 90, 153005 (2003)

Ne^{+}	Energy Levels, Wavelengths	Exp

218. I. M. Savukov, W. R. Johnson, U. I. Safronova
Multipole (E1, M1, E2, M2) Transition Wavelengths and Rates between States with n $\leq$ 6 in Helium-like Carbon, Nitrogen, Oxygen, Neon, Silicon, and Argon
At. Data Nucl. Data Tables 85, 83-167 (2003)

He Z= 6-10	Energy Levels, Wavelengths	Th
Si^{12+}	Energy Levels, Wavelengths	Th
Ar^{16+}	Energy Levels, Wavelengths	Th

219. S. B. Utter, P. Beiersdorfer, E. Träbert
Accurate Wavelengths of Resonance Lines in Zn-like Heavy Ions
Can. J. Phys. 81, 911-918 (2003)

Yb^{40+}	Energy Levels, Wavelengths	Exp
W^{44+}	Energy Levels, Wavelengths	Exp
Au^{49+}	Energy Levels, Wavelengths	Exp
Pb^{52+}	Energy Levels, Wavelengths	Exp
Th^{60+}	Energy Levels, Wavelengths	Exp
U^{62+}	Energy Levels, Wavelengths	Exp

220. F. B. Rosmej, A. Calisti, R. Stamm, B. Talin, C. Moss, S. Ferri, M. Geißel, D. H. H. Hoffmann, A. Ya. Faenov, T. A. Pikuz
Strongly Coupled Laser Produced Plasmas: Investigation of Hollow Ion Formation and Line Shape Analysis
J. Quant. Spectrosc. Radiat. Transfer 81, 395-409 (2003)

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

221. K. B. Fournier, A. Ya. Faenov, T. A. Pikuz, I. Yu. Skobelev, F. Flora, S. Bollanti, P. Di Lazzaro, D. Murra, A. Reale, L. Reale, G. Tomassetti, A. Ritucci, I. Bellucci, S. Martellucci, G. Petrocelli, V. S. Belyaev, V. I. Vinogradov, A. S. Kyrilov, A. P. Matafonov
Rydberg Transitions in the Spectra of Near-Neon-like Cu and Zn Ions in Different Laser-Produced Plasmas: Observations and Modeling
J. Quant. Spectrosc. Radiat. Transfer 81, 167-182 (2003)

O Z= 29-30	Energy Levels, Wavelengths	Exp
F Z= 29-30	Energy Levels, Wavelengths	Exp
Ne Z= 29-30	Energy Levels, Wavelengths	Exp

222. J. Dubau, D. Porquet, O. Z. Zabaydullin
Absorption Spectra of Fe L-Lines in Seyfert 1 Galaxies
J. Quant. Spectrosc. Radiat. Transfer 81, 117-124 (2003)

Fe^{8+}	Energy Levels, Wavelengths	Th
Fe$^{14+-15+}$	Energy Levels, Wavelengths	Th

223. A. V. Shavrina, N. S. Polosukhina, Ya. V. Pavlenko, A. V. Yushchenko, V. F. Gopka
Characteristic Features of the Spectrum of the Unique roAp Star HD 101065 near the 6708 Å Lithium Resonance Doublet
Astron. Rep. 47-7, 573-579 (2003)

^{6}**Li**	Energy Levels, Wavelengths	Exp
^{7}**Li**	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp
Ce^{+}	Energy Levels, Wavelengths	Exp
Pr^{2+}	Energy Levels, Wavelengths	Exp
Nd^{+}	Energy Levels, Wavelengths	Exp
Sm^{+}	Energy Levels, Wavelengths	Exp
Gd^{+}	Energy Levels, Wavelengths	Exp
Dy^{+}	Energy Levels, Wavelengths	Exp
Er^{+}	Energy Levels, Wavelengths	Exp
Tm^{+}	Energy Levels, Wavelengths	Exp
Yb^{+}	Energy Levels, Wavelengths	Exp

224. R. Engleman Jr., K. H. Hinkle, L. Wallace
The Near-Infrared Spectrum of a Th/Ar Hollow Cathode Lamp
J. Quant. Spectrosc. Radiat. Transfer 78, 1-30 (2003)

Ar^{0+-+}	Energy Levels, Wavelengths	Exp
Ca	Energy Levels, Wavelengths	Exp
^{232}**Th**$^{0+-2+}$	Energy Levels, Wavelengths	Exp
Th^{0+-2+}	Energy Levels, Wavelengths	Exp

225. J.-P. Mosnier, M. H. Sayyad, E. T. Kennedy, J.-M. Bizau, D. Cubaynes, F. Wuilleumier, J.-P. Champeaux, C. Blancard, R. Hari Varma, T. Banerjee, P. C. Deshmukh, S. T. Manson
Absolute Photoionization Cross Sections and Resonance Structure of Doubly Ionized Silicon in the Region of the 2p^{-1} Threshold: Experiment and Theory
Phys. Rev. A 68, 052712 (2003)

Si^{2+}	Energy Levels, Wavelengths	Exp

226. R. Wehlitz, D. Lukić, J. B. Bluett
Resonance Parameters of Autoionizing Be 2pnℓ States
Phys. Rev. A 68, 052708 (2003)

Be	Energy Levels, Wavelengths	Exp

227. E. Träbert, P. Beiersdorfer, J. K. Lepson, H. Chen
Extreme Ultraviolet Spectra of Highly Charged Xe Ions
Phys. Rev. A 68, 042501 (2003)

Xe^{42+}	Energy Levels, Wavelengths	Exp
Xe^{43+}	Energy Levels, Wavelengths	Exp
Xe^{49+}	Energy Levels, Wavelengths	Exp
Xe^{50+}	Energy Levels, Wavelengths	Exp
Xe^{51+}	Energy Levels, Wavelengths	Exp

228. M. J. May, K. B. Fournier, P. Beiersdorfer, H. Chen, K. L. Wong
X-ray Spectral Measurements and Collisional Radiative Modeling of Ni- to Kr-like Au Ions in Electron Beam Ion Trap Plasmas
Phys. Rev. E 68, 036402 (2003)

Au$^{43+-51+}$	Energy Levels, Wavelengths	Exp

229. H. J. Wörner, U. Hollenstein, F. Merkt
Multichannel Quantum Defect Theory and High-Resolution Spectroscopy of the Hyperfine Structure of High Rydberg States of ^{83}Kr
Phys. Rev. A 68, 032510 (2003)

^{83}**Kr**	Energy Levels, Wavelengths	Exp
^{84}**Kr**	Energy Levels, Wavelengths	Exp
Kr	Energy Levels, Wavelengths	Exp
^{83}**Kr**$^{0+-+}$	Energy Levels, Wavelengths	Exp
Kr^{0+-+}	Energy Levels, Wavelengths	Exp

230. V. Decaux, V. L. Jacobs, P. Beiersdorfer, D. A. Liedahl, S. M. Kahn
Modeling of High-Resolution Kα Emission Spectra from Fe XVIII through Fe XXIV
Phys. Rev. A 68, 012509 (2003)

Fe^{17+}	Energy Levels, Wavelengths	E/T
Fe$^{17+-23+}$	Energy Levels, Wavelengths	E/T
Fe$^{20+-24+}$	Energy Levels, Wavelengths	E/T

231. V. Nagels, C. Chenais-Popovics, V. Malka, J.-C. Gauthier, A. Bachelier, J.-F. Wyart
Spectra of Laser Irradiated Xenon and Krypton in the Wavelength Range 0.5-1.0 nm
Phys. Scr. 68, 233-243 (2003)

Kr$^{24+-27+}$	Energy Levels, Wavelengths	Exp
Xe$^{26+-30+}$	Energy Levels, Wavelengths	Exp

232. C. Jupén, B. Denne-Hinnov, I. Martinson, L. J. Curtis
Additions to the Spectra of Highly Ionized Molybdenum, Mo XXIV-Mo XXVIII
Phys. Scr. 68, 230-232 (2003)

Ar Z= 22-42	Energy Levels, Wavelengths	E/T
Kr^{18+}	Energy Levels, Wavelengths	E/T
Mo$^{23+-27+}$	Energy Levels, Wavelengths	E/T

233. D. Messnarz, N. Jaritz, B. Arcimowicz, V. O. Zilio, R. Engleman Jr., J. C. Pickering, H. Jäger, G. H. Guthöhrlein, L. Windholz
Investigation of the Hyperfine Structure of Ta I Lines (VII)
Phys. Scr. 68, 170-191 (2003)

Ta	Energy Levels, Wavelengths	E/T

234. B. Lin, H. G. Berry, T. Shibata, A. E. Livingston, H.-P. Garnir, T. Bastin, J. Désesquelles, I. Savukov
$1s2s2p^23s$ ^6P - $1s2p^33s$ $^6S^\circ$ Transitions in O IV
Phys. Rev. A 67, 062507 (2003)

B Z= 8-10	Energy Levels, Wavelengths	E/T

235. R. A. Komara, M. A. Gearba, S. R. Lundeen, C. W. Fehrenbach
Determination of the Polarizability of Na-like Silicon by Study of the Structure of High-L Rydberg States of Si^{2+}
Phys. Rev. A 67, 062502 (2003)

Si^{2+}	Energy Levels, Wavelengths	Exp
Si^{3+}	Energy Levels, Wavelengths	Exp

236. P. Beiersdorfer, E. Träbert, H. Chen, M.-H. Chen, M. J. May, L. Osterheld
Measurement of the $3s_{1/2}$-$3p_{3/2}$ Resonance Line in Na-like U^{81+}
Phys. Rev. A 67, 052103 (2003)

U^{81+}	Energy Levels, Wavelengths	Exp

237. M. Zamkov, E. P. Benis, C. D. Lin, T. G. Lee, T. Morishita, P. Richard, T. J. M. Zouros
Experimental Observation and Theoretical Calculation of Triply Excited $2s2p^2$ $^2S^e$, $^{2,4}P^e$, $^2D^e$ and $2p^3$ $^2P^\circ$, $^2D^\circ$ States of Fluorine
Phys. Rev. A 67, 050703 (2003)

F^{6+}	Energy Levels, Wavelengths	Exp

238. R. Sankari, A. Kivimäki, H. Aksela, S. Aksela, K. C. Prince, M. Coreno, M. Alagia, M. de Simone
Krypton 3p Excitations and Subsequent Resonant Auger Decay
Phys. Rev. A 67, 032710 (2003)

Kr	Energy Levels, Wavelengths	Exp

239. S. Schippers, A. Müller, S. Ricz, M. E. Bannister, G. H. Dunn, A. S. Schlachter, G. Hinojosa, C. Cisneros, A. Aguilar, A. M. Covington, M. F. Gharaibeh, R. A. Phaneuf
Photoionization of Sc^{2+} Ions by Synchrotron Radiation: Measurements and Absolute Cross Sections in the Photon Energy Range 23-68 eV
Phys. Rev. A 67, 032702 (2003)

Sc^{2+}	Energy Levels, Wavelengths	E/T

240. S. B. Utter, P. Beiersdorfer, E. Träbert, E. J. Clothiaux
Wavelengths of the $4s_{1/2}$-$4p_{3/2}$ Resonance Lines in Cu-like Heavy Ions
Phys. Rev. A 67, 032502 (2003)

Yb^{41+}	Energy Levels, Wavelengths	Exp
W^{45+}	Energy Levels, Wavelengths	Exp
Au^{50+}	Energy Levels, Wavelengths	Exp
Pb^{53+}	Energy Levels, Wavelengths	Exp
Th^{61+}	Energy Levels, Wavelengths	Exp
U^{63+}	Energy Levels, Wavelengths	Exp

241. A. Aguilar, J. B. West, R. A. Phaneuf, R. L. Brooks, F. Folkmann, H. Kjeldsen, J. D. Bozek, A. S. Schlachter, C. Cisneros
Photoionization of Isoelectronic Ions: Mg^{+} and Al^{2+}
Phys. Rev. A 67, 012701 (2003)

$\mathbf{Mg^{+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Al^{2+}}$	Energy Levels, Wavelengths	Exp

242. W. DeGraffenreid, C. J. Sansonetti
2 $^2S_{1/2}$ - 4 $^2S_{1/2}$Transition of Atomic Lithium by Doppler-Free Two-Photon Spectroscopy
Phys. Rev. A 67, 012509 (2003)

$\mathbf{^{6}Li}$	Energy Levels, Wavelengths	Exp
$\mathbf{^{7}Li}$	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

243. S. B. Utter, P. Beiersdorfer, E. Träbert
Wavelength Measurements of the Prominent M1 Transition in the Ground State of Ti-Like Pt, Au, and Tl Ions
Phys. Rev. A 67, 012508 (2003)

$\mathbf{Pt^{56+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Au^{57+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Tl^{59+}}$	Energy Levels, Wavelengths	Exp

244. J. J. Clarke, W. A. van Wijngaarden
Hyperfine and Fine-Structure Measurements of $^{6,7}Li^{+}$ 1s2s ^3S and 1s2p ^3P States
Phys. Rev. A 67, 012506 (2003)

$\mathbf{^{6}Li}$	Energy Levels, Wavelengths	Exp
$\mathbf{^{7}Li}$	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

245. Günay Başar, Gönül Başar, G. Acar, I. K. Öztürk, S. Kröger
Hyperfine Structure Investigation of Mn I. Part I: Experimental and Theoretical Studies of the Hyperfine Structure in the Even Configurations
Phys. Scr. 67, 476-484 (2003)

$\mathbf{^{55}Mn}$	Energy Levels, Wavelengths	E/T
Mn	Energy Levels, Wavelengths	E/T

246. A. Rahman, E. C. Hammarsten, S. Sakadzic, J. J. Rocca, J.-F. Wyart
Identification of n = 4, Δn = 0 Transitions in the Spectra of Nickel-like Cadmium Ions from a Capillary Discharge Plasma Column
Phys. Scr. 67, 414-419 (2003)

$\mathbf{Cd^{20+}}$	Energy Levels, Wavelengths	E/T

247. T. Aoto, H. Tokunaga, H. Yoshida, Y. Morioka, H. Yoshii, T. Hayaishi
The Stark Quantum Beat of Ne Fluorescence in the Vacuum Ultra Violet Region
Phys. Scr. 67, 282-289 (2003)

Ne	Energy Levels, Wavelengths	Exp

248. H. Nilsson, J. C. Pickering
Extended Term Analysis of Mo II
Phys. Scr. 67, 223-233 (2003)

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

249. V. I. Azarov, W.-Ü L. Tchang-Brillet, J.-F. Wyart, F. G. Meijer
The Third Spectrum of Tantalum (Ta III): Fine and Hyperfine Structure
Phys. Scr. 67, 190-207 (2003)

Ta^{2+} Energy Levels, Wavelengths E/T

250. D. Messnarz, G. H. Guthöhrlein
Laserspectroscopic Investigation of the Hyperfine Structure of Ta II-Lines
Phys. Scr. 67, 59-63 (2003)

Ta^{+} Energy Levels, Wavelengths Exp

251. D. Ma, N. Zheng, X. Lin
Study on Energy Levels of Atom Neon
Spectrochimica Acta, Part B 58, 1625-1645 (2003)

Ne Energy Levels, Wavelengths E/T

252. C. Wang, F. J. Mazzotti, G. P. Miller, C. B. Winstead
Isotopic Measurements of Uranium Using Inductively Coupled Plasma Cavity Ringdown Spectroscopy
Appl. Spectrosc. 57-9, 1167-1172 (2003)

U^{0+--+} Energy Levels, Wavelengths Exp

253. S. F. Dyubko, V. A. Efremov, V. G. Gerasimov, K. B. MacAdam
Microwave Spectroscopy of Al I Atoms in Rydberg States: D and G Terms
J. Phys. B 36, 4827-4836 (2003)

Al Energy Levels, Wavelengths Exp

254. M. J. Vilkas, Y. Ishikawa
Relativistic Multireference Many-Body Perturbation Theory Calculations for Siliconlike Argon, Iron and Krypton Ions
J. Phys. B 36, 4641-4650 (2003)

Ar^{4+} Energy Levels, Wavelengths Th
Fe^{12+} Energy Levels, Wavelengths Th
Kr^{22+} Energy Levels, Wavelengths Th

255. M. A. Zia, B. Suleman, M. A. Baig
Two-Photon Laser Optogalvanic Spectroscopy of the Rydberg States of Mercury by RF Discharge
J. Phys. B 36, 4631-4639 (2003)

Hg Energy Levels, Wavelengths Exp

256. S. F. Dyubko, V. A. Efremov, V. G. Gerasimov, K. B. MacAdam
Microwave Spectroscopy of AI I Rydberg States: F Terms
J. Phys. B 36, 3797-3804 (2003)

Al Energy Levels, Wavelengths Exp

257. M. Fogle, N. Eklöw, E. Lindroth, T. Mohamed, R. Schuch, M. Tokman
Spectroscopic Study of Mg-like Ni by Means of Dielectronic Recombination of Stores Ions
J. Phys. B 36, 2563-2577 (2003)

Ni^{16+}	Energy Levels, Wavelengths	E/T
Ni$^{16+–17+}$	Energy Levels, Wavelengths	E/T
Ni^{17+}	Energy Levels, Wavelengths	E/T

258. S. Bouazza, P. Hannaford, M. Wilson
Fine-Structure Analysis of the Odd-Parity Rydberg Series of Zr I
J. Phys. B 36, 1537-1543 (2003)

Zr	Energy Levels, Wavelengths	Th

259. U. Hollenstein, R. Seiler, F. Merkt
Determination of the Ionization Energy of Krypton by Rydberg-State-Resolved Threshold-Ionization Spectroscopy
J. Phys. B 36, 893-903 (2003)

^{78}**Kr**	Energy Levels, Wavelengths	Exp
^{80}**Kr**	Energy Levels, Wavelengths	Exp
^{82}**Kr**	Energy Levels, Wavelengths	Exp
^{84}**Kr**	Energy Levels, Wavelengths	Exp
^{86}**Kr**	Energy Levels, Wavelengths	Exp
Kr	Energy Levels, Wavelengths	Exp

260. I. Martinson, Y. Awaya, J. O. Ekberg, I. Kink, S. Mannervik, A. N. Ryabtsev
The Elusive 2s3s ^{1}S Level in B II
J. Phys. B 36, 419-425 (2003)

B^{+}	Energy Levels, Wavelengths	Exp

261. A. Bordenave-Montesquieu, P. Moretto-Capelle, D. Bordenave-Montesquieu
High-Resolution Electron Spectroscopy of the 1s3lnl′ Be-like Series in Oxygen and Neon. Test of Theoretical Data: II. Experimental Results
J. Phys. B 36, 65-92 (2003)

O^{4+}	Energy Levels, Wavelengths	Exp
Ne^{6+}	Energy Levels, Wavelengths	Exp

262. A. Bordenave-Montesquieu, P. Moretto-Capelle, D. Bordenave-Montesquieu
High-Resolution Electron Spectroscopy of the 1s^{2}3lnl′ Be-like Series in Oxygen and Neon. Test of Theoretical Data: I. Experimental Method and Theoretical Background
J. Phys. B 36, 47-64 (2003)

O^{4+}	Energy Levels, Wavelengths	Exp
Ne^{6+}	Energy Levels, Wavelengths	Exp

263. L. B. Madsen
Triply Excited States: Electron-Electron Correlations in Lithium
J. Phys. B 36, R223-R278 (2003)

Li	Energy Levels, Wavelengths	E/T

264. J. R. Harries, J. P. Sullivan, S. Obara, P. Hammond, Y. Azuma
Doubly Excited States of Helium Observed in N- and ℓ-Specific Partial Photoionization Cross-Sections Using Lifetime-Resolved Fluorescence Spectroscopy
J. Phys. B 36, L319-L326 (2003)

He	Energy Levels, Wavelengths	Exp

265. H. L. Thayer, J. Billowes, P. Campbell, P. Dendooven, K. T. Flanagan, D. H. Forest, J. A. R. Griffith, J. Huikari, A. Jokinen, R. Moore, A. Nieminen, G. Tungate, S. Zemlyanoi, J. Äystö
Collinear Laser Spectroscopy of Radioisotopes of Zirconium
J. Phys. G 29, 2247-2262 (2003)

^{87}**Zr**	Energy Levels, Wavelengths	Exp
^{88}**Zr**	Energy Levels, Wavelengths	Exp
^{89}**Zr**	Energy Levels, Wavelengths	Exp
^{91}**Zr**	Energy Levels, Wavelengths	Exp
^{92}**Zr**	Energy Levels, Wavelengths	Exp
^{94}**Zr**	Energy Levels, Wavelengths	Exp
^{96}**Zr**	Energy Levels, Wavelengths	Exp
^{97}**Zr**	Energy Levels, Wavelengths	Exp
^{98}**Zr**	Energy Levels, Wavelengths	Exp
^{99}**Zr**	Energy Levels, Wavelengths	Exp
^{100}**Zr**	Energy Levels, Wavelengths	Exp
^{101}**Zr**	Energy Levels, Wavelengths	Exp
^{102}**Zr**	Energy Levels, Wavelengths	Exp
Zr	Energy Levels, Wavelengths	Exp

266. S. Churilov, Y. N. Joshi, J. Reader
High-Resolution Spectrum of Xenon Ions at 13.4 nm
Opt. Lett. 28-16, 1478-1480 (2003)

Xe^{10+}	Energy Levels, Wavelengths	Exp

267. B. C. Gou, F. Wang, X. L. Wu
Fine Structure and Hyperfine Structure of some Excited States of Helium
Eur. Phys. J. D 27, 27-32 (2003)

He	Energy Levels, Wavelengths	E/T

268. R. Ashby, J. J. Clarke, W. A. van Wijngaarden
Stark Shifts and Fine Structure of the ^{6}Li $3^2D_{3/2,5/2}$ States
Eur. Phys. J. D 23, 327-331 (2003)

^{6}**Li**	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

269. S. Kröger, A. Bouzed
Hyperfine Structure in the Atomic Spectrum of Niobium. II. Theoretical Analysis of the Even Configurations
Eur. Phys. J. D 23, 63-72 (2003)

Nb	Energy Levels, Wavelengths	E/T

270. J. Walls, R. Ashby, J. J. Clarke, W. A. van Wijngaarden
Measurement of Isotope Shifts, Fine and Hyperfine Structure Splitting of the Lithium D Lines
Eur. Phys. J. D 22, 159-162 (2003)

^{6}**Li**	Energy Levels, Wavelengths	Exp
^{7}**Li**	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

271. G. H. Cavalcanti, A. G. Trigueiros, M. M. Raineri, J. G. Reyna Almandos
Configuration 4p4f in Six-Times-Ionized Krypton, Kr VII
J. Opt. Soc. Am. B 20-8, 1758-1760 (2003)

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

272. F. Wang, B. Gou, X. Wu, L. Han
Energy, Oscillator Strength and Hyperfine Structure of the Low-Lying Excited States for Be-like System
Int. J. Mod. Phys. C 14-5, 549-560 (2003)

Be Z= 4-10	Energy Levels, Wavelengths	Th
^{9}Be	Energy Levels, Wavelengths	Th
$^{11}B^{+}$	Energy Levels, Wavelengths	Th
$^{11}C^{2+}$	Energy Levels, Wavelengths	Th
$^{14}N^{3+}$	Energy Levels, Wavelengths	Th
$^{17}O^{4+}$	Energy Levels, Wavelengths	Th
$^{20}F^{5+}$	Energy Levels, Wavelengths	Th
$^{22}Ne^{6+}$	Energy Levels, Wavelengths	Th

273. J. Yang, J. Zhang, Y. Ding, Y. Peng, Jiaming Li, Z. Zheng, G. Yang, W. Zhang, Jun Li
K-Shell Transition Absorption Measurement of Radiatively Heated Al Plasma
Phys. Plasmas 10-12, 4881-4885 (2003)

$Al^{8+--10+}$	Energy Levels, Wavelengths	Exp

274. J. K. Lepson, P. Beiersdorfer, G. V. Brown, D. A. Liedahl, S. B. Utter, N. S. Brickhouse, A. K. Dupree, J. S. Kaastra, R. Mewe, S. M. Kahn
Emission Lines of Fe VII-Fe X in the Extreme Ultraviolet Region, 60-140 Å
Astrophys. J. 578, 648-656 (2002)

Fe^{6+--9+}	Energy Levels, Wavelengths	Exp

275. S. G. Karshenboim, V. G. Ivanov
Hyperfine Structure in Hydrogen and Helium Ion
Phys. Lett. B 524-3-4, 259-264 (2002)

H	Energy Levels, Wavelengths	Th
He^{+}	Energy Levels, Wavelengths	Th

276. J. C. Pickering, M. P. Donnelly, H. Nilsson, A. Hibbert, S. Johansson
The FERRUM Project: Experimental Oscillator Strengths of the UV 8 Multiplet and Other UV Transitions from the y^6P Levels of Fe II
Astron. Astrophys. 396, 715-722 (2002)

Fe^{+}	Energy Levels, Wavelengths	Exp

277. V. O. Zilio, J. C. Pickering
Measurements of Hyperfine Structure in Ta II
Mon. Not. R. Astron. Soc. 334, 48-52 (2002)

Ta^{+}	Energy Levels, Wavelengths	Exp

278. T. Nakamura, M. Wada, K. Okada, I. Katayama, S. Ohtani, H. A. Schuessler
Precision Spectroscopy of the Zeeman Splittings of the $^{9}Be^{+}$ $2^2S_{1/2}$ Hyperfine Structure for Nuclear Structure Studies
Opt. Commun. 205, 329-336 (2002)

$^{9}Be^{+}$	Energy Levels, Wavelengths	Exp
Be^{+}	Energy Levels, Wavelengths	Exp

279. H. Rong, S. Grafström, J. Kowalski, R. Neumann, G. zu Putlitz
Formation and Velocity Measurement of a Low-Energy Li^+ Ion Beam for Precision Laser Spectroscopy
Opt. Commun. 201, 345-353 (2002)

^{7}**Li**	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

280. Y. Iwai, D. Murakoshi, Y. Kanai, H. Oyama, K. Ando, H. Masuda, K. Nishio, M. Nakao, T. Tamamura, K. Komaki, Y. Yamazaki
High-Resolution Soft X-ray Spectroscopy of 2.3 keV/u N^{7+} Ions through a Microcapillary Target
Nucl. Instrum. Methods Phys. Res. B 193, 504-507 (2002)

$\mathbf{N}^{5+\text{--}6+}$	Energy Levels, Wavelengths	Exp

281. G. V. Brown, P. Beiersdorfer, D. A. Liedahl, K. Widmann, S. M. Kahn, E. J. Clothiaux
Laboratory Measurements and Identification of the Fe XVIII-XXIV L-Shell X-ray Line Emission
Astrophys. J., Suppl. Ser. 140, 589-607 (2002)

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

282. D. W. Savin, E. Behar, S. M. Kahn, G. Gwinner, A. A. Saghiri, M. Schmitt, M. Grieser, R. Repnow, D. Schwalm, A. Wolf, T. Bartsch, A. Müller, S. Schippers, N. R. Badnell, M. H. Chen, T. W. Gorczyca
Dielectronic Recombination (via $\mathbf{N = 2 \rightarrow N' = 2}$ Core Excitations) and Radiative Recombination of Fe xx: Laboratory Measurements and Theoretical Calculations
Astrophys. J., Suppl. Ser. 138, 337-370 (2002)

$\mathbf{Fe}^{18+}$	Energy Levels, Wavelengths	E/T

283. A. I. Magunov, A. Ya. Faenov, I. Yu. Skobelev, T. A. Pikuz, E. Biémont, P. Quinet, F. Blasco, C. Bonte, F. Dorchies, T. Caillaud, F. Salin, C. Stenz
Observation of Dielectronic Satellites in the K-Spectrum of Argon Ions in Plasma Produced by Femtosecond Laser Pulses
JETP 95-6, 998-1005 (2002)

$\mathbf{Ar}^{+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ar}^{9+\text{--}16+}$	Energy Levels, Wavelengths	E/T

284. I. Yu. Skobelev, A. Ya. Faenov, T. A. Pikuz, A. I. Magunov, F. Flora, S. Bollanti, P. DiLazzaro, D. Murra, A. Reale, L. Reale, G. Tomassetti, A. Ritucci, G. Petrocelli, S. Martellucci, N. Lisi, F. B. Rosmej
Spectral Transitions from the Rydberg Autoionization States of a Li-like Mg X Ion
JETP 95-3, 421-428 (2002)

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

285. W. Whaling, W. H. C. Anderson, M. T. Carle, J. W. Brault, H. A. Zarem
Argon I Lines Produced in a Hollow Cathode Source, 332 nm to 5865 nm
J. Res. Nat. Inst. Stand. Technol. 107-2, 149-169 (2002)

Ar	Energy Levels, Wavelengths	Exp

286. C. J. Sansonetti, M. M. Blackwell, E. B. Saloman
Infrared Spectra of the Noble Gases
Phys. Scr. T100, 120-125 (2002)

Ne	Energy Levels, Wavelengths	Exp

287. S. S. Churilov, A. N. Ryabtsev, W.-Ü L. Tchang-Brillet, J.-F. Wyart
Spectroscopy of Pd-Like Ions
Phys. Scr. T100, 98-103 (2002)

Pd Z= 55-58	Energy Levels, Wavelengths	E/T

288. S. S. Churilov
Analysis of the Spectrum of the Zn-like Kr VII Ion: Highly Excited 4p4d and 4p5s Configurations
Opt. Spectrosc. 93-6, 826-832 (2002)

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

289. J. R. Crespo López-Urrutia, P. Beiersdorfer, K. Widmann, V. Decaux
Visible Spectrum of Highly Charged Ions: The Forbidden Optical Lines of Kr, Xe, and Ba Ions in the Ar I to Kr I Isoelectronic Sequence
Can. J. Phys. 80, 1687-1700 (2002)

$\mathbf{Kr}^{11+--18+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Kr}^{22+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{18+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{30+--33+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{35+--37+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ba}^{28+--36+}$	Energy Levels, Wavelengths	Exp

290. S. B. Utter, P. Beiersdorfer, E. Träbert
Electron-Beam Ion-Trap Spectra of Tungsten in the EUV
Can. J. Phys. 80, 1503-1515 (2002)

$\mathbf{W}^{37+--45+}$	Energy Levels, Wavelengths	Exp

291. V. D. Ovsiannikov, V. V. Chernushkin
The Diamagnetic Effect on the Intensity of Helium Radiation Lines
Can. J. Phys. 80, 1391-1399 (2002)

He	Energy Levels, Wavelengths	Th

292. M. Fischer, N. Kolachevsky, S. G. Karshenboim, T. W. Hänsch
Optical Measurement of the 2S Hyperfine Interval in Atomic Hydrogen
Can. J. Phys. 80, 1225-1231 (2002)

H	Energy Levels, Wavelengths	Exp

293. J. Tschischgale, D. Klöpfel, P. Beiersdorfer, G. V. Brown, E. Förster, H. Schulte-Schrepping, S. B. Utter
Absolute Wavelength Measurement of the Lyman-α Transition of Hydrogen-like Silicon
Can. J. Phys. 80, 867-874 (2002)

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

294. Yu. M. Smirnov
On the Atomic Constants of Ta I
Astron. Rep. 46-10, 840-850 (2002)

Ta	Energy Levels, Wavelengths	Exp

295. A. M. Covington, A. Aguilar, I. R. Covington, M. F. Gharaibeh, G. Hinojosa, C. A. Shirley, R. A. Phaneuf, I. Álvarez, C. Cisneros, I. Dominguez-Lopez, M. M. Sant'Anna, A. S. Schlachter, B. M. McLaughlin, A. Dalgarno
Photoionization of Ne^+ Using Synchrotron Radiation
Phys. Rev. A 66, 062710 (2002)

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

296. F. B. Rosmej, H. R. Griem, R. C. Elton, V. L. Jacobs, J. A. Cobble, A. Ya. Faenov, T. A. Pikuz, M. Geißel, D. H. H. Hoffmann, W. Süß, D. B. Uskov, V. P. Shevelko, R. C. Mancini
Charge-Exchange-Induced Two-Electron Satellite Transitions from Autoionizing Levels in Dense Plasmas
Phys. Rev. E 66, 056402 (2002)

$\mathbf{Si^{11+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Si^{12+}}$	Energy Levels, Wavelengths	Th

297. S. Bliman, R. Bruch, M. Cornille, A. Langereis, J. Nordgren
Case Study of the Ar^{9+}-He Collision System at Low Velocity
Phys. Rev. A 66, 052707 (2002)

$\mathbf{Ar^{7+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ar^{8+}}$	Energy Levels, Wavelengths	E/T

298. U. I. Safronova, W. R. Johnson, M. S. Safronova, J. R. Albritton
Relativistic Many-Body Calculations of Energies for Core-Excited States in Sodiumlike Ions
Phys. Rev. A 66, 042506 (2002)

Na Z= 15-30	Energy Levels, Wavelengths	Th
$\mathbf{Ge^{21+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Kr^{25+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Mo^{31+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Ag^{36+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Xe^{43+}}$	Energy Levels, Wavelengths	Th
$\mathbf{La^{46+}}$	Energy Levels, Wavelengths	Th

299. M. A. Gearba, R. A. Komara, S. R. Lundeen, W. G. Sturrus, C. W. Fehrenbach, B. D. DePaola, X. Flechard
Stark-Induced X-ray Emission from High Rydberg States of He-like Silicon Ions
Phys. Rev. A 66, 032705 (2002)

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

300. P. Beiersdorfer, M. Bitter, D. Hey, K. J. Reed
Identification of the 1s2s2p $^4P_{5/2}$ $\rightarrow$1s^{2}2s $^2S_{1/2}$ Magnetic Quadrupole Inner-Shell Satellite Line in the Ar^{16+} K-Shell X-ray Spectrum
Phys. Rev. A 66, 032504 (2002)

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

301. M. Lu, R. A. Phaneuf
Electron Spectroscopy of Na-Like Autoionizing Metastable Ions
Phys. Rev. A 66, 012706 (2002)

Na Z= 16-18	Energy Levels, Wavelengths	Exp

302. M. Tokman, N. Eklöw, P. Glans, E. Lindroth, R. Schuch, G. Gwinner, D. Schwalm, A. Wolf, A. Hoffknecht, A. Müller, S. Schippers
Dielectronic Recombination Resonances in F^{6+}
Phys. Rev. A 66, 012703 (2002)

$\mathbf{F}^{5+-6+}$	Energy Levels, Wavelengths	E/T

303. P.-H. Lefèbvre, H.-P. Garnir, E. Biémont
Hyperfine Structure of Neutral Vanadium Lines and Levels
Phys. Scr. 66, 363-366 (2002)

$^{51}\mathbf{V}$	Energy Levels, Wavelengths	Exp
V	Energy Levels, Wavelengths	Exp

304. S. S. Churilov, A. N. Ryabtsev, W.-Ü L. Tchang-Brillet, J.-F. Wyart
Analysis of the Spectra of Pd-like Ions from Xe IX through Ce XIII
Phys. Scr. 66, 293-307 (2002)

Pd Z= 54-58	Energy Levels, Wavelengths	E/T

305. S. S. Churilov, Y. N. Joshi, J. Reader
Analysis of $5p^65d$-$(5p^65f+5p^66p+5p^55d^2+5p^55d6s)$ Transitions in TI XIII, Pb XIV, and Bi XV and Revised Wavelengths for $5p^6\ ^1S_0$-$5p^55d(3/2,\ 5/2)_1$ Transition in Hg XIII, TI XIV, Pb XV, and Bi XVI
Phys. Scr. 66, 213-221 (2002)

$\mathbf{Ti}^{12+-13+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Hg}^{12+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Pb}^{13+-14+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Bi}^{14+-15+}$	Energy Levels, Wavelengths	E/T

306. C. Jupén, E. Träbert, J. Doerfert, J. Granzow, R. Jaensch
Analysis of 3s, 3p, 3d and 4f Configurations of Sc XIII and V XV
Phys. Scr. 66, 150-158 (2002)

$\mathbf{Sc}^{12+}$	Energy Levels, Wavelengths	E/T
$\mathbf{V}^{14+}$	Energy Levels, Wavelengths	E/T

307. H. Chen, P. Beiersdorfer, C. L. Harris, S. B. Utter
Krypton Spectrum in the Wavelength Range 3450-3900 Å
Phys. Scr. 66, 133-139 (2002)

$\mathbf{Kr}^{0+-22+}$	Energy Levels, Wavelengths	Exp

308. R. R. Kildiyarova, A. N. Ryabtsev, S. S. Churilov, V. I. Azarov
Analysis of the $5d^3$-$5d^26p$ Transitions of the Pt VIII and Au IX Ions
Phys. Scr. 66, 51-58 (2002)

$\mathbf{Pt}^{7+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Au}^{8+}$	Energy Levels, Wavelengths	E/T

309. H. Chen, P. Beiersdorfer, K. B. Fournier, E. Träbert
Soft-X-ray Spectra of Highly Charged Kr Ions in an Electron Beam Ion Trap
Phys. Rev. E 65, 056401 (2002)

$\mathbf{Kr}^{8+-21+}$	Energy Levels, Wavelengths	Exp

310. E. Stambulchik, Y. Maron, J. E. Bailey, M. E. Cuneo
Polarization Properties of Ion-Excitation Mechanisms in High-Voltage Gaps
Phys. Rev. A 65, 052726 (2002)

Li	Energy Levels, Wavelengths	E/T

311. 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)

Mg	Energy Levels, Wavelengths	Exp

312. S. Madzunkov, E. Lindroth, N. Eklöw, M. Tokman, A. Paál, R. Schuch
QED Effects in Lithiumlike Krypton
Phys. Rev. A 65, 032505 (2002)

Kr^{33+}	Energy Levels, Wavelengths	E/T

313. U. I. Safronova, C. Namba, J. R. Albritton, W. R. Johnson, M. S. Safronova
Relativistic Many-Body Calculations of Energies of n = 3 States in Aluminumlike Ions
Phys. Rev. A 65, 022507 (2002)

Al Z= 15-42	Energy Levels, Wavelengths	Th

314. M. Eriksson, U. Litzén, G. M. Wahlgren, D. S. Leckrone
Spectral Data for Ta II with Application to the Tantalum Abundance in χ Lupi
Phys. Scr. 65, 480-489 (2002)

Ta^{+}	Energy Levels, Wavelengths	Exp

315. Y. Ishikawa, M. J. Vilkas
Relativistic Multireference Møller-Plesset Perturbation Theory Calculations on the Term Energy and Lifetime of the ^{5}S$^o_2$ State in Siliconlike Ions with Z = 28-79
Phys. Scr. 65, 219-226 (2002)

Si Z= 28-30	Energy Levels, Wavelengths	Th
Si Z= 34-36	Energy Levels, Wavelengths	Th
Si Z= 38-42	Energy Levels, Wavelengths	Th
Ge^{18+}	Energy Levels, Wavelengths	Th
Rh^{31+}	Energy Levels, Wavelengths	Th
Ag^{33+}	Energy Levels, Wavelengths	Th
Xe^{40+}	Energy Levels, Wavelengths	Th
Au^{65+}	Energy Levels, Wavelengths	Th

316. P. Kubeš, J. Kravárik, D. Klír, Y. L. Bakshaev, P. I. Blinov, A. S. Chernenko, A. Dan'ko, V. D. Korolev, A. Y. Shashkov, V. I. Tumanov, L. Juha, J. Krása, M. I. Ivanov
X-ray Pulses Emitted From Aluminium Wire-in-Liner Loads
Czech. J. Phys. 52, D122-D126 (2002)

Al$^{10+-12+}$	Energy Levels, Wavelengths	Exp

317. I. E. Olivares, C. Rojas
Atomic Lithium Vapor Laser Isotope Separation
Rev. Mex. Fis. 48, 72-73 (2002)

^{6}**Li**	Energy Levels, Wavelengths	Exp
^{7}**Li**	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

318. K. Takizawa, K. Sasaki, K. Kadota
Observation of Stark Spectra of Argon High Rydberg States in Well-Defined Electric Fields by Laser-Induced Fluorescence-Dip Spectroscopy
Jpn. J. Appl. Phys. Pt. 2 41-11B, L1285-L1287 (2002)

Ar	Energy Levels, Wavelengths	Exp

319. J. Reader
Metrological Implications of Recent Interferometric Wavelength Measurements for Singly Ionized Silicon in the Vacuum Ultraviolet (152 nm and 180 nm)
Metrologia 39, 391-394 (2002)

Si^{+}	Energy Levels, Wavelengths	Exp
^{86}Kr	Energy Levels, Wavelengths	Exp
Kr	Energy Levels, Wavelengths	Exp
^{114}Cd	Energy Levels, Wavelengths	Exp
Cd	Energy Levels, Wavelengths	Exp

320. M. Raineri, F. Bredice, M. Gallardo, A. G. Trigueiros, J. Reyna Almandos
New Energy Levels of the $4s^24p5s$, $4s^24p4d$ and $4s^24p5p$ Configurations of the Kr V Spectrum
J. Phys. B 35, 3411-3419 (2002)

Kr^{4+}	Energy Levels, Wavelengths	E/T

321. K. B. Fournier, A. Ya. Faenov, T. A. Pikuz, I. Yu. Skobelev, F. Flora, S. Bollanti, P. Di Lazzaro, D. Murra, A. Grilli, A. Reale, L. Reale, G. Tomassetti, A. Ritucci, I. Bellucci, S. Martellucci, G. Petrocelli
Observations of High-n Transitions in the Spectra of Near-Neon-like Copper Ions from Laser-Produced Plasmas
J. Phys. B 35, 3347-3364 (2002)

$Cu^{18+—21+}$	Energy Levels, Wavelengths	E/T
Cu^{19+}	Energy Levels, Wavelengths	E/T

322. S. Bouazza, D. S. Gough, P. Hannaford, M. Wilson
Isotope Shift Studies in Zr I By Doppler-Free Saturated Absorption Spectroscopy and Pseudo-Relativistic Hartree-Fock Calculations: II. Transitions $4d^25s^2$-$4d^25s5p$
J. Phys. B 35, 2397-2409 (2002)

Zr	Energy Levels, Wavelengths	E/T

323. M. R. Tarbutt, J. D. Silver
Measurements of the Ground-State Lamb Shift of Hydrogen-like Ti^{21+}
J. Phys. B 35, 1467-1478 (2002)

Ti^{21+}	Energy Levels, Wavelengths	Exp

324. D. Fischer, B. Feuerstein, R. D. DuBois, R. Mashammer, J. R. Crespo López-Urrutia, I. Draganic, H. Lörch, 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, 1369-1377 (2002)

Ne^{6+}	Energy Levels, Wavelengths	Exp

325. S. Bouazza, D. S. Gough, P. Hannaford, M. Wilson, C. Lim
Isotope Shift Studies in Zr I by Doppler-Free Saturated Absorption Spectroscopy and Pseudo-Relativistic Hartree-Fock Calculations: I. Transitions $4d^35s$-$4d^25s5p$
J. Phys. B 35, 651-662 (2002)

Zr	Energy Levels, Wavelengths	E/T

326. H. F. Powell, M. A. van Eijkelenborg, W. Irvine, D. M. Segal, R. C. Thompson
Quantum Jumps in Singly Ionized Magnesium
J. Phys. B 35, 205-216 (2002)

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

327. G. Duffy
The 3d Photoabsorption Spectrum of Doubly Ionized Titanium
J. Phys. B 35, L119-L126 (2002)

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

328. E. Courtade, F. Marion, P.-J. Nacher, G. Tastevin, K. Kiersnowski, T. Dohnalik
Magnetic Field Effects on the 1083 nm Atomic Line of Helium. Optical Pumping of Helium and Optical Polarisation Measurement in High Magnetic Field
Eur. Phys. J. D 21, 25-55 (2002)

$^{3}\mathbf{He}$	Energy Levels, Wavelengths	E/T
$^{4}\mathbf{He}$	Energy Levels, Wavelengths	E/T
He	Energy Levels, Wavelengths	E/T

329. Z.-S. Yuan, L.-F. Zhu, X.-J. Liu, W.-B. Li, H.-D. Cheng, K.-Z. Xu
Photoabsorption Spectrum and Optically Forbidden Transitions of Krypton by Electron Impact
Chin. Phys. Lett. 19-4, 495-496 (2002)

Kr	Energy Levels, Wavelengths	Exp

330. H.-J. Liu, B.-H. Zhang, G.-H. Yang, J. Li, J.-Y. Zhang, J.-M. Yang, J. Yan, J.-M. Li
L-Shell Absorption Measurement and Simulation of X-ray-Heated Constrained Material
Chin. Phys. 11-8, 795-798 (2002)

$\mathbf{Al^{8+}}$–$^{10+}$	Energy Levels, Wavelengths	Exp

331. J. Yang, Y. Ding, J. Yan, Z. Zheng, J. Li, B. Zhang, G. Yang, W. Zhang, Y. Wang
Spectroscopic Absorption Measurement of a Low-Z Plasma
Phys. Plasmas 9-2, 678-682 (2002)

$\mathbf{C^{3+}}$–$^{5+}$	Energy Levels, Wavelengths	Exp
$\mathbf{O^{5+}}$–$^{7+}$	Energy Levels, Wavelengths	Exp

332. G. V. Brown, P. Beiersdorfer, H. Chen, M. H. Chen, K. J. Reed
Diagnostic Utility of the Relative Intensity of 3C to 3D in Fe XVII
Astrophys. J. 557, L75-L78 (2001)

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

333. P. Indelicato, E. Lindroth, T. Beier, J. Bieroń, A. M. Costa, I. Lindgren, J. P. Marques, A.-M. Mårtensson-Pendrill, M. C. Martins, M. A. Ourdane, F. Parente, P. Patté, G. C. Rodrigues, S. Salomonson, J. P. Santos
Relativistic Calculations for Trapped Ions
Hyperfine Interact. 132-1-4, 347-361 (2001)

Li Z= 3-100	Energy Levels, Wavelengths	E/T

334. G. W. F. Drake
QED Effects in Helium and Comparisons with High Precision Experiment
Phys. Scr. T95, 22-31 (2001)

He	Energy Levels, Wavelengths	E/T

335. I. Kink, J. M. Laming, E. Takács, J. V. Porto, J. D. Gillaspy, E. Silver, H. Schnopper, S. R. Bandler, M. Barbera, N. Brickhouse, S. Murray, N. Madden, D. Landis, J. Beeman, E. E. Haller
Microcalorimeter/EBIT Measurements of X-ray Spectra of Highly Charged Ions
Phys. Scr. T92, 454-456 (2001)

$\mathbf{Ar}^{13+-15+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{16+-23+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Kr}^{26+-31+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{25+-27+}$	Energy Levels, Wavelengths	Exp

336. R. Hutton, Y. Zou, S. Huldt, K. Ando, H. Oyama
The Spectroscopy of High Spin States for Highly Charged Mg-like Ions
Phys. Scr. T92, 325-326 (2001)

$\mathbf{Ti}^{10+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{14+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{16+}$	Energy Levels, Wavelengths	Exp

337. R. Neu, K. B. Fournier, D. Bolshukhin, R. Dux
Spectral Lines from Highly Charged Tungsten Ions in the Soft-X-ray Region for Quantitative Diagnostics of Fusion Plasmas
Phys. Scr. T92, 307-310 (2001)

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

338. 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, 265-267 (2001)

$\mathbf{C}^{3+}$	Energy Levels, Wavelengths	Exp
$\mathbf{C}^{4+}$	Energy Levels, Wavelengths	Exp

339. T. Werner, G. Zschornack, F. Großmann, V. P. Ovsyannikov, E. Ullmann
X-ray Spectroscopy of Neon-like Xenon at the Dresden EBIT
Phys. Scr. T92, 241-243 (2001)

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

340. S. Ozawa, T. Ariga, N. Inabe, M. Kase, I. Tanihata, M. Wakasugi, Y. Yano
Isotope Shift Measurement between He-like ^{12}C and ^{13}C Ions in 1s2s $^3S_1$-1s2p $^3P_{0,1,2}$ Transitions
Phys. Scr. T92, 195-196 (2001)

$\mathbf{C}^{4+}$	Energy Levels, Wavelengths	Exp

341. D. N. Crosby, K. Gaarde-Widdowson, J. D. Silver, M. R. Tarbutt
Accurate Measurements of Visible M1 Transitions of Titanium-like Ions Using an Electron Beam Ion Trap
Phys. Scr. T92, 144-146 (2001)

$\mathbf{Ag^{25+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Sn^{28+}}$	Energy Levels, Wavelengths	Exp

342. H. Watanabe, F. J. Currell, T. Fukami, D. Kato, S. Ohtani, C. Yamada
Systematic Study of Visible Transitions in Ti-like High Z Ions
Phys. Scr. T92, 122-125 (2001)

Ti Z= 53-56	Energy Levels, Wavelengths	E/T
Ti Z= 62-64	Energy Levels, Wavelengths	E/T
Ti Z= 72-75	Energy Levels, Wavelengths	E/T
Ti Z= 78-79	Energy Levels, Wavelengths	E/T
$\mathbf{Sb^{29+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Nd^{38+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Yb^{48+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Bi^{61+}}$	Energy Levels, Wavelengths	E/T

343. J. R. Crespo López-Urrutia, B. Bapat, I. Draganic, A. Werdich, J. Ullrich
First Results from the Freiburg Electron Beam Ion Trap FreEBIT
Phys. Scr. T92, 110-112 (2001)

$\mathbf{Kr^{22+}}$	Energy Levels, Wavelengths	Exp

344. M. C. George, L. D. Lombardi, E. A. Hessels
Precision Microwaves Measurement of the 2^3P_1 - 2^3P_0 Interval in Atomic Helium: A Determination of the Fine-Structure Constant
Phys. Rev. Lett. 87, 173002 (2001)

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

345. M. K. Ballard, R. A. Bernheim, P. Bicchi
Nonresonant Multiphoton Excitation Spectra of Atomic ^{7}Li
Can. J. Phys. 79, 991-998 (2001)

^{7}**Li**	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

346. O. Renner, F. B. Rosmej, E. Krousky, P. Sondhauss, M. P. Kalachnikov, P. V. Nickles, I. Uschmann, E. Förster
Aluminum Lyman α Group Formation at High-Density, High-Energy Later-Matter Interaction
J. Quant. Spectrosc. Radiat. Transfer 71, 623-634 (2001)

$\mathbf{Al^{11+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Al^{12+}}$	Energy Levels, Wavelengths	Th

347. Y. Morioka, T. Aoto, H. Yoshii
Stark Beats of Ar Rydberg States
Phys. Rev. A 64, 053409 (2001)

Ar	Energy Levels, Wavelengths	Exp

348. C. Blondel, C. Delsart, C. Valli, S. Yiou, M. R. Godefroid, S. Van Eck
Electron Affinities of ^{16}O, ^{17}O, ^{18}O, the Fine Structure of $^{16}O^-$, and the Hyperfine Structure of $^{17}O^-$
Phys. Rev. A 64, 052504 (2001)

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

349. M. S. Safronova, W. R. Johnson
Third-Order Isotope-Shift Constants for Alkali-Metal Atoms and Ions
Phys. Rev. A 64, 052501 (2001)

Na Z= 11-18	Energy Levels, Wavelengths	Th
K Z= 19-20	Energy Levels, Wavelengths	Th
$\mathbf{Fe}^{15+}$	Energy Levels, Wavelengths	Th

350. P. Glans, E. Lindroth, N. R. Badnell, N. Eklöw, W. Zong, E. Justiniano, R. Schuch
Dielectronic Recombination of N^{4+}
Phys. Rev. A 64, 043609 (2001)

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

351. E. Träbert, P. Beiersdorfer, G. V. Brown, H. Chen, D. B. Thorn, E. Biémont
Experimental M1 Transition Rates in Highly Charged Kr Ions
Phys. Rev. A 64, 042511 (2001)

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

352. F. Brandi, I. Velchev, W. Hogervorst, W. Ubachs
Vacuum-Ultraviolet Spectroscopy of Xe: Hyperfine Splittings, Isotope Shifts, and Isotope-Dependent Ionization Energies
Phys. Rev. A 64, 032505 (2001)

$^{124}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
$^{126}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
$^{128}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
$^{129}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
$^{130}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
$^{131}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
$^{132}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
$^{134}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
$^{136}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
Xe	Energy Levels, Wavelengths	Exp

353. 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^{*} $4d^{-1}_{5/2}6p$ Photoexcited State
Phys. Rev. A 64, 022703 (2001)

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

354. R. Radtke, C. Biedermann, J. L. Schwob, P. Mandelbaum, R. Doron
Line and Band Emission from Tungsten Ions with Charge 21+ to 45+ in the 45-70-Å Range
Phys. Rev. A 64, 012720 (2001)

$\mathbf{W}^{29+--35+}$	Energy Levels, Wavelengths	Exp
$\mathbf{W}^{36+--41+}$	Energy Levels, Wavelengths	Exp

355. 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)

Kr^{2+}	Energy Levels, Wavelengths	Exp
Xe^{2+}	Energy Levels, Wavelengths	Exp

356. P. S. Antsiferov, S. S. Churilov
Study of Ar Ions K_β Profile with the Help of an Electron Beam Ion Trap
Phys. Scr. 64, 292-294 (2001)

Ar^{+-3+}	Energy Levels, Wavelengths	Exp

357. C. Jupén
Identification of $2p^43d$-$2p^44f$ and $2p^43p$-$2p^44d$ Transitions in Ca XII, Sc XIII, Ti XIV, V XV, Cr XVI and Mn XVII
Phys. Scr. 64, 226-229 (2001)

F Z= 20-25	Energy Levels, Wavelengths	E/T
F Z= 20-26	Energy Levels, Wavelengths	E/T

358. F. B. Rosmej, D. H. H. Hoffmann, M. Geißel, M. Roth, P. Pirzadeh, A. Ya. Faenov, T. A. Pikuz, I. Yu. Skobelev, A. I. Magunov
Advanced X-ray Diagnostics Based on an Observation of High-Energy Rydberg Transitions from Autoionizing Levels in Dense Laser-Produced Plasmas
Phys. Rev. A 63, 063409 (2001)

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

359. J. B. West, T. Andersen, R. L. Brooks, F. Folkmann, H. Kjeldsen, H. Knudsen
Photoionization of Singly and Doubly Charged Aluminum Ions in the Extreme Ultraviolet Region: Absolute Cross Sections and Resonance Structures
Phys. Rev. A 63, 052719 (2001)

Mg^{+}	Energy Levels, Wavelengths	Exp
Al^{+-2+}	Energy Levels, Wavelengths	Exp

360. H. Watanabe, D. Crosby, T. Fukami, D. Kato, S. Ohtani, J. D. Silver, C. Yamada
Magnetic Dipole Transitions in Titaniumlike Ions
Phys. Rev. A 63, 042513 (2001)

Ti Z= 53-56	Energy Levels, Wavelengths	E/T
Ti Z= 62-63	Energy Levels, Wavelengths	E/T
Ti Z= 62-64	Energy Levels, Wavelengths	E/T
Ti Z= 72-78	Energy Levels, Wavelengths	E/T
Sb^{29+}	Energy Levels, Wavelengths	E/T
Nd^{38+}	Energy Levels, Wavelengths	E/T
Yb^{48+}	Energy Levels, Wavelengths	E/T
Au^{57+}	Energy Levels, Wavelengths	E/T
Bi^{61+}	Energy Levels, Wavelengths	E/T

361. F. B. Rosmej, D. H. H. Hoffmann, W. Süß, A. Ya. Faenov, T. A. Pikuz
Direct Observation of Forbidden X-ray Transitions from Autoionizing Levels in Dense Laser-Produced Plasmas
Phys. Rev. A 63, 032716 (2001)

Al^{10+}	Energy Levels, Wavelengths	E/T

362. S. Bliman, M. Cornille, B. A. Huber, J. Nordgren, J. E. Rubensson
Electron Capture by a Metastable Ion in the Collision $Ar^{8+}(2p^53s)^3P_{0,2}+H_2$ at Low Velocity
Phys. Rev. A 63, 032710 (2001)

Ar^{6+}–$^{8+}$	Energy Levels, Wavelengths	E/T
Ar^{7+}	Energy Levels, Wavelengths	E/T

363. B. J. Wargelin, S. M. Kahn, P. Beiersdorfer
Dielectronic Satellite Contributions to Ne VIII and Ne IX K-shell Spectra
Phys. Rev. A 63, 022710 (2001)

Ne^{6+}–$^{7+}$	Energy Levels, Wavelengths	E/T

364. M. Oura, H. Yamaoka, K. Kawatsura, J. Kimata, T. Hayaishi, T. Takahashi, T. Koizumi, T. Sekioka, M. Terasawa, Y. Itoh, Y. Awaya, A. Yokoya, A. Agui, A. Yoshigoe, Y. Saitoh
Photoionization of Ne^{3+} Ions in the Region of the 1s → 2p Autoionizing Resonance
Phys. Rev. A 63, 014704 (2001)

Ne^{3+}	Energy Levels, Wavelengths	E/T

365. A. van Wijngaarden, F. Holuj, G. W. F. Drake
Lamb Shift in He^{+}: Resolution of a Discrepancy between Theory and Experiment
Phys. Rev. A 63, 012505 (2001)

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

366. M. Oba, I. Wakaida, M. Miyabe
Spectroscopy for High Atomic Energy Levels Using External Cavity Laser Diode
Jpn. J. Appl. Phys. 40, 357-358 (2001)

^{6}**Li**	Energy Levels, Wavelengths	Exp
^{7}**Li**	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

367. I. A. Ivanov, Y. K. Ho
Hylleraas Basis Calculation of the Doubly Excited $^{1;3}G^{e}$ States in Heliumlike Ions
Chin. J. Phys. 39-5, 415-427 (2001)

He Z= 1-10	Energy Levels, Wavelengths	Th

368. G. Verbockhaven, J. E. Hansen
Energies and Autoionization Widths in the Lithium Iso-Electronic Sequence
J. Phys. B 34, 2337-2361 (2001)

Li Z= 3-5	Energy Levels, Wavelengths	Th

369. P. L. Norquist, D. R. Beck
Ab Initio Lifetimes, Landé g-Values and Hyperfine Structure for Ta II States
J. Phys. B 34-11, 2107-2121 (2001)

Ta^{+}	Energy Levels, Wavelengths	Th

370. R. Faulkner, M. Wang, P. Dunne, A. Arnesen, F. Heijkensköld, R. Hallin, G. O'Sullivan
Observations of (3d4p → 3d4d) and (3d4d → 3d4f) Transitions in the Vacuum Ultraviolet Spectra of Calcium-like Mn VI, Fe VII and Co VIII
J. Phys. B 34, 593-603 (2001)

Mn^{5+}	Energy Levels, Wavelengths	Exp
Fe^{6+}	Energy Levels, Wavelengths	Exp
Co^{7+}	Energy Levels, Wavelengths	Exp

371. M.-C. Buchet-Poulizac, P. O. Bogdanovich, É. J. Knystautas
Spectroscopic Study of Doubly Excited Levels in Ne VII and Ne VIII
J. Phys. B 34, 233-243 (2001)

$Ne^{6+–7+}$	Energy Levels, Wavelengths	Exp

372. B. Arcimowicz, A. Huss, S. Roth, N. Jaritz, D. Messnarz, G. H. Guthöhrlein, H. Jäger, L. Windholz
Investigation of the Hyperfine Structure of Ta I Lines (V)
Eur. Phys. J. D 13-2, 187-194 (2001)

Ta	Energy Levels, Wavelengths	Exp

373. M. Biaye, A. Konté, N. A. B. Faye, A. Wagué
Energies and Electron Correlation Effects in Two-Electron Doubly Excited $(n\ell)^2$ States
Eur. Phys. J. D 13-1, 21-25 (2001)

He	Energy Levels, Wavelengths	Th
Li^{+}	Energy Levels, Wavelengths	Th
Be^{2+}	Energy Levels, Wavelengths	Th
B^{3+}	Energy Levels, Wavelengths	Th
C^{4+}	Energy Levels, Wavelengths	Th
N^{5+}	Energy Levels, Wavelengths	Th
O^{6+}	Energy Levels, Wavelengths	Th
F^{7+}	Energy Levels, Wavelengths	Th
Ne^{8+}	Energy Levels, Wavelengths	Th
Na^{9+}	Energy Levels, Wavelengths	Th
Mg^{10+}	Energy Levels, Wavelengths	Th

374. G. Hagel, C. Schwob, L. Jozefowski, B. de Beauvoir, L. Hilico, F. Nez, L. Julien, F. Biraben, O. Acef, A. Clairon
Metrology of Hydrogen Atom: Determination of the Rydberg Constant and Lamb Shifts
Laser Phys. 11-10, 1076-1082 (2001)

H	Energy Levels, Wavelengths	Exp
D	Energy Levels, Wavelengths	Exp

375. A. N. Ryabtsev, P. S. Antsiferov, A. V. Nazarenko, S. S. Churilov, W.-Ü L. Tchang-Brillet, J.-F. Wyart
Analysis of the Spectrum of the Pd I-like Xenon (Xe IX) and Extended Interpretation of the Sb VI, Te VII and I VIII Spectra
J. Phys. IV (France) 11, Pr2-317-Pr2-319 (2001)

Sb^{5+}	Energy Levels, Wavelengths	E/T
Te^{6+}	Energy Levels, Wavelengths	E/T
I^{7+}	Energy Levels, Wavelengths	E/T
Xe^{8+}	Energy Levels, Wavelengths	E/T
Cs^{9+}	Energy Levels, Wavelengths	E/T
Ba^{10+}	Energy Levels, Wavelengths	E/T
La^{11+}	Energy Levels, Wavelengths	E/T

376. A. Klisnick, J. Kuba, D. Ros, R. J. Smith, P. Fourcade, G. Jamelot, J.-L. Miquel, J.-F. Wyart, C. Chenais-Popovics, R. Keenan, S. J. Topping, C. L. S. Lewis, F. Strati, G. J. Tallents, D. Neely, R. Clarke, J. Collier, A. G. MacPhee, F. Bortolotto, P. V. Nickles, K. A. Janulewicz
Generation of a Transient Short Pulse X-ray Laser Using a Traveling-Wave Sub-Ps Pump Pulse
J. Phys. IV (France) 11, Pr2-11-Pr2-17 (2001)

Ag^{19+}	Energy Levels, Wavelengths	Exp

377. K. N. Koshelev, P. S. Antsiferov, L. A. Dorokhin, A. V. Nazarenko, Yu. V. Sidelnikov, D. A. Glushkov
Observation of ASE Effect for Ne-like Ar in a Capillary Discharge Driven by Inductive Storage with Plasma Erosion Opening Switch
J. Phys. IV (France) 11, Pr2-119-Pr2-122 (2001)

Ar^{8+}	Energy Levels, Wavelengths	Exp

378. U. Feldman, W. Curdt, E. Landi, K. Wilhelm
Identification of Spectral Lines in the 500-1600 Å Wavelength Range of Highly Ionized Ne, Na, Mg, Ar, K, Ca, Ti, Cr, Mn, Fe, Co, and Ni Emitted by Flares ($\mathbf{T}_e \geq \mathbf{3} \times \mathbf{10}^6$ K) and Their Potential Use in Plasma Diagnostics
Astrophys. J. 544-1, 508-521 (2000)

Ne^{8+}	Energy Levels, Wavelengths	Exp
Na^{9+}	Energy Levels, Wavelengths	Exp
Mg^{10+}	Energy Levels, Wavelengths	Exp
Si^{12+}	Energy Levels, Wavelengths	Exp
S^{9+}	Energy Levels, Wavelengths	Exp
Ar$^{10+--12+}$	Energy Levels, Wavelengths	Exp
Ar^{11+}	Energy Levels, Wavelengths	Exp
K^{11+}	Energy Levels, Wavelengths	Exp
K^{12+}	Energy Levels, Wavelengths	Exp
Ca$^{12+--14+}$	Energy Levels, Wavelengths	Exp
Ca^{13+}	Energy Levels, Wavelengths	Exp
Ti^{14+}	Energy Levels, Wavelengths	Exp
Ti^{15+}	Energy Levels, Wavelengths	Exp
Cr$^{15+--17+}$	Energy Levels, Wavelengths	Exp
Cr^{17+}	Energy Levels, Wavelengths	Exp
Cr^{19+}	Energy Levels, Wavelengths	Exp
Mn^{16+}	Energy Levels, Wavelengths	Exp
Mn$^{16+--18+}$	Energy Levels, Wavelengths	Exp
Mn^{21+}	Energy Levels, Wavelengths	Exp
Fe^{16+}	Energy Levels, Wavelengths	Exp
Fe^{18+}	Energy Levels, Wavelengths	Exp
Fe^{19+}	Energy Levels, Wavelengths	Exp
Fe^{20+}	Energy Levels, Wavelengths	Exp
Fe^{21+}	Energy Levels, Wavelengths	Exp
Fe^{22+}	Energy Levels, Wavelengths	Exp
Co^{18+}	Energy Levels, Wavelengths	Exp

379. E. M. Verner, D. A. Verner, J. A. Baldwin, G. J. Ferland, P. G. Martin
Continuum Pumping of [Fe II] in the Orion Nebula
Astrophys. J. 543, 831-839 (2000)

Fe^{+}	Energy Levels, Wavelengths	Exp

380. T. A. Kucera, U. Feldman, K. G. Widing, W. Curdt
Wavelengths of Forbidden Transitions Arising from Levels within the Fe^{+19} 2s^{2}2p^3 Ground Configuration
Astrophys. J. 538, 424-427 (2000)

Fe^{19+}	Energy Levels, Wavelengths	Exp

381. U. Griesmann, R. Kling
Interferometric Measurement of Resonance Transition Wavelengths in C IV, Si IV, Al III, Al II, and Si II
Astrophys. J. 536, L113-L115 (2000)

$\mathbf{C}^{3+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Al}^{+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Al}^{2+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Si}^{+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Si}^{3+}$	Energy Levels, Wavelengths	Exp

382. K. Wagatsuma
Wavelength Table of Chromium Emission Lines in Argon Glow Discharge Optical Emission Spectrometry
Fresenius J. Anal. Chem. 367, 414-415 (2000)

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

383. H. Nilsson, C. M. Sikström, Z. S. Li, H. Lundberg, A. J. J. Raassen, S. Johansson, D. S. Leckrone, S. Svanberg
The FERRUM Project: New Experimental and Theoretical f-Values for 4p-4d Transition in Fe II Applied to HST Spectra of χ Lupi
Astron. Astrophys. 362, 410-418 (2000)

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

384. S. Johansson, T. Zethson, H. Hartman, J. O. Ekberg, K. Ishibashi, K. Davidson, T. Gull
New Forbidden and Fluorescent Fe III Lines Identified in HST Spectra of η Carinae
Astron. Astrophys. 361, 977-981 (2000)

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

385. T. A. Clark, D. A. Naylor, G. R. Davis
Detection and Limb Brightening of the H I n=20-19 Rydberg Line in the Submillimetre Spectrum of the Sun
Astron. Astrophys. 357, 757-762 (2000)

H	Energy Levels, Wavelengths	Exp
Mg	Energy Levels, Wavelengths	Exp

386. J. C. Pickering, A. P. Thorne, J. E. Murray, U. Litzén, S. Johansson, V. Zilio, J. K. Webb
Accurate Laboratory Wavelengths of Some Ultraviolet Lines of Cr, Zn and Ni Relevant to Time Variations of the Fine Structure Constant
Mon. Not. R. Astron. Soc. 319-1, 163-167 (2000)

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

387. S. Fritzsche, C. Z. Dong, E. Träbert
Energy Levels, Lifetimes and Branch Fractions for Fe XI
Mon. Not. R. Astron. Soc. 318-1, 263-272 (2000)

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

388. F. P. Keenan, G. J. J. Botha, A. Matthews, K. D. Lawson, I. H. Coffey
Extreme Ultraviolet Emission Lines of Ni XII in Laboratory and Solar Spectra
Mon. Not. R. Astron. Soc. 318, 37-39 (2000)

Ni^{11+}	Energy Levels, Wavelengths	Exp

389. D. C. Morton
Atomic Data for Resonance Absorption Lines. II. Wavelengths Longward of the Lyman Limit for Heavy Elements
Astrophys. J., Suppl. Ser. 132-2, 411 (2000)

H	Energy Levels, Wavelengths	Exp
Ge-Bi	Energy Levels, Wavelengths	Exp
Ge-Se^{0+-5+}	Energy Levels, Wavelengths	Exp
Ge-Bi^{+}	Energy Levels, Wavelengths	Exp
Ge-Hf^{2+}	Energy Levels, Wavelengths	Exp
Br-Kr^{0+-6+}	Energy Levels, Wavelengths	Exp
Rb	Energy Levels, Wavelengths	Exp
Rb-Y^{0+-3+}	Energy Levels, Wavelengths	Exp
Zr-Mo^{0+-4+}	Energy Levels, Wavelengths	Exp
Tc^{0+-2+}	Energy Levels, Wavelengths	Exp
Ru^{0+-3+}	Energy Levels, Wavelengths	Exp
Rh^{0+-2+}	Energy Levels, Wavelengths	Exp
Pd-In^{0+-3+}	Energy Levels, Wavelengths	Exp
Sn^{0+-4+}	Energy Levels, Wavelengths	Exp
Sb^{0+-5+}	Energy Levels, Wavelengths	Exp
Te-Cs^{0+-6+}	Energy Levels, Wavelengths	Exp
Cs	Energy Levels, Wavelengths	Exp
Ba^{0+-3+}	Energy Levels, Wavelengths	Exp
La^{0+-4+}	Energy Levels, Wavelengths	Exp
Ce^{0+-5+}	Energy Levels, Wavelengths	Exp
Pr^{0+-4+}	Energy Levels, Wavelengths	Exp
Nd-Gd^{0+-2+}	Energy Levels, Wavelengths	Exp
Tb-Dy^{0+-3+}	Energy Levels, Wavelengths	Exp
Ho^{0+-2+}	Energy Levels, Wavelengths	Exp
Er-Lu^{0+-3+}	Energy Levels, Wavelengths	Exp
Hf^{0+-+}	Energy Levels, Wavelengths	Exp
Ta^{0+-2+}	Energy Levels, Wavelengths	Exp
W^{0+-3+}	Energy Levels, Wavelengths	Exp
Re-Ir^{0+-+}	Energy Levels, Wavelengths	Exp
Pt-Tl^{0+-3+}	Energy Levels, Wavelengths	Exp
Hg	Energy Levels, Wavelengths	Exp
Hg^{+}	Energy Levels, Wavelengths	Exp
Hg-Bi^{2+}	Energy Levels, Wavelengths	Exp
Tl^{+}	Energy Levels, Wavelengths	Exp
Pb^{0+-4+}	Energy Levels, Wavelengths	Exp
Bi^{0+-5+}	Energy Levels, Wavelengths	Exp
Th^{0+-2+}	Energy Levels, Wavelengths	Exp
Th^{0+-3+}	Energy Levels, Wavelengths	Exp
U^{0+-2+}	Energy Levels, Wavelengths	Exp
U^{0+-5+}	Energy Levels, Wavelengths	Exp

390. M. G. H. Gustavsson, C. Forssén, A. M. Mårtensson-Pendrill
Thallium Hyperfine Anomaly
Hyperfine Interact. 127, 347-352 (2000)

^{165}**Ho**$^{66+}$	Energy Levels, Wavelengths	Th

$\mathbf{Ho}^{66+}$	Energy Levels, Wavelengths	Th
$^{185}\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Th
$^{187}\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Th
$\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Th
$^{203}\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Th
$^{205}\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Th
$\mathbf{Tl}^{80+}$	Energy Levels, Wavelengths	Th
$^{207}\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th
$\mathbf{Pb}^{81+}$	Energy Levels, Wavelengths	Th
$^{209}\mathbf{Bi}^{82+}$	Energy Levels, Wavelengths	Th
$\mathbf{Bi}^{82+}$	Energy Levels, Wavelengths	Th

391. E. G. Myers, R. Hankins, J. D. Silver, M. R. Tarbutt
Precision Lamb-Shift Measurement in Hydrogenic Nitrogen by Fast-Beam Laser Spectroscopy
Hyperfine Interact. 127, 329-332 (2000)

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

392. E. G. Myers, J. K. Thompson, H. S. Margolis, J. D. Silver, M. R. Tarbutt
Lamb Shift, Fine Structure and Hyperfine Structure in Helium-like Ions by Fast-Beam Laser Spectroscopy
Hyperfine Interact. 127, 323-328 (2000)

$^{14}\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp
$^{15}\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp
$\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp
$^{19}\mathbf{F}^{7+}$	Energy Levels, Wavelengths	Exp
$\mathbf{F}^{7+}$	Energy Levels, Wavelengths	Exp
$^{24}\mathbf{Mg}^{10+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Mg}^{10+}$	Energy Levels, Wavelengths	Exp

393. N. Yamanaka
Hyperfine Anomaly for the Ground State of $^{9}\mathbf{Be}^{+}$
Hyperfine Interact. 127, 129-132 (2000)

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

394. G. D'Amico, G. Pesce, A. Sasso
High Resolution Spectroscopy of Stable Xenon Isotopes
Hyperfine Interact. 127, 121-128 (2000)

$^{129}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
$^{131}\mathbf{Xe}$	Energy Levels, Wavelengths	Exp
Xe	Energy Levels, Wavelengths	Exp

395. W. Geithner, K. M. Hilligsoe, S. Kappertz, G. Katko, M. Keim, S. Kloos, G. Kotrotsios, P. Lievens, K. Marinova, R. Neugart, L. Vermeeren, S. Wilbert, ISOLDE Collaboration
Accurate Isotope Shift Measurements on Short-Lived Neon Isotopes
Hyperfine Interact. 127, 117-120 (2000)

Ne	Energy Levels, Wavelengths	Exp

396. S. E. Canton-Rogan, A. A. Wills, T. W. Gorcyca, M. Wiedenhoeft, O. Nayandin, C.-N. Liu, N. Berrah
Mirroring Doubly Excited Resonances in Argon
Phys. Rev. Lett. 85, 3113-3116 (2000)

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

397. D. P. Moehs, D. A. Church, M. I. Bhatti, W. F. Perger
Excited-Configuration Metastable Level Lifetimes of Cl-like Mn IX and Fe X
Phys. Rev. Lett. 85, 38-41 (2000)

$\mathbf{Mn^{8+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe^{9+}}$	Energy Levels, Wavelengths	Exp

398. M. Niering, R. Holzwarth, J. Reichert, P. Pokasov, Th. Udem, M. Weitz, T. W. Hänsch, P. Lemonde, G. Santarelli, M. Abgrall, P. Laurent, C. Salomon, A. Clairon
Measurement of the Hydrogen 1s-2s Transition Frequency by Phase Coherent Comparison with a Microwave Cesium Fountain Clock
Phys. Rev. Lett. 84, 5496-5499 (2000)

H	Energy Levels, Wavelengths	Exp

399. J. Dunn, Y. Li, A. L. Osterheld, J. Nilsen, J. R. Hunter, V. N. Shlyaptsev
Gain Saturation Regime for Laser-Driven Tabletop, Transient Ni-like Ion X-ray Lasers
Phys. Rev. Lett. 84, 4834-4837 (2000)

$\mathbf{Mo^{14+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Pd^{18+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ag^{19+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cd^{20+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Sn^{22+}}$	Energy Levels, Wavelengths	Exp

400. J. Castillega, D. Livingston, A. Sanders, D. Shiner
Precise Measurement of the J = 1 to J = 2 Fine Structure Interval in the 2^3P State of Helium
Phys. Rev. Lett. 84, 4321-4324 (2000)

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

401. C. H. Storry, M. C. George, E. A. Hessels
Precision Microwave Measurement of the 2^3P_1-2^3P_2 Interval in Atomic Helium
Phys. Rev. Lett. 84, 3274-3277 (2000)

He	Energy Levels, Wavelengths	Exp

402. J.-M. Bizau, J.-M. Esteva, D. Cubaynes, F. J. Wuilleumier, C. Blancard, A. Compant La Fontaine, C. Couillaud, J. Lachkar, R. Marmoret, C. Rémond, J. Bruneau, D. Hitz, P. Ludwig, M. Delaunay
Photoionization of Highly Charged Ions Using an ECR Ion Source and Undulator Radiation
Phys. Rev. Lett. 84-3, 435-438 (2000)

$\mathbf{Xe^{4+}\text{--}^{7+}}$	Energy Levels, Wavelengths	E/T

403. A. K. Bhatia, W. Eissner
Atomic Data and Spectral Line Intensities for Fe VIII
At. Data Nucl. Data Tables 76-2, 270-346 (2000)

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

404. S. Fritzsche, C. Z. Dong, G. Gaigalas
Theoretical Wavelengths and Transition Probabilities for the $3d^9$ - $3d^8 4p$ and $3d^8 4s$ - $3d^8 4p$ Transition Arrays in Ni II
At. Data Nucl. Data Tables 76-1, 155-175 (2000)

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

405. W.-Y. Cheng, J.-T. Shy
Lamb-Dip Stabilized 543-nm He-Ne Lasers and Isotope Shift of Ne $3s_2 \rightarrow 2p_{10}$ Transition
Appl. Phys. (Germany) B 70, 889-893 (2000)

Ne	Energy Levels, Wavelengths	Exp

406. A. P. Mishra, R. J. Kshirsagar, V. P. Bellary, T. K. Balasubramanian
Identification of New Transitions in the First Spectra of Neon, Krypton and Xenon in the Near Infrared by Fourier Transform Spectroscopy
J. Quant. Spectrosc. Radiat. Transfer 67, 1-7 (2000)

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

407. A. J. Smith, P. Beiersdorfer, K. Widmann, M. H. Chen, J. H. Scofield
Measurement of Resonant Strengths for Dielectronic Recombination in Helium-like Ar^{16+}
Phys. Rev. A 62, 052717 (2000)

Ar^{15+}	Energy Levels, Wavelengths	Exp

408. U. I. Safronova, W. R. Johnson, J. R. Albritton
Relativistic Many-Body Calculations of Excitation Energies and Oscillator Strengths in Ni-like Ions
Phys. Rev. A 62, 052505 (2000)

Ni Z= 47-92	Energy Levels, Wavelengths	Th

409. R. M. Jennerich, D. A. Tate
Hyperfine-Structure Intervals and Isotope Shifts in the $2p^3 3s$ $^5S_2 \rightarrow 2p^3 3p$ ^5P_J Transitions of Atomic Oxygen
Phys. Rev. A 62, 042506 (2000)

^{17}O	Energy Levels, Wavelengths	Exp
O	Energy Levels, Wavelengths	Exp

410. C. T. Chantler, D. Paterson, L. T. Hudson, F. G. Serpa, J. D. Gillaspy, E. Takács
Absolute Measurement of the Resonance Lines in Heliumlike Vanadium on an Electron-Beam Ion Trap
Phys. Rev. A 62, 042501 (2000)

V^{21+}	Energy Levels, Wavelengths	Exp

411. W. Curdt, E. Landi, K. Wilhelm, U. Feldman
Wavelength Measurements of Heliumlike 1s2s $^3S_1$ - 1s2p $^3P_{0,2}$ Transitions in Ne^{8+}, Na^{9+}, Mg^{10+}, and Si^{12+} Emitted by Solar Flare Plasmas
Phys. Rev. A 62, 022502 (2000)

Ne^{8+}	Energy Levels, Wavelengths	Exp
Na^{9+}	Energy Levels, Wavelengths	Exp
Mg^{10+}	Energy Levels, Wavelengths	Exp
Si^{12+}	Energy Levels, Wavelengths	Exp

412. D. Feili, Ph. Bosselmann, K.-H. Schartner, F. Folkmann, A. E. Livingston, E. Träbert, X. Ma, P. H. Mokler
Measurements of 2s $^2S_{1/2}$ - 2p $^2P_{1/2}$ Transition Energies in Lithiumlike Heavy Ions. III. Experimental Results for Sn^{47+} and Xe^{51+}
Phys. Rev. A 62, 022501 (2000)

Sn^{47+}	Energy Levels, Wavelengths	Exp
Xe^{51+}	Energy Levels, Wavelengths	Exp

413. V. P. Gavrilenko, H. J. Kim, T. Ikutake, J. B. Kim, Y. W. Choi, M. D. Bowden, K. Muraoka
Measurements Method for Electric Fields Based on Stark Spectroscopy of Argon Atoms
Phys. Rev. E 62-5, 7201-7208 (2000)

Ar	Energy Levels, Wavelengths	Exp

414. M. Raineri, A. G. Trigueiros, M. Gallardo, J. G. Reyna Almandos
Spectroscopic Analysis of the 4p4d Configuration of Kr VII
Phys. Scr. 62, 474-478 (2000)

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

415. A. N. Ryabtsev, S. S. Churilov, U. Litzén
Extended Analysis of the Nb II Spectrum and Term System
Phys. Scr. 62-5, 368-374 (2000)

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

416. S. S. Churilov, Y. N. Joshi
Revised and Extended Analysis of the Odd Parity Configurations of Five-Times Ionized Xenon: Xe VI
Phys. Scr. 62-5, 358-363 (2000)

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

417. P. S. Antsiferov, S. S. Churilov, L. A. Dorokhin, K. N. Koshelev, A. V. Nazarenko, Yu. V. Sidelnikov
Analysis of High Resolution Ar IX Spectrum, Excited in Fast Capillary Discharge
Phys. Scr. 62-2-3, 127-131 (2000)

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

418. R. Flesch, H.-W. Jochims, J. Plenge, E. Rühl
Ultraviolet-Visible Fluorescence of 2p-Excited Argon
Phys. Rev. A 61, 062504 (2000)

Ar^{+}	Energy Levels, Wavelengths	Exp

419. J. V. Porto, I. Kink, J. D. Gillaspy
UV Light from the Ground Term of Ti-like Ytterbium, Tungsten, and Bismuth
Phys. Rev. A 61, 054501 (2000)

Ti Z= 52-83	Energy Levels, Wavelengths	E/T
$\mathbf{Yb}^{48+}$	Energy Levels, Wavelengths	E/T
$\mathbf{W}^{52+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Bi}^{61+}$	Energy Levels, Wavelengths	E/T

420. U. I. Safronova, W. R. Johnson, H. G. Berry
Excitation Energies and Transition Rates in Magnesiumlike Ions
Phys. Rev. A 61, 052503 (2000)

Mg Z= 13-42	Energy Levels, Wavelengths	Th

421. N. E. Rothery, E. A. Hessels
Measurement of the 2S Atomic Hydrogen Hyperfine Interval
Phys. Rev. A 61, 044501 (2000)

H	Energy Levels, Wavelengths	Exp

422. S. B. Utter, P. Beiersdorfer, G. V. Brown
Measurement of an Unusual M1 Transition in the Ground State of Ti-like $\mathbf{W}^{52+}$
Phys. Rev. A 61, 030503 (2000)

$\mathbf{W}^{52+}$	Energy Levels, Wavelengths	Exp

423. E. G. Myers, M. R. Tarbutt
Measurement of the $\mathbf{1s2p^3P_0\text{-}^3P_1}$ Fine-Structure Interval in Heliumlike Magnesium
Phys. Rev. A 61, 010501 (2000)

$^{24}\mathbf{Mg}^{10+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Mg}^{10+}$	Energy Levels, Wavelengths	Exp

424. M. Busquet, Z. Jiang, C. Y. Côté, J. C. Kieffer, M. Klapisch, A. Bar-Shalom, C. Bauche-Arnoult, A. Bachelier
Analysis of the M-Shell Spectra Emitted by a Short-Pulse Laser-Created Tantalum Plasma
Phys. Rev. E 61, 801-808 (2000)

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

425. E. Biémont, P. Quinet, A. Ya. Faenov, I. Skobelev, J. Nilsen, V. M. Romanova, M. Scholz, L. Karpinski, A. Szydlowski
Dielectronic Structure of 2ℓ-1s Transitions of Multicharged Ions of Argon with Nuclear Charges Z = 10 - 17
Phys. Scr. 61, 555-566 (2000)

$\mathbf{Ar}^{9+-15+}$	Energy Levels, Wavelengths	E/T

426. C. Jupén, I. Martinson, X. T. Zeng, S. B. Du, J. W. Li, L. Y. Jiang, H. Z. Chen, H. W. Yu, Y. M. Li, Y. B. Qiu
Analysis of the $\mathbf{2p^53s}$, 3p and 3d Configurations of Ne-like Br XXVI
Phys. Scr. 61, 443-448 (2000)

Ne Z= 20-36	Energy Levels, Wavelengths	E/T
$\mathbf{Br}^{25+}$	Energy Levels, Wavelengths	E/T

427. A. Denis, M. C. Buchet-Poulizac, J. Bernard, L. Chen, S. Martin, J. Désesquelles
Measurement of the 1s2s2p $\mathbf{^4P^\circ_{5/2}}$ - 1s2p3d $\mathbf{^4F^\circ_{9/2}}$ Electric-Quadrupole Transition in Doubly Excited $\mathbf{N}^{4+}$, $\mathbf{O}^{5+}$, $\mathbf{F}^{6+}$ and $\mathbf{Ne}^{7+}$ Lithium-like Ions
Phys. Scr. 61-4, 431-436 (2000)

Li Z= 7-10	Energy Levels, Wavelengths	E/T

428. J. O. Ekberg, R. Kling, W. Mende
The Spectrum of Singly Ionized Tungsten, W II
Phys. Scr. 61-2, 146-163 (2000)

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

429. V. I. Azarov, J.-F. Wyart, Y. N. Joshi, S. S. Churilov
The Fifth Spectrum of Gold (Au V): Analysis of the ($5d^7$ + $5d^6 6s$)-$5d^6 6p$ Transition Array
Phys. Scr. 61-2, 133-141 (2000)

$\mathbf{Au^{4+}}$	Energy Levels, Wavelengths	E/T

430. P. Kubeš, J. Kravárik, D. Klír, M. Paduch, K. Tomaszewski, E. Skladnik-Sadowska, M. Sadowski
XUV Emission of the Wire-Plasma Focus Discharge
Czech. J. Phys. 50, 207-212 (2000)

$\mathbf{C^{4+-5+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{O^{4+-6+}}$	Energy Levels, Wavelengths	Exp

431. G.-H. Yang, J.-Y. Zhang, B.-H. Zhang, Y.-Q. Zhou, J. Li
Analysis of Fine Structure of X-ray Spectra from Laser-Irradiated Gold Dot
Acta Phys. Sin. 49-12, 2389-2393 (2000)

$\mathbf{Au^{46+-51+}}$	Energy Levels, Wavelengths	Exp

432. J. E. Rice, K. B. Fournier, J. A. Goetz, E. S. Marmar, J. L. Terry
X-ray Observations of 2ℓ-$n\ell'$ Transition and Configuration-Interaction Effects from Kr, Mo, Nb and Zr in Near Neon-like Charge States from Tokamak Plasmas
J. Phys. B 33, 5435-5462 (2000)

$\mathbf{Kr^{24+-28+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Zr^{28+-31+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Nb^{29+-33+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Mo^{30+-34+}}$	Energy Levels, Wavelengths	E/T

433. A. E. Slattery, J. P. Wightman, M. A. MacDonald, S. Cvejanović, T. J. Reddish
Threshold Photoelectron Studies of Kr and Xe
J. Phys. B 33, 4833-4848 (2000)

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

434. E. Biémont, E. Träbert
Transition rates of the resonance line doublet in the Cl I sequence, Ar II-Ge XVI
J. Phys. B 33, 2939-2946 (2000)

Cl Z= 18-32	Energy Levels, Wavelengths	Th

435. G. Tachiev, C. Froese Fischer
Breit-Pauli Energy Levels, Lifetimes and Transition Data: Boron-like Spectra
J. Phys. B 33, 2419-2435 (2000)

$\mathbf{O^{3+}}$	Energy Levels, Wavelengths	Th

436. S. Bouazza, D. S. Gough, P. Hannaford, M. Wilson
Hyperfine Structure of Odd-Parity Levels in ^{91}Zr I
J. Phys. B 33, 2355-2365 (2000)

^{91}**Zr**	Energy Levels, Wavelengths	E/T
Zr	Energy Levels, Wavelengths	E/T

437. A. Lapierre, É. J. Knystautas
High-Spin Inner-Shell Excited States in Few-Electron Neon: Quintets and Sextets
J. Phys. B 33, 2245-2264 (2000)

$\mathbf{Ne^{5+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ne^{6+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ne^{8+}}$	Energy Levels, Wavelengths	E/T

438. E. Biémont, A. I. Magunov, V. M. Dyakin, A. Ya. Faenov, T. A. Pikuz, I. Yu. Skobelev, A. L. Osterheld, W. H. Goldstein, F. Flora, P. DiLazzaro, S. Bollanti, N. Lisi, T. Letardi, A. Reale, L. Palladino, D. Batani, A. Mauri, A. Scafati, L. Reale
Measurements of the Ground State Ionization Energy and Wavelengths for the 2ℓ-nℓ' Transitions of Ni XIX (n = 4-15) and Ge XXIII (n = 7-9)
J. Phys. B 33, 2153-2162 (2000)

$\mathbf{Ni^{18+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ge^{22+}}$	Energy Levels, Wavelengths	E/T

439. F. J. Currell, J. Asada, T. V. Back, C. Z. Dong, H. S. Margolis, N. Nakamura, S. Ohtani, J. D. Silver, H. Watanabe
Application to Argon Ions of a New Technique to Measure the Two-Electron Contribution to the Ground State Energy of Helium-like Ions
J. Phys. B 33, 727-734 (2000)

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

440. C. Stenz, V. Bagnoud, F. Blasco, J. R. Roche, F. Salin, A. Ya. Faenov, A. I. Magunov, T. A. Pikuz, I. Yu. Skobelev
X-ray Emission Spectra of the Plasma Produced by an Ultrashort Laser Pulse in Cluster Targets
Quantum Electron. 30-8, 721-725 (2000)

$\mathbf{Kr^{25+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Kr^{26+}}$	Energy Levels, Wavelengths	Exp

441. F. R. T. Luna, F. Bredice, G. H. Cavalcanti, A. G. Trigueiros
Atomic Transitions for the Doubly Ionized Argon Spectrum, Ar III
Braz. J. Phys. 30-2, 386-391 (2000)

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

442. A. Kortyna, M. R. Darrach, P.-T. Howe, A. Chutjian
High-Resolution Study of Xenon Autoionization Using Direct Vacuum-Ultraviolet Laser Excitation
J. Opt. Soc. Am. B 17-11, 1934-1942 (2000)

Xe	Energy Levels, Wavelengths	Exp

443. S. D. Bergeson, K. G. H. Baldwin, T. B. Lucatorto, T. J. McIlrath, C. H. Cheng, E. E. Eyler
Doppler-Free Two-Photon Spectroscopy in the Vacuum Ultraviolet: Helium 1 ^{1}S - 2 ^{1}S Transition
J. Opt. Soc. Am. B 17-9, 1599-1606 (2000)

He	Energy Levels, Wavelengths	Exp

444. M. A. Klosner, W. T. Silfvast
Xenon-Emission-Spectra Identification in the 5-20-nm Spectral Region in Highly Ionized Xenon Capillary-Discharge Plasmas
J. Opt. Soc. Am. B 17-7, 1279-1290 (2000)

Xe^{8+-11+}	Energy Levels, Wavelengths	Exp

445. D. Messnarz, G. H. Guthöhrlein
Investigation of the Hyperfine Structure of Ta I-Lines (IV)
Eur. Phys. J. D 12-2, 269-282 (2000)

Ta	Energy Levels, Wavelengths	Exp

446. B. de Beauvoir, C. Schwob, O. Acef, L. Jozefowski, L. Hilico, F. Nez, L. Julien, A. Clairon, F. Biraben
Metrology of the Hydrogen and Deuterium Atoms: Determination of the Rydberg Constant and Lamb Shifts
Eur. Phys. J. D 12-1, 61-93 (2000)

H	Energy Levels, Wavelengths	Exp
D	Energy Levels, Wavelengths	Exp

447. J. Zeng, J. Yuan, Z. Zhao, Q. Lu
Energy Levels and Optical Oscillator Strengths of Inner-Shell Excited States and Photoionizations of the Ground and First Excited States of C IV Ion
Eur. Phys. J. D 11-2, 167-173 (2000)

C^{3+}	Energy Levels, Wavelengths	Exp

448. R. A. Holt, T. J. Scholl, S. D. Rosner
Measurements of Hyperfine Structure in Mn II
Mon. Not. R. Astron. Soc. 306, 107-111 (1999)

Mn^{+}	Energy Levels, Wavelengths	Exp

449. J. Meléndez, B. Barbuy
Oscillator Strength and Damping Constants for Atomic Lines in the J and H Bands
Astrophys. J., Suppl. Ser. 124, 527-546 (1999)

C	Energy Levels, Wavelengths	Exp
N	Energy Levels, Wavelengths	Exp
O	Energy Levels, Wavelengths	Exp
Na	Energy Levels, Wavelengths	Exp
Mg	Energy Levels, Wavelengths	Exp
Mg^{+}	Energy Levels, Wavelengths	Exp
Al	Energy Levels, Wavelengths	Exp
Si	Energy Levels, Wavelengths	Exp
P	Energy Levels, Wavelengths	Exp
S	Energy Levels, Wavelengths	Exp
K	Energy Levels, Wavelengths	Exp

Ca	Energy Levels, Wavelengths	Exp
Ca^{+}	Energy Levels, Wavelengths	Exp
Sc	Energy Levels, Wavelengths	Exp
Ti	Energy Levels, Wavelengths	Exp
Ti^{+}	Energy Levels, Wavelengths	Exp
V	Energy Levels, Wavelengths	Exp
Cr	Energy Levels, Wavelengths	Exp
Mn	Energy Levels, Wavelengths	Exp
Fe	Energy Levels, Wavelengths	Exp
Fe^{+}	Energy Levels, Wavelengths	Exp
Co	Energy Levels, Wavelengths	Exp
Ni	Energy Levels, Wavelengths	Exp
Zn	Energy Levels, Wavelengths	Exp
Ge	Energy Levels, Wavelengths	Exp
Sr^{+}	Energy Levels, Wavelengths	Exp
Y^{+}	Energy Levels, Wavelengths	Exp
Eu^{+}	Energy Levels, Wavelengths	Exp

450. J. B. M. Warntjes, C. Wesdorp, F. Robicheaux, L. D. Noordam
Stepwise Electron Emission from Autoionizing Magnesium Stark States
Phys. Rev. Lett. 83, 512-515 (1999)

Mg	Energy Levels, Wavelengths	Exp

451. E. A. Hessels, C. H. Storry
Precision Microwave Measurements in Atomic Helium
Phys. Scr. T83, 93-96 (1999)

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

452. S. D. Bergeson, A. Balakrishnan, K. G. H. Baldwin, T. B. Lucatorto, J. P. Marangos, T. J. McIlrath, T. R. O'Brian, S. L. Rolston, C. J. Sansonetti, J. Wen, N. Westbrook, C. H. Cheng, E. E. Eyler
Precision Spectroscopy in He as a Test of QED
Phys. Scr. T83, 76-82 (1999)

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

453. J.-F. Wyart, M. Fajardo, T. Mißalla, J.-C. Gauthier, C. Chenais-Popovics, D. Klopfel, I. Uschmann, E. Förster
Observation and Analysis of X-ray Spectra of Highly-Ionized Atoms Produced by Laser Irradiation in the Wavelength Range 0.60 nm to 0.95 nm
Phys. Scr. T83, 35-43 (1999)

Fe$^{20+\text{--}22+}$	Energy Levels, Wavelengths	Exp
Sr$^{27+\text{--}29+}$	Energy Levels, Wavelengths	Exp
In^{37+}	Energy Levels, Wavelengths	Exp
Sm^{35+}	Energy Levels, Wavelengths	Exp

454. U. Litzén
Experimental Studies of the Structure of Transition Elements
Phys. Scr. T83, 19-26 (1999)

Ni^{+}	Energy Levels, Wavelengths	Exp
Nb$^{0+\text{--}+}$	Energy Levels, Wavelengths	Exp
Re^{+}	Energy Levels, Wavelengths	Exp

455. C. Schwob, L. Jozefowski, B. de Beauvoir, L. Hilico, F. Nez, L. Julien, F. Biraben, O. Acef, J.-J. Zondy, A. Clairon
Optical Frequency Measurement of the 2S-12D Transitions in Hydrogen and Deuterium: Rydberg Constant and Lamb Shift Determinations
Phys. Rev. Lett. 86, 4193 (1999)

H	Energy Levels, Wavelengths	Exp
D	Energy Levels, Wavelengths	Exp

456. E. G. Myers, H. S. Margolis, J. K. Thompson, M. A. Farmer, J. D. Silver, M. R. Tarbutt
Precision Measurement of the 1s2p $^3P_2$-$^3P_1$ Fine Structure Interval in Heliumlike Fluorine
Phys. Rev. Lett. 82, 4200-4203 (1999)

$^{19}\mathbf{F}^{7+}$	Energy Levels, Wavelengths	Exp
$\mathbf{F}^{7+}$	Energy Levels, Wavelengths	Exp

457. A. Gottwald, Ch. Gerth, M. Richter
4d Photoionization of Free Singly Charged Xenon Ions
Phys. Rev. Lett. 82, 2068-2070 (1999)

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

458. A. Osterwalder, F. Merkt
Using High Rydberg States as Electric Field Sensors
Phys. Rev. Lett. 82, 1831-1834 (1999)

Kr	Energy Levels, Wavelengths	Exp

459. F. Minardi, G. Bianchini, P. Cancio Pastor, G. Giusfredi, F. S. Pavone, M. Inguscio
Measurement of the Helium 2^3P_0-2^3P_1 Fine Structure Interval
Phys. Rev. Lett. 82, 1112-1115 (1999)

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

460. E. Träbert, C. Jupén, S. Fritzsche
EUV Line Identifications and Lifetime Measurements in Highly-Charged Ions of the Iron Group
Phys. Scr. T80, 463-465 (1999)

$\mathbf{Ni}^{10+}$–$^{13+}$	Energy Levels, Wavelengths	Exp

461. K. Ishii, S. Kawae, T. Nakano, K. Ando, H. Ōyama, T. Kambara
Beam-Foil Spectra of Highly Charged Neon Ion in Visible Region
Phys. Scr. T80, 458-459 (1999)

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

462. K. Ishii, I. Kink, L. Engström, I. Martinson
Beam-Foil Spectra of Highly Excited States in Multiply Charged Oxygen Ions
Phys. Scr. T80, 455-457 (1999)

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

463. J. R. Crespo López-Urrutia, P. Beiersdorfer, K. Widmann, V. Decaux
Visible Spectrum of Highly Charged Ions: The Forbidden Optical Lines of Kr, Xe, and Ba Ions in the Ar I to Ni I Isoelectronic Sequence
Phys. Scr. T80, 448-449 (1999)

$Kr^{17+-18+}$	Energy Levels, Wavelengths	Exp
Kr^{22+}	Energy Levels, Wavelengths	Exp
$Xe^{31+-32+}$	Energy Levels, Wavelengths	Exp
$Ba^{31+-34+}$	Energy Levels, Wavelengths	Exp

464. D. Kato, C. Yamada, T. Fukami, I. Ikuta, H. Watanabe, K. Okazaki, S. Tsurubuchi, K. Motohashi, S. Ohtani
M1-Transitions of Ti-like Highly Charged Ions
Phys. Scr. T80, 446-447 (1999)

Ti Z= 37-103	Energy Levels, Wavelengths	E/T
Ti Z= 54-56	Energy Levels, Wavelengths	E/T
Xe^{32+}	Energy Levels, Wavelengths	E/T
Ba^{34+}	Energy Levels, Wavelengths	E/T
Nd^{38+}	Energy Levels, Wavelengths	E/T
Gd^{42+}	Energy Levels, Wavelengths	E/T

465. A. Bordenave-Montesquieu, P. Moretto-Capelle, D. Bordenave-Montesquieu
Experimental Positions and Lifetimes of Be-like $1s^2 3\ell n\ell'$ (n = 3 to 5) States of O^{4+} and Ne^{6+} Ions Investigated by High Resolution Electron Spectroscopy: Test of Calculations
Phys. Scr. T80, 372-374 (1999)

O^{4+}	Energy Levels, Wavelengths	Exp
Ne^{6+}	Energy Levels, Wavelengths	Exp

466. Ph. Bosselmann, K.-H. Schartner, U. Staude, A. E. Livingston, F. Folkmann, P. H. Mokler, T. Ludziejewski
Measurement of 2s-2p Transition Energies in Few Electron Heavy Ions
Phys. Scr. T80, 145-147 (1999)

$Ni^{24+-26+}$	Energy Levels, Wavelengths	Exp
$Zn^{26+-27+}$	Energy Levels, Wavelengths	Exp

467. E. Biémont, Y. Frémat, P. Quinet
Ionization Potentials of Atoms and Ions from Lithium to Tin (Z = 50)
At. Data Nucl. Data Tables 71-1, 117-146 (1999)

Li Z= 3-50	Energy Levels, Wavelengths	E/T
Be Z= 4-50	Energy Levels, Wavelengths	E/T
B Z= 5-50	Energy Levels, Wavelengths	E/T
C Z= 6-50	Energy Levels, Wavelengths	E/T
N Z= 7-50	Energy Levels, Wavelengths	E/T
O Z= 8-50	Energy Levels, Wavelengths	E/T
F Z= 9-50	Energy Levels, Wavelengths	E/T
Ne Z= 10-50	Energy Levels, Wavelengths	E/T
Na Z= 11-50	Energy Levels, Wavelengths	E/T
Mg Z= 12-50	Energy Levels, Wavelengths	E/T
Al Z= 13-50	Energy Levels, Wavelengths	E/T
Si Z= 14-50	Energy Levels, Wavelengths	E/T
P Z= 15-50	Energy Levels, Wavelengths	E/T
S Z= 16-50	Energy Levels, Wavelengths	E/T
Cl Z= 17-50	Energy Levels, Wavelengths	E/T
Ar Z= 18-50	Energy Levels, Wavelengths	E/T

468. A. K. Bhatia, G. A. Doschek
Atomic Data and Spectral Line Intensities for Ni XVI
At. Data Nucl. Data Tables 71-1, 69-102 (1999)

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

469. P. Beiersdorfer, J. R. Crespo López-Urrutia, P. Springer, S. B. Utter, K. L. Wong
Spectroscopy in the Extreme Ultraviolet on an Electron Beam Ion Trap
Rev. Sci. Instrum. 70, 276-279 (1999)

$\mathbf{N^{4+}}$–$^{5+}$	Energy Levels, Wavelengths	Exp

470. E. V. Baklanov, A. V. Denisov
High-Resolution Laser Spectroscopy of the Helium Atom
Bull. Russ. Acad. Sci., Phys. 63-4, 597-603 (1999)

He	Energy Levels, Wavelengths	Exp

471. G. D'Amico, G. Pesce, A. Sasso
Isotope-Shift and Hyperfine-Constant Measurement of Near-Infrared Xenon Transitions in Glow Discharges and on a Metastable Xe(^{3}P$_2$) Beam
Phys. Rev. A 60, 4409-4416 (1999)

^{129}**Xe**	Energy Levels, Wavelengths	Exp
^{131}**Xe**	Energy Levels, Wavelengths	Exp
Xe	Energy Levels, Wavelengths	Exp

472. G. D. Stevens, S. R. Lundeen
Measurements of G-H and H-I Fine-Structure Intervals in n = 7, 9, and 10 Helium Rydberg States
Phys. Rev. A 60, 4379-4386 (1999)

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

473. J. M. Brown, K. M. Evenson
Direct Measurement of the Fine-Structure Interval of ^{27}Al in Its Ground ^{2}P State
Phys. Rev. A 60, 956-961 (1999)

^{27}**Al**	Energy Levels, Wavelengths	Exp
Al	Energy Levels, Wavelengths	Exp

474. S. B. Whitfield, S. Hallman, M. O. Krause, C. D. Caldwell, R. D. Cowan
Determination of the Fine-Structure Properties of the 2p Subshell of Atomic Chlorine
Phys. Rev. A 60, R1747-R1750 (1999)

Cl	Energy Levels, Wavelengths	Exp

475. J. Nilsen, J. Dunn, A. L. Osterheld, Y. Li
Lasing on the Self-Photopumped Nickel-like 4f ^{1}P$_1$ → 4d ^{1}P$_1$ X-ray Transition
Phys. Rev. A 60, R2677-R2680 (1999)

Ni Z= 36-54	Energy Levels, Wavelengths	E/T
Ni Z= 40-42	Energy Levels, Wavelengths	E/T

476. M. R. Godefroid, C. Froese Fischer
Isotope Shift in the Oxygen Electron Affinity
Phys. Rev. A 60, R2637-R2640 (1999)

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

477. C. Valli, C. Blondel, C. Delsart
Measuring Electron Affinities with the Photodetachment Microscope
Phys. Rev. A 59, 3809-3815 (1999)

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

478. A. Kips, W. Vassen, W. Hogervorst
Bifurcations of Closed Orbits in Singlet Helium Stark Spectra
Phys. Rev. A 59, 2948-2955 (1999)

He	Energy Levels, Wavelengths	Exp

479. M. Coreno, L. Avaldi, R. Camilloni, K. C. Prince, M. de Simone, J. Karvonen, R. Colle, S. Simonucci
Measurement and Ab Initio Calculation of the Ne Photoabsorption Spectrum in the Region of the K Edge
Phys. Rev. A 59, 2494-2497 (1999)

Ne	Energy Levels, Wavelengths	E/T

480. Ph. Bosselmann, U. Staude, D. Horn, K.-H. Schartner, F. Folkmann, A. E. Livingston, P. H. Mokler
Measurements of 2s $^2\mathbf{S}_{1/2}$ - 2p $^2\mathbf{P}_{1/2,3/2}$ Transition Energies in Lithiumlike Heavy Ions. II. Experimental Results for $\mathbf{Ag^{44+}}$ and Discussion Along the Isoelectronic Series
Phys. Rev. A 59, 1874-1883 (1999)

Li Z= 24-26	Energy Levels, Wavelengths	E/T
Li Z= 28-30	Energy Levels, Wavelengths	E/T
Li Z= 32-36 step 2	Energy Levels, Wavelengths	E/T
$\mathbf{Mo^{39+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ag^{44+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe^{51+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Bi^{80+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Th^{87+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{U^{89+}}$	Energy Levels, Wavelengths	E/T

481. A. Huber, B. Gross, M. Weitz, T. W. Hänsch
High-Resolution Spectroscopy of the 1S-2S Transition in Atomic Hydrogen
Phys. Rev. A 59, 1844-1851 (1999)

H	Energy Levels, Wavelengths	Exp

482. D. A. Tate, J. P. Walton
Hyperfine-Structure Intervals and Isotope Shifts in the 3p^{4}4s $^4\mathbf{P}_J \rightarrow$ 3p^{4}4p $^4\mathbf{D}_{J'}$ Fine-Structure Multiplet of Atomic Chlorine by Diode Laser Spectroscopy
Phys. Rev. A 59, 1170-1177 (1999)

^{35}**Cl**	Energy Levels, Wavelengths	Exp
^{37}**Cl**	Energy Levels, Wavelengths	Exp
Cl	Energy Levels, Wavelengths	Exp

483. H.-P. Loock, L. M. Beaty, B. Simard
Reassessment of the First Ionization Potentials of Copper, Silver, and Gold
Phys. Rev. A 59-1, 873-875 (1999)

Cu	Energy Levels, Wavelengths	Exp
Ag	Energy Levels, Wavelengths	Exp
Au	Energy Levels, Wavelengths	Exp

484. E. Träbert
Contradictory Observations in Beam-Foil EUV Spectroscopy at High Ion Energies
Phys. Scr. 59, 443-445 (1999)

Si Z= 38-79	Energy Levels, Wavelengths	E/T

485. A. Lapierre, E. J. Knystautas
Ultraviolet and Visible Spectroscopy of Rydberg States in Highly Ionized Neon
Phys. Scr. 59, 426-431 (1999)

Ne^{5+}–$^{9+}$	Energy Levels, Wavelengths	Exp

486. S. B. Rai, S. K. Singh
Optogalvanic Spectrum of Neon in the Spectral Region 415-545 nm
Phys. Scr. 59, 361-364 (1999)

Ne	Energy Levels, Wavelengths	Exp

487. I. Kink, L. Engström
Spectroscopic Investigations of the $2p^23\ell$ Configurations in Si VIII and S X
Phys. Scr. 59, 355-360 (1999)

Si^{7+}	Energy Levels, Wavelengths	E/T
S^{9+}	Energy Levels, Wavelengths	E/T

488. R. A. Komara, W. G. Sturrus, D. H. Pollack, W. R. Cochran
Dalgarno-Lewis Method for Second-Order Energies of Rydberg States of Neon
Phys. Rev. A 59, 251-258 (1999)

Ne^{0+}–$^{+}$	Energy Levels, Wavelengths	E/T
Ne^{+}	Energy Levels, Wavelengths	E/T

489. H. W. Schäffer, R. W. Dunford, E. P. Kanter, S. Cheng, L. J. Curtis, A. E. Livingston, P. H. Mokler
Measurement of the Two-Photon Spectral Distribution from Decay of the 1s2s $^1S_0$ Level in Heliumlike Nickel
Phys. Rev. A 59, 245-250 (1999)

Ni^{26+}	Energy Levels, Wavelengths	Exp

490. R. Doron, E. Behar, P. Mandelbaum, J. L. Schwob, H. Fiedorowicz, A. Bartnik, R. Jarocki, M. Szczurek, T. Wilhein
Spectroscopic Signature of Strong Dielectronic Recombination in Highly Ionized Xenon Produced by Irradiating a Gas Puff with Laser
Phys. Rev. A 59, 188-194 (1999)

Xe^{25+}–$^{28+}$	Energy Levels, Wavelengths	E/T

491. C. D. Caldwell, M. O. Krause, R. D. Cowan, A. Menzel, S. B. Whitfield, S. Hallman, S. P. Frigo, M. C. Severson
Inner-Shell Photoexcitation in an Open-Shell Atom: The Cl 2p → ns,md Spectrum as a Case Study
Phys. Rev. A 59, R926-R929 (1999)

Cl	Energy Levels, Wavelengths	E/T

492. G. Tachiev, C. Froese Fischer
Breit-Pauli Energy Levels, Lifetimes, and Transition Data: Beryllium-like Spectra
J. Phys. B 32, 5805-5823 (1999)

Be Z= 4-12	Energy Levels, Wavelengths	Th

493. M. Wang, R. Faulkner, F. O'Reilly, J. Manrique, A. Arnesen, G. Duffy, P. Dunne, R. Hallin, F. Heijkenskjöld, G. O'Sullivan
Wavelengths and Energy Levels of Potassium-like Ni X
J. Phys. B 32, 5299-5309 (1999)

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

494. A. Lapierre, É. J. Knystautas
Low-lying Quartet States in Li-like Neon
J. Phys. B 32, 4977-4993 (1999)

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

495. J. Jimenez-Mier, S. Schaphorst, C. D. Caldwell, M. O. Krause
Auger Decay of the 1s → np (n = 2-6) Resonances in Beryllium
J. Phys. B 32, 4301-4307 (1999)

Be	Energy Levels, Wavelengths	Exp

496. S. Diehl, D. Cubaynes, J.-M. Bizau, F. J. Wuilleumier, E. T. Kennedy, J.-P. Mosnier, T. J. Morgan
New High-Resolution Measurements of Doubly Excited States of $\mathbf{Li}^{+}$
J. Phys. B 32, 4193-4207 (1999)

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

497. R. Sarmiento, J. G. Reyna Almandos, M. Raineri, M. Gallardo
Spectroscopic Analysis of the Configurations 5s5p5d, $5p^3$ and 5s5p6s of Xe VI
J. Phys. B 32, 2853-2858 (1999)

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

498. J. Bömmels, J. M. Weber, A. Gopalan, N. Herschbach, E. Leber, A. Schramm, K. Ueda, M.-W. Ruf, H. Hotop
Odd Rydberg Spectrum of ^{40}Ar(I): High-Resolution Laser Spectroscopy and MQDT Analyses of the nd, J = 4 Levels and the ng′, J = 4 Resonances
J. Phys. B 32, 2399-2414 (1999)

$^{40}\mathbf{Ar}$	Energy Levels, Wavelengths	Exp
Ar	Energy Levels, Wavelengths	Exp

499. J. M. Weber, K. Ueda, D. Klar, J. Kreil, M.-W. Ruf, H. Hotop
Odd Rydberg Spectrum of ^{40}Ar(I): High-Resolution Laser Spectroscopy and Multichannel Quantum Defect Analysis of the J = 2 and 3 Levels
J. Phys. B 32, 2381-2398 (1999)

$^{40}\mathbf{Ar}$	Energy Levels, Wavelengths	E/T
Ar	Energy Levels, Wavelengths	E/T

500. A. A. Borovik, V. N. Krasilinec
Ejected-Electron Excitation Functions of Autoionizing States in Lithium Atoms
J. Phys. B 32, 1941-1947 (1999)

Li^-	Energy Levels, Wavelengths	Exp

501. P. Jönsson, C. Froese Fischer, M. R. Godefroid
MCHF Calculations of Isotope Shifts and Oscillator Strengths for Transitions between Low-Lying States in Be-like Systems and Neutral Magnesium
J. Phys. B 32, 1233-1245 (1999)

Be Z= 4-10	Energy Levels, Wavelengths	Th
Mg	Energy Levels, Wavelengths	Th

502. K. W. Trantham, M. Jacka, A. R. P. Rau, S. J. Buckman
The Structure of Triply Excited, Negative-Ion Resonances in the Autoionizing Region of Helium
J. Phys. B 32, 815-824 (1999)

He^-	Energy Levels, Wavelengths	Exp

503. I. Yu. Skobelev, V. M. Dyakin, A. Ya. Faenov, A. Bartnik, H. Fiedorowicz, R. Jarocki, J. Kostecki, M. Szczurek, E. Biémont, P. Quinet, J. Nilsen, E. Behar, R. Doron, P. Mandelbaum, J. L. Schwob
The X-ray Emission Spectra of Multicharged Xenon Ions in a Gas Puff Laser-Produced Plasma
J. Phys. B 32, 113-122 (1999)

Xe^{26+}	Energy Levels, Wavelengths	E/T

504. C. McGuinness, M. Martins, Ph. Wernet, B. F. Sonntag, P. van Kampen, J.-P. Mosnier, E. T. Kennedy, J. T. Costello
Metastable State Contributions to the Measured 3p Photoabsorption Spectrum of Cr^+ Ions in a Laser-Produced Plasma
J. Phys. B 32, L583-L591 (1999)

Cr^+	Energy Levels, Wavelengths	Exp

505. I. Velchev, W. Hogervorst, W. Ubachs
Precision VUV Spectroscopy of Ar I at 105 nm
J. Phys. B 32, L511-L516 (1999)

^{36}Ar	Energy Levels, Wavelengths	Exp
^{38}Ar	Energy Levels, Wavelengths	Exp
^{40}Ar	Energy Levels, Wavelengths	Exp
Ar	Energy Levels, Wavelengths	Exp

506. A. E. Kramida, T. Bastin, E. Biémont, P.-D. Dumont, H.-P. Garnir
Ne VI Spectrum
J. Opt. Soc. Am. B 16, 1966-1987 (1999)

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

507. H. Daido, S. Ninomiya, M. Takagi, Y. Kato, F. Koike
Wavelength Measurement of the Ni-like Soft-X-ray Lasing Lines and Comparison to the Atomic-Physics Calculation
J. Opt. Soc. Am. B 16-2, 296-300 (1999)

Nd^{32+}	Energy Levels, Wavelengths	E/T
Sm^{34+}	Energy Levels, Wavelengths	E/T
Gd^{36+}	Energy Levels, Wavelengths	E/T
Dy^{38+}	Energy Levels, Wavelengths	E/T

$\mathbf{Ho}^{39+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Yb}^{42+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Hf}^{44+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ta}^{45+}$	Energy Levels, Wavelengths	E/T

508. A. E. Kramida, T. Bastin, E. Biémont, P.-D. Dumont, H.-P. Garnir
A Critical Compilation and Extended Analysis of the Ne V Spectrum
Eur. Phys. J. D 7-5, 547-565 (1999)

$\mathbf{Ne}^{4+}$	Energy Levels, Wavelengths	Exp

509. A. E. Kramida, T. Bastin, E. Biémont, P.-D. Dumont, H.-P. Garnir
A Critical Compilation and Extended Analysis of the Ne IV Spectrum
Eur. Phys. J. D 7-4, 525-546 (1999)

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

510. B. C. Gou
Energies and Widths of Triply Excited States of Lithiumlike Oxygen and Neon
Eur. Phys. J. D 5, 39-45 (1999)

$\mathbf{O}^{5+}$	Energy Levels, Wavelengths	Th
$\mathbf{Ne}^{7+}$	Energy Levels, Wavelengths	Th

511. W. Hogervorst, K. S. E. Eikema, E. Reinhold, W. Ubachs
Precision XUV Laser Spectroscopy of Atomic and Molecular Two-Electron Systems
Nucl. Phys. A631, 353c-362c (1998)

He	Energy Levels, Wavelengths	Exp

512. J. M. Brown, H. Körsgen, K. M. Evenson
$\mathbf{Fe}^{+}$ in its Ground ^{6}D State: A Direct Measurement of the J = 1/2-3/2 and J = 3/2-5/2 Fine-Structure Intervals
Astrophys. J. 509, 927-930 (1998)

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

513. G. V. Brown, P. Beiersdorfer, D. A. Liedahl, K. Widmann, S. M. Kahn
Laboratory Measurements and Modeling of the Fe XVII X-ray Spectrum
Astrophys. J. 532, 1245 (1998)

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

514. P. Jönsson, U. Litzén, T. Zethson, R. Kling, F. Launay
Wavelengths, Isotope Shifts, and Oscillator Strengths in B II at 1362 and 1624 Å
Astrophys. J. 499, L107-L109 (1998)

$^{10}\mathbf{B}^{+}$	Energy Levels, Wavelengths	Exp
$^{11}\mathbf{B}^{+}$	Energy Levels, Wavelengths	Exp
$\mathbf{B}^{+}$	Energy Levels, Wavelengths	Exp

515. H. Klein, F. Lewen, R. Schieder, J. Stutzki, G. Winnewisser
Precise Laboratory Observation of the $^{3}\mathbf{P}_{2} \leftarrow {}^{3}\mathbf{P}_{1}$ Fine-Structure Transitions of ^{12}C and ^{13}C
Astrophys. J. 494, L125-L128 (1998)

^{12}C	Energy Levels, Wavelengths	Exp
^{13}C	Energy Levels, Wavelengths	Exp
C	Energy Levels, Wavelengths	Exp

516. J. C. Pickering, A. P. Thorne, J. K. Webb
Precise Laboratory Wavelengths of the Mg I and Mg II Resonance Transitions at 2853, 2803 and 2796 Å
Mon. Not. R. Astron. Soc. 300, 131-134 (1998)

^{24}Mg^{0+--+}	Energy Levels, Wavelengths	Exp
Mg^{0+--+}	Energy Levels, Wavelengths	Exp

517. C. Allende Prieto, R. J. García López
A Catalogue of Accurate Wavelengths in the Optical Spectrum of the Sun
Astron. Astrophys., Suppl. Ser. 131, 431-433 (1998)

O	Energy Levels, Wavelengths	Exp
Na	Energy Levels, Wavelengths	Exp
Mg	Energy Levels, Wavelengths	Exp
Mg^{+}	Energy Levels, Wavelengths	Exp
Al	Energy Levels, Wavelengths	Exp
Si	Energy Levels, Wavelengths	Exp
K	Energy Levels, Wavelengths	Exp
Ca	Energy Levels, Wavelengths	Exp
Ca^{+}	Energy Levels, Wavelengths	Exp
Sc	Energy Levels, Wavelengths	Exp
Sc^{+}	Energy Levels, Wavelengths	Exp
Ti	Energy Levels, Wavelengths	Exp
Ti^{+}	Energy Levels, Wavelengths	Exp
V	Energy Levels, Wavelengths	Exp
V^{+}	Energy Levels, Wavelengths	Exp
Cr	Energy Levels, Wavelengths	Exp
Cr^{+}	Energy Levels, Wavelengths	Exp
Mn	Energy Levels, Wavelengths	Exp
Mn^{+}	Energy Levels, Wavelengths	Exp
Fe	Energy Levels, Wavelengths	Exp
Fe^{+}	Energy Levels, Wavelengths	Exp
Co	Energy Levels, Wavelengths	Exp
Ni	Energy Levels, Wavelengths	Exp
Ni^{+}	Energy Levels, Wavelengths	Exp
Cu	Energy Levels, Wavelengths	Exp
Zn	Energy Levels, Wavelengths	Exp
Ge	Energy Levels, Wavelengths	Exp
Sr	Energy Levels, Wavelengths	Exp
Sr^{+}	Energy Levels, Wavelengths	Exp
Y	Energy Levels, Wavelengths	Exp
Y^{+}	Energy Levels, Wavelengths	Exp
Zr	Energy Levels, Wavelengths	Exp
Zr^{+}	Energy Levels, Wavelengths	Exp
Nb	Energy Levels, Wavelengths	Exp
Mo	Energy Levels, Wavelengths	Exp
Mo^{+}	Energy Levels, Wavelengths	Exp
Ru	Energy Levels, Wavelengths	Exp
Rh	Energy Levels, Wavelengths	Exp
Ba^{+}	Energy Levels, Wavelengths	Exp
La	Energy Levels, Wavelengths	Exp
La^{+}	Energy Levels, Wavelengths	Exp

La^{50+}	Energy Levels, Wavelengths	Exp
Ce^{+}	Energy Levels, Wavelengths	Exp
Pr^{+}	Energy Levels, Wavelengths	Exp
Nd^{+}	Energy Levels, Wavelengths	Exp
Sm^{+}	Energy Levels, Wavelengths	Exp
Eu	Energy Levels, Wavelengths	Exp
Eu^{+}	Energy Levels, Wavelengths	Exp
Gd^{+}	Energy Levels, Wavelengths	Exp
Dy^{+}	Energy Levels, Wavelengths	Exp
W	Energy Levels, Wavelengths	Exp

518. J.-P. De Cuyper, H. Hensberge
Wavelength Calibration at Moderately High Resolution
Astron. Astrophys., Suppl. Ser. 128, 409-416 (1998)

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

519. I. Yu. Kiyan, U. Berzinsh, D. Hanstorp, D. J. Pegg
Series of Doubly Excited Quartet States of He^{-}
Phys. Rev. Lett. 81, 2874-2877 (1998)

He^{-}	Energy Levels, Wavelengths	Exp

520. S. Mannervik, D. R. DeWitt, L. Engström, J. Lidberg, E. Lindroth, R. Schuch, W. Zong
Strong Relativistic Effects and Natural Linewidths Observed in Dielectronic Recombination of Lithiumlike Carbon
Phys. Rev. Lett. 81, 313-316 (1998)

C^{3+}	Energy Levels, Wavelengths	E/T

521. S. D. Bergeson, A. Balakrishnan, K. G. H. Baldwin, T. B. Lucatorto, J. P. Marangos, T. J. McIlrath, T. R. O'Brian, S. L. Rolston, C. J. Sansonetti, J. Wen, N. Westbrook, C. H. Cheng, E. E. Eyler
Measurement of the He Ground State Lamb Shift via the Two-Photon 1^1S-2^1S Transition
Phys. Rev. Lett. 80, 3475-3478 (1998)

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

522. M. Scheer, R. C. Bilodeau, H. K. Haugen
Negative Ion of Boron: An Experimental Study of the ^{3}P Ground State
Phys. Rev. Lett. 80, 2562-2565 (1998)

B^{-}	Energy Levels, Wavelengths	Exp

523. C. Froese Fischer, M. Saparov, G. Gaigalas, M. Godefroid
Breit-Pauli Energies, Transition Probabilities, and Lifetimes for 2s, 2p, 3s, 3p, 3d, 4s ^{2}L Levels of the Lithium Sequence, Z = 3 - 8
At. Data Nucl. Data Tables 70-1, 119-134 (1998)

Li	Energy Levels, Wavelengths	E/T
Be^{+}	Energy Levels, Wavelengths	E/T
B^{2+}	Energy Levels, Wavelengths	E/T
C^{3+}	Energy Levels, Wavelengths	E/T
N^{4+}	Energy Levels, Wavelengths	E/T
O^{5+}	Energy Levels, Wavelengths	E/T

524. U. I. Safronova, W. R. Johnson, M. S. Safronova
Relativistic Many-Body Calculations of Energies of n = 3 States for the Boron Isoelectronic Sequence, Z = 6 - 30
At. Data Nucl. Data Tables 69-2, 183-215 (1998)

B Z= 2-30	Energy Levels, Wavelengths	Th

525. K. B. Fournier
Atomic Data and Spectral Line Intensities for Highly Ionized Tungsten (Co-Like W^{47+} to Rb-Like W^{37+}) in a High-Temperature, Low-Density Plasma
At. Data Nucl. Data Tables 68-1, 1-48 (1998)

$\mathbf{W}^{37+-47+}$	Energy Levels, Wavelengths	Th

526. H. M. Pickett, R. L. Poynter, E. A. Cohen, M. L. Delitsky, J. C. Pearson, H. S. P. Müller
Submillimeter, Millimeter, and Microwave Spectral Line Catalog
J. Quant. Spectrosc. Radiat. Transfer 60-5, 883-890 (1998)

H	Energy Levels, Wavelengths	Exp
$^{13}\mathbf{C}$	Energy Levels, Wavelengths	Exp
C	Energy Levels, Wavelengths	Exp
N	Energy Levels, Wavelengths	Exp
O	Energy Levels, Wavelengths	Exp
D	Energy Levels, Wavelengths	Exp

527. P. Nicolosi, P. Villoresi
Experimental Measurement of the C II L-Shell Photoabsorption Spectrum
Phys. Rev. A 58, 4985-4988 (1998)

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

528. W. L. Glab, P. T. Glynn, F. Robicheaux
High-np Rydberg States of Atomic Carbon Studied through VUV and UV Double Resonance
Phys. Rev. A 58-5, 4014-4021 (1998)

C	Energy Levels, Wavelengths	Exp

529. M. G. H. Gustavsson, A.-M. Mårtensson-Pendrill
Need for Remeasurements of Nuclear Magnetic Dipole Moments
Phys. Rev. A 58, 3611-3618 (1998)

$^{23}\mathbf{Na}^{0+-+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Na}^{0+-+}$	Energy Levels, Wavelengths	Exp
$^{165}\mathbf{Ho}$	Energy Levels, Wavelengths	Exp
Ho	Energy Levels, Wavelengths	Exp
$^{185}\mathbf{Re}^{7+}$	Energy Levels, Wavelengths	Exp
$^{187}\mathbf{Re}^{7+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Re}^{7+}$	Energy Levels, Wavelengths	Exp
$^{199}\mathbf{Hg}$	Energy Levels, Wavelengths	Exp
Hg	Energy Levels, Wavelengths	Exp
$^{203}\mathbf{Tl}^{0+-+}$	Energy Levels, Wavelengths	Exp
$^{205}\mathbf{Tl}^{0+-+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Tl}^{0+-+}$	Energy Levels, Wavelengths	Exp
$^{207}\mathbf{Pb}$	Energy Levels, Wavelengths	Exp
Pb	Energy Levels, Wavelengths	Exp
$^{207}\mathbf{Pb}^{2+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Pb}^{2+}$	Energy Levels, Wavelengths	Exp
$^{209}\mathbf{Bi}^{3+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Bi}^{3+}$	Energy Levels, Wavelengths	Exp

530. U. Staude, Ph. Bosselmann, R. Büttner, D. Horn, K.-H. Schartner, F. Folkmann, A. E. Livingston, T. Ludziejewski, P. H. Mokler
Measurements of 2s $^2S_{1/2}$ - 2p $^2P_{3/2,1/2}$ Transition Energies in Lithiumlike Heavy Ions: Experiments and Results for Ni^{25+} and Zn^{27+}
Phys. Rev. A 58, 3516-3523 (1998)

$\mathbf{Ni^{25+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Zn^{27+}}$	Energy Levels, Wavelengths	Exp

531. M. Scheer, R. C. Bilodeau, C. A. Brodie, H. K. Haugen
Systematic Study of the Stable States of C^-, Si^-, Ge^-, and Sn^- via Infrared Laser Spectroscopy
Phys. Rev. A 58, 2844-2856 (1998)

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

532. M. Scheer, C. A. Brodie, R. C. Bilodeau, H. K. Haugen
Laser Spectroscopic Measurements of Binding Energies and Fine-Structure Splittings of Co^-, Ni^-, Rh^-, and Pd^-
Phys. Rev. A 58, 2051-2062 (1998)

$\mathbf{Co^-}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni^-}$	Energy Levels, Wavelengths	Exp
$\mathbf{Rh^-}$	Energy Levels, Wavelengths	Exp
$\mathbf{Pd^-}$	Energy Levels, Wavelengths	Exp

533. D. C. Rislove, C. E. M. Strauss, H. C. Bryant, M. S. Gulley, D. J. Funk, X. M. Zhao, W. A. Miller
Characterization of the $^1D^e$ Autodetaching Resonance in H^- and D^-
Phys. Rev. A 58, 1889-1897 (1998)

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

534. Guo-xin Chen, P. P. Ong
Relativistic Calculations for Fe XXIII: Atomic Structure
Phys. Rev. A 58-2, 1070-1081 (1998)

$\mathbf{Fe^{22+}}$	Energy Levels, Wavelengths	Th

535. M. S. Safronova, A. Derevianko, W. R. Johnson
Relativistic Many-Body Calculations of Energy Levels, Hyperfine Constants, and Transition Rates for Sodiumlike Ions, Z = 11-16
Phys. Rev. A 58-2, 1016-1028 (1998)

Na Z= 11-16	Energy Levels, Wavelengths	Th

536. E. Jacquet, P. Boduch, M. Chantepie, C. Laulhé, D. Lecler, J. Pascale, M. Wilson
New Spectroscopic Results in Kr VIII
Phys. Scr. 58, 570-573 (1998)

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

537. S. S. Churilov, Y. N. Joshi
Analyses of the $5p^55d^3$ + $5p^65d5f$ + 6s6p Configurations of Au X and $5p^55d^3$ + $5p^65d5f$ Configurations of Hg XI
Phys. Scr. 58, 425-440 (1998)

Au^{9+}	Energy Levels, Wavelengths	E/T
Hg^{10+}	Energy Levels, Wavelengths	E/T

538. A. Denis, M. C. Buchet-Poulizac, L. Chen, S. Martin, J. Désesquelles
Collision Spectroscopy of Quartet and Doublet Transitions in Doubly Excited Ne^{7+}
Phys. Scr. 58, 341-344 (1998)

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

539. E. S. Chang, M. Geller
Improved Experimental Energy Levels of Carbon I from Solar Infrared Spectra
Phys. Scr. 58, 326-340 (1998)

C	Energy Levels, Wavelengths	Exp

540. U. V. Pedersen, H. H. Andersen, T. Andersen, L. Veseth
Binding Energy of the Metastable Ar^- Ion
Phys. Rev. A 58, 258-263 (1998)

Ar^-	Energy Levels, Wavelengths	E/T
Ar	Energy Levels, Wavelengths	E/T

541. Y. Aglitskiy, F. G. Serpa, E. S. Meyer, J. D. Gillaspy, C. M. Brown, A. Ya. Faenov, T. A. Pikuz
The Use of a Spherically Curved Crystal Spectrometer for X-ray Measurements on Electron Beam Ion Trap
Phys. Scr. 58, 178-181 (1998)

Ar^{16+}	Energy Levels, Wavelengths	Exp
Ba^{46+}	Energy Levels, Wavelengths	Exp

542. A. J. J. Raassen, R. Gayasov, Y. N. Joshi
Analysis of the $5d^7$-$5d^66p$ Transition Array of Au V
Phys. Scr. 58, 39-52 (1998)

Au^{4+}	Energy Levels, Wavelengths	E/T

543. Y. Li, J. Nilsen, J. Dunn, A. L. Osterheld, A. Ryabtsev, S. Churilov
Wavelengths of the Ni-like 4d $^1S_0$ - 4p $^1P_1$ X-ray Laser Line
Phys. Rev. A 58, R2668-R2671 (1998)

Ni Z= 39-42	Energy Levels, Wavelengths	E/T
Ni Z= 39-60	Energy Levels, Wavelengths	E/T
Ni Z= 46-48	Energy Levels, Wavelengths	E/T
As^{5+}	Energy Levels, Wavelengths	E/T
Se^{6+}	Energy Levels, Wavelengths	E/T
Br^{7+}	Energy Levels, Wavelengths	E/T
Kr^{8+}	Energy Levels, Wavelengths	E/T
Sr^{10+}	Energy Levels, Wavelengths	E/T

544. C. H. Storry, E. A. Hessels
Precision Microwave Measurement of the 2 $^3P_1$ - 2 $^3P_0$ Interval in Atomic Helium
Phys. Rev. A 58, R8-R11 (1998)

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

545. J. M. Brown, L. R. Zink, K. M. Evenson
$^{19}F^{+}$ Atom in Its Ground ^{3}P State: The J = 0 ← 1 Fine-Structure Interval
Phys. Rev. A 57, 2507-2510 (1998)

^{19}**F**$^{+}$	Energy Levels, Wavelengths	Exp
F^{+}	Energy Levels, Wavelengths	Exp

546. U. Litzén, T. Zethson, P. Jönsson, J. Kasten, R. Kling, F. Launay
Precision Measurements and Calculations in the B II Spectrum: Wavelengths, Isotope Shifts, and Oscillator Strengths
Phys. Rev. A 57, 2477-2484 (1998)

^{10}**B**$^{+}$	Energy Levels, Wavelengths	E/T
^{11}**B**$^{+}$	Energy Levels, Wavelengths	E/T
B^{+}	Energy Levels, Wavelengths	E/T

547. B. J. Lyons, T. F. Gallagher
Mg 3snf-3sng-3snh-3sni Intervals and the Mg^{+} Dipole Polarizability
Phys. Rev. A 57, 2426-2429 (1998)

Mg^{+}	Energy Levels, Wavelengths	Exp

548. Z.-C. Yan, M. Tambasco, G. W. F. Drake
Energies and Oscillator Strengths for Lithiumlike Ions
Phys. Rev. A 57, 1652-1661 (1998)

Li Z= 3-50	Energy Levels, Wavelengths	Th

549. G. Hölzer, E. Förster, D. Klöpfel, P. Beiersdorfer, G. V. Brown, J. R. Crespo López-Urrutia, K. Widmann
Absolute Wavelength Measurement of the Lyman-α Transitions of Hydrogenic Mg^{11+}
Phys. Rev. A 57-2, 945-948 (1998)

Mg^{11+}	Energy Levels, Wavelengths	Exp

550. S. S. Churilov, R. Gayasov, R. R. Kildiyarova, Y. N. Joshi, A. N. Ryabtsev
The 5d^{2}-5d6p Transitions in Au X and Hg XI
Phys. Scr. 57, 626-629 (1998)

Au^{9+}	Energy Levels, Wavelengths	E/T
Hg^{10+}	Energy Levels, Wavelengths	E/T

551. S. S. Churilov, Y. N. Joshi
Analyses of the 5p^{6}5d-(5p^{6}6p + 5p^{6}5f + 5p^{5}5d^{2}) Transitions of Eight Times Ionized Iridium to Eleven Times Ionized Mercury Spectra (Ir IX-Hg XII)
Phys. Scr. 57, 556-564 (1998)

Ir^{8+}	Energy Levels, Wavelengths	E/T
Pt^{9+}	Energy Levels, Wavelengths	E/T
Au^{10+}	Energy Levels, Wavelengths	E/T
Hg^{11+}	Energy Levels, Wavelengths	E/T

552. U. I. Safronova, R. Bruch
Triply Excited States of the Lithium Isoelectronic Sequence: Z = 3-54
Phys. Scr. 57, 519-532 (1998)

Li Z= 3-54	Energy Levels, Wavelengths	Th

553. J. K. Thompson, D. J. H. Howie, E. G. Myers
Measurements of the 1s2s $^1S_0$ - 1s2p $^3P_{1,0}$ Transitions in Heliumlike Nitrogen
Phys. Rev. A 57, 180-188 (1998)

$^{14}\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp
$^{15}\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp
$\mathbf{N}^{5+}$	Energy Levels, Wavelengths	Exp

554. A. E. Kramida
Critical Review of Experimental Studies of the Be II Core-Excited Level System
Phys. Scr. 57, 66-81 (1998)

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

555. R. R. Gayazov, A. N. Ryabtsev, S. S. Churilov
Spectrum of Doubly Ionized Niobium (Nb III)
Phys. Scr. 57, 45-65 (1998)

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

556. M. Scheer, R. C. Bilodeau, J. Thøgersen, H. K. Haugen
Threshold Photodetachment of Al^-: Electron Affinity and Fine Structure
Phys. Rev. A 57, R1493-R1496 (1998)

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

557. J. R. Crespo López-Urrutia, P. Beiersdorfer, K. Widmann, B. B. Birkett, A.-M. Mårtensson-Pendrill, M. G. H. Gustavsson
Nuclear Magnetization Distribution Radii Determined by Hyperfine Transitions in the 1s Level of H-like Ions $^{185}Re^{74+}$ and $^{187}Re^{74+}$
Phys. Rev. A 52-2, 879-887 (1998)

$^{185}\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Exp
$^{187}\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Re}^{74+}$	Energy Levels, Wavelengths	Exp

558. K. Asmussen, K. B. Fournier, J. M. Laming, R. Neu, J. F. Seely, R. Dux, W. Engelhardt, J. C. Fuchs, ASDEX Upgrade Team
Spectroscopic Investigations of Tungsten in the EUV Region and the Determination of its Concentration in Tokamaks
Nucl. Fusion 38-7, 967-986 (1998)

$\mathbf{W}^{39+--45+}$	Energy Levels, Wavelengths	Exp

559. C. Lim, K. Nomaru, Y. Izawa
Hyperfine Structure Constant and Isotope Shift Determination in Zr I by Laser-Induced Fluorescence Spectroscopy
Jpn. J. Appl. Phys. 37, 5049-5052 (1998)

Zr	Energy Levels, Wavelengths	Exp

560. H. Aksela, S.-M. Huttula, M. Jurvansuu, J. Mursu, M. Kivilompolo, A. Kivimäki, S. Aksela, S. Svensson
The Character of the Xe 4p → nl Resonances Studied with the Aid of their Auger Decay
J. Phys. B 31, 5337-5346 (1998)

Xe	Energy Levels, Wavelengths	Exp

561. M. Ahmed, M. A. Baig, B. Suleman
Laser Optogalvanic Spectroscopic Studies of Xenon
J. Phys. B 31, 4017-4028 (1998)

Xe	Energy Levels, Wavelengths	Exp

562. R. C. Bilodeau, M. Scheer, H. K. Haugen
Infrared Laser Photodetachment of Transition Metal Negative Ions: Studies on Cr^{-}, Mo^{-}, Cu^{-} and Ag^{-}
J. Phys. B 31, 3885-3891 (1998)

Cr^{-}	Energy Levels, Wavelengths	Exp
Cu^{-}	Energy Levels, Wavelengths	Exp
Mo^{-}	Energy Levels, Wavelengths	Exp
Ag^{-}	Energy Levels, Wavelengths	Exp

563. W. Zong, R. Schuch, H. Gao, D. R. DeWitt, N. R. Badnell
Low-Energy Recombination of Ne^{7+}
J. Phys. B 31, 3729-3742 (1998)

Ne^{6+}	Energy Levels, Wavelengths	Exp

564. P. Jönsson, C. Froese Fischer, E. Träbert
On the Status and Perspectives of MCDF Calculations and Measurements of Transition Data in the Be Isoelectronic Sequence
J. Phys. B 31, 3497-3511 (1998)

Be Z= 7-28	Energy Levels, Wavelengths	Th
Zn^{26+}	Energy Levels, Wavelengths	Th
Mo^{38+}	Energy Levels, Wavelengths	Th
Xe^{50+}	Energy Levels, Wavelengths	Th

565. S. Kitazawa, K. Tanabe, M. Machida, Y. Matsui, H. Ida, T. Takayanagi, K. Wakiya, K. Iemura, F. Currell, S. Ohtani, H. Suzuki, M. Sekiguchi, U. I. Safronova
Electron Spectra from Singlet and Triplet States of $N^{3+}(1s^2 3\ell 3\ell', 1s^2 3\ell 4\ell')$ Produced by Low-Energy N^{5+} + He, Ne and Ar Collisions
J. Phys. B 31, 3233-3243 (1998)

N^{3+}	Energy Levels, Wavelengths	Exp

566. J. G. Reyna Almandos, F. Bredice, M. Raineri, M. Gallardo, A. G. Trigueiros
Extended Analysis of Three-Times Ionized Krypton (Kr IV)
J. Phys. B 31, 3129-3136 (1998)

Kr^{3+}	Energy Levels, Wavelengths	E/T

567. A. E. Klinkmüller, G. Haeffler, D. Hanstorp, I. Yu. Kiyan, U. Berzinsh, D. J. Pegg
Photodetachment Study of He^{-} Quartet Resonances below the He(n = 3) Thresholds
J. Phys. B 31, 2549-2557 (1998)

He^{-}	Energy Levels, Wavelengths	Exp

568. Ch. Gerth, K. Tiedtke, M. Martins, B. Obst, P. Zimmermann, P. Glatzel, A. Verweyen, Ph. Wernet, B. Sonntag
Valence Satellite and 3p Photoelectron Spectra of Atomic Fe and Cu
J. Phys. B 31, 2539-2547 (1998)

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

569. L. Qu, Z. Wang, B. Li
Term Values of 1s2sns ^{4}S States for the Lithium Isoelectronic Sequence
J. Phys. B 31, 2469-2475 (1998)

Li Z= 3-8	Energy Levels, Wavelengths	Th

570. E. C. A. Cochrane, D. M. Benton, D. H. Forest, J. A. R. Griffith
Hyperfine Structure and Isotope Shifts in Natural Vanadium
J. Phys. B 31, 2203-2213 (1998)

^{50}**V**	Energy Levels, Wavelengths	Exp
^{51}**V**	Energy Levels, Wavelengths	Exp
V	Energy Levels, Wavelengths	Exp

571. F. Merkt, A. Osterwalder, R. Seiler, R. Signorell, H. Palm, H. Schmutz, R. Gunzinger
High Rydberg States of Argon: Stark Effect and Field-Ionization Properties
J. Phys. B 31, 1705-1724 (1998)

Ar	Energy Levels, Wavelengths	Exp

572. J. T. Costello, E. T. Kennedy, J.-P. Mosnier, M. H. Sayyad
Measurement and Analysis of the Photoabsorption Spectra of Laser-Produced Al and Si$^+$ in the Region of 2p-Subshell Excitation
J. Phys. B 31, 677-688 (1998)

Al	Energy Levels, Wavelengths	Exp
Si$^+$	Energy Levels, Wavelengths	Exp

573. M. Gisselbrecht, A. Marquette, M. Meyer
Two-Photon Double-Resonant Excitation of the Xe* 5p^{5}nf′ (J = 2) Autoionization States Using Synchronized Laser and Synchrotron Radiation Pulses
J. Phys. B 31, L977-L984 (1998)

Xe	Energy Levels, Wavelengths	Exp

574. M. J. Brunger, S. J. Buckman, P. J. O. Teubner, V. Zeman, K. Bartschat
Excitation of the 3p′[1/2]$_0$ State of Neon by High-Resolution Electron Impact
J. Phys. B 31, L387-L391 (1998)

Ne	Energy Levels, Wavelengths	Exp

575. R. Gayasov, Y. N. Joshi
Transitions from the Configurations Involving 4f-Electrons in Cs IX-La XI and Cs XI-Ce XIV Spectra
J. Phys. B 31, L705-L709 (1998)

Rh Z= 55-58	Energy Levels, Wavelengths	E/T
Ag Z= 55-57	Energy Levels, Wavelengths	E/T
Xe^{7+}	Energy Levels, Wavelengths	E/T
Xe^{9+}	Energy Levels, Wavelengths	E/T

576. U. Litzén, R. Kling
Precision Measurement of Wavelengths and Isotope Shifts of the B III Resonance Lines at 2065 and 2067 Å
J. Phys. B 31, L933-L936 (1998)

$^{10}\mathbf{B}^{2+}$	Energy Levels, Wavelengths	Exp
$^{11}\mathbf{B}^{2+}$	Energy Levels, Wavelengths	Exp
$\mathbf{B}^{2+}$	Energy Levels, Wavelengths	Exp

577. J. T. Costello, E. T. Kennedy, J.-P. Mosnier, M. H. Sayyad, C. McGuinness
Extreme-UV Photoabsorption Spectrum of a Laser-Produced Silicon Plasma: Evidence for Metastable $\mathbf{Si^{+}}$ Ions
J. Phys. B 31, L547-L552 (1998)

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

578. J. W. G. Thomason, B. Peart
The Electron-Impact Ionization of $\mathbf{Al^{2+}}$ Ions
J. Phys. B 31, L201-L207 (1998)

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

579. N. Watanabe, Y. Awaya, A. Fujino, Y. Itoh, M. Kitajima, T. M. Kojima, M. Oura, R. Okuma, M. Sano, T. Sekioka, T. Koizumi
Photoion-Yield Spectra of $\mathbf{Xe^{2+}}$ in the 4d-Threshold Energy Region
J. Phys. B 30, 4137-4141 (1998)

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

580. I. Yu. Skobelev, A. Bartnik, E. Behar, R. Doron, V. M. Dyakin, J. Kostecki, P. Mandelbaum, A. Ya. Faenov, H. Fiedorowicz, J. L. Schwob, M. Szczurek, R. Jarocki
Dielectronic Satellites of the $\mathbf{He_{\beta}}$ Line of the Si XIII Ion in a Dense Laser Plasma
Quantum Electron. 28-6, 677-680 (1998)

$\mathbf{Si}^{11+}$	Energy Levels, Wavelengths	E/T

581. C. Lim, Y. Izawa
Hyperfine Structure and Isotope Shifts of High-Lying Levels of Zr I Investigated by Laser-Induced Fluorescence Spectroscopy
J. Opt. Soc. Am. B 15-10, 2607-2613 (1998)

$^{90}\mathbf{Zr}$	Energy Levels, Wavelengths	Exp
$^{91}\mathbf{Zr}$	Energy Levels, Wavelengths	Exp
Zr	Energy Levels, Wavelengths	Exp

582. B. de Beauvoir, L. Hilico, L. Julien, F. Biraben, B. Cagnac, F. Nez, J. J. Zondy, D. Touahri, O. Acef, A. Clairon
High Resolution Spectroscopy of Hydrogen and Deuterium Atoms
Laser Phys. 8-3, 561-564 (1998)

H	Energy Levels, Wavelengths	Exp
D	Energy Levels, Wavelengths	Exp

583. X.-X. Guan, Z.-W. Wang
The Hyperfine Structure of the $\mathbf{1s^2ns\ ^2S}$ and $\mathbf{1s^2np\ ^2P}$ States (n = 2, 3, 4, and 5) for the Lithium Isoelectronic Sequence
Eur. Phys. J. D 2, 21-27 (1998)

Li Z= 3-10	Energy Levels, Wavelengths	Th
$^{7}\mathbf{Li}$	Energy Levels, Wavelengths	Th

584. T. Ishikawa, H. Kawakami, H. Mori
Laser Purification of Metals (I); High Rydberg States of Ni, Ag, and Pd
Nucl. Instrum. Methods Phys. Res. B 121, 437-441 (1997)

Ni	Energy Levels, Wavelengths	Exp
Pd	Energy Levels, Wavelengths	Exp
Ag	Energy Levels, Wavelengths	Exp

585. U. Feldman, W. E. Behring, W. Curdt, U. Schühle, K. Wilhelm, P. Lemaire, T. M. Moran
A Coronal Spectrum in the 500-1610 Å Wavelength Range Recorded at a Height of 21,000 Kilometers Above the West Solar Limb by the SUMER Instrument on Solar and Heliospheric Observatory
Astrophys. J., Suppl. Ser. 113, 195-219 (1997)

Ne^{3+}	Energy Levels, Wavelengths	Exp
Ne^{3+-6+}	Energy Levels, Wavelengths	Exp
Ne^{6+}	Energy Levels, Wavelengths	Exp
Na^{5+-7+}	Energy Levels, Wavelengths	Exp
Na^{6+}	Energy Levels, Wavelengths	Exp
Na^{7+}	Energy Levels, Wavelengths	Exp
Mg^{4+-8+}	Energy Levels, Wavelengths	Exp
Mg^{5+-8+}	Energy Levels, Wavelengths	Exp
Al^{5+-9+}	Energy Levels, Wavelengths	Exp
Si^{6+-10+}	Energy Levels, Wavelengths	Exp
P^{8+-10+}	Energy Levels, Wavelengths	Exp
S^{4+}	Energy Levels, Wavelengths	Exp
S^{8+}	Energy Levels, Wavelengths	Exp
S^{8+-11+}	Energy Levels, Wavelengths	Exp
S^{9+-11+}	Energy Levels, Wavelengths	Exp
Cl^{9+}	Energy Levels, Wavelengths	Exp
Ar^{6+}	Energy Levels, Wavelengths	Exp
Ar^{10+}	Energy Levels, Wavelengths	Exp
Ar^{11+}	Energy Levels, Wavelengths	Exp
Ca^{8+}	Energy Levels, Wavelengths	Exp
Fe^{7+-11+}	Energy Levels, Wavelengths	Exp

586. Th. Udem, A. Huber, B. Gross, J. Reichert, M. Prevedelli, M. Weitz, T. W. Hänsch
Phase-Coherent Measurement of the Hydrogen 1S-2S Transition Frequency with an Optical Frequency Interval Divider Chain
Phys. Rev. Lett. 79, 2646-2649 (1997)

H	Energy Levels, Wavelengths	Exp

587. Y. Azuma, F. Koike, J. W. Cooper, T. Nagata, G. Kutluk, E. Shigemasa, R. Wehlitz, I. A. Sellin
Photoexcitation of Hollow Lithium with Completely Empty K and L Shells
Phys. Rev. Lett. 79, 2419-2422 (1997)

Li	Energy Levels, Wavelengths	Exp

588. T. Bartsch, A. Müller, W. Spies, J. Linkemann, H. Danared, D. R. DeWitt, H. Gao, W. Zong, R. Schuch, A. Wolf, G. H. Dunn, M. S. Pindzola, D. C. Griffin
Field Enhanced Dielectronic Recombination of Si^{11+} Ions
Phys. Rev. Lett. 79, 2233-2236 (1997)

Si^{10+}	Energy Levels, Wavelengths	Exp

589. N. Spellmeyer, D. Kleppner, M. R. Haggerty, V. Kondratovich, J. B. Delos, J. Gao
Recurrence Spectroscopy of a Time-Dependent System: A Rydberg Atom in an Oscillating Field
Phys. Rev. Lett. 79, 1650-1653 (1997)

Li	Energy Levels, Wavelengths	Exp

590. Z.-C. Yan, G. W. F. Drake
Lithium Fine Structure in the $1s^22p\ ^2P_J$ States
Phys. Rev. Lett. 79, 1646-1649 (1997)

Li	Energy Levels, Wavelengths	Th

591. S. Diehl, D. Cubaynes, F. J. Wuilleumier, J.-M. Bizau, L. Journel, E. T. Kennedy, C. Blancard, L. VoKy, P. Faucher, A. Hibbert, N. Berrah, T. J. Morgan, J. Bozek, A. S. Schlachter
Experimental Observation and Theoretical Calculations of Rydberg Series in Hollow Lithium Atomic States
Phys. Rev. Lett. 79, 1241-1244 (1997)

Li	Energy Levels, Wavelengths	E/T

592. C. Dorrer, F. Nez, B. de Beauvoir, L. Julien, F. Biraben
Accurate Measurement of the 2^3S_1-3^3D_1 Two-Photon Transition Frequency in Helium: New Determination of the 2^3S_1 Lamb Shift
Phys. Rev. Lett. 78, 3658-3661 (1997)

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

593. K. T. Chung
Photoionization of Lithium in the Inelastic Scattering Region
Phys. Rev. Lett. 78, 1416-1419 (1997)

Li	Energy Levels, Wavelengths	E/T

594. B. de Beauvoir, F. Nez, L. Julien, B. Cagnac, F. Biraben, D. Touahri, L. Hilico, O. Acef, A. Clairon, J. J. Zondy
Absolute Frequency Measurement of the 2S-8S/D Transitions in Hydrogen and Deuterium: New Determination of the Rydberg Constant
Phys. Rev. Lett. 78, 440-443 (1997)

H	Energy Levels, Wavelengths	Exp
D	Energy Levels, Wavelengths	Exp

595. M. Imai, M. Sataka, Y. Yamazaki, K. Komaki, K. Kawatsura, Y. Kanai
Electron Spectra from Highly Excited Si Ions
Phys. Scr. T73, 93-95 (1997)

Si^{8+-11+}	Energy Levels, Wavelengths	Exp

596. J. Asada, F. J. Currell, T. Fukami, T. Hirayama, K. Motohashi, N. Nakamura, E. Nojikawa, S. Ohtani, K. Okazaki, M. Sakurai, H. Shiraishi, S. Tsurubuchi, H. Watanabe
X-ray Spectroscopy at the Tokyo Electron Beam Ion Trap
Phys. Scr. T73, 90-92 (1997)

Ba^{54+}	Energy Levels, Wavelengths	Exp
W^{64+}	Energy Levels, Wavelengths	Exp

597. C. T. Chantler, D. Paterson, L. T. Hudson, F. G. Serpa, J. D. Gillaspy, R. D. Deslattes
Progress Towards Absolute X-ray Spectroscopy on the NIST Electron-Beam Ion Trap: Current Status and Results
Phys. Scr. T73, 87-89 (1997)

$\mathbf{V}^{20+-22+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ba}^{45+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ba}^{46+}$	Energy Levels, Wavelengths	Exp

598. P. Bengtsson, K. Ando, T. Kambara, Y. Awaya, R. Hutton
Intercombination Lines in Highly Charged Al- and Si-like Ions
Phys. Scr. T73, 81-82 (1997)

$\mathbf{Y}^{25+-27+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Zr}^{26+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Zr}^{28+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Nb}^{27+-29+}$	Energy Levels, Wavelengths	Exp

599. M. Wang, A. Arnesen, P. Dunne, R. Hallin, F. Heijkensköld, F. O'Reilly
Wavelengths and Energy Levels of Fe VIII
Phys. Scr. T73, 77-78 (1997)

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

600. K. Ishii, T. Nishida, Y. Kimura, S. Kawae, T. Nakano
Beam-Foil Spectra of Highly-Charged Argon Ions in Visible Region
Phys. Scr. T73, 75-76 (1997)

$\mathbf{Ar}^{9+-12+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	Exp

601. K. Ishii, T. Nishida, Y. Kimura, M. Fujiwara, T. Nakano, S. Kawae, K. Ando, T. Kambara
Beam-Foil Spectra of Highly-Charged Neon Ions in Visible Region
Phys. Scr. T73, 73-74 (1997)

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

602. K. Okada, T. Nakamura, S. Ohtani, M. Wada, H. Wang, S. Fujitaka, J. Tanaka, H. Kawakami, I. Katayama
A Laser-Microwave Double Resonance for Unstable Nuclear Ions
Phys. Scr. T73, 67-69 (1997)

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

603. D. J. Bieber, H. S. Margolis, P. K. Oxley, J. D. Silver
Studies of Magnetic Dipole Transitions in Highly Charged Argon and Barium Using an Electron Beam Ion Trap
Phys. Scr. T73, 64-66 (1997)

$\mathbf{Ar}^{10+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{13+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{14+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ba}^{33+-34+}$	Energy Levels, Wavelengths	Exp

604. Th. Stöhlker
Lamb Shift Experiments on High-Z Ions Performed at the ESR Storage Ring
Phys. Scr. T73, 29-35 (1997)

$\mathbf{Au}^{78+}$	Energy Levels, Wavelengths	Exp
$\mathbf{U}^{91+}$	Energy Levels, Wavelengths	Exp

605. D. R. DeWitt, R. Schuch, W. Zong, S. Asp, H. Gao, C. Biedermann, L. Liljeby, E. Beebe, A. Pikin
Dielectronic Recombination of Ar^{13+} at CRYRING
Phys. Scr. T71, 96-98 (1997)

Ar^{12+}	Energy Levels, Wavelengths	Exp

606. L. R. Pendrill
Fine Structure of Rydberg Series and Changes in Quantum Defects in Two-Electron Atomic Spectra
Phys. Scr. T70, 151-158 (1997)

Ne	Energy Levels, Wavelengths	E/T
Ca	Energy Levels, Wavelengths	E/T
Ba	Energy Levels, Wavelengths	E/T

607. S. Bliman, M. Cornille, A. Langereis, J. Nordgren, R. Bruch, R. Phaneuf, J. Swenson, D. Schneider
Soft X-ray and Auger Electron Spectroscopy of Single and Double Electron Capture Processes in Slow Ne^{8+}+He Collisions
Rev. Sci. Instrum. 68, 1080-1082 (1997)

Ne^{6+}	Energy Levels, Wavelengths	E/T
Ne^{6+}–$^{7+}$	Energy Levels, Wavelengths	E/T

608. J. Désesquelles, A. Denis, S. Martin, L. Chen
Selective Production of Doubly Excited Spectra
Phys. Rev. A 56, 4317-4320 (1997)

N^{4+}	Energy Levels, Wavelengths	Exp

609. D. A. Tate, D. N. Aturaliye
Hyperfine Structure Intervals and Absolute Frequency Measurement in the $2p^43s$ $^2P_J \rightarrow 2p^43p$ $^2D_{J'}$ Fine-Structure Multiplet of Atomic Fluorine by Diode Laser Spectroscopy
Phys. Rev. A 56, 1844-1854 (1997)

^{19}F	Energy Levels, Wavelengths	Exp
F	Energy Levels, Wavelengths	Exp

610. W. Zong, R. Schuch, E. Lindroth, H. Gao, D. R. DeWitt, S. Asp, H. Danared
Accurate Determination of Dielectronic Recombination Resonances with Lithiumlike Argon
Phys. Rev. A 56, 386-394 (1997)

Ar^{14+}	Energy Levels, Wavelengths	E/T

611. B. J. Davies, C. W. Ingram, D. J. Larson, C.-N. Liu, A. F. Starace
Resonance Feature in Al^- Photodetachment Below the Al($3s^24s$ ^2S) Threshold
Phys. Rev. A 56, 378-385 (1997)

Al^-	Energy Levels, Wavelengths	Exp

612. A. E. Kramida, I. A. Ivanov
Critical Compilation of the Inner-Shell Excited Energy Levels and Spectrum if Lithium-like Neon (Ne VIII)
Phys. Scr. 56, 264-270 (1997)

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

613. J. O. Ekberg
Extended Analysis of Doubly Ionized Chromium, Cr III
Phys. Scr. 56, 141-192 (1997)

Cr^{2+}	Energy Levels, Wavelengths	E/T

614. I. Kink, L. Engström
Spectroscopic Investigation of the $2p^3 3s$, 3p and 3d Configurations in Si VII
Phys. Scr. 56, 31-36 (1997)

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

615. S. Diehl, D. Cubaynes, K. T. Chung, F. J. Wuilleumier, E. T. Kennedy, J.-M. Bizau, L. Journel, C. Blancard, L. VoKy, P. Faucher, A. Hibbert, N. Berrah, T. J. Morgan, J. Bozek, A. S. Schlachter
Photoelectron Spectroscopy Measurements and Theoretical Calculations of the Lowest Doubly Hollow Lithium State
Phys. Rev. A 56, R1071-R1074 (1997)

Li	Energy Levels, Wavelengths	E/T

616. I. Yu. Skobelev, A. Ya. Faenov, V. M. Dyakin, H. Fiedorowicz, A. Bartnik, M. Szczurek, P. Beiersdorfer, J. Nilsen, A. L. Osterheld
High-Resolution Measurement, Line Identification, and Spectral Modeling of the Kβ Spectrum of Heliumlike Argon Emitted by a Laser-Produced Plasma Using a Gas-Puff Target
Phys. Rev. E 55, 3773-3776 (1997)

Ar^{15+}	Energy Levels, Wavelengths	Exp
Ar^{16+}	Energy Levels, Wavelengths	Exp

617. M. H. Chen, K. T. Cheng
Large-Scale Relativistic Configuration-Interaction Calculation of the $3s^2\ ^1S_0$-3s3p $^{1,3}P_1$ Transition Energies in Magnesiumlike Ions
Phys. Rev. A 55, 3440-3446 (1997)

Mg	Energy Levels, Wavelengths	Th
Ar^{6+}	Energy Levels, Wavelengths	Th
Cu^{17+}	Energy Levels, Wavelengths	Th
Kr^{24+}	Energy Levels, Wavelengths	Th
Mo^{30+}	Energy Levels, Wavelengths	Th

618. J. Nilsen
Analysis of a Picosecond-Laser-Driven Ne-like Ti X-ray Laser
Phys. Rev. A 55, 3271-3274 (1997)

Ti^{12+}	Energy Levels, Wavelengths	E/T

619. K. S. E. Eikema, W. Ubachs, W. Vassen, W. Hogervorst
Lamb Shift Measurement in the 1 ^{1}S Ground State of Helium
Phys. Rev. A 55, 1866-1884 (1997)

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

620. F. G. Serpa, E. W. Bell, E. S. Meyer, J. D. Gillaspy, J. R. Roberts
Kr Spectra from an Electron-Beam Ion Trap: 300 nm to 460 nm
Phys. Rev. A 55, 1832-1835 (1997)

$\mathbf{Kr}^{18+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Kr}^{21+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Kr}^{22+}$	Energy Levels, Wavelengths	Exp

621. S. Mannervik, S. Asp, L. Broström, D. R. DeWitt, J. Lidberg, R. Schuch, K. T. Chung
Spectroscopic Study of Lithiumlike Carbon by Dielectronic Recombination of a Stored Ion Beam
Phys. Rev. A 55, 1810-1819 (1997)

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

622. P. Kristensen, U. V. Pedersen, V. V. Petrunin, T. Andersen, K. T. Chung
Binding Energy of the Metastable He$^-$ Ion
Phys. Rev. A 55, 978-983 (1997)

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

623. M. Tunklev, L. Engström, C. Jupén, I. Kink
The Spectrum and Term System of C IV
Phys. Scr. 55, 707-713 (1997)

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

624. M. Rosberg, J.-F. Wyart
The Spectrum of Singly Ionized Gold, Au II
Phys. Scr. 55, 690-706 (1997)

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

625. M. Kumar, G. Ullas, S. B. Rai
Optogalvanic Spectrum of Neon in the 410-545 nm Region
Phys. Scr. 55, 676-682 (1997)

Ne	Energy Levels, Wavelengths	Exp

626. T. Bastin, E. Biémont, P. D. Dumont, H. P. Garnir, M. J. Krenzer, H. Bukow, A. E. Kramida
The Spectrum of Ne V
Phys. Scr. 55, 654-660 (1997)

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

627. P. Palmeri, E. Biémont, P. Quinet, J. Dembczyński, G. Szawioła, R. L. Kurucz
Term Analysis and Hyperfine Structure in Neutral Vanadium
Phys. Scr. 55, 586-598 (1997)

V	Energy Levels, Wavelengths	E/T

628. E. Biémont, S. Johansson, P. Palmeri
The Lowest 5g-6h Supermultiplet of Fe II
Phys. Scr. 55, 559-564 (1997)

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

629. J. Reader, N. Acquista
Spectrum and Energy Levels of Doubly-Ionized Zirconium (Zr III)
Phys. Scr. 55, 310-329 (1997)

Zr^{2+}	Energy Levels, Wavelengths	E/T

630. T. Kato, U. I. Safronova, M. Ohira
Dielectronic Recombination Rate Coefficients to the Excited States of C II from C III
Phys. Scr. 55, 185-199 (1997)

C^{+}	Energy Levels, Wavelengths	Th

631. M. A. Ali
Fine-Structure Splitting and Magnetic Dipole and Electric Quadrupole Transition Probabilities between the Ground Levels of Ga-like Ions
Phys. Scr. 55, 159-166 (1997)

Ga Z= 31-56	Energy Levels, Wavelengths	E/T
Ga Z= 31-92	Energy Levels, Wavelengths	E/T

632. C. H. Storry, N. E. Rothery, E. A. Hessels
Measurement of the n = 9 F-to-G Intervals in Atomic Lithium
Phys. Rev. A 55, 128-133 (1997)

Li	Energy Levels, Wavelengths	Exp

633. V. G. Pal'chikov, Yu. L. Sokolov, V. P. Yakovlev
On the Accuracy of Lamb Shift Measurements in Hydrogen
Phys. Scr. 55, 33-40 (1997)

H	Energy Levels, Wavelengths	E/T

634. M. R. Godefroid, G. Van Meulebeke, P. Jönsson, C. Froese Fischer
Large-Scale MCHF Calculations of Hyperfine Structures in Nitrogen and Oxygen
Z. Phys. D 42, 193-201 (1997)

N	Energy Levels, Wavelengths	Th
O	Energy Levels, Wavelengths	Th

635. A. Krzykowski, E. Stachowska, B. Furmann, A. Jarosz, A. Kajoch, D. Stefańska
Study of the Hyperfine Structure of Titanium Atom by Laser Induced Fluorescence on an Atomic Beam
Z. Phys. D 42, 97-99 (1997)

^{47}Ti	Energy Levels, Wavelengths	Exp
^{49}Ti	Energy Levels, Wavelengths	Exp
Ti	Energy Levels, Wavelengths	Exp

636. E. Stachowska, M. Fabiszisky
Laser-Rf Double-Resonance Measurements of the Metastable $3d^34s\ ^5P_{1,2,3,}$ $3d^24s^2\ ^1G_4$ States of ^{47}Ti
Z. Phys. D 42, 93-95 (1997)

^{47}Ti	Energy Levels, Wavelengths	Exp
Ti	Energy Levels, Wavelengths	Exp

637. E. Stachowska
Fine Structure Analysis of the Even Parity Configuration System of Ti I
Z. Phys. D 42, 33-43 (1997)

Ti	Energy Levels, Wavelengths	Th

638. N. Ahmad, M. Akram, K. P. Gill, S. P. Asdaq, R. M. Akhtar, M. Saleem, M. A. Baig
Hyperfine Structure Studies of Tantalum
Z. Phys. D 41, 159-163 (1997)

^{181}**Ta**	Energy Levels, Wavelengths	Exp
Ta	Energy Levels, Wavelengths	Exp

639. Gö. Basar, Gü. Basar, S. Büttgenbach, S. Kröger, H.-D. Kronfeldt
Parametric Investigation of the Isotope Shift in Odd Configuration of Ne I
Z. Phys. D 39, 283-289 (1997)

Ne	Energy Levels, Wavelengths	E/T

640. P. K. Mukherjee
Doubly Excited States of Highly Stripped Ions: A Time Dependent Perturbation Approach
Z. Phys. D 39, 195-199 (1997)

He Z= 13-17	Energy Levels, Wavelengths	Th

641. M. A. Baig, M. Hanif, S. A. Bhatti, J. Hormes
High-Resolution Photoabsorption Spectrum of Copper in the 3d Subshell Excitation Region
J. Phys. B 30, 5381-5399 (1997)

Cu	Energy Levels, Wavelengths	E/T

642. D. M. Benton, E. C. A. Cochrane, J. A. R. Griffith
Optical Isotope Shifts in the Iron Atom
J. Phys. B 30, 5359-5365 (1997)

Fe	Energy Levels, Wavelengths	Exp

643. L. Avaldi, G. Dawber, N. Gulley, H. Rojas, G. C. King, R. Hall, M. Stuhec, M. Zitnik
A Study of Ne^{2+} and Ar^{2+} Satellite States Observed by 'Threshold Photoelectrons Coincidence' Spectroscopy
J. Phys. B 30, 5197-5212 (1997)

$\mathbf{Ne}^{2+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{2+}$	Energy Levels, Wavelengths	Exp

644. R. Neu, K. B. Fournier, D. Schlögl, J. Rice
Observations of X-ray Spectra from Highly Charged Tungsten Ions in Tokamak Plasmas
J. Phys. B 30, 5057-5067 (1997)

$\mathbf{W}^{39+-45+}$	Energy Levels, Wavelengths	E/T

645. P. Campbell, J. Billowes, I. S. Grant
The Isotope Shift of ^{90,91}Zr by Collinear Ion-Laser Beam Spectroscopy
J. Phys. B 30, 4783-4790 (1997)

Zr	Energy Levels, Wavelengths	Exp

646. J. M. Rost, K. Schulz, M. Domke, G. Kaindl
Resonance Parameters of Photo Doubly Excited Helium
J. Phys. B 30, 4663-4694 (1997)

He	Energy Levels, Wavelengths	Th

647. A. Bartnik, E. Biémont, V. M. Dyakin, A. Ya. Faenov, H. Fiedorowicz, W. H. Goldstein, R. Jarocki, J. Kostecki, A. L. Osterheld, V. G. Palchikov, Y.-b. Qiu, I. Yu. Skobelev, M. Szczurek, Y. Zou
Measurements of the Ground-State Ionization Energy and Wavelengths for the 1snp $^1P^\circ_1$-1s^2 $^1S_0$ (n = 4-10) Lines of O VII
J. Phys. B 30, 4453-4462 (1997)

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

648. M. Wang, F. O'Reilly, P. Dunne, A. Arnesen, F. Heijkenskjöld, R. Hallin, G. O'Sullivan
Wavelengths and Energy Levels of Potassium-like Mn VII
J. Phys. B 30, 4175-4181 (1997)

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

649. R. Schumann, M. Dammasch, U. Eichmann, Y. Kriescher, G. Ritter, G. von Oppen
Laser Spectroscopy on the Stark Effect of the 1s3p ^3P Level of He I
J. Phys. B 30, 2581-2590 (1997)

He	Energy Levels, Wavelengths	Exp

650. M. S. Safronova, W. R. Johnson, U. I. Safronova
Relativistic Many-Body Calculations of Energies on n = 3 States of Be-like Ions
J. Phys. B 30, 2375-2393 (1997)

Be Z= 6-30	Energy Levels, Wavelengths	Th
Xe^{50+}	Energy Levels, Wavelengths	Th

651. M. Ahmed, M. A. Zia, M. A. Baig, B. Suleman
Two-Photon Laser-Optogalvanic Spectroscopy of the Odd-Parity Rydberg Series of Krypton
J. Phys. B 30, 2155-2165 (1997)

Kr	Energy Levels, Wavelengths	Exp

652. M.-K. Chen
Doubly Excited Resonant States in H^- below the n = 2 Hydrogen Threshold
J. Phys. B 30, 1669-1676 (1997)

H^-	Energy Levels, Wavelengths	Th

653. N. K. Piracha, M. A. Baig, S. H. Khan, B. Suleman
Two-Photon Optogalvanic Spectra of Argon: Odd Parity Rydberg States
J. Phys. B 30, 1151-1162 (1997)

Ar	Energy Levels, Wavelengths	E/T

654. S. Schohl, D. Klar, N. A. Cherepkov, I. D. Petrov, K. Ueda, S. Baier, R. Kau, H. Hotop
Photoionization of Polarized Ar^*(4p, J = 3) Atoms Near Threshold
J. Phys. B 30, 609-631 (1997)

Ar Energy Levels, Wavelengths Exp

655. D. Donnelly, K. L. Bell, A. Hibbert
Breit-Pauli R-Matrix Calculation of the 3p Photoabsorption of Singly Ionized Chromium
J. Phys. B 30, L285-L291 (1997)

Cr^{+} Energy Levels, Wavelengths Th

656. S. Diehl, D. Cubaynes, E. T. Kennedy, F. J. Wuilleumier, J.-M. Bizau, L. Journel, L. VoKy, P. Faucher, A. Hibbert, C. Blancard, N. Berrah, T. J. Morgan, J. Bozek, A. S. Schlachter
Hollow-Atom-Hollow-Ion Decay Routes of Triply Excited Lithium: First Auger Results and a Comparison with R-Matrix Calculations
J. Phys. B 30, L595-L605 (1997)

Li^{0+--+} Energy Levels, Wavelengths E/T

657. A. Kramida, W. C. Martin
A Compilation of Energy Levels and Wavelengths for the Spectrum of Neutral Beryllium (Be I)
J. Phys. Chem. Ref. Data 26-5, 1185-1194 (1997)

Be Energy Levels, Wavelengths Exp

658. J. Nilsen
Design of Picosecond-Laser-Driven Ni-Like Mo X-ray Laser Near 20 nm
J. Opt. Soc. Am. B 14, 1511-1514 (1997)

Mo^{14+} Energy Levels, Wavelengths Th

659. J. Reader, N. Acquista
Long-Wavelength Transitions and Improved Energy Levels of Triply Ionized Zirconium (Zr IV)
J. Opt. Soc. Am. B 14, 1328-1330 (1997)

Zr^{3+} Energy Levels, Wavelengths Exp

660. T. Bastin, E. Biémont, P.-D. Dumont, H.-P. Garnir, M. J. Krenzer, H. Bukow
Spectroscopy of Ne IV in the Wavelength Range 450-1100 Å
J. Opt. Soc. Am. B 14, 1319-1327 (1997)

Ne^{3+} Energy Levels, Wavelengths Exp

661. G. Nave, S. Johansson, A. P. Thorne
Precision Vacuum-Ultraviolet Wavelengths of Fe II Measured by Fourier-Transform and Grating Spectrometry
J. Opt. Soc. Am. B 14, 1035-1042 (1997)

Fe^{+} Energy Levels, Wavelengths Exp

662. A. E. Livingston, R. Buttner, A. S. Zacarias, B. Kraus, K.-H. Schartner, F. Folkmann, P. H. Mokler
Extreme-Ultraviolet Spectrum of Ne III
J. Opt. Soc. Am. B 14, 522-525 (1997)

Ne^{2+} Energy Levels, Wavelengths Exp

663. A. K. Das
Transition Energies, Oscillator Strengths, and Transition Probabilities of High-Lying $^1P^\circ$ and $^1D^e$ States of Neon-like Ions
Astrophys. J. 468, 445-450 (1996)

Ne Z= 10-17	Energy Levels, Wavelengths	Th

664. K. J. H. Phillips, A. K. Bhatia, H. E. Mason, D. M. Zarro
High Coronal Electron Densities in a Solar Flare from Fe XXI and Fe XXII X-ray Line Measurements
Astrophys. J. 466, 549-560 (1996)

$\mathbf{Fe}^{20+}$	Energy Levels, Wavelengths	E/T

665. S. D. Bergeson, K. L. Mullman, J. E. Lawler
High Sensitivity Absorption Spectroscopy in Fe II
Astrophys. J. 464, 1050-1053 (1996)

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

666. S. D. Bergeson, K. L. Mullman, M. E. Wickliffe, J. E. Lawler, U. Litzén, S. Johansson
Branching Fractions and Oscillator Strengths for Fe II Transitions From the $3d^6(^5D)4p$ Subconfiguration
Astrophys. J. 464, 1044-1049 (1996)

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

667. E. Oliva, A. Pasquali, M. Reconditi
On [Ne V] Atomic Parameters and Physical Conditions in NGC 6302
Astron. Astrophys. 305, L21-L24 (1996)

$\mathbf{Ne}^{3+-4+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{4+}$	Energy Levels, Wavelengths	Exp

668. F. P. Keenan, R. J. Thomas, W. M. Neupert, V. J. Foster, P. J. F. Brown, S. S. Tayal
Fe XII Emission Lines in Spectra Obtained with the Solar EUV Rocket Telescope and Spectrograph (SERTS)
Mon. Not. R. Astron. Soc. 278, 773-780 (1996)

$\mathbf{Fe}^{11+}$	Energy Levels, Wavelengths	Exp

669. C. Jupén, U. Litzén, E. Träbert
Observation of Transitions from Inner-Shell $2s2p^63l$ States in Neon-like Ions
Phys. Lett. A 214, 273-278 (1996)

Ne Z= 21-23	Energy Levels, Wavelengths	Exp
$\mathbf{Cr}^{14+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp

670. C. Jupén, U. Litzén, E. Träbert
Observation of Transitions from Inner-Shell $2s2p^63l$ States in Neonlike Ions
Inst. Phys. Conf. Ser. 151, 386-390 (1996)

Ne Z= 21-23	Energy Levels, Wavelengths	Exp
$\mathbf{Cr}^{14+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{16+}$	Energy Levels, Wavelengths	Exp

671. Th. Stöhlker, S. R. Elliott, R. E. Marrs
Direct Measurement of Two-Electron Contributions to the Ground State Energy of Heliumlike High-Z Ions
Hyperfine Interact. 99, 217-224 (1996)

$\mathbf{Ge}^{30+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ge}^{31+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{52+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{53+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Dy}^{64+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Dy}^{65+}$	Energy Levels, Wavelengths	Exp
$\mathbf{W}^{72+}$	Energy Levels, Wavelengths	Exp
$\mathbf{W}^{73+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Os}^{74+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Os}^{75+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Bi}^{81+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Bi}^{82+}$	Energy Levels, Wavelengths	Exp

672. P. Beiersdorfer, G. V. Brown, J. R. Crespo López-Urrutia, V. Decaux, S. R. Elliott, D. W. Savin, A. J. Smith, G. S. Stefanelli, K. Widmann, K. L. Wong
Overview of the Current Spectroscopy Effort on the Livermore Electron Beam Ion Traps
Hyperfine Interact. 99, 203-215 (1996)

$\mathbf{Ti}^{19+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Mn}^{24+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{22+-24+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Co}^{24+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Kr}^{32+-34+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Th}^{82+-87+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Th}^{87+}$	Energy Levels, Wavelengths	Exp
$\mathbf{U}^{89+}$	Energy Levels, Wavelengths	Exp

673. A. I. Magunov, V. M. Dyakin, T. A. Pikuz, I. Yu. Skobelev, A. Ya. Faenov, A. Osterheld, V. Goldstein, F. Flora, P. DiLazzaro, S. Bollanti, N. Lizi, T. Letardi, A. Reale, P. Palladino, D. Batani, A. Mauri, A. Skafati, L. Reale
Precision Measurements of the Ionization Energy of the Ground State and the Wavelengths of the nl-2l′ (n = 4-15) Spectral Lines of the Ne-like Ion Ni XIX
JETP 83, 267-273 (1996)

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

674. K. B. Fournier, W. H. Goldstein, M. Finkenthal, R. E. Bell, J. L. Terry
Isoelectronic Behavior of Resonant and Intercombination Lines in Mg I-like Ions
J. Electron Spectrosc. Relat. Phenom. 80, 283-286 (1996)

$\mathbf{Ti}^{4+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ti}^{10+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ti}^{11+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Cr}^{12+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Fe}^{14+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Ga}^{20+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Se}^{22+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Mo}^{30+}$	Energy Levels, Wavelengths	E/T

675. P. Bengtsson, C. Jupén
Spectra and Term Systems of Fluorine-like Ions
J. Electron Spectrosc. Relat. Phenom. 79, 347-350 (1996)

F Z= 10-24	Energy Levels, Wavelengths	Exp

676\. C. D. Caldwell, A. Menzel, S. Benzaid, M. O. Krause
Observation of the $2p^4(^1S)$ns,md Excitations in Atomic Fluorine
J. Electron Spectrosc. Relat. Phenom. 79, 293-294 (1996)

F	Energy Levels, Wavelengths	Exp

677\. K. Schulz, G. Kaindl, M. Domke, J. D. Bozek, P. A. Heimann, A. S. Schlachter, J. M. Rost
Observation of New Rydberg Series and Resonances in Doubly Excited Helium at Ultrahigh Resolution
Phys. Rev. Lett. 77, 3086-3089 (1996)

He	Energy Levels, Wavelengths	Exp

678\. D. Cubaynes, S. Diehl, L. Journel, B. Rouvellou, J.-M. Bizau, S. Al Moussalami, F. J. Wuilleumier, N. Berrah, L. VoKy, P. Faucher, A. Hibbert, C. Blancard, E. Kennedy, T. J. Morgan, J. Bozek, A. S. Schlachter
First Photoexcitation Measurements and R-Matrix Calcultions of Even-Parity Hollow States in Laser-Excited Lithium Atoms
Phys. Rev. Lett. 77, 2194-2197 (1996)

Li	Energy Levels, Wavelengths	E/T

679\. E. G. Myers, D. J. H. Howie, J. K. Thompson, J. D. Silver
Hyperfine-Induced 1s2s $^1S_0$-1s2p $^3P_0$ Transition and Fine-Structure Measurement in Heliumlike Nitrogen
Phys. Rev. Lett. 76, 4899-4902 (1996)

$^{14}N^{5+}$	Energy Levels, Wavelengths	Exp
N^{5+}	Energy Levels, Wavelengths	Exp

680\. S. Mannervik, L. Broström, J. Lidberg, L.-O. Norlin, P. Royen
Strong Hyperfine Induced Quenching of a Metastable State in Xe^+ Observed by Hyperfine Selective Laser Probing of a Stored Ion Beam
Phys. Rev. Lett. 76, 3675-3678 (1996)

$^{129}Xe^+$	Energy Levels, Wavelengths	Exp
Xe^+	Energy Levels, Wavelengths	Exp

681\. F. Merkt, R. J. Rednall, S. R. Mackenzie, T. P. Softley
Electric Field Ionization of High Rydberg States of Ar with Sequences of Identical Pulses
Phys. Rev. Lett. 76, 3526-3529 (1996)

Ar	Energy Levels, Wavelengths	Exp

682\. H. Persson, S. M. Schneider, W. Greiner, G. Soff, I. Lindgren
Self-Energy Correction to the Hyperfine Structure Splitting of Hydrogenlike Atoms
Phys. Rev. Lett. 76, 1433-1436 (1996)

H	Energy Levels, Wavelengths	Th
Li^{2+}	Energy Levels, Wavelengths	Th
B^{4+}	Energy Levels, Wavelengths	Th
N^{6+}	Energy Levels, Wavelengths	Th
F^{8+}	Energy Levels, Wavelengths	Th
Ne^{9+}	Energy Levels, Wavelengths	Th

$\mathbf{Ar^{17+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Ge^{31+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Xe^{53+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Dy^{65+}}$	Energy Levels, Wavelengths	Th
$\mathbf{W^{73+}}$	Energy Levels, Wavelengths	Th
$^{207}\mathbf{Pb^{81+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Pb^{81+}}$	Energy Levels, Wavelengths	Th
$^{209}\mathbf{Bi^{82+}}$	Energy Levels, Wavelengths	Th
$\mathbf{Bi^{82+}}$	Energy Levels, Wavelengths	Th
$\mathbf{U^{91+}}$	Energy Levels, Wavelengths	Th

683. K. S. E. Eikema, W. Ubachs, W. Vassen, W. Hogervorst
Precision Measurements in Helium at 58 nm: Ground State Lamb Shift and the 1^1S-2^1P Transition Isotope Shift
Phys. Rev. Lett. 76, 1216-1219 (1996)

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

684. S. Bourzeix, B. de Beauvoir, F. Nez, M. D. Plimmer, F. de Tomasi, L. Julien, F. Biraben, D. N. Stacey
High Resolution Spectroscopy of the Hydrogen Atom: Determination of the 1S Lamb Shift
Phys. Rev. Lett. 76, 384-387 (1996)

H	Energy Levels, Wavelengths	Exp

685. S. S. Churilov, R. R. Kildiyarova, Y. N. Joshi
Analyses of the 5d^2-5d7p Transitions in the Ta IV and W V Spectra
Can. J. Phys. 74, 145-149 (1996)

$\mathbf{Ta^{3+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{W^{4+}}$	Energy Levels, Wavelengths	E/T

686. A. N. Ryabtsev
Survey of Some Recent Experimental Analysis of 3p^{5}3d^{n+1} Configurations and of Rh I-like Spectra
Phys. Scr. T65, 23-30 (1996)

$\mathbf{Fe^{6+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Fe^{7+}}$	Energy Levels, Wavelengths	E/T

687. J. Reader
Atomic Spectroscopy at NIST - 1995
Phys. Scr. T65, 15-22 (1996)

$\mathbf{Zr^{2+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Dy^{2+}}$	Energy Levels, Wavelengths	Exp

688. W. R. Johnson, Z. W. Liu, J. Sapirstein
Transition Rates for Lithium-like Ions, Sodium-like Ions, and Neutral Alkali-Metal Atoms
At. Data Nucl. Data Tables 64, 279-300 (1996)

Li Z= 3-100	Energy Levels, Wavelengths	Th
Na Z= 11-100	Energy Levels, Wavelengths	Th
K	Energy Levels, Wavelengths	Th
Rb	Energy Levels, Wavelengths	Th
Cs	Energy Levels, Wavelengths	Th
Fr	Energy Levels, Wavelengths	Th

689. H.-S. Chou, J.-Y. Chang, Y.-H. Chang, K.-N. Huang
Energy-Level Scheme and Transition Probabilities of S-like Ions
At. Data Nucl. Data Tables 62-1, 77-145 (1996)

S Z= 18-100	Energy Levels, Wavelengths	E/T

690. G. Veres, J. S. Bakos, B. Kardon
Energy Levels and the Vacuum Ultraviolet Spectrum of W VIII
J. Quant. Spectrosc. Radiat. Transfer 56, 295-301 (1996)

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

691. A. L. Osterheld, A. I. Magunov, V. M. Dyakin, A. Ya. Faenov, T. A. Pikuz, I. Yu. Skobelev, T. Pisarczyk, P. Parys, J. Wolowski, J. Makowski, S. A. Pikuz, V. M. Romanova, T. A. Shelkovenko
Measurements of the Ground-State Ionization Energy and Wavelengths for the $\mathbf{1s^2\ ^1S_0}$-$\mathbf{1snp\ ^1P_1}$ (n = 6 - 12) Lines of Al XII
Phys. Rev. A 54, 3971-3976 (1996)

$\mathbf{Al^{11+}}$	Energy Levels, Wavelengths	Exp

692. M. S. Safronova, W. R. Johnson, U. I. Safronova
Relativistic Many-Body Calculations of Energies of n = 2 States for Boronlike Ions
Phys. Rev. A 54-4, 2850-2862 (1996)

B Z= 5-100	Energy Levels, Wavelengths	Th

693. E. Avgoustoglou, Z. W. Liu
Relativistic Many-Body Calculations of $\mathbf{[2p^5 3d]_{J=1}}$ Excited-State Energy Levels for Neonlike Ions
Phys. Rev. A 54, 1351-1359 (1996)

Ne Z= 10-36	Energy Levels, Wavelengths	E/T
Ne Z= 46-48	Energy Levels, Wavelengths	E/T
Ne Z= 50-54	Energy Levels, Wavelengths	E/T
Ne Z= 56-57	Energy Levels, Wavelengths	E/T
Ne Z= 68-74 step 2	Energy Levels, Wavelengths	E/T
Ne Z= 78-80	Energy Levels, Wavelengths	E/T
Ne Z= 82-83	Energy Levels, Wavelengths	E/T
$\mathbf{Zr^{30+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Mo^{32+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Nd^{50+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Eu^{53+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{Th^{80+}}$	Energy Levels, Wavelengths	E/T
$\mathbf{U^{82+}}$	Energy Levels, Wavelengths	E/T

694. D. Donnelly, K. L. Bell, A. Hibbert
3p Photoabsorption of Manganese II
Phys. Rev. A 54, 974-976 (1996)

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

695. P. H. M. Uylings, A. J. J. Raassen
High Precision Calculation of Odd Iron-Group Systems with Orthogonal Operators
Phys. Scr. 54, 505-513 (1996)

V^{3+}–$^{5+}$	Energy Levels, Wavelengths	E/T
Cr^{3+}–$^{5+}$	Energy Levels, Wavelengths	E/T
Mn^{3+}	Energy Levels, Wavelengths	E/T
Mn^{3+}–$^{5+}$	Energy Levels, Wavelengths	E/T
Fe^{3+}–$^{5+}$	Energy Levels, Wavelengths	E/T
Co^{3+}–$^{4+}$	Energy Levels, Wavelengths	E/T
Co^{3+}–$^{5+}$	Energy Levels, Wavelengths	E/T
Ni^{3+}–$^{5+}$	Energy Levels, Wavelengths	E/T
Cu^{3+}–$^{5+}$	Energy Levels, Wavelengths	E/T
Cu^{4+}	Energy Levels, Wavelengths	E/T
Zn^{3+}–$^{5+}$	Energy Levels, Wavelengths	E/T
Ga^{3+}–$^{5+}$	Energy Levels, Wavelengths	E/T
Ga^{5+}	Energy Levels, Wavelengths	E/T

696. A. J. Smith, P. Beiersdorfer, V. Decaux, K. Widmann, K. J. Reed, M. H. Chen
Measurement of the Contributions of High-n Satellite Lines to the Kβ Lines of He-like Ar^{16+}
Phys. Rev. A 54, 462-466 (1996)

Ar^{15+}	Energy Levels, Wavelengths	Exp

697. P. L. Jacobson, R. D. Labelle, W. G. Sturrus, R. F. Ward Jr., S. R. Lundeen
Optical Spectroscopy of High-L n = 10 Rydberg States of Nitrogen
Phys. Rev. A 54, 314-322 (1996)

N	Energy Levels, Wavelengths	Exp

698. M. J. Vilkas, I. Martinson, G. Merkelis, G. Gaigalas, R. Kisielius
Second-Order MBPT Results for the Carbon Isoelectronic Sequence
Phys. Scr. 54, 281-299 (1996)

C Z= 8-30	Energy Levels, Wavelengths	Th

699. U. I. Safronova, A. S. Shlyaptseva
Inner-Shell Excitation Energy and Autoionization Rates for Li-, Be-, B-like Ions with Z=6-54
Phys. Scr. 54, 254-270 (1996)

He Z= 6-54	Energy Levels, Wavelengths	Th
Li Z= 6-54	Energy Levels, Wavelengths	Th
Be Z= 6-54	Energy Levels, Wavelengths	Th
B Z= 6-54	Energy Levels, Wavelengths	Th

700. J. Nilsen, P. Beiersdorfer, K. Widmann, V. Decaux, S. R. Elliott
Energies of Neon-like n = 4 to n = 2 Resonance Lines
Phys. Scr. 54, 183-187 (1996)

Ne Z= 18-92	Energy Levels, Wavelengths	E/T
Ne Z= 77-78	Energy Levels, Wavelengths	E/T
Xe^{44+}	Energy Levels, Wavelengths	E/T
Ba^{46+}	Energy Levels, Wavelengths	E/T
Pr^{49+}	Energy Levels, Wavelengths	E/T

701. L. Windholz, B. Schuh, T. Neger
Experimental Investigation of the Stark Effect of the Level Groups 7p, 6p$'$ and 6d of Neutral Xenon
Phys. Scr. 54, 85-90 (1996)

Xe	Energy Levels, Wavelengths	Exp

702. S. Bliman, R. Bruch, P. L. Altick, D. Schneider, M. H. Prior
Double Electron Capture in Low-Energy Fe^{17+} +He Collisions
Phys. Rev. A 53, 4176-4182 (1996)

Fe^{16+}	Energy Levels, Wavelengths	Exp

703. M. S. Safronova, W. R. Johnson, U. I. Safronova
Relativistic Many-Body Calculations of the Energies of n = 2 States for the Berylliumlike Isoelectronic Sequence
Phys. Rev. A 53, 4036-4053 (1996)

Be Z= 4-30	Energy Levels, Wavelengths	Th
Be Z= 79-80	Energy Levels, Wavelengths	Th
Ge^{28+}	Energy Levels, Wavelengths	Th
Kr^{32+}	Energy Levels, Wavelengths	Th
Zr^{36+}	Energy Levels, Wavelengths	Th
Mo^{38+}	Energy Levels, Wavelengths	Th
Ag^{43+}	Energy Levels, Wavelengths	Th
Sn^{46+}	Energy Levels, Wavelengths	Th
Xe^{50+}	Energy Levels, Wavelengths	Th
Nd^{56+}	Energy Levels, Wavelengths	Th
Eu^{59+}	Energy Levels, Wavelengths	Th
Yb^{66+}	Energy Levels, Wavelengths	Th
W^{70+}	Energy Levels, Wavelengths	Th
Bi^{79+}	Energy Levels, Wavelengths	Th
Th^{86+}	Energy Levels, Wavelengths	Th
U^{88+}	Energy Levels, Wavelengths	Th
Fm^{96+}	Energy Levels, Wavelengths	Th

704. D. R. DeWitt, R. Schuch, H. Gao, W. Zong, S. Asp, C. Biedermann, M. H. Chen, N. R. Badnell
Dielectronic Recombination of Boronlike Argon
Phys. Rev. A 53, 2327-2336 (1996)

Ar^{13+}	Energy Levels, Wavelengths	Exp

705. F. G. Serpa, E. S. Meyer, C. A. Morgan, J. D. Gillaspy, J. Sugar, J. R. Roberts, C. M. Brown, U. Feldman
Anomalous Z Dependence of a Magnetic Dipole Transition in the Ti I Isoelectronic Sequence
Phys. Rev. A 53, 2220-2224 (1996)

Ti Z= 56-72 step 4	Energy Levels, Wavelengths	E/T
Xe^{32+}	Energy Levels, Wavelengths	E/T
Nd^{38+}	Energy Levels, Wavelengths	E/T
Gd^{42+}	Energy Levels, Wavelengths	E/T
W^{52+}	Energy Levels, Wavelengths	E/T
Os^{54+}	Energy Levels, Wavelengths	E/T

706. K. Widmann, P. Beiersdorfer, V. Decaux, M. Bitter
Measurements of the Kα Transition Energies of Heliumlike Krypton
Phys. Rev. A 53, 2200-2205 (1996)

Kr^{34+}	Energy Levels, Wavelengths	Exp

707. C. D. Caldwell, S. Benzaid, A. Menzel, M. O. Krause
Autoionization and Interchannel Mixing in Atomic Fluorine: The $2p^4(^1S)ns,md$ Rydberg Series
Phys. Rev. A 53, 1454-1456 (1996)

F	Energy Levels, Wavelengths	Exp

708. M. Domke, K. Schulz, G. Remmers, G. Kaindl, D. Wintgen
High-Resolution Study of $^1P^\circ$ Double-Excitation States in Helium
Phys. Rev. A 53, 1424-1438 (1996)

He	Energy Levels, Wavelengths	E/T

709. K. B. Fournier, W. H. Goldstein, M. May, M. Finkenthal
Electron Temperature and Density Dependence of E1 and E2 Lines in the Spectra of Cobaltlike to Potassiumlike Ions
Phys. Rev. A 53, 709-716 (1996)

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

710. J. Abdallah Jr., A. Ya. Faenov, D. Hammer, S. A. Pikuz, G. Csanak, R. E. H. Clark
Electron Beam Effects on the Spectroscopy of Satellite Lines in Aluminum X-Pinch Experiments
Phys. Scr. 53, 705-711 (1996)

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

711. M. S. Safronova, U. I. Safronova, N. Nakamura, S. Ohtani
Correlation Effects for $1s^23l3l'$ and $1s^23l4l'$ States
Phys. Scr. 53, 689-699 (1996)

Be Z= 7-10	Energy Levels, Wavelengths	Th

712. R. König, K.-H. Kolk, H.-J. Kunze
Experimental Electron-Impact Excitation Rate Coefficients for Beryllium-like Si XI
Phys. Scr. 53, 679-688 (1996)

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

713. R. R. Kildiyarova
The Analysis of the $5d^3$, $5d^26s$ and $5d^26p$ Configurations of Quadruply Ionized Rhenium (Re V)
Phys. Scr. 53, 668-678 (1996)

$\mathbf{Re}^{4+}$	Energy Levels, Wavelengths	E/T

714. J. P. Geindre, P. Audebert, A. Rousse, J. C. Gauthier, A. Ya. Faenov, T. A. Pikuz, S. A. Pikuz, T. A. Shelkovenko
FSSR Mica Spherical Crystal Spectrometer with CCD Detector for High-Resolution X-ray Spectroscopy of Femtosecond Laser Produced Plasma
Phys. Scr. 53, 645-647 (1996)

$\mathbf{Al}^{5+-11+}$	Energy Levels, Wavelengths	Exp

715. M. Wakasugi, W. G. Jin, M. G. Hies, T. T. Inamura, T. Murayama, T. Ariga, T. Ishizuka, T. Wakui, H. Katsuragawa, J. Z. Ruan, I. Sugai, A. Ikeda
Nuclear Moments of ^{179}Ta from Optical Measurement of Hyperfine Structure
Phys. Rev. C 53, 611-615 (1996)

^{179}Ta	Energy Levels, Wavelengths	Exp
Ta	Energy Levels, Wavelengths	Exp

716. U. I. Safronova, T. Kato
Dielectronic Recombination Rate Coefficients to the Excited States of C II from C III. I. Atomic Data
Phys. Scr. 53, 461-472 (1996)

C^{+}	Energy Levels, Wavelengths	Th

717. V. I. Azarov, L. I. Podobedova, A. N. Ryabtsev
Analysis of the $3p^63d^2nf$ (n = 4 - 6) and $3p^53d^4$ Configurations of Five Times Ionized Iron (Fe VI)
Phys. Scr. 53, 398-413 (1996)

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

718. M. O. Larsson, A. M. Gonzalez, R. Hallin, F. Heijkenskjöld, B. Nyström, G. O'Sullivan, C. Weber, A. Wännström
Wavelengths and Energy Levels of Xe V and Xe VI Obtained by Collision-based Spectroscopy
Phys. Scr. 53, 317-324 (1996)

Xe^{4+}–$^{5+}$	Energy Levels, Wavelengths	Exp

719. C. Jupén, L. J. Curtis
Isoelectronic Comparison of the Al-Like $3s^23p$ ^2P-$3s3p^2$ ^4P Transitions in the Ions P III - Mo XXX
Phys. Scr. 53, 312-316 (1996)

Al Z= 15-42	Energy Levels, Wavelengths	Exp
Cl^{4+}	Energy Levels, Wavelengths	Exp
Kr^{23+}	Energy Levels, Wavelengths	Exp
Mo^{28+}	Energy Levels, Wavelengths	Exp

720. J.-F. Wyart, Y. N. Joshi, L. Tchang-Brillet, A. J. J. Raassen
Extended Analysis of the Spectrum of Doubly Ionized Gold (Au III)
Phys. Scr. 53, 174-196 (1996)

Au^{2+}	Energy Levels, Wavelengths	E/T

721. C. Jupén, U. Litzén, E. Träbert
The Spectrum and Term System of Neonlike Titanium, Ti XIII
Phys. Scr. 53, 139-148 (1996)

Ti^{12+}	Energy Levels, Wavelengths	E/T

722. R. F. Ward Jr., W. G. Sturrus, S. R. Lundeen
Microwave Spectroscopy of High-L Rydberg States of Neon
Phys. Rev. A 53-1, 113-121 (1996)

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

723. L. Broström, A. Kastberg, J. Lidberg, S. Mannervik
Hyperfine-Structure Measurements in Xe II
Phys. Rev. A 53, 109-112 (1996)

^{129}**Xe**$^+$	Energy Levels, Wavelengths	Exp
^{133}**Xe**$^+$	Energy Levels, Wavelengths	Exp
Xe$^+$	Energy Levels, Wavelengths	Exp

724. D. H. Lee, W. D. Brandon, D. Hanstorp, D. J. Pegg
Resonance States in Li$^-$ and B$^-$
Phys. Rev. A 53, R633-R636 (1996)

Li$^-$	Energy Levels, Wavelengths	Exp
B$^-$	Energy Levels, Wavelengths	Exp

725. L. Broström, A. Kastberg, J. Lidberg, S. Mannervik
Hyperfine Structure Measurements in Kr II
Z. Phys. D 36, 125-127 (1996)

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

726. W. Scherf, O. Khait, H. Jäger, L. Windholz
Re-measurement of the Transition Frequencies, Fine Structure Splitting and Isotope Shift of the Resonance Lines of Lithium, Sodium and Potassium
Z. Phys. D 36, 31-33 (1996)

Li	Energy Levels, Wavelengths	Exp
Na	Energy Levels, Wavelengths	Exp
K	Energy Levels, Wavelengths	Exp

727. B. Gou, K. T. Chung
Energy and Lifetime of Triply Excited States of Lithium-like Beryllium and Carbon
J. Phys. B 29, 6103-6111 (1996)

Be$^+$	Energy Levels, Wavelengths	Th
C^{3+}	Energy Levels, Wavelengths	Th

728. G. H. Cavalcanti, M. Gallardo, J. G. Reyna-Almandos, J. V. B. Gomide, A. G. Trigueiros
Study of the 3p^4 Configuration in Four-Times Ionized Argon, Ar V
J. Phys. B 29, 6049-6053 (1996)

Ar^{4+}	Energy Levels, Wavelengths	E/T

729. J. G. Reyna Almandos, F. Bredice, M. Raineri, M. Gallardo, A. G. Trigueiros
New Energy Levels of the Kr III Spectrum
J. Phys. B 29, 5643-5650 (1996)

Kr^{2+}	Energy Levels, Wavelengths	E/T

730. P. Palmeri, E. Biémont
Hyperfine Structure of Infrared Al II Lines
J. Phys. B 29, 5637-5642 (1996)

Al$^+$	Energy Levels, Wavelengths	Exp

731. N. Berrah, B. Langer, J. Bozek, T. W. Gorczyca, O. Hemmers, D. W. Lindle, O. Toader
Angular-Distribution Parameters and R-Matrix Calculations of Ar 3s^{-1} → np Resonances
J. Phys. B 29, 5351-5365 (1996)

Ar	Energy Levels, Wavelengths	E/T

732. Th. Dohrmann, A. von dem Borne, A. Verweyen, B. Sonntag, M. Wedowski, K. Godehusen, P. Zimmermann, V. Dolmatov
Resonant Inner-Shell Photoelectron Spectra of Ground-State and Laser-Excited Cr Atoms
J. Phys. B 29, 4641-4658 (1996)

Cr	Energy Levels, Wavelengths	Exp

733. P. Platz, M. Cornille, J. Dubau
High-Precision Wavelength Measurements of X-ray Lines Emitted from TS-Tokamak Plasmas
J. Phys. B 29, 3787-3797 (1996)

$\mathbf{Ar^{16+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ti^{20+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Mn^{23+}}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ag^{37+}}$	Energy Levels, Wavelengths	Exp

734. J. Jauhiainen, H. Aksela, O.-P. Sairanen, E. Nõmmiste, S. Aksela
Auger Decay of Resonantly Excited Kr $3d^{-1}_{5/2,3/2}np$ (n = 5, 6, 7, 8 and 9) States
J. Phys. B 29, 3385-3399 (1996)

Kr	Energy Levels, Wavelengths	Exp

735. N. Miura, Y. Osanai, T. Noro, F. Sasaki
Theoretical Determination of Energies and Widths of Autoionizing States of the Be Atom
J. Phys. B 29, 2689-2699 (1996)

Be	Energy Levels, Wavelengths	Th

736. P. Jönsson, C. Froese Fischer, M. R. Godefroid
Accurate Calculations of Transition Probabilities, Isotope Shifts and Hyperfine Structures for Some Allowed $2s^22p^n$-$2s2p^{n+1}$ Transitions in B I, C II and C I
J. Phys. B 29, 2393-2412 (1996)

B	Energy Levels, Wavelengths	Th
$\mathbf{C^{0+}—^{+}}$	Energy Levels, Wavelengths	Th

737. P. Quinet, A. Hibbert
Calculation of Inner-Shell Transitions in Mn^+
J. Phys. B 29, 2239-2251 (1996)

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

738. N. Nakamura, Y. Awaya, F. J. Currell, T. Kambara, Y. Kanai, S. Kitazawa, M. Koide, S. Ohtani, U. I. Safronova, H. Suzuki, T. Takayanagi, K. Wakiya
Electron Spectra from Doublet and Quartet States of $N^{4+}(1s3\ell3\ell')$ Produced by 60 KeV N^{6+} + H_2, O_2 Collisions
J. Phys. B 29, 1995-2006 (1996)

$\mathbf{N^{4+}}$	Energy Levels, Wavelengths	E/T

739. O. Reusch, G. von Oppen
Level-Crossing Investigation of 1s5l Electric-Field Anticrossing of He I
J. Phys. B 29, 1681-1688 (1996)

He	Energy Levels, Wavelengths	Exp

740. K. Pachucki, D. Leibfried, M. Weitz, A. Huber, W. König, T. W. Hänsch
Theory of the Energy Levels and Precise Two-Photon Spectroscopy of Atomic Hydrogen and Deuterium
J. Phys. B 29, 177-195 (1996)

H	Energy Levels, Wavelengths	E/T
D	Energy Levels, Wavelengths	E/T

741. E. Träbert
Experimental Checks on Calculations for Cl-, S- and P-Like Ions of the Iron Group Elements
J. Phys. B 29, L217-L224 (1996)

$\mathbf{Fe}^{9+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{11+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cu}^{12+}$	Energy Levels, Wavelengths	Exp

742. Y. Komninos, G. Aspromallis, C. A. Nicolaides
The ^{2}F$^\circ$ Rydberg Series and Low-Lying Autoionizing States of Al
J. Phys. B 29, L193-L196 (1996)

Al	Energy Levels, Wavelengths	Th

743. P. Hammond
Benchmark Energies of Negative Ion States of Argon
J. Phys. B 29, L231-L237 (1996)

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

744. H. H. Andersen, P. Balling, V. V. Petrunin, T. Andersen
State-Selective Stepwise Two-Photon Detachment Study of the Be$^-$ Ion
J. Phys. B 29, L415-L420 (1996)

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

745. L. Avaldi, R. Camilloni, G. Stefani, C. Comicioli, M. Zacchigna, K. C. Prince, M. Zitnik, C. Quaresima, C. Ottaviani, C. Crotti, P. Perfetti
Observation of Ar($2p^5 3p^5 n\ell n'\ell'$) and Ne($1s2p^5 n\ell n'\ell'$) Inner-Shell Doubly Excited States
J. Phys. B 29, L737-L744 (1996)

Ne	Energy Levels, Wavelengths	Exp

746. M. Akram, M. A. Baig
Laser-Induced Dissociation and Ionization of Lithium Vapour
J. Phys. B 29, L381-L387 (1996)

Li	Energy Levels, Wavelengths	Exp

747. E. Sokell, A. A. Wills, J. Comer, P. Hammond
A Study of Autoionizing Decay Routes of Doubly Excited States in Helium Using Two-Dimensional Photoelectron Spectroscopy
J. Phys. B 29, L83-L88 (1996)

He	Energy Levels, Wavelengths	Exp

748. T. G. Cooper, J. Billowes, P. Campbell, M. R. Pearson
The Nuclear Magnetic Moment of ^{26}Al by Atomic Beam Laser Spectroscopy
J. Phys. G 22, 99-106 (1996)

^{26}**Al**	Energy Levels, Wavelengths	Exp
^{27}**Al**	Energy Levels, Wavelengths	Exp
Al	Energy Levels, Wavelengths	Exp

749. J. Nilsen, H. Fiedorowicz, A. Bartnik, Y. Li, P. Lu, E. E. Fill
Self-Photopumped Neonlike X-ray Laser
Opt. Lett. 21, 408-410 (1996)

$\mathbf{Ar}^{8+}$	Energy Levels, Wavelengths	E/T

750. M. Wang, M. O. Larsson, A. Arnesen, R. Hallin, F. Heijkenskjöld, C. Nordling, A. Wännström
Collision-Based Spectroscopy of Xe VI Rydberg States
J. Opt. Soc. Am. B 13, 2715-2719 (1996)

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

751. M. Wang, A. Arnesen, R. Hallin, F. Heijkenskjöld, A. Langereis, M. O. Larsson, C. Nordling, A. Wännström
Collision-based Spectroscopy of Xe VIII Rydberg States
J. Opt. Soc. Am. B 13, 1650-1658 (1996)

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

752. B. Cagnac, F. Biraben, L. Julien, F. Nez, S. Bourzeix
Two-Photon Spectroscopy of Optical Frequencies in Rubidium and Hydrogen
Laser Phys. 6-2, 213-219 (1996)

H	Energy Levels, Wavelengths	Exp

753. D. M. Kelly, J. H. Lacy
Accurate Wavenumbers for Mid-Infrared Fine-Structure Lines
Astrophys. J. 454, L161-L164 (1995)

$\mathbf{Ne}^{+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ne}^{4+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Na}^{3+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Mg}^{4+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Mg}^{6+}$	Energy Levels, Wavelengths	Exp
$\mathbf{S}^{2+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{2+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ar}^{4+}$	Energy Levels, Wavelengths	Exp
$\mathbf{K}^{5+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{+}$	Energy Levels, Wavelengths	Exp

754. G. M. Wahlgren, D. S. Leckrone, S. G. Johansson, M. Rosberg, T. Brage
The Abundances of Pt, Au, and Hg in the Chemically Peculiar HgMn-Type Stars κ Cancri and χ Lupi
Astrophys. J. 444, 438-451 (1995)

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

755. J. Spyromilio
Wavelengths of the [N II] ^{3}P-^{1}D Forbidden Lines
Mon. Not. R. Astron. Soc. 277, L59-L62 (1995)

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

756. J. Ramsauer, S. K. Solanki, E. Biémont
Interesting Lines in the Infrared Solar Spectrum. II. Unblended Lines between λ1.0 and λ1.8 μm
Astron. Astrophys., Suppl. Ser. 113, 71-89 (1995)

C	Energy Levels, Wavelengths	Exp
Na	Energy Levels, Wavelengths	Exp
Mg	Energy Levels, Wavelengths	Exp
$\mathbf{Mg^{+}}$	Energy Levels, Wavelengths	Exp
Al	Energy Levels, Wavelengths	Exp
Si	Energy Levels, Wavelengths	Exp
P	Energy Levels, Wavelengths	Exp
S	Energy Levels, Wavelengths	Exp
K	Energy Levels, Wavelengths	Exp
$\mathbf{Ca}^{0+--+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Sc}^{0+--+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ti}^{0+--+}$	Energy Levels, Wavelengths	Exp
$\mathbf{V}^{0+--+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cr}^{0+--+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Fe}^{0+--+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Co}^{0+--+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ni}^{0+--+}$	Energy Levels, Wavelengths	Exp
Zn	Energy Levels, Wavelengths	Exp
$\mathbf{Sr^{+}}$	Energy Levels, Wavelengths	Exp

757. U. I. Safronova, M. S. Safronova, R. Bruch, L. A. Vainshtein
Dielectronic Satellite Spectra of the 1s^2-1s3p Lines for Highly-Charged Ions with Z = 6 - 54: 1s^{2}2l$''$ - 1s2l$'$3l Transitions
Nucl. Instrum. Methods Phys. Res. B 98, 88-90 (1995)

Li Z= 6-54	Energy Levels, Wavelengths	Th

758. K. Widmann, P. Beiersdorfer, V. Decaux
Wavelength Measurements of the He-like Krypton K-Shell Spectrum
Nucl. Instrum. Methods Phys. Res. B 98, 45-47 (1995)

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

759. A. E. Livingston, K. W. Kukla, C. M. Vogel Vogt, H. G. Berry, R. W. Dunford, D. S. Gemmell, E. P. Kanter, J. Suleiman, R. Ali, S. Cheng, L. J. Curtis
Fine Structure Energies for the 1s2s ^{3}S-1s2p ^{3}P Transition in Helium-like Ions
Nucl. Instrum. Methods Phys. Res. B 98, 28-32 (1995)

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

760. Yu. P. Gangrskii, S. G. Zemlyanoi, K. P. Marinova, B. N. Markov
Measurements of Optical Spectra of Ti I Using Resonance Laser-Induced Fluorescence
Opt. Spectrosc. 79, 827-832 (1995)

^{47}**Ti**	Energy Levels, Wavelengths	Exp
^{49}**Ti**	Energy Levels, Wavelengths	Exp
Ti	Energy Levels, Wavelengths	Exp

761. C. H. Storry, N. E. Rothery, E. A. Hessels
Precision Separated-Oscillatory-Field Measurement of the n = 10 $^{+}F_{3}$-$^{+}G_{4}$ Interval in Helium: A Precision Test of Long-Range Relativistic, Radiative, and Retardation Effects
Phys. Rev. Lett. 75, 3249-3252 (1995)

He	Energy Levels, Wavelengths	Exp

762. D. J. Berkeland, E. A. Hinds, M. G. Boshier
Precise Optical Measurement of Lamb Shifts in Atomic Hydrogen
Phys. Rev. Lett. 75, 2470-2473 (1995)

H	Energy Levels, Wavelengths	Exp

763. P. Sladeczek, H. Feist, M. Feldt, M. Martins, P. Zimmermann
Photoionization Experiments with an Atomic Beam of Tungsten in the Region of the 5p and 4f Excitation
Phys. Rev. Lett. 75, 1483-1486 (1995)

W	Energy Levels, Wavelengths	Exp

764. T. Schüssler, U. Schramm, T. Rüter, C. Broude, M. Grieser, D. Habs, D. Schwalm, A. Wolf
Laser-Stimulated Recombination Spectroscopy for the Study of Long-Range Interactions in Highly Charged Rydberg Ions
Phys. Rev. Lett. 75, 802-805 (1995)

$\mathbf{O}^{4+}$	Energy Levels, Wavelengths	Exp

765. C. A. Morgan, F. G. Serpa, E. Takács, E. S. Meyer, J. D. Gillaspy, J. Sugar, J. R. Roberts, C. M. Brown, U. Feldman
Observation of Visible and uv Magnetic Dipole Transitions in Highly Charged Xenon and Barium
Phys. Rev. Lett. 74, 1716-1719 (1995)

$\mathbf{Xe}^{31+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{32+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ba}^{33+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Ba}^{34+}$	Energy Levels, Wavelengths	Exp

766. V. Decaux, P. Beiersdorfer, S. Elliott, A. Osterheld, E. Clothiaux
High-Resolution Measurement of the He-β Spectra of Heliumlike Chromium for Possible Diagnostic of Laser-Produced Plasmas
Rev. Sci. Instrum. 66, 758-760 (1995)

$\mathbf{Cr}^{21+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cr}^{22+}$	Energy Levels, Wavelengths	Exp

767. G. Werth
Hyperfine Structure and g-Factor Measurements in Ion Traps
Phys. Scr. T59, 206-210 (1995)

$^{9}\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Be}^{+}$	Energy Levels, Wavelengths	Exp
$^{25}\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Mg}^{+}$	Energy Levels, Wavelengths	Exp
$^{43}\mathbf{Ca}^{+}$	Energy Levels, Wavelengths	Exp
$^{87}\mathbf{Sr}^{+}$	Energy Levels, Wavelengths	Exp
$^{131}\mathbf{Ba}^{+}$	Energy Levels, Wavelengths	Exp

^{133}**Ba**$^{+}$	Energy Levels, Wavelengths	Exp
^{135}**Ba**$^{+}$	Energy Levels, Wavelengths	Exp
^{137}**Ba**$^{+}$	Energy Levels, Wavelengths	Exp
^{138}**Ba**$^{+}$	Energy Levels, Wavelengths	Exp
Ba^{+}	Energy Levels, Wavelengths	Exp
^{150}**Eu**$^{+}$	Energy Levels, Wavelengths	Exp
^{151}**Eu**$^{+}$	Energy Levels, Wavelengths	Exp
^{152}**Eu**$^{+}$	Energy Levels, Wavelengths	Exp
^{171}**Yb**$^{+}$	Energy Levels, Wavelengths	Exp
^{173}**Yb**$^{+}$	Energy Levels, Wavelengths	Exp
^{199}**Hg**$^{+}$	Energy Levels, Wavelengths	Exp
Hg^{+}	Energy Levels, Wavelengths	Exp

768. W. Quint
The g$_j$ Factor of Hydrogenic Ions
Phys. Scr. T59, 203-205 (1995)

H Z= 1-92	Energy Levels, Wavelengths	Th

769. D. Schneider
Recent Results Obtained at the LLNL Electron Beam Ion Trap (EBIT)
Phys. Scr. T59, 189-195 (1995)

Ti^{20+}	Energy Levels, Wavelengths	Exp
Th$^{76+-79+}$	Energy Levels, Wavelengths	Exp

770. R. E. Marrs, P. Beiersdorfer, S. R. Elliott, D. A. Knapp, Th. Stoehlker
The Super Electron Beam Ion Trap
Phys. Scr. T59, 183-188 (1995)

Ar^{16+}	Energy Levels, Wavelengths	Exp
Ar^{17+}	Energy Levels, Wavelengths	Exp
Th$^{82+-87+}$	Energy Levels, Wavelengths	Exp
Th^{87+}	Energy Levels, Wavelengths	Exp
U^{89+}	Energy Levels, Wavelengths	Exp

771. W. Whaling, W. H. C. Anderson, M. T. Carle, J. W. Brault, H. A. Zarem
Argon Ion Linelist and Level Energies in the Hollow-Cathode Discharge
J. Quant. Spectrosc. Radiat. Transfer 53, 1-22 (1995)

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

772. B. J. Lyons, J. A. Shanchuck, J. Hosterler, T. F. Gallagher
Autoionization of the J=2 and J=4 3pnf States of Magnesium
Phys. Rev. A 52, 4586-4594 (1995)

Mg	Energy Levels, Wavelengths	Exp

773. L. J. Radziemski Jr., R. Engleman Jr., J. W. Brault
Fourier-Transform-Spectroscopy Measurements in the Spectra of Neutral Lithium, ^{6}Li I and ^{7}Li I (Li I)
Phys. Rev. A 52, 4462-4470 (1995)

^{6}**Li**	Energy Levels, Wavelengths	Exp
^{7}**Li**	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

774. C. E. Theodosiou, L. J. Curtis, C. A. Nicolaides
Determination of Dipole Polarizabilities for Mg^+ and Ca^+ Ions from Precision Lifetime Measurements and Transition-Moment Cancellations
Phys. Rev. A 52, 3677-3680 (1995)

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

775. A. Ya. Faenov, B. A. Bryunetkin, V. M. Dyakin, T. A. Pikuz, I. Yu. Skobelev, S. A. Pikuz, J. Nilsen, A. L. Osterheld, U. I. Safronova
High-Resolution Measurements of Mg XI and Cu XX Resonance and Satellite Transitions and the Resonance Defect in the Mg-Pumped Cu X-ray Laser Scheme
Phys. Rev. A 52, 3644-3650 (1995)

$\mathbf{Mg}^{9+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cu}^{18+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cu}^{19+}$	Energy Levels, Wavelengths	Exp

776. R. E. Marrs, S. R. Elliott, Th. Stöhlker
Measurement of Two-Electron Contribution to the Ground-State Energy of Heliumlike Ions
Phys. Rev. A 52, 3577-3585 (1995)

$\mathbf{Ge}^{30+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Xe}^{52+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Cs}^{53+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Dy}^{64+}$	Energy Levels, Wavelengths	Exp
$\mathbf{W}^{72+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Bi}^{81+}$	Energy Levels, Wavelengths	Exp

777. P. Beiersdorfer, A. Osterheld, S. R. Elliott, M. H. Chen, D. Knapp, K. Reed
Structure and Lamb Shift of $2s_{1/2}$ - $2p_{3/2}$ Levels in Lithiumlike Th^{87+} through Neonlike Th^{80+}
Phys. Rev. A 52, 2693-2706 (1995)

$\mathbf{Ar}^{16+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Th}^{80+\text{—}87+}$	Energy Levels, Wavelengths	Exp

778. S. R. Elliott, P. Beiersdorfer, B. J. MacGowan, J. Nilsen
Measurements of Line Overlap for Resonant Spoiling of X-ray Lasing Transition in Nickel-like Tungsten
Phys. Rev. A 52, 2689-2692 (1995)

$\mathbf{Br}^{25+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Er}^{40+}$	Energy Levels, Wavelengths	Exp
$\mathbf{W}^{46+}$	Energy Levels, Wavelengths	Exp

779. C. J. Sansonetti, B. Richou, R. Engleman Jr., L. J. Radziemski
Measurements of the Resonance Lines of ^{6}Li and ^{7}Li by Doppler-Free Frequency-Modulation Spectroscopy
Phys. Rev. A 52, 2682-2688 (1995)

$^{6}\mathbf{Li}$	Energy Levels, Wavelengths	Exp
$^{7}\mathbf{Li}$	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

780. M. Weitz, A. Huber, F. Schmidt-Kaler, D. Leibfried, W. Vassen, C. Zimmermann, K. Pachucki, T. W. Hänsch, L. Julien, F. Biraben
Precision Measurement of the 1S Ground-State Lamb Shift in Atomic Hydrogen and Deuterium by Frequency Comparison
Phys. Rev. A 52, 2664-2681 (1995)

H	Energy Levels, Wavelengths	Exp
D	Energy Levels, Wavelengths	Exp

781. Yu. V. Ralchenko, L. A. Vainshtein
Intercombination Transitions in Be-like Ions
Phys. Rev. A 52, 2449-2452 (1995)

Be Z= 6-10	Energy Levels, Wavelengths	Th
Be Z= 12-26 step 2	Energy Levels, Wavelengths	Th

782. P. Beiersdorfer, A. L. Osterheld, T. W. Phillips, M. Bitter, K. W. Hill, S. von Goeler
High-Resolution Measurement, Line Identification, and Spectral Modeling of the Kβ Spectrum of Heliumlike Ar^{16+}
Phys. Rev. E 52, 1980-1992 (1995)

$Ar^{14+—16+}$	Energy Levels, Wavelengths	Exp

783. A. S. Shlyaptseva, J. Nilsen, R. Bruch, V. L. Kantsyrev, V. V. Akulinichev, E. G. Pivinsky
The Study of Na-like Multiple-Charged Ion X-ray Spectra Excited by a Pulsed Laser Plasma Source
Phys. Scr. 52, 377-385 (1995)

Ne Z= 27-30	Energy Levels, Wavelengths	E/T
Na Z= 27-30	Energy Levels, Wavelengths	E/T

784. U. I. Safronova, A. S. Shlyaptseva, I. E. Golovkin
Rydberg Series for Autoionizing States of Li-like Ions
Phys. Scr. 52, 277-286 (1995)

Li Z= 5-9	Energy Levels, Wavelengths	Th
Li Z= 6-9	Energy Levels, Wavelengths	Th
Si^{11+}	Energy Levels, Wavelengths	Th
S^{13+}	Energy Levels, Wavelengths	Th
Ar^{15+}	Energy Levels, Wavelengths	Th

785. M. H. Chen, K. T. Cheng, W. R. Johnson, J. Sapirstein
Relativistic Configuration-Interaction Calculations for the n = 2 States of Lithiumlike Ions
Phys. Rev. A 52-1, 266-273 (1995)

Li Z= 10-92	Energy Levels, Wavelengths	Th

786. S. Fritzsche, M. Finkbeiner, B. Fricke, W.-D. Sepp
Level Energies and Lifetimes in the $3p^4 3d$ Configuration of Chlorine-like Ions
Phys. Scr. 52, 258-266 (1995)

Ar^{+}	Energy Levels, Wavelengths	Th
Fe^{9+}	Energy Levels, Wavelengths	Th
Ni^{11+}	Energy Levels, Wavelengths	Th
Cu^{12+}	Energy Levels, Wavelengths	Th
Ge^{15+}	Energy Levels, Wavelengths	Th
Nb^{24+}	Energy Levels, Wavelengths	Th

787. G. Rieger, P. Boduch, M. Chantepie, X. Husson, E. Jacquet, D. Lecler, J. Pascale
Experimental Wavelengths and Term Values in N V Obtained by High Resolution Photon Spectroscopy
Phys. Scr. 52, 166-171 (1995)

$\mathbf{N^{4+}}$	Energy Levels, Wavelengths	Exp

788. P. Kristensen, V. V. Petrunin, H. H. Andersen, T. Andersen
Laser Spectroscopy of the $\mathbf{Be^-}$ Ion: Binding Energies of Metastable States
Phys. Rev. A 52, R2508-R2510 (1995)

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

789. N. Kwon, Y.-H. Yun, W. Jhe
Optogalvanic Study of the Atomic-Oxygen Laser Lines at 844.5 nm
Phys. Rev. A 52, R895-R897 (1995)

O	Energy Levels, Wavelengths	Exp

790. K. S. Mogensen, J. C. Day, T. Ehrenreich, E. H. Pedersen, K. Taulbjerg
Coherent Elliptic States in Lithium
Phys. Rev. A 51, 4038-4047 (1995)

Li	Energy Levels, Wavelengths	Exp

791. M. Courtney, N. Spellmeyer, H. Jiao, D. Kleppner
Classical, Semiclassical and Quantum Dynamics in the Lithium Stark System
Phys. Rev. A 51, 3604-3620 (1995)

Li	Energy Levels, Wavelengths	E/T

792. J. Musielok, W. L. Wiese, G. Veres
Atomic Transition Probabilities and Tests of the Spectroscopic Coupling Scheme for N I
Phys. Rev. A 51, 3588-3597 (1995)

N	Energy Levels, Wavelengths	Exp

793. L. Young, S. Hasegawa, C. Kurtz, D. Datta, D. R. Beck
Hyperfine-Structure Studies of Nb II: Experimental and Relativistic Configuration-Interaction Results
Phys. Rev. A 51, 3534-3540 (1995)

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

794. C. J. Dai
Spectroscopic Properties of Mg 3pns Autoionizing States
Phys. Rev. A 51, 2951-2956 (1995)

Mg	Energy Levels, Wavelengths	E/T

795. N. E. Rothery, C. H. Storry, E. A. Hessels
Precision Radio-Frequency Measurements of the High-L Rydberg States of Lithium
Phys. Rev. A 51, 2919-2925 (1995)

$\mathbf{^4He}$	Energy Levels, Wavelengths	Exp
He	Energy Levels, Wavelengths	Exp
$\mathbf{^7Li}$	Energy Levels, Wavelengths	Exp
Li	Energy Levels, Wavelengths	Exp

796. F. Schmidt-Kaler, D. Leibfried, S. Seel, C. Zimmermann, W. König, M. Weitz, T. W. Hänsch
High-Resolution Spectroscopy of the 1S-2S Transition of Atomic Hydrogen and Deuterium
Phys. Rev. A 51, 2789-2800 (1995)

H	Energy Levels, Wavelengths	Exp
D	Energy Levels, Wavelengths	Exp

797. H. Cederquist, C. Biedermann, N. Selberg, P. Hvelplund
Measurements of Translational Energy Gain for One- and Two-Electron Transfer in Slow Ar^{q+}-He (q=15-18) Collisions
Phys. Rev. A 51, 2169-2178 (1995)

$\mathbf{Ar}^{14+-17+}$	Energy Levels, Wavelengths	Exp

798. K. W. Kukla, A. E. Livingston, J. Suleiman, H. G. Berry, R. W. Dunford, D. S. Gemmell, E. P. Kanter, S. Cheng, L. J. Curtis
Fine-Structure Energies for the 1s2s ^{3}S-1s2p ^{3}P Transition in Heliumlike Ar^{16+}
Phys. Rev. A 51, 1905-1917 (1995)

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

799. M. Gallardo, M. Raineri, J. G. Reyna Almandos, H. O. Di Rocco, D. Bertuccelli, A. G. Trigueiros
$5s^25p^2$ (6p + 4f) Configurations in Triply Ionized Xenon (Xe IV)
Phys. Scr. 51, 737-751 (1995)

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

800. V. V. Akulinichev, E. G. Pivinsky, A. S. Shlyaptseva, V. L. Kantsyrev, I. E. Golovkin
Multiply-Charged Ion X-ray Spectra Excited by a Pulsed Laser Plasma Source with Various Pulse Duration and Shape
Phys. Scr. 51, 714-720 (1995)

$\mathbf{Cu}^{18+-21+}$	Energy Levels, Wavelengths	Exp

801. U. I. Safronova, M. S. Safronova, R. Bruch, L. A. Vainshtein
Dielectronic Satellite Spectra of the 1s3p-1s^2 Lines for Highly-Charged Ions with Z = 6-54 (1s2l3l′-1s^{2}2l Transitions)
Phys. Scr. 51, 471-483 (1995)

He Z= 12-19	Energy Levels, Wavelengths	Th
Li Z= 6-54	Energy Levels, Wavelengths	Th
$\mathbf{Fe}^{24+}$	Energy Levels, Wavelengths	Th

802. A. Ya. Faenov, D. A. Hammer, J. Nilsen, A. Osterheld, S. A. Pikus, T. A. Pikuz, V. M. Romanova, T. A. Shelkovenko, I. Yu. Skobelev
Transitions from Na-like and Mg-like Autoionizing Levels of Multicharged Molybdenum Ions in an X-Pinch Plasma
Phys. Scr. 51, 454-458 (1995)

$\mathbf{Mo}^{30+-32+}$	Energy Levels, Wavelengths	Exp

803. F. Bredice, M. Gallardo, J. G. Reyna Almandos, A. G. Trigueiros, C. J. B. Pagan
Revised Analysis of Triply Ionized Argon (Ar IV)
Phys. Scr. 51, 446-453 (1995)

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

804. E. Jannitti, P. Nicolosi, P. Villoresi, F. Xianping
Measurement of the K-Shell Photoionization Cross Section of C IV through the L-Shell Photoabsorption Spectra
Phys. Rev. A 51, 314-323 (1995)

$\mathbf{C}^{2+–4+}$	Energy Levels, Wavelengths	Exp
$\mathbf{C}^{3+}$	Energy Levels, Wavelengths	Exp

805. R. Hutton, S. Huldt, B. Nyström, I. Martinson, K. Ando, T. Kambara, Y. Kanai, Y. Nakai, Y. Awaya, J. Sugar
Experimental Lifetimes for the 3p ^{2}P Levels in Na-like Nb (Nb^{30+})
Phys. Rev. A 51, 143-146 (1995)

$\mathbf{Nb}^{30+}$	Energy Levels, Wavelengths	Exp

806. P. Palmeri, E. Biémont
Energy Levels of High l-States in Neutral and Singly Ionized Argon
Phys. Scr. 51, 76-80 (1995)

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

807. M. O. Larsson, A. M. Gonzalez, R. Hallin, F. Heijkenskjöld, R. Hutton, A. Langereis, B. Nyström, G. O'Sullivan
Wavelengths and Energy Levels of Xe VII and Xe VIII Obtained by Collision-Based Spectroscopy
Phys. Scr. 51, 69-75 (1995)

$\mathbf{Xe}^{6+}$	Energy Levels, Wavelengths	E/T
$\mathbf{Xe}^{7+}$	Energy Levels, Wavelengths	E/T

808. M. Domke, K. Schulz, G. Remmers, A. Gutiérrez, G. Kaindl, D. Wintgen
Interferences in Photoexcited Double-Excitation Series of He
Phys. Rev. A 51, R4309-R4312 (1995)

He	Energy Levels, Wavelengths	Exp

809. G. H. Guthöhrlein, H. Mocnik, L. Windholz
A New Energy Level of the Neutral Tantalum Atom
Z. Phys. D 35, 177-178 (1995)

Ta	Energy Levels, Wavelengths	Exp

810. H. Hammerl, G. H. Guthöhrlein, M. Elantkovska, V. Funtov, G. Gwehenberger, L. Windholz
Investigation of the Hyperfine Structure of Ta I-Lines (II)
Z. Phys. D 33, 97-100 (1995)

Ta	Energy Levels, Wavelengths	Exp

811. E. Träbert, J. Doerfert, J. Granzow, R. Büttner, U. Staude, K.-H. Schartner, P. Rymuza, L. Engström, R. Hutton
Time Resolved EUV Spectroscopy on Foil-Excited 5.9 MeV/u Xe and 13.2 MeV/u Au Ions
Z. Phys. D 32, 295-303 (1995)

$\mathbf{Xe}^{40+–44+}$	Energy Levels, Wavelengths	Exp
$\mathbf{Au}^{65+–69+}$	Energy Levels, Wavelengths	Exp

812. F. Marin, F. Minardi, F. S. Pavone, M. Inguscio, G. W. F. Drake
Hyperfine Structure of the 3 ^{3}P State of ^{3}He and Isotope Shift for the 2 ^{3}S-3 ^{3}P$_0$ Transition
Z. Phys. D 32, 285-293 (1995)

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

813. N. Nakamura, H. Ida, Y. Matsui, K. Wakiya, T. Takayanagi, M. Koide, F. J. Currell, S. Kitazawa, H. Suzuki, S. Ohtani, U. I. Safronova, M. Sekiguchi
Electron Spectra from Singlet and Triplet States of O^{4+}($1s^2 3\ell 3\ell'$, $1s^2 3\ell 4\ell'$) Produced by 60 and 120 KeV O^{6+} + He, Ne, Ar Collisions
J. Phys. B 28, 4743-4758 (1995)

O^{4+}	Energy Levels, Wavelengths	E/T

814. P. Palmeri, E. Biémont, A. Aboussaïd, M. Godefroid
Hyperfine Structure of Infrared Vanadium Lines
J. Phys. B 28, 3741-3752 (1995)

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

815. P. Aufmuth, E.-G. Kopp, H. Spiewak
Isotope Shifts in the W II Spectrum
J. Phys. B 28, 3687-3698 (1995)

W^+	Energy Levels, Wavelengths	Exp

816. C. Mendoza, W. Eissner, M. Le Dourneuf, C. J. Zeippen
Atomic Data for Opacity Calculations: XXIII. The Aluminum Isoelectronic Sequence
J. Phys. B 28, 3485-3504 (1995)

Al	Energy Levels, Wavelengths	Th
Si^+	Energy Levels, Wavelengths	Th
S^{3+}	Energy Levels, Wavelengths	Th
Ca^{7+}	Energy Levels, Wavelengths	Th
Fe^{13+}	Energy Levels, Wavelengths	Th

817. R. C. Mancini, U. I. Safronova
Rydberg Series in Be-like Ions ($1s^2 2\ell n\ell'$, n = 5-12)
J. Phys. B 28, 3469-3484 (1995)

Be Z= 8-19	Energy Levels, Wavelengths	Th

818. N. K. Piracha, B. Suleman, S. H. Khan, M. A. Baig
Two-Photon Optogalvanic Rydberg Spectra of Neon
J. Phys. B 28, 2525-2538 (1995)

Ne	Energy Levels, Wavelengths	Exp

819. M. H. Sayyad, E. T. Kennedy, L. Kiernan, J.-P. Mosnier, J. T. Costello
2p-Subshell Photoabsorption by Si^{2+} Ions in a Laser-Produced Plasma
J. Phys. B 28, 1715-1722 (1995)

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

820. N. B. Thoft, T. Andersen, P. Dahl, L. Jødal
Autoionization Resonances in Atomic Chlorine
J. Phys. B 28, 1443-1452 (1995)

Cl	Energy Levels, Wavelengths	Exp

821. A. Ehresmann, V. A. Kilin, H. Schmoranzer, K.-H. Schartner, M. Ya. Amusia
Assignment of New Florescence Lines from Kr III 4p^{3}6s/5d States Observed after Excitation of the Kr I 3d$^9_{5/2}$5p-Resonance
J. Phys. B 28, 965-977 (1995)

Kr^{2+}	Energy Levels, Wavelengths	Exp

822. Yu. P. Gangrsky, K. P. Marinova, S. G. Zemlyanoi
J Dependences of the Isotope Shifts in Ti I 3d^{2}4s^2 a ^{3}P and 3d^{3}4p y ^{3}D$^\circ$ Terms
J. Phys. B 28, 957-964 (1995)

^{47}**Ti**	Energy Levels, Wavelengths	Exp
^{49}**Ti**	Energy Levels, Wavelengths	Exp
Ti	Energy Levels, Wavelengths	Exp

823. C. Biedermann, H. Gao, R. Schuch, W. Zong, S. Asp, D. R. DeWitt, H. Kuiper
Study of Radiative Recombination into Deuterium Rydberg States
J. Phys. B 28, 505-514 (1995)

D	Energy Levels, Wavelengths	Exp

824. U. Köble, J. T. Costello, J. P. Mosnier, E. T. Kennedy, M. Martins
XUV Photoabsorption of Laser Generated Au Vapour
J. Phys. B 28, 181-190 (1995)

Au	Energy Levels, Wavelengths	Exp

825. L. M. Kiernan, M.-K. Lee, B. F. Sonntag, P. Sladeczek, P. Zimmermann, E. T. Kennedy, J.-P. Mosnier, J. T. Costello
High-Resolution Photoion Yield Measurements of 'Hollow' Atomic Lithium
J. Phys. B 28, L161-L168 (1995)

Li	Energy Levels, Wavelengths	Exp

826. G. H. Cavalcanti, F. R. T. Luna, A. G. Trigueiros, C. J. B. Pagan, M. Raineri, F. Bredice, M. Gallardo, J. G. Reyna Almandos
Additional Results on the Ar V Spectrum
Braz. J. Phys. 25, 1-6 (1995)

Ar^{4+}	Energy Levels, Wavelengths	E/T

827. T. Shirai, K. Okazaki, J. Sugar
Spectral Data for Highly Ionized Krypton, Kr V through Kr XXXVI
J. Phys. Chem. Ref. Data 24, 1577-1608 (1995)

Kr^{4+}–$^{9+}$	Energy Levels, Wavelengths	E/T
Kr^{4+}–$^{35+}$	Energy Levels, Wavelengths	E/T
Kr^{17+}–$^{32+}$	Energy Levels, Wavelengths	E/T
Kr^{17+}–$^{35+}$	Energy Levels, Wavelengths	E/T
Kr^{33+}–$^{35+}$	Energy Levels, Wavelengths	E/T

828. J. Billowes, P. Campbell

High-Resolution Laser Spectroscopy for the Study of Nuclear Sizes and Shapes

J. Phys. G 21, 707-739 (1995)

Li	Energy Levels, Wavelengths	Exp
Na	Energy Levels, Wavelengths	Exp
Mg	Energy Levels, Wavelengths	Exp
Al	Energy Levels, Wavelengths	Exp
Ar	Energy Levels, Wavelengths	Exp
K	Energy Levels, Wavelengths	Exp
Ca^{0+--+}	Energy Levels, Wavelengths	Exp
Ti	Energy Levels, Wavelengths	Exp
Cr	Energy Levels, Wavelengths	Exp
Ni	Energy Levels, Wavelengths	Exp
Zn	Energy Levels, Wavelengths	Exp
Kr	Energy Levels, Wavelengths	Exp
Rb	Energy Levels, Wavelengths	Exp
Sr^{0+--+}	Energy Levels, Wavelengths	Exp
Zr	Energy Levels, Wavelengths	Exp
Mo	Energy Levels, Wavelengths	Exp
Ru	Energy Levels, Wavelengths	Exp
Pd	Energy Levels, Wavelengths	Exp
Ag	Energy Levels, Wavelengths	Exp
Cd	Energy Levels, Wavelengths	Exp
In	Energy Levels, Wavelengths	Exp
Sn	Energy Levels, Wavelengths	Exp
Te	Energy Levels, Wavelengths	Exp
Xe	Energy Levels, Wavelengths	Exp
Cs	Energy Levels, Wavelengths	Exp
Ba^{0+--+}	Energy Levels, Wavelengths	Exp
La	Energy Levels, Wavelengths	Exp
Ce	Energy Levels, Wavelengths	Exp
Pr	Energy Levels, Wavelengths	Exp
Nd	Energy Levels, Wavelengths	Exp
Pm	Energy Levels, Wavelengths	Exp
Sm	Energy Levels, Wavelengths	Exp
Eu	Energy Levels, Wavelengths	Exp
Gd	Energy Levels, Wavelengths	Exp
Tb	Energy Levels, Wavelengths	Exp
Dy	Energy Levels, Wavelengths	Exp
Ho	Energy Levels, Wavelengths	Exp
Er	Energy Levels, Wavelengths	Exp
Tm	Energy Levels, Wavelengths	Exp
Yb	Energy Levels, Wavelengths	Exp
Lu	Energy Levels, Wavelengths	Exp
Hf	Energy Levels, Wavelengths	Exp
W	Energy Levels, Wavelengths	Exp
Re	Energy Levels, Wavelengths	Exp
Os	Energy Levels, Wavelengths	Exp
Ir	Energy Levels, Wavelengths	Exp
Pt	Energy Levels, Wavelengths	Exp
Au	Energy Levels, Wavelengths	Exp
Hg	Energy Levels, Wavelengths	Exp
Tl	Energy Levels, Wavelengths	Exp
Pb	Energy Levels, Wavelengths	Exp
Bi	Energy Levels, Wavelengths	Exp
Po	Energy Levels, Wavelengths	Exp

Rn	Energy Levels, Wavelengths	Exp
Fr	Energy Levels, Wavelengths	Exp
Ra^{0+-+}	Energy Levels, Wavelengths	Exp
Th	Energy Levels, Wavelengths	Exp
U	Energy Levels, Wavelengths	Exp
Pu	Energy Levels, Wavelengths	Exp
Am	Energy Levels, Wavelengths	Exp
Cm	Energy Levels, Wavelengths	Exp

829. U. Sterr, A. Bard, C. J. Sansonetti, S. L. Rolston, J. D. Gillaspy
Determination of the Xenon 6s$[3/2]_2$-6s$'[1/2]_0$ Clock Frequency by Interferometric Wavelength Measurements
Opt. Lett. 20, 1421-1423 (1995)

Xe	Energy Levels, Wavelengths	Exp

830. J. Sugar, W. L. Rowan
Improved Wavelengths for Prominent Lines of Fe XX to Fe XXIII
J. Opt. Soc. Am. B 12, 1403-1405 (1995)

Fe$^{19+-22+}$	Energy Levels, Wavelengths	Exp

831. S. Ya. Khakhalin, V. M. Dyakin, A. Ya. Faenov, H. Fiedorowicz, A. Bartnik, P. Parys, A. L. Osterheld, J. Nilsen
Dielectronic 3l4l$'$ Na-like Satellites to Ne-like Krypton Resonance Lines
J. Opt. Soc. Am. B 12, 1203-1210 (1995)

Kr^{25+}	Energy Levels, Wavelengths	Exp
Kr^{26+}	Energy Levels, Wavelengths	Exp

832. R. Butzbach, H. Daido, E. Förster, Y. Gu, G. Huang, Y. Kato, F. Koike, S. Sebban, H. Tang, I. Uschmann, M. Vollbrecht, S. Wang
Spatially Resolved High Resolution Spectroscopy of 4f-3d Emission Lines of Ni- and Co-like Ions from Yb, Hf, Ta, and W X-ray Laser Plasmas
J. Opt. Soc. Am. B 78, 203-211 (1999)

Ni Z= 72-74	Energy Levels, Wavelengths	Exp
^{3}**He**	Energy Levels, Wavelengths	Exp
^{4}**He**	Energy Levels, Wavelengths	Exp
He	Energy Levels, Wavelengths	Exp
Ne^{8+}	Energy Levels, Wavelengths	Exp
Ar^{15+}	Energy Levels, Wavelengths	Exp
Ar^{16+}	Energy Levels, Wavelengths	Exp
Ti^{2+-21+}	Energy Levels, Wavelengths	Exp
Ti^{18+}	Energy Levels, Wavelengths	Exp
V^{3+-22+}	Energy Levels, Wavelengths	Exp
Cr^{4+-23+}	Energy Levels, Wavelengths	Exp
Mn^{5+-24+}	Energy Levels, Wavelengths	Exp
Fe^{6+-25+}	Energy Levels, Wavelengths	Exp
Co^{7+-26+}	Energy Levels, Wavelengths	Exp
Ni^{8+-27+}	Energy Levels, Wavelengths	Exp
Cu^{9+-28+}	Energy Levels, Wavelengths	Exp
Kr^{4+-9+}	Energy Levels, Wavelengths	Exp
Kr^{4+-35+}	Energy Levels, Wavelengths	Exp
Kr^{5+}	Energy Levels, Wavelengths	Exp
Kr$^{17+-35+}$	Energy Levels, Wavelengths	Exp
Kr$^{24+-27+}$	Energy Levels, Wavelengths	Exp

Mo^{5+-34+}	Energy Levels, Wavelengths	Exp
Mo^{5+-41+}	Energy Levels, Wavelengths	Exp
Mo$^{30+-33+}$	Energy Levels, Wavelengths	Exp
Mo$^{37+-41+}$	Energy Levels, Wavelengths	Exp
^{129}**Xe**$^{0+-+}$	Energy Levels, Wavelengths	Exp
^{131}**Xe**$^{0+-+}$	Energy Levels, Wavelengths	Exp
Xe^{0+-+}	Energy Levels, Wavelengths	Exp

833. K. M. Aggarwal, F. P. Keenan
Energy levels and radiative rates for inner shell transitions of Fe XVI
Astron. Astrophys. 463, 399-404 (2007)

Fe^{15+}	Trans. prob., Oscill. Strengths	Th

834. P. S. Barklem
Electron-impact excitation of neutral oxygen
Astron. Astrophys. 462, 781-788 (2007)

O	Trans. prob., Oscill. Strengths	Th

835. P. Palmeri, P. Quinet, E. Biémont, A. V. Yushchenko, A. Jorissen, S. Van Eck
Radiative decay of the 4d^5(^{6}S)5p z^{5,7}P$^\circ$ states in Tc II: Comparison along the homologous and isoelectronic sequences. Application to astrophysics
Mon. Not. R. Astron. Soc. 374, 63-71 (2007)

Mn^{+}	Trans. prob., Oscill. Strengths	Th
Mo	Trans. prob., Oscill. Strengths	Th
Tc^{+}	Trans. prob., Oscill. Strengths	Th
Re^{+}	Trans. prob., Oscill. Strengths	Th

836. G. W. F. Drake, D. C. Morton
A multiplet table for neutral helium (^{4}He I) with transition rates
Astrophys. J., Suppl. Ser. 170, 251-260 (2007)

He	Trans. prob., Oscill. Strengths	Th

837. G. Çelik
The calculation of transition probabilities between individual lines for atomic lithium
J. Quant. Spectrosc. Radiat. Transfer 103, 578-587 (2007)

Li	Trans. prob., Oscill. Strengths	Th

838. L. Özdemir, G. Ürer
Transition energies, wavelengths, oscillator strengths and transition probabilities between 1s^2, 1sns and lsnp (2≤n≤9) states for He-like silicon
J. Quant. Spectrosc. Radiat. Transfer 103, 281-301 (2007)

Si^{12+}	Trans. prob., Oscill. Strengths	Th

839. N. C. Deb, A. Hibbert
Breit-Pauli energy levels belonging to 2p^4, 2s2p^5, 2p^6, 2p^{3}3ℓ configurations and all E1 transitions among these levels in Mg V
At. Data Nucl. Data Tables 93, 585-613 (2007)

Mg^{4+}	Trans. prob., Oscill. Strengths	Th

840. P. Quinet, E. Biémont, P. Palmeri, E. Träbert
Multiconfiguration Dirac-Fock wavelengths and transition rates in the x-ray spectra of highly charged Ga-like ions from Yb^{39+} to U^{61+}
At. Data Nucl. Data Tables 93, 167-182 (2007)

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

841. W. R. Johnson, U. I. Safronova
Revised transition probabilities for Fe XXV: Relativistic CI calculations
At. Data Nucl. Data Tables 93, 139-147 (2007)

$\mathbf{Fe^{24+}}$	Trans. prob., Oscill. Strengths	Th

842. M. Mohan, A. K. Singh, A. K. S. Jha, P. Jha
Level energies, oscillator strengths, and lifetimes for transitions in Ti VI
At. Data Nucl. Data Tables 93, 105-126 (2007)

$\mathbf{Ti^{5+}}$	Trans. prob., Oscill. Strengths	Th

843. M. Andersson, T. Brage
Effects on intercombination transition rates and branching ratios-the UV0.01 ($3s^23p^2\ ^3P_{1,2}$-$3s3p^3\ ^5S_2$) multiplet in Si I-like ions revisited
J. Phys. B 40, 709-726 (2007)

$\mathbf{P^{+}}$	Trans. prob., Oscill. Strengths	Th
$\mathbf{S^{2+}}$	Trans. prob., Oscill. Strengths	Th
$\mathbf{Ca^{6+}}$	Trans. prob., Oscill. Strengths	Th
$\mathbf{Fe^{12+}}$	Trans. prob., Oscill. Strengths	Th

844. D. R. Beck
Ab initio electric dipole f values for Fe II $(3d + 4s)^7$ J = 9/2 → $(3d + 4s)^6$ 4p J = 11/2 transitions
J. Phys. B 40, 651-657 (2007)

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

845. M. Ortiz, R. Mayo, E. Biémont, P. Quinet, G. Malcheva, K. Blagoev
Radiative parameters for some transitions arising from the $3d^94d$ and $3d^84s^2$ electronic configurations in Cu II spectrum
J. Phys. B 40, 167-176 (2007)

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

846. P. Sonnentrucker, S. D. Friedman, D. G. York
Chlorine in the galactic interstellar medium: Revised f-values with the Far Ultraviolet Spectroscopic Explorer and the space telescope imaging spectrograph
Astrophys. J. 650, L115-L118 (2006)

Cl	Trans. prob., Oscill. Strengths	Exp

847. M. F. Gu, T. Holczer, E. Behar, S. M. Kahn
Inner-shell absorption lines of Fe VI - Fe XVI: A many-body perturbation theory approach
Astrophys. J. 641, 1227-1232 (2006)

$\mathbf{Fe^{0+-15+}}$	Trans. prob., Oscill. Strengths	Th

848. E. Landi, M. F. Gu
Atomic data for high-energy configurations in Fe XVII-XXIII
Astrophys. J. 640, 1171-1179 (2006)

$\mathbf{Fe}^{16+-22+}$	Trans. prob., Oscill. Strengths	Th

849. E. B. Jenkins, T. M. Tripp
Measurements of the f-values of the resonance transitions of Ni II at 1317.217 and 1370.132 Å
Astrophys. J. 637, 548-552 (2006)

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

850. G. Corrégé, A. Hibbert
Oscillator strengths of near-infrared lines of Fe II
Astrophys. J. 636, 1166-1171 (2006)

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

851. K. M. Aggarwal, F. P. Keenan
Energy levels and radiative rates for transitions in Ni XIX
Astron. Astrophys. 460, 959-965 (2006)

$\mathbf{Ni}^{18+}$	Trans. prob., Oscill. Strengths	Th

852. K. M. Aggarwal, F. P. Keenan, T. Kato, I. Murakami
Energy levels and radiative rates for transitions in Fe IX
Astron. Astrophys. 460, 331-337 (2006)

$\mathbf{Fe}^{8+}$	Trans. prob., Oscill. Strengths	Th

853. G. Del Zanna
Benchmarking atomic data for astrophysics: Fe XVIII
Astron. Astrophys. 459, 307-316 (2006)

$\mathbf{Fe}^{17+}$	Trans. prob., Oscill. Strengths	Th

854. S. N. Nahar
Atomic data from the Iron Project. LXII. Allowed and forbidden transitions in Fe XVIII in relativistic Breit-Pauli approximation
Astron. Astrophys. 457, 721-728 (2006)

$\mathbf{Fe}^{17+}$	Trans. prob., Oscill. Strengths	Th

855. G. Ljung, H. Nilsson, M. Asplund, S. Johansson
New and improved experimental oscillator strengths in Zr II and the solar abundance of zirconium
Astron. Astrophys. 456, 1181-1185 (2006)

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

856. V. Jonauskas, P. Bogdanovich, F. P. Keenan, R. Kisielius, M. E. Foord, R. F. Heeter, S. J. Rose, G. J. Ferland, P. H. Norrington
Energy levels and transition probabilities for boron-like Fe XXII
Astron. Astrophys. 455, 1157-1160 (2006)

$\mathbf{Fe}^{21+}$	Trans. prob., Oscill. Strengths	Th

857. K. M. Aggarwal, F. P. Keenan
Electron impact excitation of Fe XVI: Radiative and excitation rates
Astron. Astrophys. 450, 1249-1257 (2006)

$\mathbf{Fe}^{15+}$	Trans. prob., Oscill. Strengths	Th

858. S. N. Nahar
Atomic data from the Iron Project. LXI. Radiative E1, E2, E3, and M1 transition probabilities for Fe IV
Astron. Astrophys. 448, 779-785 (2006)

$\mathbf{Fe}^{3+}$	Trans. prob., Oscill. Strengths	Th

859. H. Nilsson, G. Ljung, H. Lundberg, K. E. Nielsen
The FERRUM Project: Improved experimental oscillator strengths in Cr II
Astron. Astrophys. 445, 1165-1168 (2006)

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

860. R. J. Blackwell-Whitehead, H. Lundberg, G. Nave, J. C. Pickering, H. R. A. Jones, Y. Lyubchik, Y. V. Pavlenko, S. Viti
Experimental Ti I oscillator strengths and their application to cool star analysis
Mon. Not. R. Astron. Soc. 373, 1603-1609 (2006)

Ti	Trans. prob., Oscill. Strengths	Exp

861. L. Bigot, F. Thévenin
Atomic oscillator strengths in the spectral domain of Gaia
Mon. Not. R. Astron. Soc. 372, 609-614 (2006)

Si	Trans. prob., Oscill. Strengths	Exp
Fe	Trans. prob., Oscill. Strengths	Exp

862. M. A. Bautista, H. Hartman, T. R. Gull, N. Smith, K. Lodders
[Ti II] and [Ni II] emission from the strontium filament of η Carinae
Mon. Not. R. Astron. Soc. 370, 1991-2003 (2006)

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

863. C. Z. Dong, T. Kato, S. Fritzsche, F. Koike
Lifetimes and branching fractions of the high angular momentum states of aluminum-like iron group elements
Mon. Not. R. Astron. Soc. 369, 1735-1740 (2006)

Al Z= 24-32 step 2	Trans. prob., Oscill. Strengths	Th

864. G. Malcheva, K. Blagoev, R. Mayo, M. Ortiz, H. L. Xu, S. Svanberg, P. Quinet, E. Biémont
Radiative lifetimes and transition probabilities of astrophysical interest in Zr II
Mon. Not. R. Astron. Soc. 367, 754-762 (2006)

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

865. U. I. Safronova, T. E. Cowan, M. S. Safronova
Relativistic many-body calculations of energies, E2, and M1 transition rates of $4s^24p$ states in Ga-like ions
Phys. Lett. A 348, 293-298 (2006)

Ga Z= 31-47	Trans. prob., Oscill. Strengths	Th
Ga Z= 31-100	Trans. prob., Oscill. Strengths	Th
$\mathbf{Xe}^{23+}$	Trans. prob., Oscill. Strengths	Th
$\mathbf{W}^{43+}$	Trans. prob., Oscill. Strengths	Th
$\mathbf{U}^{61+}$	Trans. prob., Oscill. Strengths	Th

866. S. S. Tayal
Breit-Pauli R-matrix calculation for electron collision rates in O IV
Astrophys. J., Suppl. Ser. 166, 634-649 (2006)

$\mathbf{O}^{3+}$	Trans. prob., Oscill. Strengths	Th

867. N. Verma, A. K. S. Jha, M. Mohan
New relativistic atomic data for Fe IX
Astrophys. J., Suppl. Ser. 164, 297-305 (2006)

$\mathbf{Fe}^{8+}$	Trans. prob., Oscill. Strengths	Th

868. S. S. Tayal
New accurate oscillator strengths and electron excitation collision strengths for N I
Astrophys. J., Suppl. Ser. 163, 207-223 (2006)

N	Trans. prob., Oscill. Strengths	Th

869. M. B. Das, S. Karmakar
Experimental lifetimes of some levels belonging to the 4p^{4}5d configuration of Kr II
J. Quant. Spectrosc. Radiat. Transfer 102, 387-390 (2006)

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

870. B. A. Zon, I. Yu. Kretinin, V. E. Chernov
Polarizability of the fine-structure components of low excited states of the F, Cl, and Br atoms
Opt. Spectrosc. 101, 501-507 (2006)

F	Trans. prob., Oscill. Strengths	Th
Cl	Trans. prob., Oscill. Strengths	Th
Br	Trans. prob., Oscill. Strengths	Th

871. K. Yao, M. Andersson, T. Brage, R. Hutton, P. Jönsson, Y. Zou
M$_F$-dependent lifetimes due to hyperfine induced interference effects
Phys. Rev. Lett. 97, 183001 (2006)

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

872. C. Froese Fischer, G. Tachiev, A. Irimia
Relativistic energy levels, lifetimes, and transition probabilities for the sodium-like to argon-like sequences
At. Data Nucl. Data Tables 92, 607-812 (2006)

Na Z= 11-26	Trans. prob., Oscill. Strengths	Th
Mg Z= 12-26	Trans. prob., Oscill. Strengths	Th
Al Z= 13-26	Trans. prob., Oscill. Strengths	Th
Si Z= 14-26	Trans. prob., Oscill. Strengths	Th
P Z= 15-26	Trans. prob., Oscill. Strengths	Th
S Z= 16-26	Trans. prob., Oscill. Strengths	Th

Cl Z= 17-26	Trans. prob., Oscill. Strengths	Th
Ar Z= 18-26	Trans. prob., Oscill. Strengths	Th
Ar Z= 24-26	Trans. prob., Oscill. Strengths	Th
S	Trans. prob., Oscill. Strengths	Th
$\mathbf{S^{+}}$	Trans. prob., Oscill. Strengths	Th
$\mathbf{Fe^{10+}}$	Trans. prob., Oscill. Strengths	Th

873. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ar XI
At. Data Nucl. Data Tables 92, 305-374 (2006)

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

874. W. O. Younis, S. H. Allam, Th. M. El-Sherbini
Fine-structure calculations of energy levels, oscillator strengths, and transition probabilities for sodium-like ions (Co XVII-Kr XXVI)
At. Data Nucl. Data Tables 92, 187-205 (2006)

Na Z= 27-36	Trans. prob., Oscill. Strengths	Th

875. F. Wang, B. C. Gou
Relativistic energy, fine structure, and hyperfine-structure studies of the high-lying core-excited states ^{5}P(n) (n=1-3) and ^{5}S°(m) (m=1-3)for the Be-like isoelectronic sequence
At. Data Nucl. Data Tables 92, 176-185 (2006)

Be Z= 7-10	Trans. prob., Oscill. Strengths	Th

876. U. I. Safronova, A. S. Safronova, S. M. Hamasha, P. Beiersdorfer
Relativistic many-body calculations of multipole (E1, M1, E2, M2, E3, and M3) transition wavelengths and rates between $3\ell^{-1}4\ell'$ excited and ground states in nickel-like ions
At. Data Nucl. Data Tables 92, 47-104 (2006)

Ni Z= 30-100	Trans. prob., Oscill. Strengths	Th
Ni Z= 36-92	Trans. prob., Oscill. Strengths	Th

877. A. Dasgupta, J. P. Apruzese, O. Zatsarinny, K. Bartschat, C. Froese Fischer
Laser transition probabilities in Xe I
Phys. Rev. A 74, 012509 (2006)

Xe	Trans. prob., Oscill. Strengths	Th

878. P. Palmeri, P. Quinet, E. Biémont, S. Svanberg, H. L. Xu
Radiative lifetime measurements and semi-empirical transition probability calculations in neutral rhenium
Phys. Scr. 74, 297-303 (2006)

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

879. L. Pan, D. R. Beck
Mo VI J = 3/2, 5/2 energy levels, oscillator strengths and Landé g-values
Phys. Scr. 73, 607-613 (2006)

$\mathbf{Mo^{5+}}$	Trans. prob., Oscill. Strengths	Th

880. W. Wang, X. L. Cheng, X. D. Yang
Calculation of wavelengths and oscillator strengths for the magnesium isoelectronic sequence from I^{41+} to Ce^{46+}
Phys. Scr. 73, 565-570 (2006)

Mg Z= 53-58	Trans. prob., Oscill. Strengths	Th

881. G. P. Gupta, A. Z. Msezane
Oscillator strengths and lifetimes in Kr XXV
Phys. Scr. 73, 556-564 (2006)

Kr^{24+}	Trans. prob., Oscill. Strengths	Th

882. R. R. Kildiyarova, S. S. Churilov, Y. N. Joshi, A. N. Ryabtsev
Analysis of the $3d^4 4f$ configuration in Ni VI
Phys. Scr. 73, 249 (2006)

Ni^{5+}	Trans. prob., Oscill. Strengths	Th

883. U. I. Safronova, Yu. Ralchenko, I. Murakami, T. Kato, D. Kato
Atomic data for dielectronic recombination into C-like oxygen
Phys. Scr. 73, 143-159 (2006)

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

884. M. B. Das, S. Karmakar
Experimental lifetime of some level belonging to the $5p^4 6d$ configuration of Xe II
Eur. Phys. J. D 40, 339-341 (2006)

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

885. G. Çelik, E. Akin, H. Ş. Kiliç
The theoretical calculation of transition probabilities for some excited p-d transitions in atomic nitrogen
Eur. Phys. J. D 40, 325-330 (2006)

N	Trans. prob., Oscill. Strengths	Th

886. C. Z. Dong, S. Fritzsche, B. Fricke
Theoretical study of the $5p^5 6s$ - $5p^6$ spectra of neutral xenon
Eur. Phys. J. D 40, 317-323 (2006)

Xe	Trans. prob., Oscill. Strengths	Th

887. A. Bacławski, T. Wujec, J. Musielok
Line strength measurements for near-infrared intersystem transitions of N I
Eur. Phys. J. D 40, 195-199 (2006)

N	Trans. prob., Oscill. Strengths	Exp

888. R. Mayo, J. Campos, M. Ortiz, H. Xu, S. Svanberg, G. Malcheva, K. Blagoev
Radiative lifetimes of Zr III excited levels
Eur. Phys. J. D 40, 169-173 (2006)

Zr^{2+}	Trans. prob., Oscill. Strengths	E/T

889. U. I. Safronova, A. S. Safronova, P. Beiersdorfer
Multipole (E1, M1, E2, M2, E3, M3) transition wavelengths and rates between $3\ell^{-1}5\ell'$ excited and ground states in nickel-like ions
J. Phys. B 39, 4491-4513 (2006)

Ni Z= 30-100	Trans. prob., Oscill. Strengths	Th
Ni Z= 60-92	Trans. prob., Oscill. Strengths	Th
$\mathbf{Xe}^{26+}$	Trans. prob., Oscill. Strengths	Th
$\mathbf{W}^{46+}$	Trans. prob., Oscill. Strengths	Th

890. S. Mar, J. A. del Val, F. Rodríguez, R. J. Peláez, V. R. González, A. B. Gonzalo, A. de Castro, J. A. Aparicio
Measurement of transition probabilities in Kr II UV and visible spectral lines
J. Phys. B 39, 3709-3721 (2006)

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

891. Y. Liu, R. Hutton, Y. Zou, M. Andersson, T. Brage
MCDF calculations for the lowest excited states in the Zn-like sequence
J. Phys. B 39, 3147-3158 (2006)

Zn Z= 30-42	Trans. prob., Oscill. Strengths	Th
$\mathbf{Rh}^{15+}$	Trans. prob., Oscill. Strengths	Th
$\mathbf{Ag}^{17+}$	Trans. prob., Oscill. Strengths	Th

892. C. Z. Dong, D. H. Zhang, T. Stöhlker, S. Fritzsche, B. Fricke
Relativity, electron correlation and QED effects in the $1s2s^2\ ^2S_{1/2}$ state of highly charged Li-like ions
J. Phys. B 39, 3121-3129 (2006)

Li Z= 5-92	Trans. prob., Oscill. Strengths	Th

893. I. Murakami, T. Kato, D. Kato, U. I. Safronova, T. E. Cowan, Yu. Ralchenko
Large-scale calculation of dielectronic recombination parameters for Mg-like Fe
J. Phys. B 39, 2917-2937 (2006)

$\mathbf{Fe}^{14+}$	Trans. prob., Oscill. Strengths	Th

894. M. Andersson, T. Brage, R. Hutton, I. Kink, L. Engström
Systematic studies of highly excited Rydberg states in ions with two valence electrons
J. Phys. B 39, 2815-2826 (2006)

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

895. S. Mahmood, N. Amin, S.-u. Haq, N. M. Shaikh, S. Hussain, M. A. Baig
Measurements of oscillator strengths of the $2p^5(^2P_{1/2})nd$ J=2,3 autoionizing resonances in neon
J. Phys. B 39, 2299-2313 (2006)

Ne	Trans. prob., Oscill. Strengths	Exp

896. A. E. Kingston, A. Hibbert
The spectrum of optically allowed transitions from the $3p^63d$ ground state of Ti IV
J. Phys. B 39, 2217-2230 (2006)

$\mathbf{Ti}^{3+}$	Trans. prob., Oscill. Strengths	Th

897. M. J. Vilkas, Y. Ishikawa, E. Träbert
Relativistic multireference many-body perturbation theory calculations on F-, Ne-, Na-, Mg-, Al-, Si- and P-like xenon ions
J. Phys. B 39, 2195-2216 (2006)

$\mathbf{Xe}^{39+-45+}$	Trans. prob., Oscill. Strengths	Th
$\mathbf{Xe}^{40+-41+}$	Trans. prob., Oscill. Strengths	Th

898. O. Zatsarinny, K. Bartschat
B-spline calculations of oscillator strengths in neutral argon
J. Phys. B 39, 2145-2158 (2006)

Ar	Trans. prob., Oscill. Strengths	Th

899. L. Głowacki, J. Migdałek
Relativistic configuration-interaction oscillator strengths calculations with ab initio screened model-potential wavefunctions
J. Phys. B 39, 1721-1729 (2006)

Be	Trans. prob., Oscill. Strengths	Th
Mg	Trans. prob., Oscill. Strengths	Th
Zn	Trans. prob., Oscill. Strengths	Th

900. M. C. Martins, J. P. Santos, A. M. Costa, F. Parente
Transition wavelengths and probabilities for spectral lines of Zr III
Eur. Phys. J. D 39, 167-172 (2006)

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

901. S. D. Loch, M. S. Pindzola, C. P. Ballance, D. C. Griffin
The effects of radiative cascades on the x-ray diagnostic lines of $\mathbf{Fe}^{16+}$
J. Phys. B 39, 85-104 (2006)

$\mathbf{Fe}^{16+}$	Trans. prob., Oscill. Strengths	Th

902. N. Singh, A. K. S. Jha, M. Mohan
Breit-Pauli energy levels and radiative lifetimes in neutral chlorine
Eur. Phys. J. D 38, 285-291 (2006)

Cl	Trans. prob., Oscill. Strengths	Th

903. V. Fivet, P. Palmeri, P. Quinet, E. Biémont, H. L. Xu, S. Svanberg
Radiative lifetimes and transition probabilities in Ta I
Eur. Phys. J. D 37, 29-35 (2006)

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

904. J. R. Fuhr, W. L. Wiese
A critical compilation of atomic transition probabilities for neutral and singly ionized iron
J. Phys. Chem. Ref. Data 35, 1669-1809 (2006)

$\mathbf{Fe}^{0+-+}$	Trans. prob., Oscill. Strengths	E/T

905. A. E. Kramida, T. Shirai
Compilation of wavelengths, energy levels, and transition probabilities for W I and W II
J. Phys. Chem. Ref. Data 35, 423-683 (2006)

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

906. D.-H. Zhang, C.-Z. Dong, F. Koike
Theoretical investigation of decay process in a doubly excited $2s^2$ $^1S_0$ state of He-like ions
Chin. Phys. Lett. 23, 2059-2062 (2006)

He Z= 26-76	Trans. prob., Oscill. Strengths	Th
C^{4+}	Trans. prob., Oscill. Strengths	Th
Ar^{16+}	Trans. prob., Oscill. Strengths	Th
Pb^{80+}	Trans. prob., Oscill. Strengths	Th
Rn^{84+}	Trans. prob., Oscill. Strengths	Th
U^{90+}	Trans. prob., Oscill. Strengths	Th

907. J.-L. Zeng, Y.-G. Wang, G. Zhao, J.-M. Yuan
Theoretical simulations of emission spectra of Fe^{7+} and Fe^{8+}
Chin. Phys. 15, 1502-1510 (2006)

Fe^{7+}–$^{8+}$	Trans. prob., Oscill. Strengths	Th

908. U. I. Safronova
Excitation energies, oscillator strengths, and transition rates in B I, Al I, Ga I, In I, and Tl I
J. Plasma Fusion Res. Series 7, 282-285 (2006)

B	Trans. prob., Oscill. Strengths	Th
Ga	Trans. prob., Oscill. Strengths	Th
Tl	Trans. prob., Oscill. Strengths	Th

909. U. I. Safronova, A. S. Safronova
Relativistic many-body calculations of multipole (E1, M1, E2, M2, E3, M3) transition wavelengths and rates between excited and ground states in nickel-like ions
J. Plasma Fusion Res. Series 7, 278-281 (2006)

Ni Z= 30-100	Trans. prob., Oscill. Strengths	Th

910. K. W. Kukla, A. E. Livingston, C. M. Vogel Vogt, H. G. Berry, R. W. Dunford, L. J. Curtis, S. Cheng
Extreme-ultraviolet wavelength and lifetime measurements in highly ionized krypton
Can. J. Phys. 83, 1127-1139 (2005)

Kr^{32+}–$^{33+}$	Trans. prob., Oscill. Strengths	Exp

911. V. Tayal, G. P. Gupta, A. N. Tripathi
Calculated energy levels, oscillator strengths and lifetimes in Mg-like argon
Indian J. Phys. 79, 1243-1251 (2005)

Ar^{6+}	Trans. prob., Oscill. Strengths	Th

912. I. I. Tupitsyn, A. V. Volotka, D. A. Glazov, V. M. Shabaev, G. Plunien, J. R. Crespo López-Urrutia, A. Lapierre, J. Ullrich
Magnetic-dipole transition probabilities in B-like and Be-like ions
Phys. Rev. A 72, 062503 (2005)

Be Z= 16-19	Trans. prob., Oscill. Strengths	Th
B Z= 16-19	Trans. prob., Oscill. Strengths	Th
Ti^{17+}	Trans. prob., Oscill. Strengths	Th
Ti^{18+}	Trans. prob., Oscill. Strengths	Th

913. C. Sur, R. K. Chaudhuri, B. P. Das, D. Mukherjee
Comparative studies using coupled-cluster and unitary coupled-cluster methods: nuclear quadrupole moment, hyperfine constants and transition properties of ^{27}Al
J. Phys. B 38, 4185-4194 (2005)

Al	Trans. prob., Oscill. Strengths	Th

914. Y.-L. Peng, X.-Y. Han, M.-S. Wang, J.-M. Li
A theoretical study of dielectronic recombination processes of C^{2+} ions in planetary nebulae
J. Phys. B 38, 3825-3839 (2005)

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

915. M. Zhang, B.-C. Gou, L.-L. Cui
Energies, Auger width and branching ratios of the core-excited triplet 1s2p^3 ^{3}P$^\circ$ and ^{3}D$^\circ$ resonances for a beryllium-like system
J. Phys. B 38, 3567-3579 (2005)

Be Z= 4-10	Trans. prob., Oscill. Strengths	Th

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

H	Trans. prob., Oscill. Strengths	E/T
He-Kr^{0+-+}	Trans. prob., Oscill. Strengths	E/T
Rb	Trans. prob., Oscill. Strengths	E/T
Sr-Ru^{0+-+}	Trans. prob., Oscill. Strengths	E/T
Rh	Trans. prob., Oscill. Strengths	E/T
Pd-Sb^{0+-+}	Trans. prob., Oscill. Strengths	E/T
Te	Trans. prob., Oscill. Strengths	E/T
I	Trans. prob., Oscill. Strengths	E/T
Xe^{0+-+}	Trans. prob., Oscill. Strengths	E/T
Cs	Trans. prob., Oscill. Strengths	E/T
Ba^{0+-+}	Trans. prob., Oscill. Strengths	E/T
La^{0+-+}	Trans. prob., Oscill. Strengths	E/T
Ce^{+}	Trans. prob., Oscill. Strengths	E/T
Pr-Nd^{0+-+}	Trans. prob., Oscill. Strengths	E/T
Sm-Eu^{0+-+}	Trans. prob., Oscill. Strengths	E/T
Gd	Trans. prob., Oscill. Strengths	E/T
Tb^{+}	Trans. prob., Oscill. Strengths	E/T
Dy-Hf^{0+-+}	Trans. prob., Oscill. Strengths	E/T
Ta	Trans. prob., Oscill. Strengths	E/T
W-Re^{0+-+}	Trans. prob., Oscill. Strengths	E/T
Os	Trans. prob., Oscill. Strengths	E/T
Ir	Trans. prob., Oscill. Strengths	E/T
Pt^{0+-+}	Trans. prob., Oscill. Strengths	E/T
Au	Trans. prob., Oscill. Strengths	E/T
Hg-Bi^{0+-+}	Trans. prob., Oscill. Strengths	E/T
Th^{+}	Trans. prob., Oscill. Strengths	E/T
U^{0+-+}	Trans. prob., Oscill. Strengths	E/T

3.2 Atomic and Molecular Collisions

3.2.1 Photon Collisions

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

hν + Na	Fluorescence	2.1 eV	Exp

918. S. Jones, J. H. Macek, D. H. Madison
Three-Coulomb-wave Pluvinage model for Compton double ionization of helium in the region of the cross-section maximum.
Nucl. Instrum. Methods Phys. Res. B 72, 012718 (2005)

hν + He	Photoionization	2-20 keV	Th

919. K. L. Ishikawa, K. Midorikawa
Above-threshold double ionization of helium with attosecond intense soft x-ray pulses.
Nucl. Instrum. Methods Phys. Res. B 72, 013407 (2005)

hν + He	Photoionization	91.45 eV	Exp

920. P. Lambropoulos, L.A.A. Nikolopoulos, M. G. Makris
Signatures of direct double ionization under xuv radiation.
Nucl. Instrum. Methods Phys. Res. B 72, 013410 (2005)

hν + He	Photoionization	45 eV	Th

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

hν + Ar	Photoionization	90-330 eV	Exp

922. A. S. Kheifets, I. Bray
Double photoionization of He and H_2 at unequal energy sharing.
Nucl. Instrum. Methods Phys. Res. B 72, 022703 (2005)

hν + He	Photoexcitation		Th
hν + H$_2$	Photoexcitation		Th
hν + D$_2$	Photoexcitation		Th
hν + He	Photoionization		Th
hν + H$_2$	Photoionization		Th
hν + D$_2$	Photoionization		Th

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

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

924. J. Colgan, M. S. Pindzola, F. Robicheaux
Double and triple photoionization of Li and Be.
Nucl. Instrum. Methods Phys. Res. B 72, 022727 (2005)

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

925. M. Isla, J. A. Alonso
Fragmentation and Coulomb explosion of deuterium clusters by the interaction with intense laser pulses.
Nucl. Instrum. Methods Phys. Res. B 72, 023201 (2005)

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

926. A. D. Bandrauk, H.-Z. Lu
Laser-induced electron recollision in H_2 and electron correlation.
Nucl. Instrum. Methods Phys. Res. B 72, 023408 (2005)

hν + H_2	Photoionization	800 nm	Th

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

hν + He	Photoionization	13 eV	Exp

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

hν + He	Photoionization	13 eV	Th

929. D. Pinkham, R. R. Jones
Intense laser ionization of transiently aligned CO.
Nucl. Instrum. Methods Phys. Res. B 72, 023418 (2005)

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

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

hν + $SiCl_4$	Photoexcitation	100-225 eV	Exp

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

hν + Rb	Photoionization	61 eV	Th

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

hν + C$^-$	Photodetachment	0-11 eV	Th

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

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

934. X. X. Zhou, X. M. Tong, Z. X. Zhao, C. D. Lin
Alignment dependence of high-order harmonic generation from N_2 and O_2 molecules in intense laser fields.
Nucl. Instrum. Methods Phys. Res. B 72, 033412 (2005)

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

935. V. Serov, A. Keller, O. Atabek, H. Figger, D. Pavicic
Intense laser dissociation of ${D_2}^+$: From experiment to theory.
Nucl. Instrum. Methods Phys. Res. B 72, 033413 (2005)

hν + H$_2$$^+$	Photodissociation	10^{14} W/cm^2	E/T
hν + D$_2$$^+$	Photodissociation	10^{14} W/cm^2	E/T

936. J. Sandstroem, I. Alvarez, D. Calabrese, C. Cisneros, A. M. Covington, V. T. Davis, M. S. Gulley, M. Halka, D. Hanstorp, F. S. Schlachter, J. S. Thompson, D. J. Pegg
Triple photodetachment from the Cl^- ion.
Nucl. Instrum. Methods Phys. Res. B 72, 034702 (2005)

hν + Cl$^-$	Photodetachment	38-85 eV	Exp
hν + Cl$^-$	Photoionization	38-85 eV	Exp

937. A. S. Alnaser, M. Zamkov, X. M. Tong, C. M. Maharjan, P. Ranitovic, C. L. Cocke, I. V. Litvinyuk
Resonant excitation during strong-field dissociative ionization.
Nucl. Instrum. Methods Phys. Res. B 72, 041402 (2005)

hν + O$_2$	Photodissociation	550-1800 nm	Exp
nhν + O$_2$	Photodissociation	550-1800 nm	Exp
hν + O$_2$	Photoionization	550-1800 nm	Exp
nhν + O$_2$	Photoionization	550-1800 nm	Exp

938. C. M. Maharjan, A. S. Alnaser, X. M. Tong, B. Ulrich, P. Ranitovic, S. Ghimire, Z. Chang, I. V. Litvinyuk, C. L. Cocke
Momentum imaging of doubly charged ions of Ne and Ar in the sequential ionization region.
Nucl. Instrum. Methods Phys. Res. B 72, 041403 (2005)

hν + Ne	Photoionization	800 nm	Exp
hν + Ar	Photoionization	800 nm	Exp
nhν + Ne	Photoionization	800 nm	Exp
nhν + Ar	Photoionization	800 nm	Exp

939. X. J. Liu, G. Pruemper, E. Kukk, R. Sankari, M. Hoshino, C. Makochekanwa, M. Kitajima, H. Tanaka, H. Yoshida, Y. Tamenori, K. Ueda
Site-selective ion production of the core-excited CH_3F molecule probed by Auger-electron-ion coincidence measurements.
Nucl. Instrum. Methods Phys. Res. B 72, 042704 (2005)

hν + CH_3F	Photoexcitation	288.8-687.8 eV	Exp
hν + CH_3F	Photoionization	288.8-687.8 eV	Exp

940. J. Nikkinen, H. Aksela, S. Fritzsche, S. Heinasmaki, R. Sankari, E. Kukk, N. Berrah, S. Aksela
Photoionization and Auger decay of the 3d vacancy state of atomic strontium: Electron-electron correlations.
Nucl. Instrum. Methods Phys. Res. B 72, 042706 (2005)

hν + Sr	Photoionization	190-210 eV	E/T

941. X. Feng, A. A. Wills, E. Sokell, T. W. Gorczyca, M. Wiedenhoeft, N. Berrah
Investigation of photoelectron recapture in Ar using two-dimensional photoelectron spectroscopy.
Nucl. Instrum. Methods Phys. Res. B 72, 042712 (2005)

hν + Ar	Photoionization	250-253 eV	E/T

942. C. Bouri, P. Selles, L. Malegat, J. M. Teuler, M. Kwato Njock, A. K. Kazansky
Dynamics of the helium atom close to the full fragmentation threshold: Ionization excitation.
Nucl. Instrum. Methods Phys. Res. B 72, 042716 (2005)

hν + He	Photodissociation	79.1 eV	Th
hν + He	Photoexcitation	79.1 eV	Th

943. N. Saito, X.-J. Liu, Y. Morishita, G. Pruemper, M. Machida, M. Oura, H. Yamaoka, Y. Tamenori, I. Koyano, I. H. Suzuki, K. Ueda
Vibrationally resolved molecular-frame angular distribution of O 1s photoelectrons from CO_2 molecules.
Nucl. Instrum. Methods Phys. Res. B 72, 042717 (2005)

hν + CO_2	Photoionization	540.5-546.5 eV	Exp

944. M. K. Inal, A. Surzhykov, S. Fritzsche
Linear polarization of the $2p^53s-$¿$2p^6$ lines following the inner-shell photoionization of sodiumlike ions.
Nucl. Instrum. Methods Phys. Res. B 72, 042720 (2005)

hν + Fe^{15+}	Photoionization	1-37 keV	Th
hν + U^{81+}	Photoionization	1-37 keV	Th

945. Y. Morishita, Y. Tamenori, K. Okada, T. Oyama, K. Yamamoto, K. Tabayashi, T. Ibuki, I. H. Suzuki
Shake-off of loosely bound electrons in Auger decays of Kr 2p core hole states.
Nucl. Instrum. Methods Phys. Res. B 72, 044702 (2005)

hν + Kr	Photoionization	1850 eV	Exp

946. M. Uhlmann, T. Kunert, R. Schmidt
Molecular alignment of fragmenting $H_2{}^+$ and H_2 in strong laser fields.
Nucl. Instrum. Methods Phys. Res. B 72, 045402 (2005)

hν + H_2	Photodissociation	266 nm	Th
hν + $H_2{}^+$	Photodissociation	266 nm	Th
nhν + H_2	Photodissociation	266 nm	Th
nhν + $H_2{}^+$	Photodissociation	266 nm	Th

947. R. C. Bilodeau, N. D. Gibson, J. D. Bozek, C. W. Walter, G. D. Ackerman, P. Andersson, J. G. Heredia, M. Perri, N. Berrah
High-charge-state formation following inner-shell photodetachment from S^-.
Nucl. Instrum. Methods Phys. Res. B 72, 050701 (2005)

hν + S^-	Photodetachment	150-240 eV	Exp
hν + S^-	Photoionization	150-240 eV	Exp

948. Z. Chen, A. Z. Msezane
Random-phase approximation with exchange for the inner-shell electron transitions.
Nucl. Instrum. Methods Phys. Res. B 72, 050702 (2005)

hν + I	Photoionization	50-200 eV	E/T
hν + I^+	Photoionization	50-200 eV	E/T
hν + Xe^+	Photoionization	50-200 eV	E/T

949. A. Y. Istomin, A. F. Starace, N. L. Manakov, A. V. Meremianin, A. S. Kheifets, I. Bray
Parametrizations and dynamical analysis of angle-integrated cross sections for double photoionization including nondipole effects.
Nucl. Instrum. Methods Phys. Res. B 72, 052708 (2005)

hν + He	Photoionization	0.1-1 keV	E/T

950. A. K. Kazansky, N. M. Kabachnik
Nonstationary theory for short-pulse near-threshold photoionization of inner atomic shells.
Nucl. Instrum. Methods Phys. Res. B 72, 052714 (2005)

hν + Ne	Photoexcitation	near-threshold	Th
hν + Ne	Photoionization	near-threshold	Th

951. D. Pavicic, T. W. Haensch, H. Figger
Vibrationally resolved strong-field dissociation of $D_2{}^+$ in ion beams.
Nucl. Instrum. Methods Phys. Res. B 72, 053413 (2005)

hν + $H_2{}^+$	Photodissociation	785 nm	Exp
hν + $D_2{}^+$	Photodissociation	785 nm	Exp

952. I. I. Tupitsyn, A. V. Volotka, D. A. Glazov, V. M. Shabaev, G. Plunien, J. R. Crespo Lopez-Urrutia, A. Lapierre, J. Ullrich
Magnetic-dipole transition probabilities in B-like and Be-like ions.
Nucl. Instrum. Methods Phys. Res. B 72, 062503 (2005)

hν + S^{11+}	Photoexcitation		Th
hν + S^{12+}	Photoexcitation		Th
hν + Cl^{12+}	Photoexcitation		Th
hν + Cl^{13+}	Photoexcitation		Th
hν + Ar^{13+}	Photoexcitation		Th
hν + Ar^{14+}	Photoexcitation		Th
hν + K^{14+}	Photoexcitation		Th
hν + K^{15+}	Photoexcitation		Th
hν + Ti^{17+}	Photoexcitation		Th
hν + Ti^{18+}	Photoexcitation		Th

953. S. J. Smith, A. Chutjian, J. A. Lozano
Measurement of metastable lifetimes for transitions in Fe^{9+}, Fe^{10+} and Fe^{13+}.
Nucl. Instrum. Methods Phys. Res. B 72, 062504 (2005)

hν + Fe^{9+}	Photoexcitation		Exp
hν + Fe^{10+}	Photoexcitation		Exp
hν + Fe^{13+}	Photoexcitation		Exp

954. H. W. van der Hart, B.J.S. Doherty, J. S. Parker, K. T. Taylor
Benchmark multiphoton ionization rates for He at 390 nm.
Nucl. Instrum. Methods Phys. Res. B 38, L207 (2005)

hν + He	Photoionization	390 nm	Th
nhν + He	Photoionization	390 nm	Th

955. K. Miculis, W. Meyer
Phototransition of $Na(3p_{3/2})$ into high Rydberg states and the ionization continuum.
Nucl. Instrum. Methods Phys. Res. B 38, 2097 (2005)

hν + Na	Photoionization	8-10 eV	Th
hν + Na*	Photoionization	8-10 eV	Th

956. A. M. Juarez, E. Sokell, P. Bolognesi, G. C. King, D. Cubric, M. de Simone, M. Coreno
$\beta - parameter$ **measurements of state-selected rotational transitions near the ν^+ = 0 threshold of $para - H_2$.**
Nucl. Instrum. Methods Phys. Res. B 38, 2109 (2005)

hν + H_2	Photoionization	15.47-15.75 eV	Exp

957. Y. H. Jiang, R. Puettner, G. Kaindl
Theoretical photoionization partial cross sections and angular distribution parameters of doubly excited helium.
Nucl. Instrum. Methods Phys. Res. B 38, 2157 (2005)

hν + He	Photoionization	69-76 eV	Th
hν + He*	Photoionization	69-76 eV	Th

958. A. De Fanis, G. Pruemper, U. Hergenhahn, E. Kukk, T. Tanaka, M. Kitajima, H. Tanaka, S. Fritzsche, N. M. Kabachnik, K. Ueda
Investigation of valence inter-multiplet Auger transitions in Ne following 1s photoelectron recapture.
Nucl. Instrum. Methods Phys. Res. B 38, 2229 (2005)

hν + Ne	Photoexcitation	870 eV	E/T
hν + Ne	Photoionization	870 eV	E/T

959. I. A. Ivanov, A. S. Kheifets
On the use of the Kramers-Henneberger Hamiltonian in multi-photon ionization calculations.
Nucl. Instrum. Methods Phys. Res. B 38, 2245 (2005)

hν + H	Photoionization	6.5-22 eV	Th
hν + He	Photoionization	6.5-22 eV	Th
nhν + H	Photoionization	6.5-22 eV	Th
nhν + He	Photoionization	6.5-22 eV	Th

960. S. A. Sheinerman
PCI effects in resonant processes of photo double electron emission near the Ne 1s threshold.
Nucl. Instrum. Methods Phys. Res. B 38, 2279 (2005)

hν + Ne	Photoionization	870 eV	Th

961. Ch. Siedschlag, T. Pattard
Single-photon ionization of the hydrogen molecule.
Nucl. Instrum. Methods Phys. Res. B 38, 2297 (2005)

hν + H_2	Photodissociation	30-10,000 eV	Th
hν + H_2	Photoionization	30-10,000 eV	Th

962. K. Chakrabarti
A comparison of the triple differential cross sections for double photoionization of H^-, He and Li^+ at low energy.
Nucl. Instrum. Methods Phys. Res. B 38, 2487 (2005)

hν + H^-	Photoionization		Th
hν + He	Photoionization		Th
hν + Li^+	Photoionization		Th

963. R. J. Pelaez, C. Perez, V. R. Gonzalez, F. Rodriguez, J. A. Aparicio, S. Mar
Experimental measurements of shifts and asymmetries of He II P_α and P_β spectral lines.
Nucl. Instrum. Methods Phys. Res. B 38, 2505 (2005)

hν + He^+	Fluorescence	1.75 eV	Exp

964. A. D. Bandrauk, H. Lu
Harmonic generation in a 1D model of H_2 with single and double ionization.
Nucl. Instrum. Methods Phys. Res. B 38, 2529 (2005)

hν + H_2	Photoexcitation	800 nm	Th
hν + H_2	Photoionization	800 nm	Th

965. V. T. Davis, A. Aguilar, A. M. Covington, J. S. Thompson, D. Calabrese, C. Cisneros, M. S. Gulley, M. Halka, D. Hanstorp, J. Sandstroem, B. M. McLaughlin, G. F. Gribakin, D. J. Pegg
Photo-double detachment from the F^- ion.
Nucl. Instrum. Methods Phys. Res. B 38, 2579 (2005)

hν + F^-	Photodetachment	20-62 eV	E/T
hν + F^-	Photoionization	20-62 eV	E/T

966. P. Q. Wang, A. M. Sayler, K. D. Carnes, J. F. Xia, M. A. Smith, B. D. Esry, I. Ben-Itzhak
Highlighting the angular dependence of bond softening and bond hardening of $H_2{}^+$ in an ultrashort intense laser pulse.
Nucl. Instrum. Methods Phys. Res. B 38, L251 (2005)

hν + $H_2{}^+$	Photodissociation	$2x10^{14}$ W/cm^2	Exp

967. X. M. Tong, C. D. Lin
Empirical formula for static field ionization rates of atoms and molecules by lasers in the barrier-suppression regime.
Nucl. Instrum. Methods Phys. Res. B 38, 2593 (2005)

hν + H	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th
hν + He	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th
hν + Ne	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th
hν + Ne^+	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th
hν + Ar	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th
hν + Ar^+	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th
hν + Rb	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th
hν + $H_2{}^+$	Photoionization	$10^{13} - 10^{15}$ W/cm^2	Th

968. S. Mickat, K. H. Schartner, Sv. Kammer, R. Schill, L. Werner, S. Klumpp, A. Ehresmann, H. Schmoranzer, V. L. Sukhorukov
Absolute cross sections and branching ratios for the radiative decay of doubly excited helium determined by photon-induced fluorescence spectroscopy.
Nucl. Instrum. Methods Phys. Res. B 38, 2613 (2005)

hν + He	Fluorescence	64 eV	Exp
hν + He	Photoexcitation	64 eV	Exp

969. G. Hinojosa, M. M. Sant'Anna, A. M. Covington, R. A. Phaneuf, I. R. Covington, I. Dominguez, A. S. Schlachter, I. Alvarez, C. Cisneros
Photofragmentation of ionic carbon monoxide.
Nucl. Instrum. Methods Phys. Res. B 38, 2701 (2005)

hν + CO^+	Photodissociation	20.5-34.5 eV	Exp
hν + CO^+	Photoionization	20.5-34.5 eV	Exp

970. V. D. Rodriguez, P. Macri, R. Gayet
$H_2{}^+$ ionization by ultra-short electromagnetic pulses investigated through a non-perturbative Coulomb-Volkov approach.
Nucl. Instrum. Methods Phys. Res. B 38, 2775 (2005)

hν + $H_2{}^+$	Photoionization	1 GeV/u	Th

971. U. Hergenhahn, A. De Fanis, G. Pruemper, A. K. Kazansky, N. M. Kabachnik, K. Ueda
A study of photoelectron recapture due to post-collision interaction in Ne at the 1s photoionization threshold.
Nucl. Instrum. Methods Phys. Res. B 38, 2843 (2005)

hν + Ne	Photoionization	803-816 eV	E/T

972. M. Glass-Maujean, R. Kneip, E. Flemming, H. Schmoranzer
Photodissociation of doubly excited states of molecular hydrogen studied by polarization measurement of $Lyman-\alpha$ fluorescence.
Nucl. Instrum. Methods Phys. Res. B 38, 2871 (2005)

hν + H_2	Photodissociation	27-38 eV	E/T
hν + H_2	Fluorescence	27-38 eV	E/T

973. C. Baraldi, E. Casnati, A. Tartari, B. Singh
Measurement of L x-ray emission from elements in 64 ¡ Z ¡ 73 interval stimulated by 59.54 keV photons.
Nucl. Instrum. Methods Phys. Res. B 38, 2883 (2005)

hν + Gd	Photoionization	59.54 keV	Exp
hν + Dy	Photoionization	59.54 keV	Exp
hν + Er	Photoionization	59.54 keV	Exp
hν + Yb	Photoionization	59.54 keV	Exp
hν + Hf	Photoionization	59.54 keV	Exp
hν + Ta	Photoionization	59.54 keV	Exp

974. L. Gaynor, N. Murphy, D. Kilbane, A. Cummings, G. O'Sullivan, J. T. Costello, P. van Kampen, E. T. Kennedy
EUV photoabsorption of laser produced tellurium plasmas: Te I-Te IV.
Nucl. Instrum. Methods Phys. Res. B 38, 2895 (2005)

hν + Te	Photoexcitation	50-130 eV	E/T
hν + Te^+	Photoexcitation	50-130 eV	E/T
hν + Te^{2+}	Photoexcitation	50-130 eV	E/T
hν + Te^{3+}	Photoexcitation	50-130 eV	E/T

975. C. E. Hudson, J. B. West, K. L. Bell, A. Aguilar, R. A. Phaneuf, F. Folkmann, H. Kjeldsen, J. Bozek, A. S. Schlachter, C. Cisneros
A theoretical and experimental study of the photoionization of Al II.
Nucl. Instrum. Methods Phys. Res. B 38, 2911 (2005)

hν + Al^+	Photoionization	20-160 eV	E/T

976. N. Saito, K. Ueda, A. De Fanis, K. Kubozuka, M. Machida, I. Koyano, R. Doerner, A. Czasch, L. Schmidt, A. Cassimi, K. Wang, B. Zimmermann, V. McKoy
Molecular frame photoelectron angular distribution for oxygen 1s photoemission from CO_2 molecules.
Nucl. Instrum. Methods Phys. Res. B 38, L277 (2005)

hν + CO_2	Photodissociation	540-580 eV	E/T
hν + CO_2	Photoionization	540-580 eV	E/T

977. S. Vdovic, R. Beuc, D. Aumiler, T. Ban, G. Pichler
Absorption spectrum of Na-K-He mixture: Experiment and theory.
Nucl. Instrum. Methods Phys. Res. B 38, 3107 (2005)

hν + He	Total Absorption, Scattering	400-850 nm	E/T
hν + Na	Total Absorption, Scattering	400-850 nm	E/T
hν + K	Total Absorption, Scattering	400-850 nm	E/T

978. Ph. V. Demekhin, I. D. Petrov, B. M. Lagutin, V. L. Sukhorukov, F. Vollweiler, S. Klumpp, A. Ehresmann, K. H. Schartner, H. Schmoranzer
Interaction between resonances through autoionization continua near the 4s-threshold in Kr II.
Nucl. Instrum. Methods Phys. Res. B 38, 3129 (2005)

hν + Kr^+	Photoexcitation	82-92 nm	E/T
hν + Kr^+	Photoionization	82-92 nm	E/T

979. S. B. Whitfield, K. Caspary, T. Myers, M. Bjelland, R. Wehlitz, J. Jimenez-Mier, P. Olalde-Velasco, M. O. Krause
Valence satellite photoionization of atomic scandium in the region of the 3p -¿ 3d giant resonance.
Nucl. Instrum. Methods Phys. Res. B 38, 3273 (2005)

hν + Sc	Photoionization	29-41 eV	E/T

980. J. Jha, D. Mathur, M. Krishnamurthy
Enhancement of x-ray yields from heteronuclear cluster plasmas irradiated by intense laser light.
Nucl. Instrum. Methods Phys. Res. B 38, L291 (2005)

hν + Ar	Fluorescence	806 nm	Exp
hν + Arn	Fluorescence	806 nm	Exp
hν + Arn(H_2O)m	Fluorescence	806 nm	Exp

981. C. Guo
Ellipticity effects on nonsequential double ionization of diatomic molecules in strong laser fields.
Nucl. Instrum. Methods Phys. Res. B 38, L323 (2005)

hν + N_2	Photoionization	800 nm	Exp
hν + NO	Photoionization	800 nm	Exp
hν + O_2	Photoionization	800 nm	Exp

982. S. Osmekhin, M. Maatta, R. Sankari, J. Nikkinen, E. Kukk, S.-M. Huttula, S. Heinasmaki, H. Aksela, S. Aksela
Ion production by cascade Auger transitions following the Xe $4d^{-1}$ -¿ 6p excitation.
Nucl. Instrum. Methods Phys. Res. B 38, 3559 (2005)

hν + Xe	Photoionization	64-71 eV	E/T

983. Y. Hikosaka, P. Lablanquie, E. Shigemasa
Efficient production of metastable fragments around the 1s ionization threshold in N_2.
Nucl. Instrum. Methods Phys. Res. B 38, 3597 (2005)

hν + N_2	Photodissociation	406-412 eV	Exp

984. F. Da Pieve, L. Avaldi, R. Camilloni, M. Coreno, G. Turri, A. Ruocco, S. Fritzsche, N. M. Kabachnik, G. Stefani
Study of electronic correlations in the Auger cascade decay from Ne* $1s^{-1}3p$.
Nucl. Instrum. Methods Phys. Res. B 38, 3619 (2005)

hν + Ne	Photoionization	867 eV	E/T
hν + Ne^*	Photoionization	867 eV	E/T

985. H.-C. Lu, H.-K. Chen, B.-M. Cheng, Y.-P. Kuo, J. F. Ogilvie
Spectra in the vacuum ultraviolet region of CO in gaseous and solid phases and dispersed in solid argon at 10 K.
Nucl. Instrum. Methods Phys. Res. B 38, 3693 (2005)

hν + CO	Photoexcitation	60,000-96,000 cm^{-1}	Exp

986. L. Pan, D. R. Beck, S. M. O'Malley
Removal or excitation of a 1s electron in Kr II and Kr III.
Nucl. Instrum. Methods Phys. Res. B 38, 3721 (2005)

hν + Kr^+	Photoexcitation		Th
hν + Kr^{2+}	Photoexcitation		Th
hν + Kr^+	Photoionization		Th
hν + Kr^{2+}	Photoionization		Th

987. A. V. Golovin, J. Adachi, S. Motoki, M. Takahashi, A. Yagishita
Inner-shell photoelectron angular distributions from fixed-in-space OCS molecules: Comparison between experiment and theory.
Nucl. Instrum. Methods Phys. Res. B 38, 3755 (2005)

hν + OCS	Photoionization	200 eV	Exp

988. J. Viefhaus, M. Braune, S. Korica, A. Reinkoester, D. Rolles, U. Becker
Auger cascades versus direct double Auger: Relaxation processes following photoionization of the Kr 3d and Xe 4d, 3d inner shells.
Nucl. Instrum. Methods Phys. Res. B 38, 3885 (2005)

hν + Kr	Photoionization	93.7-783 eV	Exp
hν + Xe	Photoionization	93.7-783 eV	Exp

989. O. Guyetand, M. Gisselbrecht, A. Huetz, P. Agostini, R. Taieb, V. Veniard, A. Maquet, L. Antonucci, O. Boyko, C. Valentin, D. Douillet
Multicolour above-threshold ionization of helium: Quantum interference effects in angular distributions.
Nucl. Instrum. Methods Phys. Res. B 38, L357 (2005)

hν + He	Photoionization	810 nm	E/T
nhν + He	Photoionization	810 nm	E/T

990. V. A. Pazdzersky, A. V. Koval
Angular photoelectron spectra for atom ionization in an intense two-colour laser field.
Nucl. Instrum. Methods Phys. Res. B 38, 3945 (2005)

hν + H	Photoionization	1.93 eV	Th
hν + Xe	Photoionization	1.93 eV	Th
nhν + H	Photoionization	1.93 eV	Th
nhν + Xe	Photoionization	1.93 eV	Th

991. M. Madine, H. W. van der Hart
Competition between multi-photon emission of the 1s and the 2s electron from He 1s2s ^1S.
Nucl. Instrum. Methods Phys. Res. B 38, 3963 (2005)

hν + He	Photoionization	11.2-49.50 eV	Th
hν + He^*	Photoionization	11.2-49.50 eV	Th
nhν + He	Photoionization	11.2-49.50 eV	Th
nhν + He^*	Photoionization	11.2-49.50 eV	Th

992. M. Awasthi, Y. V. Vanne, A. Saenz
Non-perturbative solution of the time-dependent Schrodinger equation describing H_2 in intense short laser pulses.
Nucl. Instrum. Methods Phys. Res. B 38, 3973 (2005)

hν + He	Photoionization	2-30 eV	Th
hν + H_2	Photoionization	2-30 eV	Th
nhν + He	Photoionization	2-30 eV	Th
nhν + H_2	Photoionization	2-30 eV	Th

993. K.-H. Schartner, R. H. Schill, D. Hasselkamp, S. Mickat, S. Kammer, L. Werner, S. Klumpp, A. Ehresmann, H. Schmoranzer, B. M. Lagutin, V. L. Sukhorukov
Partial wave analysis of interfering Kr $3d^9 5p$ resonant Raman Auger transitions based on measurements of alignment and orientation parameters within the natural line width.
Nucl. Instrum. Methods Phys. Res. B 38, 4155 (2005)

hν + Kr	Fluorescence	91-92.8 eV	Exp
hν + Kr	Photoexcitation	91-92.8 eV	Exp
hν + Kr	Photoionization	91-92.8 eV	Exp

994. M. A. Lysaght, D. Kilbane, A. Cummings, N. Murphy, P. Dunne, G. O'Sullivan, P. van Kampen, J. T. Costello, E. T. Kennedy
4d photoabsorption spectra of Sn II and Sn IV in the 30-65 eV region.
Nucl. Instrum. Methods Phys. Res. B 38, 4247 (2005)

hν + Sn^{+}	Total Absorption, Scattering	30-65 eV	E/T
hν + Sn^{3+}	Total Absorption, Scattering	30-65 eV	E/T

995. R. G. Polozkov, V. K. Ivanov, A. V. Solov'yov
Photoionization of the fullerene ion $C_{60}{}^{+}$.
Nucl. Instrum. Methods Phys. Res. B 38, 4341 (2005)

hν + $C_{60}{}^{+}$	Photoionization	7-50 eV	Th

996. I. I. Beterov, D. B. Tretyakov, I. I. Ryabtsev, N. N. Bezuglov, K. Miculis, A. Ekers, A. N. Klucharev
Collisional and thermal ionization of sodium Rydberg atoms III. Experiment and theory for nS and nD states with n = 8-20 in crossed atomic beams.
Nucl. Instrum. Methods Phys. Res. B 38, 4349 (2005)

hν + Na	Photoionization	420-630 K	E/T
hν + Na^{*}	Photoionization	420-630 K	E/T

997. H. Abgrall, E. Roueff
Theoretical calculations of excited rovibrational levels of HD. Term values and transition probabilities of VUV electronic bands.
Nucl. Instrum. Methods Phys. Res. B 445, 361 (2006)

hν + H_2	Photoexcitation	100,000 cm^{-1}	Th
hν + HD	Photoexcitation	100,000 cm^{-1}	Th

998. H. Nilsson, G. Ljung, H. Lundberg, K. E. Nielsen
The FERRUM project: Improved experimental oscillator strengths in Cr II.
Nucl. Instrum. Methods Phys. Res. B 445, 1165 (2006)

hν + Cr^{+}	Photoexcitation	4850-2050 $\AA$	Exp

999. G. Del Zanna
Benchmarking atomic data for astrophysics: Fe XXIV.
Nucl. Instrum. Methods Phys. Res. B 447, 761 (2006)

hν + Fe^{23+}	Photoexcitation	0-1.4$x10^7$ cm^{-1}	Th

1000. M. Lundqvist, H. Nilsson, G. M. Wahlgren, H. Lundberg, H. L. Xu, Z.-K. Jang, D. S. Leckrone
Improved oscillator strengths and wavelengths in Hf II, with applications to stellar elemental abundances.
Nucl. Instrum. Methods Phys. Res. B 450, 407 (2006)

hν + Hf$^+$	Photoexcitation	3000 $\AA$	Exp

1001. H. L. Xu, Z. W. Sun, Z. W. Dai, Z. K. Jiang, P. Palmeri, P. Quinet, E. Biemont
Radiative lifetimes, branching fractions and oscillator strengths in Pd I and the solar palladium abundance.
Nucl. Instrum. Methods Phys. Res. B 452, 357 (2006)

hν + Pd	Photoexcitation	400 $\AA$	E/T

1002. G. Correge, A. Hibbert
Oscillator strengths of near-infrared lines of Fe II.
Nucl. Instrum. Methods Phys. Res. B 636, 1166 (2005)

hν + Fe$^+$	Photoexcitation	9000 $\AA$	Th

1003. E. B. Jenkins, T. M. Tripp
Measurements of the f-values of the resonance transitions of Ni II at 1317.217 and 1370.132 $\AA$.
Nucl. Instrum. Methods Phys. Res. B 637, 548 (2005)

hν + Ni$^+$	Photoexcitation	1317 $\AA$	Exp

1004. N. Smith, P. Hartigan
Infrared [Fe II] emission from P Cygni's nebula: Atomic data, mass, kinematics, and the 1600 AD outburst.
Nucl. Instrum. Methods Phys. Res. B 638, 1045 (2006)

hν + Fe$^+$	Photoexcitation	2.0 μ m	Th

1005. M. F. Gu, T. Holczer, E. Behar, S. M. Kahn
Inner-shell absorption lines of Fe VI-Fe XVI: A many-body perturbation theory approach.
Nucl. Instrum. Methods Phys. Res. B 641, 1227 (2006)

hν + Fe^{5+}	Photoexcitation	16 $\AA$	Th
hν + Fe^{6+}	Photoexcitation	16 $\AA$	Th
hν + Fe^{7+}	Photoexcitation	16 $\AA$	Th
hν + Fe^{8+}	Photoexcitation	16 $\AA$	Th
hν + Fe^{9+}	Photoexcitation	16 $\AA$	Th
hν + Fe^{10+}	Photoexcitation	16 $\AA$	Th
hν + Fe^{11+}	Photoexcitation	16 $\AA$	Th
hν + Fe^{12+}	Photoexcitation	16 $\AA$	Th
hν + Fe^{13+}	Photoexcitation	16 $\AA$	Th
hν + Fe^{14+}	Photoexcitation	16 $\AA$	Th
hν + Fe^{15+}	Photoexcitation	16 $\AA$	Th

1006. N. Amin, S. Mahmood, M. Anwar-ul-Haq, M. Riaz, M. A. Baig
Measurement of the photoionization cross-section of the 3p $^2P_{1/2,3/2}$ excited levels of sodium.
Nucl. Instrum. Methods Phys. Res. B 37, 23 (2006)

hν + Na	Photoionization	355 nm	Th
hν + Na*	Photoionization	355 nm	Th

1007. G. Stark, K. P. Huber, K. Yoshino, P. L. Smith, K. Ito
Oscillator strength and linewidth measurements of dipole-allowed transitions in $^{14}N_2$ between 93.5 and 99.5 nm.
Nucl. Instrum. Methods Phys. Res. B 123, 214303 (2005)

hν + N_2	Photoexcitation	99.5-93.5 nm	Th

1008. M. Ehara, H. Nakatsuji, M. Matsumoto, T. Hatamoto, X. J. Liu, T. Lischke, G. Pruemper, T. Tanaka, C. Makochekanwa, M. Hoshino, H. Tanaka, J. R. Harries, Y. Tamenori, K. Ueda
Symmetry-dependent vibrational excitation in N 1s photoionization of N_2: Experiment and theory.
Nucl. Instrum. Methods Phys. Res. B 124, 124311 (2006)

hν + N_2	Photoionization	430 eV	E/T

1009. V. Jonauskas, P. Bogdanovich, F. P. Keenan, R. Kisielius, M. E. Foord, R. F. Heeter, S. J. Rose, G. J. Ferland, P. H. Norrington
Energy levels and transition probabilities for boron-like Fe XXII.
Nucl. Instrum. Methods Phys. Res. B 455, 1157 (2006)

hν + Fe^{21+}	Photoexcitation	5.0 keV	Th

1010. B.-M. Cheng, H.-C. Lu, H.-K. Chen, M. Bahou, Y.-P. Lee, A. M. Mebel, L. C. Lee, M.-C. Liang, Y. L. Yung
Absorption cross sections of NH_3, NH_2D, NHD_2, and ND_3 in the spectral range 140-220 nm and implications for planetary isotopic fractionation.
Nucl. Instrum. Methods Phys. Res. B 647, 1535 (2006)

hν + NH_3	Photoexcitation	140-220 nm	Exp
hν + ND_3	Photoexcitation	140-220 nm	Exp
hν + NH_2D	Photoexcitation	140-220 nm	Exp
hν + NHD_2	Photoexcitation	140-220 nm	Exp

1011. M. Eidelsberg, Y. Sheffer, S. R. Federman, J. L. Lemaire, J. H. Fillion, F. Rostas, J. Ruiz
Oscillator strengths and predissociation rates for Rydberg transitions in $^{12}C^{16}O$, $^{13}C^{16}O$, and $^{13}C^{18}O$ involving the E $^1\Pi$, B $^1\Sigma^+$, and W $^1\Pi$ states.
Nucl. Instrum. Methods Phys. Res. B 647, 1543 (2006)

hν + CO	Photoexcitation	1000 $\AA$	Exp

1012. J. B. Bluett, D. Lukic, S. B. Whitfield, R. Wehlitz
Double photoionization near threshold.
Nucl. Instrum. Methods Phys. Res. B 241, 114 (2005)

hν + He	Photoionization	0-60 eV	Exp
hν + Li	Photoionization	0-60 eV	Exp
hν + Be	Photoionization	0-60 eV	Exp
hν + Na	Photoionization	0-60 eV	Exp
hν + H_2	Photoionization	0-60 eV	Exp

1013. S. B. Appaji Gowda, T. K. Umesh
Dispersion corrections to the forward Rayleigh scattering amplitudes of tantalum, mercury and lead derived using photon interaction cross sections.
Nucl. Instrum. Methods Phys. Res. B 243, 2 (2005)

hν + Ta	Elastic Scattering	24-136 keV	Th
hν + Hg	Elastic Scattering	24-136 keV	Th
hν + Pb	Elastic Scattering	24-136 keV	Th

1014. P. Singh, S. Kumar, J. Goswamy, D. Mehta, N. Singh
Differential cross-section measurements for elastic and inelastic scattering of 17.44 keV photons.
Nucl. Instrum. Methods Phys. Res. B 244, 295 (2005)

hν **+ C**	Elastic Scattering	17.5 keV	Exp
hν **+ Al**	Elastic Scattering	17.5 keV	Exp
hν **+ Si**	Elastic Scattering	17.5 keV	Exp
hν **+ S**	Elastic Scattering	17.5 keV	Exp
hν **+ Ti**	Elastic Scattering	17.5 keV	Exp
hν **+ V**	Elastic Scattering	17.5 keV	Exp
hν **+ Co**	Elastic Scattering	17.5 keV	Exp
hν **+ Ni**	Elastic Scattering	17.5 keV	Exp
hν **+ Cu**	Elastic Scattering	17.5 keV	Exp
hν **+ Zn**	Elastic Scattering	17.5 keV	Exp
hν **+ As**	Elastic Scattering	17.5 keV	Exp
hν **+ Se**	Elastic Scattering	17.5 keV	Exp
hν **+ Rb**	Elastic Scattering	17.5 keV	Exp
hν **+ Sr**	Elastic Scattering	17.5 keV	Exp
hν **+ Ru**	Elastic Scattering	17.5 keV	Exp
hν **+ Ag**	Elastic Scattering	17.5 keV	Exp
hν **+ Cd**	Elastic Scattering	17.5 keV	Exp
hν **+ In**	Elastic Scattering	17.5 keV	Exp
hν **+ Sn**	Elastic Scattering	17.5 keV	Exp
hν **+ Sb**	Elastic Scattering	17.5 keV	Exp
hν **+ Ba**	Elastic Scattering	17.5 keV	Exp
hν **+ Nd**	Elastic Scattering	17.5 keV	Exp
hν **+ Eu**	Elastic Scattering	17.5 keV	Exp
hν **+ Gd**	Elastic Scattering	17.5 keV	Exp
hν **+ Dy**	Elastic Scattering	17.5 keV	Exp
hν **+ Ho**	Elastic Scattering	17.5 keV	Exp
hν **+ Tm**	Elastic Scattering	17.5 keV	Exp
hν **+ Yb**	Elastic Scattering	17.5 keV	Exp
hν **+ Lu**	Elastic Scattering	17.5 keV	Exp
hν **+ Ta**	Elastic Scattering	17.5 keV	Exp
hν **+ W**	Elastic Scattering	17.5 keV	Exp
hν **+ Ir**	Elastic Scattering	17.5 keV	Exp
hν **+ Pt**	Elastic Scattering	17.5 keV	Exp
hν **+ Au**	Elastic Scattering	17.5 keV	Exp
hν **+ Hg**	Elastic Scattering	17.5 keV	Exp
hν **+ Tl**	Elastic Scattering	17.5 keV	Exp
hν **+ Pb**	Elastic Scattering	17.5 keV	Exp
hν **+ Bi**	Elastic Scattering	17.5 keV	Exp
hν **+ Th**	Elastic Scattering	17.5 keV	Exp

1015. G. Apaydin, E. Tirasoglu
Measurements of K shell X-ray production cross sections and fluorescence yields of elements in the atomic number range 65 ¡ Z ¡ 92 at 123.6 keV.
Nucl. Instrum. Methods Phys. Res. B 246, 303 (2006)

hν **+ Tb**	Photoionization	124 keV	Exp
hν **+ Dy**	Photoionization	124 keV	Exp
hν **+ Ho**	Photoionization	124 keV	Exp
hν **+ Er**	Photoionization	124 keV	Exp
hν **+ Tm**	Photoionization	124 keV	Exp
hν **+ Yb**	Photoionization	124 keV	Exp
hν **+ Lu**	Photoionization	124 keV	Exp
hν **+ Hf**	Photoionization	124 keV	Exp
hν **+ Ta**	Photoionization	124 keV	Exp
hν **+ W**	Photoionization	124 keV	Exp
hν **+ Re**	Photoionization	124 keV	Exp
hν **+ Os**	Photoionization	124 keV	Exp

hν + Ir	Photoionization	124 keV	Exp
hν + Pt	Photoionization	124 keV	Exp
hν + Au	Photoionization	124 keV	Exp
hν + Hg	Photoionization	124 keV	Exp
hν + Tl	Photoionization	124 keV	Exp
hν + Pb	Photoionization	124 keV	Exp
hν + Bi	Photoionization	124 keV	Exp
hν + Th	Photoionization	124 keV	Exp
hν + U	Photoionization	124 keV	Exp

1016. A. Czasch, M. Schoeffler, M. Hattass, S. Schoessler, T. Jahnke, Th. Weber, A. Staudte, J. Titze, C. Wimmer, S. Kammer, M. Weckenbrock, S. Voss, R. E. Grisenti, O. Jagutzki, L.Ph.H. Schmidt, H. Schmidt-Boecking, R. Doerner, J. M. Rost, T. Schneider, C.-N. Liu, I. Bray, A. S. Kheifets, K. Bartschat
Partial photoionization cross sections and angular distributions for double excitation of helilum up to the N = 13 threshold.
Nucl. Instrum. Methods Phys. Res. B 95, 243003 (2005)

hν + He	Photoexcitation	78 eV	Exp
hν + He	Photoionization	78 eV	Exp

1017. M. Gisselbrecht, M. Lavollee, A. Huetz, P. Bolognesi, L. Avaldi, D. P. Seccombe, T. J. Reddish
Photodouble ionization dynamics for fixed-in-space H_2.
Nucl. Instrum. Methods Phys. Res. B 96, 153002 (2006)

hν + H_2	Photodissociation	76 eV	Exp
hν + H_2	Photoionization	76 eV	Exp

1018. X. Liu, D. E. Shemansky
A simple model for N_2 line oscillator strengths of the b' $^1\Sigma_u{}^+(1)$, c_4' $^1\Sigma_u{}^+(0)$, b $^1\Pi_u{}^+(4)$, $b^1\Pi_u{}^+(5)$, and c_3 $^11\Pi_u{}^+(0) - X$ $^1\Sigma_g{}^+(0)$ bands.
Nucl. Instrum. Methods Phys. Res. B 645, 1560 (2006)

hν + N_2	Photoexcitation	0.5 cm^{-1}	Th

1019. J. Guan, F. Wang, T. Ziegler, H. Cox
Time-dependent density functional study of the electornic potential energy curves and excitation spectrum of the oxygen molecule.
Nucl. Instrum. Methods Phys. Res. B 125, 044314 (2006)

hν + O_2	Photoexcitation	0-20 eV	Th

3.2.2 Electron Collisions

1020. S. Fritzsche, A. Surzhykov, T. Stoehlker
Radiative recombination into high-Z few-electron ions: Cross sections and angular distributions.
Nucl. Instrum. Methods Phys. Res. B 72, 012704 (2005)

e + U^{89+}	Angular Scattering	2.18-218 MeV/u	Th
e + U^{91+}	Angular Scattering	2.18-218 MeV/u	Th
e + U^{89+}	Recombination	2.18-218 MeV/u	Th
e + U^{91+}	Recombination	2.18-218 MeV/u	Th

1021. D. V. Fursa, I. Bray, R. Panajotovic, D. Sevic, V. Pejcev, D. M. Filipovic, B. P. Marinkovic
Excitations of ^1P levels of zinc by electron impact on the ground state.
Nucl. Instrum. Methods Phys. Res. B 72, 012706 (2005)

e + Zn	Angular Scattering	15-60 eV	E/T
e + Zn	Excitation	15-60 eV	E/T

1022. H. B. Pedersen, H. Buhr, S. Altevogt, V. Andrianarijaona, H. Kreckel, L. Lammich, N. de Ruette, E. M. Staicu-Casagrande, D. Schwalm, D. Strasser, X. Urbain, D. Zajfman, A. Wolf
Dissociative recombination and low-energy inelastic electron collisions of the helium dimer ion.
Nucl. Instrum. Methods Phys. Res. B 72, 012712 (2005)

e + $\mathbf{He_2}^+$	Dissociation	$10^{-4} - 50$ eV	Exp
e + $\mathbf{He_2}^+$	Recombination	$10^{-4} - 50$ eV	Exp
e + $\mathbf{He_2}^+$	Excitation	$10^{-4} - 50$ eV	Exp

1023. H.-D. Cheng, L.-F. Zhu, Z.-S. Yuan, X.-J. Liu, J.-M. Sun, W.-C. Jiang, K.-Z. Xu
Generalized oscillator strengths for the valence-shell excitations of neon.
Nucl. Instrum. Methods Phys. Res. B 72, 012715 (2005)

e + Ne	Excitation	2500 eV	E/T

1024. M. S. Pindzola, F. Robicheaux, J. A. Ludlow, J. Colgan, D. C. Griffin
Electron-impact excitation and ionization of $H_2{}^+$ **using a configuration-average distorted-wave method.**
Nucl. Instrum. Methods Phys. Res. B 72, 012716 (2005)

e + $\mathbf{H_2}^+$	Excitation	10-250 eV	Th
e + $\mathbf{H_2}^+$	Ionization	10-250 eV	Th

1025. M.H.F. Bettega, M.A.P. Lima, L. G. Ferreira
Addendum to "Elastic scattering of low-energy electrons by OCS".
Nucl. Instrum. Methods Phys. Res. B 72, 014702 (2005)

e + OCS	Elastic Scattering	0-2 eV	Th

1026. J. Gao, D. H. Madison, J. L. Peacher
Fully differential cross sections for low-energy electron-impact ionization of nitrogen molecules.
Nucl. Instrum. Methods Phys. Res. B 72, 020701 (2005)

e + $\mathbf{N_2}$	Ionization	35.6-400 eV	Th

1027. O. I. Zatsarinny, K. Bartschat
Benchmark calculations for electron collisions with Fe^+**.**
Nucl. Instrum. Methods Phys. Res. B 72, 020702 (2005)

e + $\mathbf{Fe}^+$	Excitation	0-10 Ry	Th

1028. V. Kokoouline, C. H. Greene
Theoretical study of dissociative recombination of $C_{2n}u$ **triatomic ions: Application to** H_2D^+ **and** D_2H^+**.**
Nucl. Instrum. Methods Phys. Res. B 72, 022712 (2005)

e + $\mathbf{H_3}^+$	Dissociation	$10^{-3} - 10$ eV	Th
e + $\mathbf{H_2D}^+$	Dissociation	$10^{-3} - 10$ eV	Th
e + $\mathbf{HD_2}^+$	Dissociation	$10^{-3} - 10$ eV	Th
e + $\mathbf{H_3}^+$	Recombination	$10^{-3} - 10$ eV	Th
e + $\mathbf{H_2D}^+$	Recombination	$10^{-3} - 10$ eV	Th
e + $\mathbf{HD_2}^+$	Recombination	$10^{-3} - 10$ eV	Th

1029. J. Royal, A. E. Orel
Dissociative recombination of $He_2{}^+$.
Nucl. Instrum. Methods Phys. Res. B 72, 022719 (2005)

e + He$_2{}^{2+}$	Dissociation	1-15 eV	Th
e + He$_2{}^{2+}$	Recombination	1-15 eV	Th

1030. R. O. Jung, J. B. Boffard, L. W. Anderson, C. C. Lin
Electron-impact excitation cross sections from the xenon J=2 metastable level.
Nucl. Instrum. Methods Phys. Res. B 72, 022723 (2005)

e + Xe	Excitation	0.5-10 eV	Exp

1031. J. N. Das, S. Paul, K. Chakrabarti
Ionization of hydrogen atoms by electron impact at 1, 0.5, and 0.3 eV above threshold.
Nucl. Instrum. Methods Phys. Res. B 72, 022725 (2005)

e + H	Ionization	15 eV	Th

1032. K. Bartschat, O. Vorov
Channel-coupling, target-structure, and second-order effects in electron-impact ionization of Ar(3p) and Ar(3s).
Nucl. Instrum. Methods Phys. Res. B 72, 022728 (2005)

e + Ar	Ionization	113.5-200 eV	Th

1033. S. E. Michelin, O. Pessoa, H. L. Oliveira, E. Veiteinheimer, A.M.S. Santos, M. M. Fujimoto, I. Iga, M.-T. Lee
Inner-shell excitation of acetylene by electron impact.
Nucl. Instrum. Methods Phys. Res. B 72, 022730 (2005)

e + C$_2$H$_2$	Excitation	300-800 eV	Th

1034. S.W.J. Scully, V. Senthil, J. A. Wyer, M. B. Shah, E. C. Montenegro, M. Kimura, H. Tawara
Direct evidence of a strong isomer effect in electron-impact double ionization of C_3H_4.
Nucl. Instrum. Methods Phys. Res. B 72, 030701 (2005)

e + C$_3$H$_4$	Ionization	25-1000 eV	Exp

1035. A. Larson, A. E. Orel
Wave-packet study of the products formed in dissociative recombination of HeH^+.
Nucl. Instrum. Methods Phys. Res. B 72, 032701 (2005)

e + HeH$^+$	Dissociation	0-2 eV	Th
e + HeH$^+$	Recombination	0-2 eV	Th

1036. A. Prideaux, D. H. Madison, K. Bartschat
Exchange distortion and postcollision interaction for intermediate-energy electron-impact ionization of argon.
Nucl. Instrum. Methods Phys. Res. B 72, 032702 (2005)

e + Ar	Angular Scattering	113.5-200 eV	Th
e + Ar	Ionization	113.5-200 eV	Th

1037. N. Watanabe, Y. Khajuria, M. Takahashi, Y. Udagawa, P. S. Vinitsky, Yu. V. Popov, O. Chuluunbaatar, K. A. Kouzakov
(e,2e) and (e,3-1e) studies on double processes of He at large momentum transfer.
Nucl. Instrum. Methods Phys. Res. B 72, 032705 (2005)

e + He	Ionization	2080 eV	E/T

1038. M. Barbatti, A. B. Rocha, C. E. Bielschowsky
Young-type interference pattern in molecular inner-shell excitations by electron impact.
Nucl. Instrum. Methods Phys. Res. B 72, 032711 (2005)

e + $\mathbf{CO_2}$	Excitation	250-500 eV	Th
e + $\mathbf{C_4H_6}$	Excitation	250-500 eV	Th

1039. S. D. Loch, J. A. Ludlow, M. S. Pindzola, F. Scheuermann, K. Kramer, B. Fabian, K. Huber, E. Salzborn
Electron-impact ionization of Pb^{q+} ions for q=1-10.
Nucl. Instrum. Methods Phys. Res. B 72, 032713 (2005)

e + $\mathbf{Pb^{+}}$	Ionization	0-1000 eV	E/T
e + $\mathbf{Pb^{2+}}$	Ionization	0-1000 eV	E/T
e + $\mathbf{Pb^{3+}}$	Ionization	0-1000 eV	E/T
e + $\mathbf{Pb^{4+}}$	Ionization	0-1000 eV	E/T
e + $\mathbf{Pb^{5+}}$	Ionization	0-1000 eV	E/T
e + $\mathbf{Pb^{6+}}$	Ionization	0-1000 eV	E/T
e + $\mathbf{Pb^{7+}}$	Ionization	0-1000 eV	E/T
e + $\mathbf{Pb^{8+}}$	Ionization	0-1000 eV	E/T
e + $\mathbf{Pb^{9+}}$	Ionization	0-1000 eV	E/T
e + $\mathbf{Pb^{10+}}$	Ionization	0-1000 eV	E/T

1040. M. A. Uddin, A.K.F. Haque, A. K. Basak, K. R. Karim, B. C. Saha
Electron-impact ionization of hydrogen and lithiumlike systems.
Nucl. Instrum. Methods Phys. Res. B 72, 032713 (2005)

e + H	Ionization	10-10,000 eV	Th
e + $\mathbf{He^{+}}$	Ionization	10-10,000 eV	Th
e + Li	Ionization	10-10,000 eV	Th
e + $\mathbf{C^{5+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{N^{4+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{N^{6+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{O^{5+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{O^{7+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Ne^{8+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Ti^{19+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{V^{20+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Cr^{21+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Mn^{22+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Fe^{23+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Mo^{41+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{Dy^{65+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{U^{89+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{U^{90+}}$	Ionization	10-10,000 eV	Th
e + $\mathbf{U^{91+}}$	Ionization	10-10,000 eV	Th

1041. J. Gao, D. H. Madison, J. L. Peacher
Interference effects for low-energy electron-impact ionization of nitrogen molecules.
Nucl. Instrum. Methods Phys. Res. B 72, 032721 (2005)

e + N_2	Angular Scattering	75.6 eV	Th
e + N_2	Ionization	75.6 eV	Th

1042. J. A. Ludlow, S. D. Loch, M. S. Pindzola
Electron-impact ionization of Mo^+.
Nucl. Instrum. Methods Phys. Res. B 72, 032729 (2005)

e + Mo^+	Ionization	15-150 eV	Th

1043. K. M. Dunseath, M. Terao-Dunseath, G. Bourhis
Selection rules for laser-assisted electron-atom collisions with the laser field normal to the scattering plane.
Nucl. Instrum. Methods Phys. Res. B 72, 033410 (2005)

e + He	Elastic Scattering	4-22 eV	Th
e + He	Angular Scattering	4-22 eV	Th

1044. L. U. Ancarani, P.-A. Hervieux
Scaling law for total electron-impact ionization cross sections of Li-like ions.
Nucl. Instrum. Methods Phys. Res. B 72, 034701 (2005)

e + Be^+	Ionization	0-200 eV	E/T
e + B^{2+}	Ionization	0-200 eV	E/T
e + C^{3+}	Ionization	0-200 eV	E/T
e + N^{4+}	Ionization	0-200 eV	E/T
e + O^{5+}	Ionization	0-200 eV	E/T
e + F^{6+}	Ionization	0-200 eV	E/T
e + Ne^{7+}	Ionization	0-200 eV	E/T
e + Na^{8+}	Ionization	0-200 eV	E/T
e + Mg^{9+}	Ionization	0-200 eV	E/T
e + Al^{10+}	Ionization	0-200 eV	E/T

1045. F. Fremont, C. Leclercq, A. Hajaji, A. Naja, P. Lemennais, S. Boulbain, V. Broquin, J.-Y. Chesnel
Fragment emission following multiple ionization in 20-200-eV $e^- + H_2O$ collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 042702 (2005)

e + H_2O	Dissociation	20-200 eV	Exp
e + H_2O	Ionization	20-200 eV	Exp

1046. O. Sueoka, C. Makochekanwa, H. Tanino, M. Kimura
Total cross-section measurements for positrons and electrons colliding with alkane molecules: Normal hexane and cyclohexane.
Nucl. Instrum. Methods Phys. Res. B 72, 042705 (2005)

e + C_6H_{14}	Elastic Scattering	0.4-1000 eV	Exp
e + C_6H_{12}	Elastic Scattering	0.4-1000 eV	Exp
e + C_6H_{14}	Excitation	0.4-1000 eV	Exp
e + C_6H_{12}	Excitation	0.4-1000 eV	Exp
e + C_6H_{14}	Ionization	0.4-1000 eV	Exp
e + C_6H_{12}	Ionization	0.4-1000 eV	Exp

1047. J. Zeng, J. Wu, F. Jin, G. Zhao, J. Yuan
Cross sections for electron-impact excitation of krypton from the levels of $4p^6$, $4p^5 5s$, and $4p^5 5p$ configurations.
Nucl. Instrum. Methods Phys. Res. B 72, 042707 (2005)

e + Kr	Elastic Scattering	1.5-30 eV	Th
e + Kr*	Elastic Scattering	1.5-30 eV	Th
e + Kr	Excitation	1.5-30 eV	Th
e + Kr*	Excitation	1.5-30 eV	Th

1048. G. F. Collins, D. J. Pegg, K. Fritioff, J. Sandstroem, D. Hanstorp, R. D. Thomas, F. Hellberg, A. Ehlerding, M. Larsson, F. Osterdahl, A. Kaellberg, H. Danared
Electron-impact fragmentation of $Cl_2{}^-$.
Nucl. Instrum. Methods Phys. Res. B 72, 042708 (2005)

e + $Cl_2{}^-$	Dissociation	0-200 eV	Exp
e + $Cl_2{}^-$	Detachment	0-200 eV	Exp

1049. X. G. Ren, C. G. Ning, J. K. Deng, G. L. Su, S. F. Zhang, Y. R. Huang, G. Q. Li
Ionization excitation of helium by the (e,2e) reaction.
Nucl. Instrum. Methods Phys. Res. B 72, 042718 (2005)

e + He	Excitation	1000-1600 eV	Exp
e + He	Ionization	1000-1600 eV	Exp

1050. C. Winstead, V. McKoy, M.H.F. Bettega
Elastic electron scattering by ethylene, C_2H_4.
Nucl. Instrum. Methods Phys. Res. B 72, 042721 (2005)

e + C_2H_4	Elastic Scattering	0.5-20 eV	Th
e + C_2H_4	Angular Scattering	0.5-20 eV	Th
e + C_2H_4	Total Scattering	0.5-20 eV	Th

1051. S. Mondal, R. Shanker
Differential cross-section measurements of multiply charged xenon ions produced in 10-28-keV $e^- - Xe$ collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 052705 (2005)

e + Xe	Ionization	10-28 keV	Exp

1052. S. D. Loch, J. A. Ludlow, M. S. Pindzola, A. D. Whiteford, D. C. Griffin
Electron-impact ionization of atomic ions in the W isonuclear sequence.
Nucl. Instrum. Methods Phys. Res. B 72, 052716 (2005)

e + W^{+}	Ionization	0-250 keV	Th
e + W^{2+}	Ionization	0-250 keV	Th
e + W^{3+}	Ionization	0-250 keV	Th
e + W^{4+}	Ionization	0-250 keV	Th
e + W^{5+}	Ionization	0-250 keV	Th
e + W^{6+}	Ionization	0-250 keV	Th
e + W^{7+}	Ionization	0-250 keV	Th
e + W^{8+}	Ionization	0-250 keV	Th
e + W^{9+}	Ionization	0-250 keV	Th
e + W^{10+}	Ionization	0-250 keV	Th
e + W^{11+}	Ionization	0-250 keV	Th
e + W^{12+}	Ionization	0-250 keV	Th
e + W^{13+}	Ionization	0-250 keV	Th
e + W^{14+}	Ionization	0-250 keV	Th
e + W^{15+}	Ionization	0-250 keV	Th
e + W^{16+}	Ionization	0-250 keV	Th
e + W^{17+}	Ionization	0-250 keV	Th
e + W^{18+}	Ionization	0-250 keV	Th

e + W^{19+}	Ionization	0-250 keV	Th
e + W^{20+}	Ionization	0-250 keV	Th
e + W^{21+}	Ionization	0-250 keV	Th
e + W^{22+}	Ionization	0-250 keV	Th
e + W^{23+}	Ionization	0-250 keV	Th
e + W^{24+}	Ionization	0-250 keV	Th
e + W^{25+}	Ionization	0-250 keV	Th
e + W^{26+}	Ionization	0-250 keV	Th
e + W^{27+}	Ionization	0-250 keV	Th
e + W^{28+}	Ionization	0-250 keV	Th
e + W^{29+}	Ionization	0-250 keV	Th
e + W^{30+}	Ionization	0-250 keV	Th
e + W^{31+}	Ionization	0-250 keV	Th
e + W^{32+}	Ionization	0-250 keV	Th
e + W^{33+}	Ionization	0-250 keV	Th
e + W^{34+}	Ionization	0-250 keV	Th
e + W^{35+}	Ionization	0-250 keV	Th
e + W^{36+}	Ionization	0-250 keV	Th
e + W^{37+}	Ionization	0-250 keV	Th
e + W^{38+}	Ionization	0-250 keV	Th
e + W^{39+}	Ionization	0-250 keV	Th
e + W^{40+}	Ionization	0-250 keV	Th
e + W^{41+}	Ionization	0-250 keV	Th
e + W^{42+}	Ionization	0-250 keV	Th
e + W^{43+}	Ionization	0-250 keV	Th
e + W^{44+}	Ionization	0-250 keV	Th
e + W^{45+}	Ionization	0-250 keV	Th
e + W^{46+}	Ionization	0-250 keV	Th
e + W^{47+}	Ionization	0-250 keV	Th
e + W^{48+}	Ionization	0-250 keV	Th
e + W^{49+}	Ionization	0-250 keV	Th
e + W^{50+}	Ionization	0-250 keV	Th
e + W^{51+}	Ionization	0-250 keV	Th
e + W^{52+}	Ionization	0-250 keV	Th
e + W^{53+}	Ionization	0-250 keV	Th
e + W^{54+}	Ionization	0-250 keV	Th
e + W^{55+}	Ionization	0-250 keV	Th
e + W^{56+}	Ionization	0-250 keV	Th
e + W^{57+}	Ionization	0-250 keV	Th
e + W^{58+}	Ionization	0-250 keV	Th
e + W^{59+}	Ionization	0-250 keV	Th
e + W^{60+}	Ionization	0-250 keV	Th
e + W^{61+}	Ionization	0-250 keV	Th
e + W^{62+}	Ionization	0-250 keV	Th
e + W^{63+}	Ionization	0-250 keV	Th
e + W^{64+}	Ionization	0-250 keV	Th
e + W^{65+}	Ionization	0-250 keV	Th
e + W^{66+}	Ionization	0-250 keV	Th
e + W^{67+}	Ionization	0-250 keV	Th
e + W^{68+}	Ionization	0-250 keV	Th
e + W^{69+}	Ionization	0-250 keV	Th
e + W^{70+}	Ionization	0-250 keV	Th
e + W^{71+}	Ionization	0-250 keV	Th
e + W^{72+}	Ionization	0-250 keV	Th
e + W^{73+}	Ionization	0-250 keV	Th

1053. D. A. Erwin, J. A. Kunc

Electron-impact dissociation of the methane molecule into neutral fragments.
Nucl. Instrum. Methods Phys. Res. B 72, 052719 (2005)

e + CH_4	Dissociation	0-500 eV	Th

1054. A. Chattopadhyay, C. Sinha
Ionization of a hydrogenic ion by electron and positron impact in the presence of a laser field.
Nucl. Instrum. Methods Phys. Res. B 72, 053406 (2005)

e + He^+	Ionization	200-500 eV	Th

1055. C. Champion, J. Hanssen, P. A. Hervieux
Erratum: Influence of molecular orientation on the multiple differential cross sections for the (e,2e) process on a water molecule [Phys. Rev. A 63, 052720 (2001)].
Nucl. Instrum. Methods Phys. Res. B 72, 059906(E) (2005)

e + H_2O	Ionization	25 eV	Th

1056. J. P. Marler, C. M. Surko
Systematic comparison of positron- and electron-impact excitation of the ν_3 vibrational mode of CF_4.
Nucl. Instrum. Methods Phys. Res. B 72, 062702 (2005)

e + CF_4	Excitation	0.1-2 eV	Exp

1057. A. J. Murray
(e,2e) ionization studies of alkaline-earth-metal and alkali-earth-metal targets: Na, Mg, K, and Ca, from near threshold to beyond intermediate energies.
Nucl. Instrum. Methods Phys. Res. B 72, 062711 (2005)

e + Na	Angular Scattering	10-75 eV	Exp
e + Mg	Angular Scattering	10-75 eV	Exp
e + K	Angular Scattering	10-75 eV	Exp
e + Ca	Angular Scattering	10-75 eV	Exp
e + Na	Ionization	10-75 eV	Exp
e + Mg	Ionization	10-75 eV	Exp
e + K	Ionization	10-75 eV	Exp
e + Ca	Ionization	10-75 eV	Exp

1058. E. Schow, K. Hazlett, J. G. Childers, C. Medina, G. Vitug, I. Bray, D. V. Fursa, M. A. Khakoo
Low-energy electron-impact ionization of helium.
Nucl. Instrum. Methods Phys. Res. B 72, 062717 (2005)

e + He	Angular Scattering	26.3-40.7 eV	Th
e + He	Ionization	26.3-40.7 eV	Th

1059. C. S. Trevisan, A. E. Orel, T. N. Rescigno
Resonant electron-CF collision processes.
Nucl. Instrum. Methods Phys. Res. B 72, 062720 (2005)

e + CF	Attachment	0-2 eV	Th
e + CF	Dissociation	0-2 eV	Th
e + CF	Excitation	0-2 eV	Th

1060. S. Mondal, R. Shanker
Coincidence electron spectroscopy of electron-impact multiple ionization of argon.
Nucl. Instrum. Methods Phys. Res. B 72, 062721 (2005)

e + Ar	Angular Scattering	12-24 keV	Exp
e + Ar	Ionization	12-24 keV	Exp

1061. A. Zecca, C. Perazzolli, M. J. Brunger
Positron and electron scattering from tetrahydrofuran.
Nucl. Instrum. Methods Phys. Res. B 38, 2079 (2005)

e + C_4H_8O	Elastic Scattering	2-21 eV	Exp

1062. M.H.F. Bettega, M.A.P. Lima, L. G. Ferreira
Electron collisions with CS_2.
Nucl. Instrum. Methods Phys. Res. B 38, 2087 (2005)

e + CS_2	Elastic Scattering	0-10 eV	Th
e + CS_2	Angular Scattering	0-10 eV	Th

1063. A. R. Milosavljevic, V. I. Kelemen, D. M. Filipovic, S. M. Kazakov, V. Pejcev, D. Sevic, B. P. Marinkovic
Elastic scattering of electrons by krypton in the energy range 20-260 eV.
Nucl. Instrum. Methods Phys. Res. B 38, 2195 (2005)

e + Kr	Elastic Scattering	20-260 eV	E/T
e + Kr	Angular Scattering	20-260 eV	E/T

1064. I. Iga, P. Rawat, I. P. Sanches, M.-T. Lee, M.G.P. Homem
An experimental study on elastic electron-trifluoromethane (CHF_3) scattering in the low and intermediate energy ranges.
Nucl. Instrum. Methods Phys. Res. B 38, 2319 (2005)

e + CHF_3	Elastic Scattering	20-500 eV	Exp
e + CHF_3	Angular Scattering	20-500 eV	Exp

1065. S. Milisavljevic, D. Sevic, R. K. Chauhan, V. Pejcev, D. M. Filipovic, R. Srivastava, B. P. Marinkovic
Differential and integrated cross sections for the elastic electron scattering by calcium atom.
Nucl. Instrum. Methods Phys. Res. B 38, 2371 (2005)

e + Ca	Elastic Scattering	10-100 eV	E/T

1066. R. K. Chauhan, R. Srivastava, A. D. Stauffer
Electron impact excitation of the 4^1P_1 state of calcium.
Nucl. Instrum. Methods Phys. Res. B 38, 2385 (2005)

e + Ca	Excitation	10-100 eV	Th

1067. R. J. Pelaez, C. Perez, V. R. Gonzalez, F. Rodriguez, J. A. Aparicio, S. Mar
Experimental measurements of shifts and asymmetries of He II P_α and P_β spectral lines.
Nucl. Instrum. Methods Phys. Res. B 38, 2505 (2005)

e + He^+	Line Broadening	1.75 eV	Exp
e + He^+	Fluorescence	1.75 eV	Exp

1068. V. V. Serov, B. B. Joulakian, V. L. Derbov, S. I. Vinitsky
Ionization excitation of diatomic systems having two active electrons by fast electron impact: A probe to electron correlation.
Nucl. Instrum. Methods Phys. Res. B 38, 2765 (2005)

e + H_2	Excitation	4087 eV	Th
e + H_2	Ionization	4087 eV	Th

1069. P. V. Johnson, P. W. Zetner
Electron impact coherence parameters for superelastic transitions terminating on the (6s6p $^1P_1$) level of the barium atom.
Nucl. Instrum. Methods Phys. Res. B 38, 2793 (2005)

e + Ba	Elastic Scattering	20 eV	Exp
e + Ba*	Elastic Scattering	20 eV	Exp
e + Ba	Excitation	20 eV	Exp
e + Ba*	Excitation	20 eV	Exp

1070. B. Fabian, A. Mueller, H. Braeuning, J. Jacobi, F. A. Scheuermann, E. Salzborn
Electron-impact double ionization of Pb^{q+} ions for q = 1-9.
Nucl. Instrum. Methods Phys. Res. B 38, 2833 (2005)

e + Pb^+	Ionization	20-1000 eV	Exp
e + Pb^{2+}	Ionization	20-1000 eV	Exp
e + Pb^{3+}	Ionization	20-1000 eV	Exp
e + Pb^{4+}	Ionization	20-1000 eV	Exp
e + Pb^{5+}	Ionization	20-1000 eV	Exp
e + Pb^{6+}	Ionization	20-1000 eV	Exp
e + Pb^{7+}	Ionization	20-1000 eV	Exp
e + Pb^{8+}	Ionization	20-1000 eV	Exp
e + Pb^{9+}	Ionization	20-1000 eV	Exp

1071. P. Syty, J. E. Sienkiewicz
Relativistic multiconfiguration method in low-energy scattering of electrons from argon atoms.
Nucl. Instrum. Methods Phys. Res. B 38, 2859 (2005)

e + Ar	Elastic Scattering	2-10 eV	Th
e + Ar	Angular Scattering	2-10 eV	Th

1072. M. J. Hussey, A. J. Murray
Low energy (e, 2e) differential cross-section measurements on the $1\pi_g$ and $4\sigma_g$ molecular orbitals of CO_2.
Nucl. Instrum. Methods Phys. Res. B 38, 2965 (2005)

e + CO_2	Angular Scattering	20-100 eV	Exp
e + CO_2	Ionization	20-100 eV	Exp

1073. C. A. Ramsbottom, C. J. Noble, V. M. Burke, M. P. Scott, R. Kisielius, P. G. Burke
Electron impact excitation of Fe II: Total LS effective collision strengths.
Nucl. Instrum. Methods Phys. Res. B 38, 2999 (2005)

e + Fe^+	Excitation	30-100,000 K	Th

1074. H. P. Saha, D. J. Murray
Extension of the single-channel MCHF method to include multichannels.
Nucl. Instrum. Methods Phys. Res. B 38, 3015 (2005)

e + H	Elastic Scattering	0.026-218 eV	Th
e + He	Elastic Scattering	0.026-218 eV	Th
e + He$^+$	Elastic Scattering	0.026-218 eV	Th
e + H	Excitation	0.026-218 eV	Th
e + He	Excitation	0.026-218 eV	Th
e + He$^+$	Excitation	0.026-218 eV	Th

1075. M. S. Pindzola, F. Robicheaux, J. Colgan
Electron-impact ionization of $H_2{}^+$ using a time-dependent close-coupling method.
Nucl. Instrum. Methods Phys. Res. B 38, L285 (2005)

e + $\mathbf{H_2{}^+}$	Ionization	20-160 eV	E/T

1076. D. Payne, B. Krueger, K. Bartschat
Channel coupling and relativistic effects in electron-impact excitation of rubidium.
Nucl. Instrum. Methods Phys. Res. B 38, 3349 (2005)

e + Rb	Angular Scattering	20 eV	Th
e + Rb	Excitation	20 eV	Th

1077. W. E. Guinea, G. F. Hanne, M. R. Went, M. L. Daniell, M. A. Stevenson, K. Bartschat, D. Payne, W. R. MacGillivray, B. Lohmann
Spin asymmetries in elastic and inelastic scattering from rubidium.
Nucl. Instrum. Methods Phys. Res. B 38, 3359 (2005)

e + Rb	Elastic Scattering	15-80 eV	E/T
e + Rb	Angular Scattering	15-80 eV	E/T
e + Rb	Excitation	15-80 eV	E/T

1078. I. Iga, I. P. Sanches, P. Rawat, M.G.P. Homem, M.-T. Lee
Experimental study on electron-hexafluoroethane (C_2F_6) collisions in the low- and intermediate-energy ranges.
Nucl. Instrum. Methods Phys. Res. B 38, 3477 (2005)

e + $\mathbf{C_2F_6}$	Dissociation	30-1000 eV	Exp
e + $\mathbf{C_2F_6}$	Elastic Scattering	30-1000 eV	Exp
e + $\mathbf{C_2F_6}$	Angular Scattering	30-1000 eV	Exp
e + $\mathbf{C_2F_6}$	Ionization	30-1000 eV	Exp

1079. B. Predojevic, D. Sevic, V. Pejcev, B. P. Marinkovic, D. M. Filipovic
Electron scattering by ytterbium: II. Excitation of the $4f^{14}(6s6p\ ^3P_1$, 5d6s $^1D_2$ and 6s7p $^1P_1)$ and $4f^{13}5d6s^2$ (7/2, 5/2)$_1$ states.
Nucl. Instrum. Methods Phys. Res. B 38, 3489 (2005)

e + Yb	Angular Scattering	10-40 eV	Exp
e + Yb	Excitation	10-40 eV	Exp

1080. M. Lukomski, J. A. MacAskill, D. P. Seccombe, C. McGrath, S. Sutton, J. Teeuwen, W. Kedzierski, T. J. Reddish, J. W. McConkey
New measurements of absolute total cross sections for electron impact on caesium using a magneto-optical trap.
Nucl. Instrum. Methods Phys. Res. B 38, 3535 (2005)

e + Cs	Elastic Scattering	5-100 eV	Exp

1081. S. S. Tayal, O. Zatsarinny
B-spline R-matrix with pseudostates approach for electron impact excitation of atomic nitrogen.
Nucl. Instrum. Methods Phys. Res. B 38, 3631 (2005)

e + N	Excitation	2-120 eV	Th

1082. M. Allan
Measurement of the elastic and $\nu = 0$ -¿ 1 differential $electron - N_2$ cross sections over a wide angular range.
Nucl. Instrum. Methods Phys. Res. B 38, 3655 (2005)

e + N_2	Elastic Scattering	0.8-5 eV	Exp
e + N_2	Excitation	0.8-5 eV	Exp

1083. S. Cohen, S. I. Themelis
Construction of RKR-QDT atomic model potentials for the calculation of Lithium polarizabilities and hyper-polarizabilities.
Nucl. Instrum. Methods Phys. Res. B 38, 3705 (2005)

e + Li	Excitation		Th

1084. M.-T. Lee, L. E. Machado, L. M. Brescansin, I. Iga
A theoretical study on elastic $electron - CH_x$ (x=1,2,3,4) collisions in the low-energy range.
Nucl. Instrum. Methods Phys. Res. B 38, 3795 (2005)

e + CH	Elastic Scattering	0.1-20 eV	Th
e + CH_2	Elastic Scattering	0.1-20 eV	Th
e + CH_3	Elastic Scattering	0.1-20 eV	Th
e + CH_4	Elastic Scattering	0.1-20 eV	Th
e + CH	Angular Scattering	0.1-20 eV	Th
e + CH_2	Angular Scattering	0.1-20 eV	Th
e + CH_3	Angular Scattering	0.1-20 eV	Th
e + CH_4	Angular Scattering	0.1-20 eV	Th

1085. Y.-L. Peng, X.-Y. Han, M.-S. Wang, J.-M. Li
A theoretical study of dielectronic recombination processes of C^{2+} ions in planetary nebulae.
Nucl. Instrum. Methods Phys. Res. B 38, 3825 (2005)

e + C^{2+}	Recombination	0-100,000 K	Th

1086. S. Kaur, K. L. Baluja
Electron-impact study of formaldehyde using the R-matrix method.
Nucl. Instrum. Methods Phys. Res. B 38, 3917 (2005)

e + CH_2O	Elastic Scattering	0.008-20 eV	Th
e + CH_2O	Angular Scattering	0.008-20 eV	Th
e + CH_2O	Total Scattering	0.008-20 eV	Th

1087. M. Gaupta, K. L. Baluja
Electron collisions with an ozone molecule using the R-matrix method.
Nucl. Instrum. Methods Phys. Res. B 38, 4057 (2005)

e + O_3	Elastic Scattering	0-15 eV	Th
e + O_3	Angular Scattering	0-15 eV	Th
e + O_3	Total Scattering	0-15 eV	Th
e + O_3	Excitation	0-15 eV	Th

1088. D. O. Brown, A. Crowe, D. V. Fursa, I. Bray, K. Bartschat
Electron scattering from magnesium at an incident energy of 20 eV.
Nucl. Instrum. Methods Phys. Res. B 38, 4123 (2005)

e + Mg	Angular Scattering	20 eV	Exp
e + Mg	Excitation	20 eV	Exp

1089. Z. Chen, D. H. Madison
Second-order distorted wave calculation for electron-impact ionization of helium to He^+ (n=1 and 2).
Nucl. Instrum. Methods Phys. Res. B 38, 4195 (2005)

e + He	Excitation	200-570 eV	E/T
e + He	Ionization	200-570 eV	E/T

1090. R. F. da Costa, F. J. da Paixao, M.A.P. Lima
Cross sections for electron-impact excitation of the H_2 molecule using the MOB-SCI strategy.
Nucl. Instrum. Methods Phys. Res. B 38, 4363 (2005)

e + H_2	Angular Scattering	12-30 eV	Th
e + H_2	Excitation	12-30 eV	Th

1091. M. Fogle, N. R. Badnell, P. Glans, S. D. Loch, S. Madzunkov, Sh. A. Abdel-Naby, M. S. Pindzola, R. Schuch
Electron-ion recombination of Be-like C, N, and O.
Nucl. Instrum. Methods Phys. Res. B 442, 757 (2005)

e + C^{2+}	Recombination	$10 - 10^7$ K	E/T
e + N^{3+}	Recombination	$10 - 10^7$ K	E/T
e + O^{4+}	Recombination	$10 - 10^7$ K	E/T

1092. E. Landi, A. K. Bhatia
Atomic data and spectral line intensities for Ca XIII.
Nucl. Instrum. Methods Phys. Res. B 444, 305 (2005)

e + Ca^{12+}	Excitation	40-200 Ry	Th

1093. M. C. Witthoeft, N. R. Badnell, G. Del Zanna, K. A. Berrington, J. C. Pelan
Atomic data from the IRON project. LX. Electron-impact excitation of n = 3, 4 levels of Fe^{17+}.
Nucl. Instrum. Methods Phys. Res. B 446, 361 (2006)

e + Fe^{17+}	Excitation	0-20 Ry	Th

1094. B. M. McLaughlin, A. Hibbert, M. P. Scott, C. J. Noble, V. M. Burke, P. G. Burke
Electron collisions with Fe-peak elements: Fe IV. I. Forbidden transitions: $3d^5$ - $3d^44s$ and $3d^5$ - $3d^44p$ manifolds.
Nucl. Instrum. Methods Phys. Res. B 446, 1185 (2006)

e + Fe^{3+}	Excitation	3.3-6.0 log $T_e(k)$	Th

1095. O. Zatsarinny, T. W. Gorczyca, J. Fu, K. T. Korista, N. R. Badnell, D. W. Savin
Dielectronic recombination data for dynamic finite-density plasmas. IX. The fluorine isoelectronic sequence.
Nucl. Instrum. Methods Phys. Res. B 447, 379 (2006)

e + Ne^{+}	Recombination	$0 - 10^5$ eV	Th
e + Na^{2+}	Recombination	$0 - 10^5$ eV	Th
e + Mg^{3+}	Recombination	$0 - 10^5$ eV	Th
e + Al^{4+}	Recombination	$0 - 10^5$ eV	Th
e + Si^{5+}	Recombination	$0 - 10^5$ eV	Th
e + P^{6+}	Recombination	$0 - 10^5$ eV	Th
e + S^{7+}	Recombination	$0 - 10^5$ eV	Th
e + Cl^{8+}	Recombination	$0 - 10^5$ eV	Th
e + Ar^{9+}	Recombination	$0 - 10^5$ eV	Th
e + K^{10+}	Recombination	$0 - 10^5$ eV	Th
e + Ca^{11+}	Recombination	$0 - 10^5$ eV	Th
e + Sc^{12+}	Recombination	$0 - 10^5$ eV	Th
e + Ti^{13+}	Recombination	$0 - 10^5$ eV	Th
e + V^{14+}	Recombination	$0 - 10^5$ eV	Th
e + Cr^{15+}	Recombination	$0 - 10^5$ eV	Th
e + Mn^{16+}	Recombination	$0 - 10^5$ eV	Th
e + Fe^{17+}	Recombination	$0 - 10^5$ eV	Th
e + Co^{18+}	Recombination	$0 - 10^5$ eV	Th
e + Ni^{19+}	Recombination	$0 - 10^5$ eV	Th
e + Cu^{20+}	Recombination	$0 - 10^5$ eV	Th
e + Zn^{21+}	Recombination	$0 - 10^5$ eV	Th
e + Kr^{27+}	Recombination	$0 - 10^5$ eV	Th
e + Mo^{33+}	Recombination	$0 - 10^5$ eV	Th
e + Xe^{45+}	Recombination	$0 - 10^5$ eV	Th

1096. N. R. Badnell
Dielectronic recombination data for dynamic finite-density plasmas. X. The hydrogen isoelectronic sequence.
Nucl. Instrum. Methods Phys. Res. B 447, 389 (2006)

e + He^{+}	Recombination	$0 - 10^5$ eV	Th
e + Li^{2+}	Recombination	$0 - 10^5$ eV	Th
e + Be^{3+}	Recombination	$0 - 10^5$ eV	Th
e + B^{4+}	Recombination	$0 - 10^5$ eV	Th
e + C^{5+}	Recombination	$0 - 10^5$ eV	Th
e + N^{6+}	Recombination	$0 - 10^5$ eV	Th
e + O^{7+}	Recombination	$0 - 10^5$ eV	Th
e + F^{8+}	Recombination	$0 - 10^5$ eV	Th
e + Ne^{9+}	Recombination	$0 - 10^5$ eV	Th
e + Na^{10+}	Recombination	$0 - 10^5$ eV	Th
e + Mg^{11+}	Recombination	$0 - 10^5$ eV	Th
e + Al^{12+}	Recombination	$0 - 10^5$ eV	Th
e + Si^{13+}	Recombination	$0 - 10^5$ eV	Th
e + P^{14+}	Recombination	$0 - 10^5$ eV	Th
e + S^{15+}	Recombination	$0 - 10^5$ eV	Th
e + Cl^{16+}	Recombination	$0 - 10^5$ eV	Th
e + Ar^{17+}	Recombination	$0 - 10^5$ eV	Th
e + K^{18+}	Recombination	$0 - 10^5$ eV	Th
e + Ca^{19+}	Recombination	$0 - 10^5$ eV	Th
e + Sc^{20+}	Recombination	$0 - 10^5$ eV	Th
e + Ti^{21+}	Recombination	$0 - 10^5$ eV	Th
e + V^{22+}	Recombination	$0 - 10^5$ eV	Th
e + Cr^{23+}	Recombination	$0 - 10^5$ eV	Th
e + Mn^{24+}	Recombination	$0 - 10^5$ eV	Th
e + Fe^{25+}	Recombination	$0 - 10^5$ eV	Th
e + Co^{26+}	Recombination	$0 - 10^5$ eV	Th
e + Ni^{27+}	Recombination	$0 - 10^5$ eV	Th

e + Cu^{28+}	Recombination	$0 - 10^5$ eV	Th
e + Zn^{29+}	Recombination	$0 - 10^5$ eV	Th
e + Kr^{35+}	Recombination	$0 - 10^5$ eV	Th
e + Mo^{41+}	Recombination	$0 - 10^5$ eV	Th
e + Xe^{53+}	Recombination	$0 - 10^5$ eV	Th

1097. C. E. Hudson, K. L. Bell
Fine structure effective collision strengths for the electron impact excitation of S V.
Nucl. Instrum. Methods Phys. Res. B 452, 1113 (2006)

e + S^{4+}	Excitation	4.0-6.0 log T(k)	Th

1098. E. Landi, M. F. Gu
Atomic data for high-energy configurations in Fe XVII-XXIII.
Nucl. Instrum. Methods Phys. Res. B 640, 1171 (2006)

e + Fe^{16+}	Excitation	1-100 Ry	Th
e + Fe^{17+}	Excitation	1-100 Ry	Th
e + Fe^{18+}	Excitation	1-100 Ry	Th
e + Fe^{19+}	Excitation	1-100 Ry	Th
e + Fe^{20+}	Excitation	1-100 Ry	Th
e + Fe^{21+}	Excitation	1-100 Ry	Th
e + Fe^{22+}	Excitation	1-100 Ry	Th

1099. D. W. Savin, G. Gwinner, M. Grieser, R. Repnow, M. Schnell, D. Schwalm, A. Wolf, S.-G. Zhou, S. Kieslich, A. Mueller, S. Schippers, J. P. Colgan, S. D. Loch, N. R. Badnell, M. H. Chen, M. F. Gu
Dielectronic recombination of Fe XXIII forming Fe XXII: Laboratory measurements and theoretical calculations.
Nucl. Instrum. Methods Phys. Res. B 642, 1275 (2006)

e + Fe^{22+}	Recombination	0.0-100.0 eV	E/T

1100. S. Telega, F. A. Gianturco
Vibrational inelastic $electron - H_2$ **scattering revisited: Numerically converged coupled channels space frame calculations with model interactions.**
Nucl. Instrum. Methods Phys. Res. B 36, 271 (2005)

e + H_2	Excitation	0-6 eV	Th

1101. L. K. Jha, B. N. Roy
Electron impact double ionization of Fe^+ **and** Fe^{3+}**.**
Nucl. Instrum. Methods Phys. Res. B 37, 51 (2006)

e + Fe^{+}	Ionization	50-1000 eV	Th
e + Fe^{3+}	Ionization	50-1000 eV	Th

1102. M. Vinodkumar, K. N. Joshipura, C. G. Limbachiya, B. K. Antony
Electron impact total and ionization cross-sections for some hydrocarbon molecules and radicals.
Nucl. Instrum. Methods Phys. Res. B 37, 67 (2006)

e + CH_4	Excitation	0-2000 eV	Th
e + CH_4	Ionization	0-2000 eV	Th

1103. J. Gao, D. H. Madison, J. L. Peacher
Distorted wave Born and three-body distorted wave Born approximation calculations of the fully differential cross section for electron-impact ionization of nitrogen molecules.
Nucl. Instrum. Methods Phys. Res. B 123, 204314 (2005)

e + N_2	Ionization	35.6-400 eV	Th

1104. J. Gao, D. H. Madison, J. L. Peacher, A. J. Murray, M. J. Hussey
Experimental and theoretical (e,2e) ionization cross sections for a hydrogen target at 75.3 eV incident energy in a coplanar asymmetric geometry.
Nucl. Instrum. Methods Phys. Res. B 124, 194306 (2006)

e + H_2	Ionization	10-60 eV	E/T

1105. S. Tsuge, A. Shimano, Y. Tohyama, E. Kayama, S. Obara, T. Nagata
Absolute total (counting) and charge-separated partial cross-sections for electron impact ionization of La, Pr, Ho, Tm, and Lu atoms.
Nucl. Instrum. Methods Phys. Res. B 74, 3193 (2005)

e + La	Excitation	0-900 eV	Exp
e + Pr	Excitation	0-900 eV	Exp
e + Ho	Excitation	0-900 eV	Exp
e + Tm	Excitation	0-900 eV	Exp
e + Lu	Excitation	0-900 eV	Exp
e + La	Ionization	0-900 eV	Exp
e + Pr	Ionization	0-900 eV	Exp
e + Ho	Ionization	0-900 eV	Exp
e + Tm	Ionization	0-900 eV	Exp
e + Lu	Ionization	0-900 eV	Exp

1106. C. A. Quarles, S. Portillo
Review of bremsstrahlung experiments with free gas atom targets.
Nucl. Instrum. Methods Phys. Res. B 241, 14 (2005)

e + Ne	Bremsstrahlung	28-50 keV	Exp
e + Ar	Bremsstrahlung	28-50 keV	Exp
e + Kr	Bremsstrahlung	28-50 keV	Exp
e + Xe	Bremsstrahlung	28-50 keV	Exp

1107. R. D. DuBois, A.C.S. Santos, M. A. Thomason, J. Gavin
Doubly and triply differential ionization studies using positrons and electrons.
Nucl. Instrum. Methods Phys. Res. B 241, 19 (2005)

e + Ar	Angular Scattering	750 eV	Exp
e + Kr	Angular Scattering	750 eV	Exp
e + Ar	Ionization	750 eV	Exp
e + Kr	Ionization	750 eV	Exp

1108. S. Jones, D. H. Madison, J. H. Macek
Single and double ionization of helium by the impact of fast charged particles.
Nucl. Instrum. Methods Phys. Res. B 241, 73 (2005)

e + He	Angular Scattering	6 keV; 100 MeV/amu	Th
e + He	Ionization	6 keV; 100 MeV/amu	Th

1109. S. J. Buckman, J. P. Sullivan
Benchmark measurements and theory for electron(positron)-molecule(atom) scattering.
Nucl. Instrum. Methods Phys. Res. B 247, 5 (2006)

e + He	Elastic Scattering	1.5-20 eV	E/T
e + $\mathbf{N_2}$	Elastic Scattering	1.5-20 eV	E/T
e + $\mathbf{N_2O}$	Elastic Scattering	1.5-20 eV	E/T
e + He	Angular Scattering	1.5-20 eV	E/T
e + $\mathbf{N_2}$	Angular Scattering	1.5-20 eV	E/T
e + $\mathbf{N_2O}$	Angular Scattering	1.5-20 eV	E/T
e + Ne	Excitation	1.5-20 eV	E/T
e + $\mathbf{N_2}$	Excitation	1.5-20 eV	E/T

1110. F. Arretche, R. F. da Costa, S. d'A. Sanchez, A.N.S. Hisi, E. M. de Oliveira, M. T. do N Varella, M.A.P. Lima
Similarities and differences in $e^{\pm}-molecule$ **scattering: Applications of the Schwinger multichannel method.**
Nucl. Instrum. Methods Phys. Res. B 247, 13 (2006)

e + $\mathbf{H_2}$	Elastic Scattering	0.1-20 eV	Th
e + $\mathbf{H_2}$	Angular Scattering	0.1-20 eV	Th
e + $\mathbf{N_2}$	Angular Scattering	0.1-20 eV	Th
e + $\mathbf{H_2}$	Excitation	0.1-20 eV	Th
e + $\mathbf{N_2}$	Excitation	0.1-20 eV	Th

1111. Z. An, Y. Wu, M. T. Liu, Y. M. Duan, C. H. Tang
Thick-target method in the measurement of inner-shell ionization cross-sections by low-energy electron impact.
Nucl. Instrum. Methods Phys. Res. B 246, 281 (2006)

e + Ti	Ionization	10-120 keV	Exp
e + Ni	Ionization	10-120 keV	Exp
e + Cu	Ionization	10-120 keV	Exp
e + Ag	Ionization	10-120 keV	Exp
e + Au	Ionization	10-120 keV	Exp

1112. S. Mondal, R. Shanker
Total ionization cross-sections of CH_4 **and** C_3H_8 **molecules for impact of 10-28 keV electrons.**
Nucl. Instrum. Methods Phys. Res. B 246, 297 (2006)

e + $\mathbf{CH_4}$	Ionization	10-28 keV	Exp
e + $\mathbf{C_3H_8}$	Ionization	10-28 keV	Exp

1113. M. A. Uddin, A.K.F. Haque, K. R. Karim, A. K. Basak
Empirical model for the ionization cross sections of H- and He-like ions.
Nucl. Instrum. Methods Phys. Res. B 72, 389 (2005)

e + $\mathbf{B^{4+}}$	Ionization	$10-10^4$ eV	Th
e + $\mathbf{C^{4+}}$	Ionization	$10-10^4$ eV	Th
e + $\mathbf{N^{6+}}$	Ionization	$10-10^4$ eV	Th
e + $\mathbf{O^{7+}}$	Ionization	$10-10^4$ eV	Th
e + $\mathbf{Ne^{8+}}$	Ionization	$10-10^4$ eV	Th
e + $\mathbf{Mo^{41+}}$	Ionization	$10-10^4$ eV	Th
e + $\mathbf{Dy^{65+}}$	Ionization	$10-10^4$ eV	Th
e + $\mathbf{Au^{78+}}$	Ionization	$10-10^4$ eV	Th
e + $\mathbf{Bi^{82+}}$	Ionization	$10-10^4$ eV	Th
e + $\mathbf{U^{90+}}$	Ionization	$10-10^4$ eV	Th
e + $\mathbf{U^{91+}}$	Ionization	$10-10^4$ eV	Th

1114. U. I. Safronova, Yu. Ralchenko, I. Murakami, T. Kato, D. Kato
Atomic data for dielectronic recombination into C-like oxygen.
Nucl. Instrum. Methods Phys. Res. B 73, 143 (2006)

e + O^{6+}	Recombination	0.1-1260 eV	Th

1115. M. A. Khakoo, M.A.P. Lima, J. Tennyson
Advances and challenges in electron-molecule scattering physics – A report of the 14th International Symposium on Electron-Molecule Collisions and Swarms.
Nucl. Instrum. Methods Phys. Res. B 74, C7 (2006)

e + N_2	Elastic Scattering	0-6 eV	E/T
e + CF_4	Elastic Scattering	0-6 eV	E/T
e + N_2	Angular Scattering	0-6 eV	E/T
e + CF_4	Angular Scattering	0-6 eV	E/T
e + N_2	Excitation	0-6 eV	E/T
e + CF_4	Excitation	0-6 eV	E/T
e + N_2	Electron Collisions	0-6 eV	E/T
e + CF_4	Electron Collisions	0-6 eV	E/T

1116. S. Bellm, J. Lower, K. Bartschat
Electron-impact ionization and excitation of helium to the n = 1-4 ionic states.
Nucl. Instrum. Methods Phys. Res. B 96, 223201 (2006)

e + He	Excitation	112-319 eV	E/T
e + He	Ionization	112-319 eV	E/T

1117. D. S. Milne-Brownlie, M. Foster, J. Gao, B. Lohmann, D. H. Madison
Young-type interference in (e,2e) ionization of H_2.
Nucl. Instrum. Methods Phys. Res. B 96, 233201 (2006)

e + H_2	Dissociation	250 eV	E/T
e + H_2	Angular Scattering	250 eV	E/T
e + H_2	Ionization	250 eV	E/T

1118. H. Chen, M. F. Gu, P. Beiersdorfer, K. R. Boyce, G. V. Brown, S. M. Kahn, R. L. Kelley, C. A. Kilbourne, F. S. Porter, J. H. Scofield
Electron impact excitation cross section measurement for n = 3 to n = 2 line emission in Fe^{17+} to Fe^{23+}.
Nucl. Instrum. Methods Phys. Res. B 646, 653 (2006)

e + Fe^{17+}	Excitation	0-3.0 keV	E/T
e + Fe^{18+}	Excitation	0-3.0 keV	E/T
e + Fe^{19+}	Excitation	0-3.0 keV	E/T
e + Fe^{20+}	Excitation	0-3.0 keV	E/T
e + Fe^{21+}	Excitation	0-3.0 keV	E/T
e + Fe^{22+}	Excitation	0-3.0 keV	E/T
e + Fe^{23+}	Excitation	0-3.0 keV	E/T

3.2.3 Heavy Particles Collisions

1119. S. Hossain, A. L. Landers, N. Stolterfoht, J. A. Tanis
Interference phenomena associated with electron-emission from H_2 by (1-5)-MeV H^+ impact.
Nucl. Instrum. Methods Phys. Res. B 72, 010701 (2005)

H^+ + H_2	Ionization	1-5 MeV	Exp

1120. T. Kirchner, A.C.F. Santos, H. Luna, M. M. Sant'Anna, W. S. Melo, G. M. Sigaud, E. C. Montenegro
Charge-state-correlated cross sections for electron loss, capture, and ionization in C^{3+} -Ne collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 012707 (2005)

C^{3+} + Ne	Charge Transfer	1-5 MeV	E/T
C^{3+} + Ne	Ionization	1-5 MeV	E/T

1121. J. C. Holtgrave, P. J. Wolf
Pressure broadening and line shifting of atomic strontium $5s^2$ $^1S_0$ -¿ 5s5p $^3P_1$ and 5s5p $^3P_{0,1,2}$ -¿ 5s6s $^3S_1$ absorption transitions induced by noble-gas collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 012711 (2005)

Sr + He	Line Broadening	660-1390 K	Exp
Sr + Ne	Line Broadening	660-1390 K	Exp
Sr + Ar	Line Broadening	660-1390 K	Exp
Sr + Kr	Line Broadening	660-1390 K	Exp
Sr + Xe	Line Broadening	660-1390 K	Exp
Sr + He	Interaction Potentials	660-1390 K	Exp
Sr + Ne	Interaction Potentials	660-1390 K	Exp
Sr + Ar	Interaction Potentials	660-1390 K	Exp
Sr + Kr	Interaction Potentials	660-1390 K	Exp
Sr + Xe	Interaction Potentials	660-1390 K	Exp

1122. H. T. Schmidt, J. Jensen, P. Reinhed, R. Schuch, K. Stochkel, H. Zettergren, H. Cederquist, L. Bagge, H. Danared, A. Kaellberg, H. Schmidt-Boecking, C. L. Cocke
Recoil-ion momentum distributions for transfer ionization in fast proton-He collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 012713 (2005)

H$^+$ + He	Charge Transfer	1.4-5.8 MeV	E/T
H$^+$ + He	Ionization	1.4-5.8 MeV	E/T

1123. C.-N. Liu, S.-C. Cheng, A.-T. Le, C. D. Lin
Charge transfer in slow collisions of C^{6+} with H below 1 keV/amu.
Nucl. Instrum. Methods Phys. Res. B 72, 012717 (2005)

C^{6+} + H	Charge Transfer	1-1000 eV	Th

1124. Y. Ning, B. He, C. L. Liu, J. Yan, J. G. Wang
Importance of the electron capture to the continuum mechanism in heavy-particle collisions of He^{2+} with $C^{5+}(1s)$.
Nucl. Instrum. Methods Phys. Res. B 72, 022702 (2005)

He^{2+} + C^{5+}	Charge Transfer	30-10,000 keV/u	Th
He^{2+} + C^{5+}	Ionization	30-10,000 keV/u	Th

1125. S. C. Cheng, B. D. Esry
Lattice approach for alpha + H^{2+} collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 022704 (2005)

He^{2+} + H$_2$$^+$	Charge Transfer	6 keV/u	Th

1126. D. J. Haxton, T. N. Rescigno, C. W. McCurdy
Topology of the adiabatic potential energy surfaces for the resonance states of the water anion.
Nucl. Instrum. Methods Phys. Res. B 72, 022705 (2005)

H + OH	Interaction Potentials		Th
O + H + H	Interaction Potentials		Th
O + H_2	Interaction Potentials		Th

1127. E. R. Custidiano, M. M. Jakas
Classical-trajectory Monte Carlo calculations of the electronic stopping cross section for keV protons and antiprotons impinging on hydrogen atoms.
Nucl. Instrum. Methods Phys. Res. B 72, 022708 (2005)

H^+ + H	Charge Transfer	1-1000 eV	Th
H^+ + H	Ionization	1-1000 eV	Th

1128. B. Seredyuk, R. W. McCullough, H. B. Gilbody
One-electron capture mechanisms in collisions of He-like O and C ions with molecules of astrophysical interest.
Nucl. Instrum. Methods Phys. Res. B 72, 022710 (2005)

C^{4+} + CH_4	Charge Transfer	200-1500 eV/u	Exp
O^{6+} + H_2O	Charge Transfer	200-1500 eV/u	Exp
O^{6+} + CH_4	Charge Transfer	200-1500 eV/u	Exp
O^{6+} + CO_2	Charge Transfer	200-1500 eV/u	Exp

1129. Lj. M. Ignjatovic, A. A. Mihajlov
Rate coefficient for the chemi-ionization in slow Li*(n)+Li and Na*(n)+Na collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 022715 (2005)

Li + Li	Association	600-1200 K	Th
Na + Na	Association	600-1200 K	Th
Li + Li	Ionization	600-1200 K	Th
Na + Na	Ionization	600-1200 K	Th

1130. S. Otranto, R. E. Olson
Autoionization of He atoms by partially stripped ion impact.
Nucl. Instrum. Methods Phys. Res. B 72, 022716 (2005)

H^+ + He	Excitation	25 keV/u	Th
He^+ + He	Excitation	25 keV/u	Th
H^+ + He	Ionization	25 keV/u	Th
He^+ + He	Ionization	25 keV/u	Th

1131. D. J. Phalen, M. S. Pindzola, F. Robicheaux
Alignment effects in charge transfer and excitation for H^+ and He^{2+} collisions with ${H_2}^+$.
Nucl. Instrum. Methods Phys. Res. B 72, 022720 (2005)

H^+ + ${H_2}^+$	Charge Transfer	4-25 keV/u	Th
He^{2+} + ${H_2}^+$	Charge Transfer	4-25 keV/u	Th
H^+ + ${H_2}^+$	Excitation	4-25 keV/u	Th
He^{2+} + ${H_2}^+$	Excitation	4-25 keV/u	Th

1132. E. Wells, V. Krishnamurthi, K. D. Carnes, N. G. Johnson, H. D. Baxter, D. Moore, K. M. Bloom, B. M. Barnes, H. Tawara, I. Ben-Itzhak
Proton-carbon monoxide collisions from 10 keV and 14 MeV.
Nucl. Instrum. Methods Phys. Res. B 72, 022726 (2005)

H^+ + CO	Dissociation	10-14,000 keV	Exp
H^+ + CO	Charge Transfer	10-14,000 keV	Exp
H^+ + CO	Ionization	10-14,000 keV	Exp

1133. D. Wang, E. E. Eyler, P. L. Gould, W. C. Stwalley
State-selective detection of near-dissociation ultracold KRb X $^1\Sigma^+$ and α $^3\Sigma^+$ molecules.
Nucl. Instrum. Methods Phys. Res. B 72, 035202 (2005)

K + Rb	Association	Ultracold	Exp
K + Rb	Interaction Potentials	Ultracold	Exp

1134. D. A. Mazziotti
Variational two-electron reduced density matrix theory for many-electron atoms and molecules: Implementation of the spin- and symmetry-adapted T_2 condition through first-order semidefinite programming.
Nucl. Instrum. Methods Phys. Res. B 72, 032510 (2005)

H + F	Interaction Potentials		Th
Be + H_2	Interaction Potentials		Th
B + H	Interaction Potentials		Th
C + H_2	Interaction Potentials		Th
N + N	Interaction Potentials		Th
N + H_3	Interaction Potentials		Th
H_2 + O	Interaction Potentials		Th
CH + H_3	Interaction Potentials		Th

1135. A. Larson, A. E. Orel
Wave-packet study of the products formed in dissociative recombination of HeH^+.
Nucl. Instrum. Methods Phys. Res. B 72, 032701 (2005)

H^+ + He	Interaction Potentials	0-2 eV	Th

1136. X. Chu, A. Dalgarno, G. C. Groenenboom
Polarizabilities of Sc and Ti atoms and dispersion coefficients for their interaction with helium atoms.
Nucl. Instrum. Methods Phys. Res. B 72, 032703 (2005)

Sc + He	Interaction Potentials		Th
Ti + He	Interaction Potentials		Th

1137. F. Mezdari, K. Wohrer-Beroff, M. Chabot, G. Martinet, S. Della Negra, P. Desequelles, H. Hamrita, A. LePadellec
Ionization cross sections of small cationic carbon clusters in high-energy collisions with helium atoms and stability of multiply charged species.
Nucl. Instrum. Methods Phys. Res. B 72, 032707 (2005)

${C_3}^+$ + He	Ionization	v=2.6 a.u.	Exp
${C_5}^+$ + He	Ionization	v=2.6 a.u.	Exp
${C_8}^+$ + He	Ionization	v=2.6 a.u.	Exp
${C_{10}}^+$ + He	Ionization	v=2.6 a.u.	Exp
${C_4}^+$ + He	Ionization	v=2.6 a.u.	Exp
${C_7}^+$ + He	Ionization	v=2.6 a.u.	Exp
${C_9}^+$ + He	Ionization	v=2.6 a.u.	Exp
${C_6}^+$ + He	Ionization	v=2.6 a.u.	Exp

1138. A.L.F. de Barros, S. Martinez, F. Zappa, S. Suarez, G. Bernardi, G. Jalbert, L.F.S. Coelho, N. V. de Castro Faria
H_2 and N_2 ionization and dissociative ionization by C^- and O^- ions at intermediate velocities: Direct and electron loss channels.
Nucl. Instrum. Methods Phys. Res. B 72, 032708 (2005)

$\mathbf{C^- + H_2}$	Dissociation	v=1.07-2.14 a.u.	Exp
$\mathbf{O^- + H_2}$	Dissociation	v=1.07-2.14 a.u.	Exp
$\mathbf{O^- + N_2}$	Dissociation	v=1.07-2.14 a.u.	Exp
$\mathbf{C^- + H_2}$	Ionization	v=1.07-2.14 a.u.	Exp
$\mathbf{O^- + H_2}$	Ionization	v=1.07-2.14 a.u.	Exp
$\mathbf{O^- + N_2}$	Ionization	v=1.07-2.14 a.u.	Exp

1139. L. B. Zhao, P. C. Stancil, J.-P. Gu, G. Hirsch, R. J. Buenker, T. W. Imai, M. Kimura
Charge transfer between S^{2+} and He: A comparative study of quantal and semi-classical approaches.
Nucl. Instrum. Methods Phys. Res. B 72, 032719 (2005)

$\mathbf{S^{2+} + He}$	Charge Transfer	1-10,000 eV	Th
$\mathbf{S^{2+} + He}$	Interaction Potentials	1-10,000 eV	Th

1140. P. Beiersdorfer, M. Bitter, M. Marion, R. E. Olson
Charge-exchange-produced K-shell x-ray emission from Ar^{16+} in a tokamak plasma with neutral-beam injection.
Nucl. Instrum. Methods Phys. Res. B 72, 032725 (2005)

$\mathbf{Ar^{17+} + H}$	Charge Transfer	80 keV	E/T
$\mathbf{Ar^{17+} + D}$	Charge Transfer	80 keV	E/T

1141. O. Abu-Haija, E. Y. Kamber, S. M. Ferguson, N. Stolterfoht
Single-electron capture processes in slow collisions of He^{2+} ions with O_2, NH_3, N_2, and CO_2.
Nucl. Instrum. Methods Phys. Res. B 72, 042701 (2005)

$\mathbf{He^{2+} + CO_2}$	Charge Transfer	25-400 eV/amu	Exp
$\mathbf{He^{2+} + N_2}$	Charge Transfer	25-400 eV/amu	Exp
$\mathbf{He^{2+} + NH_3}$	Charge Transfer	25-400 eV/amu	Exp
$\mathbf{He^{2+} + O_2}$	Charge Transfer	25-400 eV/amu	Exp

1142. T. Stoecklin, A. Voronin
Strong isotope effect in ultracold collision of $N_2{}^+$ (v=1, j=0) with He: A case study of virtual-state scattering.
Nucl. Instrum. Methods Phys. Res. B 72, 042714 (2005)

$\mathbf{N_2{}^+ + He}$	De-excitation	$10^{-6} - 2000\ cm^{-1}$	Th

1143. M. Buser, L. Frommhold
Collision-induced rototranslational absorption in compressed methane gas.
Nucl. Instrum. Methods Phys. Res. B 72, 042715 (2005)

$\mathbf{CH_4 + CH_4}$	Interchange reaction	163-297 K	Th
$\mathbf{CH_4 + CH_4}$	Energy Transfer	163-297 K	Th

1144. K. Stochkel, O. Eidem, H. Cederquist, H. Zettergren, P. Reinhed, R. Schuch, C. L. Cocke, S. B. Levin, V. N. Ostrovsky, A. Kaelberg, A. Simonsson, J. Jensen, H. T. Schmidt
Two-center interference in fast $proton - H_2 - electron$ transfer and excitation processes.
Nucl. Instrum. Methods Phys. Res. B 72, 050703 (2005)

$\mathbf{H^+ + H_2}$	Charge Transfer	1-1.3 MeV	E/T
$\mathbf{H^+ + H_2}$	Excitation	1-1.3 MeV	E/T

1145. F. Fremont, A. Hajaji, C. Leclercq, J. Soret, J. A. Tanis, B. Sulik, J.-Y. Chesnel
Fast oscillating structures in electron spectra following He^{q+} + He collisions (q=1,2) at low projectile energies.
Nucl. Instrum. Methods Phys. Res. B 72, 050704 (2005)

He^{+} + He	Ionization	20-40 keV	Exp
He^{2+} + He	Ionization	20-40 keV	Exp

1146. N. G. Johnson, R. N. Mello, M. E. Lundy, J. Kapplinger, E. Parke, K. D. Carnes, I. Ben-Itzhak, E. Wells
Single ionization of hydrogen molecules by fast protons as a function of the molecular alignment.
Nucl. Instrum. Methods Phys. Res. B 72, 052711 (2005)

H^{+} + H$_{2}$	Ionization	4 MeV	Exp

1147. C. M. Dutta, J. P. Gu, G. Hirsch, R. J. Beunker, P. Nordlander, M. Kimura
Charge-transfer processes in F^{2+} + H -¿ F^{+} + H^{+} collisions and the reverse process at low-keV energies.
Nucl. Instrum. Methods Phys. Res. B 72, 052715 (2005)

F^{2+} + H	Charge Transfer	0.02-10 keV/u	Th
F^{2+} + H	Excitation	0.02-10 keV/u	Th

1148. Y. Kurokawa, H. Nakashima, H. Nakatsuji
Free iterative-complement-interaction calculations of the hydrogen molecule.
Nucl. Instrum. Methods Phys. Res. B 72, 062502 (2005)

H + H	Interaction Potentials	0-4 a.u.	Th

1149. A. Pashov, O. Docenko, M. Tamanis, R. Ferber, H. Knoeckel, E. Tiemann
Potentials for modeling cold collisions between Na (3S) and Rb (5S) atoms.
Nucl. Instrum. Methods Phys. Res. B 72, 062505 (2005)

Na + Rb	Interaction Potentials	2-14 $\AA$	Exp

1150. U. Galster, F. Baumgartner, U. Mueller, H. Helm, M. Jungen
Experimental and quantum-chemical studies on the three-particle fragmentation of neutral triatomic hydrogen.
Nucl. Instrum. Methods Phys. Res. B 72, 062506 (2005)

H + H$_{2}$	Interaction Potentials	2-8 a_0	E/T

1151. M. S. Pindzola, T. G. Lee, T. Minami, D. R. Schultz
Excitation and charge transfer in p+H(2s) collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 062703 (2005)

H^{+} + H	Charge Transfer	1-100 keV	Th
H^{+} + H	Excitation	1-100 keV	Th

1152. M. Kavcic, K. Toekesi
Double 1s shell ionization of Si induced in collisions with 1-3-MeV protons.
Nucl. Instrum. Methods Phys. Res. B 72, 062704 (2005)

H^{+} + Si	Ionization	1-3 MeV	Exp

1153. A. B. Voitkiv
Eikonal model for projectile-electron excitation and loss in relativistic collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 062705 (2005)

O^{7+} + He	Excitation	0.1-100 GeV/u	Th
Kr^{35+} + H	Excitation	0.1-100 GeV/u	Th
O^{7+} + He	Ionization	0.1-100 GeV/u	Th
Kr^{35+} + H	Ionization	0.1-100 GeV/u	Th

1154. M. Foster, J. L. Peacher, M. Schulz, A. Hasan, D. H. Madison
Precollision and postcollision electron-electron correlation effects for intermediate-energy proton-impact ionization of helium.
Nucl. Instrum. Methods Phys. Res. B 72, 062708 (2005)

H^{+} + He	Total Scattering	75 keV	Th
H^{+} + He	Ionization	75 keV	Th

1155. T. Ferger, D. Fischer, M. Schulz, R. Moshammer, A. B. Voitkiv, B. Najjari, J. Ullrich
Mutual ionization in 200-keV H^- + He collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 062709 (2005)

H^{-} + He	Detachment	200 keV	Exp
H^{-} + He	Ionization	200 keV	Exp

1156. D. Ohsawa, Y. Sato, Y. Okada, V. P. Shevelko, F. Soga
6.0-10.0-MeV/u $He^{2+} - ion - induced$ electron emission from water vapor.
Nucl. Instrum. Methods Phys. Res. B 72, 062710 (2005)

He^{2+} + H_2O	Ionization	6-10 MeV/u	Exp

1157. R. T. Pedlow, S.F.C. O'Rourke, D.S.F. Crothers
Fully differential cross sections for 3.6 MeV u^{-1} $Au^{Zp+} + He$ collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 062719 (2005)

Au^{24+} + He	Total Scattering	3.6 MeV/u	Th
Au^{53+} + He	Total Scattering	3.6 MeV/u	Th
Au^{24+} + He	Ionization	3.6 MeV/u	Th
Au^{53+} + He	Ionization	3.6 MeV/u	Th

1158. S. Martinez, G. Bernardi, P. Focke, D. Fregenal, S. Suarez
Orientation effects in H_2 dissociation by He^{2+} impact at vp=1 and 2 a.u.
Nucl. Instrum. Methods Phys. Res. B 72, 062722 (2005)

He^{2+} + H_2	Dissociation	1-2 a.u.	Exp
He^{2+} + H_2	Total Scattering	1-2 a.u.	Exp

1159. H. Brauning, R. Trassl, A. Theiss, A. Diehl, E. Salzborn, M. Keim, A. Achenbach, H. J. Luedde, T. Kirchner
Charge transfer in Li^{2+} + He^{2+} and Li^{2+} + Li^{3+} collisions.
Nucl. Instrum. Methods Phys. Res. B 38, 2311 (2005)

Li^{2+} + He^{2+}	Charge Transfer	6-148 keV	Exp
Li^{2+} + Li^{3+}	Charge Transfer	6-148 keV	Exp

1160. S. Legendre, E. Giglio, M. Tarisien, A. Cassimi, B. Gervais, L. Adoui
Isotopic effects in water dication fragmentation.
Nucl. Instrum. Methods Phys. Res. B 38, L233 (2005)

Ni^{25+} + H_2O	Dissociation	11.7 MeV	E/T
Ni^{25+} + HDO	Dissociation	11.7 MeV	E/T
Ni^{25+} + H_2O	Charge Transfer	11.7 MeV	E/T
Ni^{25+} + HDO	Charge Transfer	11.7 MeV	E/T
Ni^{25+} + H_2O	Ionization	11.7 MeV	E/T
Ni^{25+} + HDO	Ionization	11.7 MeV	E/T

1161. M. Zapukhlyak, T. Kirschner, H. J. Luedde, S. Knoop, R. Morgenstern, R. Hoekstra
Inner- and outer-shell electron dynamics in proton collisions with sodium atoms.
Nucl. Instrum. Methods Phys. Res. B 38, 2353 (2005)

$\mathbf{H^+ + Na}$	Charge Transfer	2-100 keV	E/T
$\mathbf{H^+ + Na}$	Excitation	2-100 keV	E/T
$\mathbf{H^+ + Na}$	Ionization	2-100 keV	E/T

1162. P. Sobocinski, Z. D. Pesic, R. Hellhammer, N. Stolterfoht, B. Sulik, S. Legendre, J.-Y. Chesnel
Fragmentation of water molecules in slow $He^{2+} + H_2O$ collisions.
Nucl. Instrum. Methods Phys. Res. B 38, 2495 (2005)

$\mathbf{He^{2+} + H_2O}$	Dissociation	1-5 keV	Th

1163. A. Burgess, J. A. Tully
On proton excitation of forbidden lines in positive ions.
Nucl. Instrum. Methods Phys. Res. B 38, 2629 (2005)

$\mathbf{H^+ + S^{3+}}$	Excitation	100-40,000 eV	Th
$\mathbf{H^+ + Ar^{13+}}$	Excitation	100-40,000 eV	Th
$\mathbf{H^+ + Fe^{13+}}$	Excitation	100-40,000 eV	Th

1164. V. P. Shevelko, H. Tawara, O. V. Ivanov, T. Miyoshi, K. Noda, Y. Sato, A. V. Subbotin, I. Yu. Tolstikhina
Target density effects in collisions of fast ions with solid targets.
Nucl. Instrum. Methods Phys. Res. B 38, 2675 (2005)

$\mathbf{C^{4+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{C^{5+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{C^{6+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Ne^{8+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Ne^{9+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Ne^{10+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Mg^{10+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Mg^{11+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Mg^{12+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Si^{12+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Si^{13+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Si^{14+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Cl^{4+} + H_2}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Ar^{13+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Ar^{14+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Ar^{15+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Ar^{16+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Ar^{17+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Ar^{18+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Fe^{19+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Fe^{20+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Fe^{21+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Fe^{22+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Fe^{23+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Fe^{24+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Fe^{25+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{Fe^{26+} + C}$	Charge Transfer	100-40,000 keV/u	E/T
$\mathbf{C^{4+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{C^{5+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{C^{6+} + C}$	Ionization	100-40,000 keV/u	E/T

$\mathbf{Ne^{8+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Ne^{9+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Ne^{10+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Mg^{10+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Mg^{11+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Mg^{12+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Si^{12+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Si^{13+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Si^{14+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Ar^{13+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Ar^{14+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Ar^{15+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Ar^{16+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Ar^{17+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Ar^{18+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Fe^{19+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Fe^{20+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Fe^{21+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Fe^{22+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Fe^{23+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Fe^{24+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Fe^{25+} + C}$	Ionization	100-40,000 keV/u	E/T
$\mathbf{Fe^{26+} + C}$	Ionization	100-40,000 keV/u	E/T

1165. A. Surzhykov, S. Fritzsche
Electron angular and energy distributions following the ionization of highly charged proejctile ions.
Nucl. Instrum. Methods Phys. Res. B 38, 2711 (2005)

$\mathbf{U^{91+} + H^+}$	Ionization	1 GeV/u	Th

1166. V. D. Rodriguez, P. Macri, R. Gayet
$H_2{}^+$ **ionization by ultra-short electromagnetic pulses investigated through a non-perturbative Coulomb-Volkov approach.**
Nucl. Instrum. Methods Phys. Res. B 38, 2775 (2005)

$\mathbf{U^{92+} + H_2{}^+}$	Ionization	1 GeV/u	Th

1167. T. J. McCarthy, D. E. Murnick, M. Salvermoser, A. Ulrich
Non-thermal Doppler-broadened $Lyman-\alpha$ **line shape in resonant dissociation fo** H_2**.**
Nucl. Instrum. Methods Phys. Res. B 38, 3043 (2005)

$\mathbf{Ne_2 + H_2}$	Line Broadening	300 K	Exp
$\mathbf{Ne_2{}^* + H_2}$	Line Broadening	300 K	Exp
$\mathbf{Ne_2 + H_2}$	Dissociation	300 K	Exp
$\mathbf{Ne_2{}^* + H_2}$	Dissociation	300 K	Exp
$\mathbf{Ne_2 + H_2}$	Energy Transfer	300 K	Exp
$\mathbf{Ne_2{}^* + H_2}$	Energy Transfer	300 K	Exp
$\mathbf{Ne_2 + H_2}$	Excitation	300 K	Exp
$\mathbf{Ne_2{}^* + H_2}$	Excitation	300 K	Exp

1168. S. Knoop, M. Keim, H. J. Luedde, T. Kirchner, R. Morgenstern, R. Hoekstra
State selective single-electron capture in O^{6+} **+ Na collisions.**
Nucl. Instrum. Methods Phys. Res. B 38, 3163 (2005)

$\mathbf{O^{6+} + Na}$	Charge Transfer	1-9 keV/u	E/T
$\mathbf{O^{6+} + Na}$	Ionization	1-9 keV/u	E/T

1169. C. Dimopoulou, M. E. Galassi, R. Moshammer, R. D. Rivarola, D. Fischer, C. Hoehr, J. Ullrich
Electron emission from fragmentation of CO_2 by fast proton impact.
Nucl. Instrum. Methods Phys. Res. B 38, 3173 (2005)

$\mathbf{H^+ + CO_2}$	Dissociation	6 MeV	E/T
$\mathbf{H^+ + CO_2}$	Ionization	6 MeV	E/T

1170. D. Rabli, R. McCarroll
Completeness of an adiabatic expansion using reaction coordinates to describe rearrangement processes in ion-atom collisions: Application to the C^{4+} + H system.
Nucl. Instrum. Methods Phys. Res. B 38, 3311 (2005)

$\mathbf{C^{4+} + H}$	Charge Transfer	3-11 a.u.	Th
$\mathbf{C^{4+} + H}$	Interaction Potentials	3-11 a.u.	Th

1171. K. Motohashi, T. Takahashi, N. Takahashi, S. Tsurubuchi
Emission cross sections in low-energy collisions between He^+, Ne^+ ions and CF_4 molecule.
Nucl. Instrum. Methods Phys. Res. B 38, 3339 (2005)

$\mathbf{He^+ + CF_4}$	Fluorescence	1-5000 eV	Exp
$\mathbf{Ne^+ + CF_4}$	Fluorescence	1-5000 eV	Exp

1172. S. Ben Yaghlane, S. Lahmar, Z. Ben Lakhdar, M. Hochlaf
Stable and metastable states of SN^-.
Nucl. Instrum. Methods Phys. Res. B 38, 3395 (2005)

$\mathbf{S^- + N}$	Interaction Potentials	2-6 bohr	Th
$\mathbf{S + N^-}$	Interaction Potentials	2-6 bohr	Th

1173. A. B. Voitkiv, B. Najjari
Two-centre dielectronic transitions in fast highly charged ion-atom collisions.
Nucl. Instrum. Methods Phys. Res. B 38, 3587 (2005)

$\mathbf{C^{5+} + He}$	Total Scattering	3.5-75 MeV	Th
$\mathbf{O^{7+} + He}$	Total Scattering	3.5-75 MeV	Th
$\mathbf{C^{5+} + He}$	Ionization	3.5-75 MeV	Th
$\mathbf{O^{7+} + He}$	Ionization	3.5-75 MeV	Th

1174. M. Keim, A. Werner, D. Hasselkamp, K.-H. Schartner, H. J. Luedde, A. Achenbach, T. Kirchner
$Lyman - \alpha$ line polarization after proton impact on atomic hydrogen.
Nucl. Instrum. Methods Phys. Res. B 38, 4045 (2005)

$\mathbf{H^+ + H}$	Charge Transfer	1-1000 keV	E/T
$\mathbf{H^+ + H}$	Excitation	1-1000 keV	E/T

1175. F. Alvarado, R. Hoekstra, T. Schlathoelter
Dissociation of water molecules upon keV H^+- and $He^{q+} - induced$ ionization.
Nucl. Instrum. Methods Phys. Res. B 38, 4085 (2005)

$\mathbf{H^+ + H_2O}$	Dissociation	3-24 keV	Exp
$\mathbf{He^+ + H_2O}$	Dissociation	3-24 keV	Exp
$\mathbf{He^{2+} + H_2O}$	Dissociation	3-24 keV	Exp
$\mathbf{H^+ + H_2O}$	Ionization	3-24 keV	Exp
$\mathbf{He^+ + H_2O}$	Ionization	3-24 keV	Exp
$\mathbf{He^{2+} + H_2O}$	Ionization	3-24 keV	Exp

1176. Q. Chen, X. H. Ren, S. S. Pu, F. Wang
Non-adiabatic time-dependent mean-field description for ion-atom collisions: Application to H^+ + Na(3s) -¿ H^+ + Na(3p) case.
Nucl. Instrum. Methods Phys. Res. B 38, 4291 (2005)

H^+ + Na	Excitation	0.5-50 keV	E/T

1177. A. S. Dickinson
Radiative association of H and D.
Nucl. Instrum. Methods Phys. Res. B 38, 4329 (2005)

H + D	Association	10-1000 deg K	Th
H + D	Interaction Potentials	10-1000 deg K	Th
H + D	Fluorescence	10-1000 deg K	Th

1178. I. I. Beterov, D. B. Tretyakov, I. I. Ryabtsev, N. N. Bezuglov, K. Miculis, A. Ekers, A. N. Klucharev
Collisional and thermal ionization of sodium Rydberg atoms III. Experiment and theory for nS and nD states with n = 8-20 in crossed atomic beams.
Nucl. Instrum. Methods Phys. Res. B 38, 4349 (2005)

Na + Na	Association	420-630 K	E/T
Na^* + Na	Association	420-630 K	E/T

1179. M. Wernli, P. Valiron, A. Faure, L. Wiesenfeld, P. Jankowski, K. Szalewicz
Improved low-temperature rate constants for rotational excitation of CO by H_2.
Nucl. Instrum. Methods Phys. Res. B 446, 367 (2006)

CO + H_2	Excitation	1-520 cm^{-1}	Th

1180. F. Lique, M.-L. Dubernet, A. Spielfiedel, N. Feautrier
Rotational excitation of sulfur monoxide in collision with helium at high temperature.
Nucl. Instrum. Methods Phys. Res. B 450, 399 (2006)

He + SO	Excitation	50-300 K	Th

1181. F. Lique, A. Spielfiedel, J. Cernicharo
Rotational excitations of carbon monosulfide by collisions with helium.
Nucl. Instrum. Methods Phys. Res. B 451, 1125 (2006)

He + CS	Interchange reaction	10-300 K	Th

1182. B. J. Wargelin, P. Beiersdorfer, P. A. Neill, R. E. Olson, J. H. Scofield
Charge-exchange spectra of hydrogenic and He-like iron.
Nucl. Instrum. Methods Phys. Res. B 634, 687 (2005)

Fe^{24+} + N_2	Charge Transfer	10 eV/amu	Exp
Fe^{25+} + N_2	Charge Transfer	10 eV/amu	Exp

1183. P. Barragan, L. F. Errea, L. Mendez, I. Rabadan, A. Riera
Calculation of rate coefficients for electron capture in collisions of O^{2+} and N^{2+} ions with H.
Nucl. Instrum. Methods Phys. Res. B 636, 544 (2005)

N^{2+} + H	Charge Transfer	0.001-10,000 eV	Th
O^{2+} + H	Charge Transfer	0.001-10,000 eV	Th

1184. G. Barinovs, M. C. van Hemert
CH^+ **radiative association.**
Nucl. Instrum. Methods Phys. Res. B 636, 923 (2005)

C^+ + H	Association	0-1000 K	Th

1185. A. P. Palov, M. D. Gray, D. Field, G. G. Balint-Kurti
Modeling of the SiO circumstellar maser: Rate coefficients for the vibrationally-rotationally inelastic scattering of H+SiO.
Nucl. Instrum. Methods Phys. Res. B 639, 204 (2006)

H + SiO	Excitation	2000-4000 K	Th

1186. D. Bodewits, R. Hoekstra, B. Seredyuk, R. W. McCullough, G. H. Jones, A.G.G.M. Tielens
Charge exchange emission from solar wind helium ions.
Nucl. Instrum. Methods Phys. Res. B 642, 573 (2006)

He^{2+} + H_2O	Charge Transfer	0.2-10.0 keV/amu	Exp
He^{2+} + CH_4	Charge Transfer	0.2-10.0 keV/amu	Exp
He^{2+} + CO	Charge Transfer	0.2-10.0 keV/amu	Exp
He^{2+} + CO_2	Charge Transfer	0.2-10.0 keV/amu	Exp

1187. M. Kimura, L. Pichl, Y. Li, H.-P. Liebermann, R. J. Buenker, I. F. Schneider
Steric effect in O^+/H_2 and H^+/H_2O collisions - Charge transfer in H_2O^+ and H_3O^+ collision intermediate systems.
Nucl. Instrum. Methods Phys. Res. B 38, 85 (2006)

H^+ + H_2O	Charge Transfer	10-10,000 eV	Th
O^+ + H_2	Charge Transfer	10-10,000 eV	Th

1188. R. Martinez, J. D. Sierra, M. Gonzalez
Cross sections of the O^+ + H_2 -¿ OH^+ + H ion-molecule reaction and isotopic variants (D_2, HD): Quasiclassical trajectory study and comparison with experiments.
Nucl. Instrum. Methods Phys. Res. B 123, 174312 (2005)

O^+ + H_2	Interchange reaction	0.01-6.0 eV	Th
O^+ + HD	Interchange reaction	0.01-6.0 eV	Th
O^+ + D_2	Interchange reaction	0.01-6.0 eV	Th

1189. T. Gonzalez-Lezana, A. Aguado, M. Paniagua, O. Roncero
Quantum approaches for the insertion dynamics of the H^+ + D_2 and D^+ + H_2 reactive collisions.
Nucl. Instrum. Methods Phys. Res. B 123, 194309 (2005)

H^+ + H_2	Interchange reaction	0.0-2.0 eV	Th
H^+ + D_2	Interchange reaction	0.0-2.0 eV	Th
D^+ + H_2	Interchange reaction	0.0-2.0 eV	Th

1190. S. Atahan, M. H. Alexander, E. J. Rackham
Cross sections and thermal rate constants for the isotope exchange reaction: $D(^2S)$ + $OH(^2\Pi)$ -¿ $OD(^2\Pi)$ + $H(^2S)$.
Nucl. Instrum. Methods Phys. Res. B 123, 204306 (2005)

D + OH	Interchange reaction	0-500 K	Th

1191. L. Banares, F. J. Aoiz, T. Gonzalez-Lezana, V. J. Herrero, I. Tanarro
Influence of rotation and isotope effects on the dynamics of the $N(^2D)$ + H_2 reactive system and of its deuterated variants.
Nucl. Instrum. Methods Phys. Res. B 123, 224301 (2005)

N + H_2	Interchange reaction	0.0-0.5 eV	Th

1192. F. Gogtas
Quantum wave-packet calculation of reaction probabilities, cross sections, and rate constants for Li + $H_2{}^+$ reaction.
Nucl. Instrum. Methods Phys. Res. B 123, 244301 (2005)

Li + H_2	Interchange reaction	0.0-2.0 eV	Th

1193. Y. Lu, S.-Y. Lee, D. H. Zhang
A full dimensional time-dependent wave packet study for the H_4 four-center, collision induced dissociation, and single exchange reactions: Reaction probabilities for J = 0.
Nucl. Instrum. Methods Phys. Res. B 124, 011101 (2006)

H_2 + H_2	Interchange reaction	0.0-6.0 eV	Th

1194. S. Y. Lin, H. Guo
Exact quantum dynamics of $N(^2D)$ + H_2 -¿ NH + H reaction: Cross-sections, rate constants, and dependence on reactant rotation.
Nucl. Instrum. Methods Phys. Res. B 124, 031101 (2006)

N + H_2	Interchange reaction	9,909,5 eV	Th

1195. T.J.D. Kumar, A. Saieswari, S. Kumar
Elastic and charge transfer processes in H^+ + CO collisions.
Nucl. Instrum. Methods Phys. Res. B 124, 034314 (2006)

H^+ + CO	Elastic Scattering	9.5 eV	Th
H^+ + CO	Charge Transfer	9.5 eV	Th

1196. W. Wang, E. Santos, J. Brandao
Theoretical rate coefficients for the exchange reaction OH + D -¿ OD + H.
Nucl. Instrum. Methods Phys. Res. B 124, 074305 (2006)

OH + H	Interchange reaction	100-1000 K	Th
OH + D	Interchange reaction	100-1000 K	Th

1197. P. F. Weck, N. Balakrishnan, J. Brandao, C. Rosa, W. Wang
Dynamics of the $O(^3P)$ + H_2 reaction at low temperatures: Comparison of quasiclassical trajectory with quantum scattering calculations.
Nucl. Instrum. Methods Phys. Res. B 124, 074308 (2006)

O + H_2	Interchange reaction	0-0.6 eV	Th

1198. B. Yang, P. C. Stancil, N. Balakrishnan, R. C. Forrey
Quenching of rotationally excited CO by collisions with H_2.
Nucl. Instrum. Methods Phys. Res. B 124, 104304 (2006)

H_2 + CO	Excitation	$10^{-6} - 15,000\ cm^{-1}$	Th

1199. L. Liu, Y. Li, J. M. Farrar
Dynamics study of the reaction $OH^- + C_2H_2$ -¿ $C_2H^- + H_2O$ with crossed beams and density-functional theory calculations.
Nucl. Instrum. Methods Phys. Res. B 124, 124317 (2006)

$\mathbf{OH^- + C_2H_2}$	Interchange reaction	0.37-1.40 eV	E/T

1200. R. Martinez, J. M. Lucas, X. Gimenez, A. Aguilar, M. Gonzalez
Exact quantum dynamics study of the $O^+ + H_2(v = \mathbf{0}, \mathbf{j} = \mathbf{0})$ -¿ OH^+ + H ion-molecule reaction and comparison with quasiclassical trajectory calculations.
Nucl. Instrum. Methods Phys. Res. B 124, 144301 (2006)

$\mathbf{O^+ + H_2}$	Interchange reaction	0.00-0.75 eV	Th

1201. A. Le Padellec, E. M. Staicu-Casagrande, T. Nzeyimana, E. A. Naji, X. Urbain
Reactive collisions between CH^+ and O^-.
Nucl. Instrum. Methods Phys. Res. B 124, 154304 (2006)

$\mathbf{CH^+ + O^-}$	Interchange reaction	0.01-10.00 eV	Exp

1202. P. Honvault, B. Bussery-Honvault, J.-M. Launay, F. J. Aoiz, L. Banares
Quantum mechanical and quasiclassical trajectory scattering calculations for the $C(^1D) + H_2$ reaction on the second excited 1 ^1A" potential energy surface.
Nucl. Instrum. Methods Phys. Res. B 124, 154314 (2006)

$\mathbf{C + H_2}$	Interchange reaction	80 MeV	Th

1203. D. Wang
A full dimensional, nine-degree-of-freedom, time-dependent quantum dynamics study for the $H_2 + C_2H$ reaction.
Nucl. Instrum. Methods Phys. Res. B 124, 201105 (2006)

$\mathbf{H_2 + C_2H}$	Interchange reaction	0-1.0 eV	Th

1204. F. Dong, S.-H. Lee, K. Liu
A crossed-beam study of the F + HD -¿ DF + H reaction: The direct scattering channel.
Nucl. Instrum. Methods Phys. Res. B 124, 224312 (2006)

$\mathbf{F + H_2}$	Interchange reaction	1.18-4.00 kcal/mol	Exp
F + HD	Interchange reaction	1.18-4.00 kcal/mol	Exp

1205. P. Defazio, C. Petrongolo
Renner-Teller quantum dynamics of the $N(^2D) + H_2$ -¿ NH + H reaction.
Nucl. Instrum. Methods Phys. Res. B 125, 064308 (2006)

$\mathbf{N + H_2}$	Interchange reaction	1.0 eV	Th

1206. R. Krems, M. J. Jamieson, A. Dalgarno
The ^1D–^3P transitions in atomic oxygen induced by impact with atomic hydrogen.
Nucl. Instrum. Methods Phys. Res. B 647, 1531 (2006)

O + H	Excitation	1000-10,000 K	Th

1207. G. Lapicki
Testing the ECPSSR theory and its modifications with ratios of antiproton-to-proton ionization cross sections.
Nucl. Instrum. Methods Phys. Res. B 241, 34 (2005)

$\mathbf{H^+ + H}$	Ionization	$10^{-3} - 10$ MeV	Th
$\mathbf{H^+ + He}$	Ionization	$10^{-3} - 10$ MeV	Th
$\mathbf{H^+ + Ti}$	Ionization	$10^{-3} - 10$ MeV	Th
$\mathbf{H^+ + Cu}$	Ionization	$10^{-3} - 10$ MeV	Th
$\mathbf{H^+ + Se}$	Ionization	$10^{-3} - 10$ MeV	Th
$\mathbf{H^+ + Nb}$	Ionization	$10^{-3} - 10$ MeV	Th
$\mathbf{H^+ + Au}$	Ionization	$10^{-3} - 10$ MeV	Th

1208. A. Dubois, J. Caillat, J. P. Hansen, I. Dundvor, F. Fremont, P. Sobocinski, J.-Y. Chesnel, R. Gayet, J. Fu, M. J. Fitzpatrick, W. F. Smith, M. J. Fitzpatrick
Classical and quantal methods in atomic and molecular collisions.
Nucl. Instrum. Methods Phys. Res. B 241, 48 (2005)

$\mathbf{H^+ + H}$	Charge Transfer	0.5-145 keV	Th
$\mathbf{He^{2+} + H_2}$	Charge Transfer	0.5-145 keV	Th
$\mathbf{O^{5+} + H_2}$	Charge Transfer	0.5-145 keV	Th
$\mathbf{Ar^{2+} + H_2}$	Charge Transfer	0.5-145 keV	Th

1209. J. F. Reading, J. Fu, M. J. Fitzpatrick
A critique of finite Hilbert basis set calculations for the angular distribution of ionized electrons produced in p + H impact at 20 keV.
Nucl. Instrum. Methods Phys. Res. B 241, 54 (2005)

$\mathbf{H^+ + H}$	Ionization	20 keV	Th

1210. P. S. Krstic
Vibrationally resolved collisions in cold hydrogen plasma.
Nucl. Instrum. Methods Phys. Res. B 241, 58 (2005)

$\mathbf{H^+ + H_2}$	Charge Transfer	0.5-100 eV	Th
$\mathbf{H^+ + {H_2}^+}$	Charge Transfer	0.5-100 eV	Th
$\mathbf{{H_2}^+ + H}$	Charge Transfer	0.5-100 eV	Th

1211. R. Mehta, N. K. Puri, Ajay Kumar, A. Kumar, B. P. Mohanty, P. Balouria, I. M. Govil, M. L. Garg, T. Nandi, A. Ahamad, G. Lapicki
L x-ray production in $_{57}La$, $_{58}Ce$, $_{60}Nd$ and $_{62}Sm$ by 35-60 MeV carbon and oxygen ions.
Nucl. Instrum. Methods Phys. Res. B 241, 63 (2005)

$\mathbf{C^{4+} + La}$	Ionization	35-60 MeV	Exp
$\mathbf{C^{4+} + Ce}$	Ionization	35-60 MeV	Exp
$\mathbf{C^{4+} + Nd}$	Ionization	35-60 MeV	Exp
$\mathbf{C^{4+} + Sm}$	Ionization	35-60 MeV	Exp
$\mathbf{O^{5+} + La}$	Ionization	35-60 MeV	Exp
$\mathbf{O^{5+} + Ce}$	Ionization	35-60 MeV	Exp
$\mathbf{O^{5+} + Nd}$	Ionization	35-60 MeV	Exp
$\mathbf{O^{5+} + Sm}$	Ionization	35-60 MeV	Exp

1212. S. Jones, D. H. Madison, J. H. Macek
Single and double ionization of helium by the impact of fast charged particles.
Nucl. Instrum. Methods Phys. Res. B 241, 73 (2005)

$\mathbf{C^{6+} + He}$	Total Scattering	6 keV; 100 MeV/amu	Th
$\mathbf{C^{6+} + He}$	Ionization	6 keV; 100 MeV/amu	Th

1213. S. Yu. Ovchinnikov, J. H. Macek
Sturmian theory of electron energy distributions in low energy ion-atom collisions.
Nucl. Instrum. Methods Phys. Res. B 241, 78 (2005)

H^- + He	Ionization	5-25 keV	Th
H + He	Ionization	5-25 keV	Th

1214. R. D. DuBois
Electron loss in MeV/u collisions between many-electron projectiles and targets.
Nucl. Instrum. Methods Phys. Res. B 241, 87 (2005)

Ne^{2+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp
Ne^{2+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp
Ne^{2+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp
Ne^{3+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp
Ne^{3+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp
Ne^{3+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp
Ne^{4+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp
Ne^{4+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp
Ne^{4+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp
Ar^{+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp
Ar^{+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp
Ar^{+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp
Ar^{2+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp
Ar^{2+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp
Ar^{2+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp
Xe^{3+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp
Xe^{3+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp
Xe^{3+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp
U^{4+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp
U^{4+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp
U^{4+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp
U^{6+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp
U^{6+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp
U^{6+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp
U^{10+} + Ar	Ionization	1.4-4.8 MeV/amu	Exp
U^{10+} + Xe	Ionization	1.4-4.8 MeV/amu	Exp
U^{10+} + N_2	Ionization	1.4-4.8 MeV/amu	Exp

1215. Y. C. Yu, J. Y. Hsu, K. M. Chen
K-shell X-ray production of In and Sn by proton, helium, and lithium ions.
Nucl. Instrum. Methods Phys. Res. B 241, 90 (2005)

H^{+} + In	Ionization	1-10 MeV	Exp
H^{+} + Sn	Ionization	1-10 MeV	Exp
He^{2+} + In	Ionization	1-10 MeV	Exp
He^{2+} + Sn	Ionization	1-10 MeV	Exp
Li^{2+} + In	Ionization	1-10 MeV	Exp
Li^{2+} + Sn	Ionization	1-10 MeV	Exp
Li^{3+} + In	Ionization	1-10 MeV	Exp
Li^{3+} + Sn	Ionization	1-10 MeV	Exp

1216. F. Naab, J. L. Duggan, O. W. Holland, F. D. McDaniel, G. Lapicki
Measurements and calculations of M-shell X-ray production in Er, Yb and Lu by 0.75-6 MeV He ions.
Nucl. Instrum. Methods Phys. Res. B 241, 94 (2005)

He^{+} + Er	Ionization	0.75-6.0 MeV	E/T
He^{+} + Yb	Ionization	0.75-6.0 MeV	E/T
He^{+} + Lu	Ionization	0.75-6.0 MeV	E/T

1217. E. Wells, K. D. Carnes, H. Tawara, R. Ali, E. Y. Sidky, C. Illescas, I. Ben-Itzhak
One- and two-electron processes in collisions between hydrogen molecules and slow highly charged ions.
Nucl. Instrum. Methods Phys. Res. B 241, 101 (2005)

$\mathbf{C^{6+} + H_2}$	Charge Transfer	1-5 MeV	Exp
$\mathbf{C^{6+} + D_2}$	Charge Transfer	1-5 MeV	Exp
$\mathbf{Ar^{11+} + H_2}$	Charge Transfer	1-5 MeV	Exp
$\mathbf{Ar^{11+} + D_2}$	Charge Transfer	1-5 MeV	Exp

1218. O. Abu-Haija, S. A. Al-Faify, G. Olmez, S. M. Ferguson, E. Y. Kamber
State-selective single-electron capture by Ar^{4+} and Ar^{5+} ions from N_2, O_2 and CF_4 molecules.
Nucl. Instrum. Methods Phys. Res. B 241, 109 (2005)

$\mathbf{Ar^{4+} + N_2}$	Charge Transfer	200-250 eV	Exp
$\mathbf{Ar^{4+} + O_2}$	Charge Transfer	200-250 eV	Exp
$\mathbf{Ar^{4+} + CF_4}$	Charge Transfer	200-250 eV	Exp
$\mathbf{Ar^{5+} + N_2}$	Charge Transfer	200-250 eV	Exp
$\mathbf{Ar^{5+} + O_2}$	Charge Transfer	200-250 eV	Exp
$\mathbf{Ar^{5+} + CF_4}$	Charge Transfer	200-250 eV	Exp
$\mathbf{Ar^{4+} + N_2}$	Interaction Potentials	200-250 eV	Exp
$\mathbf{Ar^{4+} + O_2}$	Interaction Potentials	200-250 eV	Exp
$\mathbf{Ar^{4+} + CF_4}$	Interaction Potentials	200-250 eV	Exp
$\mathbf{Ar^{5+} + N_2}$	Interaction Potentials	200-250 eV	Exp
$\mathbf{Ar^{5+} + O_2}$	Interaction Potentials	200-250 eV	Exp
$\mathbf{Ar^{5+} + CF_4}$	Interaction Potentials	200-250 eV	Exp

1219. T. Ehrenreich, K. Miller, P. Gee, Q. Kessel, E. Pollack, W. W. Smith, N. Djuric, J. Lozano, S. J. Smith, A. Chutjian
Photon emission resulting from collisions of O^{5+} with CO.
Nucl. Instrum. Methods Phys. Res. B 241, 125 (2005)

$\mathbf{O^{5+} + CO}$	Excitation	2.2 keV/amu	Exp

1220. S. J. Cipolla, B. P. Hill
Relative intensities of L X-rays excited by 75-300 keV proton impact on elements with Z = 39-50.
Nucl. Instrum. Methods Phys. Res. B 241, 129 (2005)

$\mathbf{H^{+} + Y}$	Excitation	75-300 keV	Exp
$\mathbf{H^{+} + Zr}$	Excitation	75-300 keV	Exp
$\mathbf{H^{+} + Nb}$	Excitation	75-300 keV	Exp
$\mathbf{H^{+} + Mo}$	Excitation	75-300 keV	Exp
$\mathbf{H^{+} + Rh}$	Excitation	75-300 keV	Exp
$\mathbf{H^{+} + Pd}$	Excitation	75-300 keV	Exp
$\mathbf{H^{+} + Ag}$	Excitation	75-300 keV	Exp
$\mathbf{H^{+} + Sn}$	Excitation	75-300 keV	Exp
$\mathbf{H^{+} + Y}$	Ionization	75-300 keV	Exp
$\mathbf{H^{+} + Zr}$	Ionization	75-300 keV	Exp
$\mathbf{H^{+} + Nb}$	Ionization	75-300 keV	Exp
$\mathbf{H^{+} + Mo}$	Ionization	75-300 keV	Exp
$\mathbf{H^{+} + Rh}$	Ionization	75-300 keV	Exp
$\mathbf{H^{+} + Pd}$	Ionization	75-300 keV	Exp
$\mathbf{H^{+} + Ag}$	Ionization	75-300 keV	Exp
$\mathbf{H^{+} + Sn}$	Ionization	75-300 keV	Exp

1221. J. A. Perez, R. E. Olson
Relative state selective capture cross sections for low energy collisions between highly charged bare ions and neutral atoms.
Nucl. Instrum. Methods Phys. Res. B 241, 134 (2005)

$\mathbf{N^{7+} + O}$	Charge Transfer	1-100 eV/u	Th
$\mathbf{O^{8+} + H}$	Charge Transfer	1-100 eV/u	Th
$\mathbf{N^{7+} + O}$	Excitation	1-100 eV/u	Th
$\mathbf{O^{8+} + H}$	Excitation	1-100 eV/u	Th

1222. H. Martinez, B. E. Fuentes
Absolute differential and total cross sections for N^+ formation from the interaction of $N_2{}^+$ with He and Ar.
Nucl. Instrum. Methods Phys. Res. B 241, 459 (2005)

$\mathbf{N_2{}^+ + He}$	Dissociation	1-5 keV	Exp
$\mathbf{N_2{}^+ + Ar}$	Dissociation	1-5 keV	Exp
$\mathbf{N_2{}^+ + He}$	Total Scattering	1-5 keV	Exp
$\mathbf{N_2{}^+ + Ar}$	Total Scattering	1-5 keV	Exp

1223. R. Dey, A. C. Roy
Ejected electron energy distribution in the ionization of atomic hydrogen by C^{6+} impact.
Nucl. Instrum. Methods Phys. Res. B 243, 28 (2005)

$\mathbf{C^{6+} + H}$	Total Scattering	2.5 MeV/amu	Th
$\mathbf{C^{6+} + H}$	Ionization	2.5 MeV/amu	Th

1224. K. Kawatsura, K. Takahiro, M. Sataka, M. Imai, K. Komaki, H. Sugai, H. Shibata
Ejected-electron spectra from Rydberg states in high-energy collisions of O^{3+} ions with He.
Nucl. Instrum. Methods Phys. Res. B 245, 44 (2006)

$\mathbf{O^{3+} + He}$	Excitation	32 MeV	Exp
$\mathbf{O^{3+} + He}$	Ionization	32 MeV	Exp

1225. P. Verma, P. H. Mokler, A. Brauning-Demian, H. Brauning, C. Kozhuharov, F. Bosch, D. Liesen, S. Hagmann, Th. Stoehlker, Z. Stachura, D. Banas, A. Orsic-Muthig, M. Schoeffler, D. Sierpowski, U. Spillmann, S. Tashenov, S. Toleikis, M. A. Wahab
Probing superheavy quasimolecular collisions with incoming inner shell vacancies.
Nucl. Instrum. Methods Phys. Res. B 245, 56 (2006)

$\mathbf{U^{73+} + Au}$	Excitation	69 MeV/u	Exp
$\mathbf{U^{86+} + Au}$	Excitation	69 MeV/u	Exp
$\mathbf{U^{88+} + Au}$	Excitation	69 MeV/u	Exp
$\mathbf{U^{91+} + Au}$	Excitation	69 MeV/u	Exp

1226. L. Adoui, T. Muranaka, M. Tarisien, S. Legendre, G. Laurent, A. Cassimi, J.-Y. Chesnel, X. Flechard, F. Fremont, B. Gervais, E. Giglio, D. Hennecart
Swift heavy ion-induced small molecule fragmentation dynamics.
Nucl. Instrum. Methods Phys. Res. B 245, 94 (2006)

$\mathbf{O^{7+} + CO}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Si^{15+} + H_2}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Si^{15+} + D_2}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Ni^{24+} + CO_2}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Ni^{25+} + H_2O}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Ni^{25+} + HDO}$	Dissociation	6.7-13.6 MeV/u	Exp
$\mathbf{Xe^{44+} + H_2O}$	Dissociation	6.7-13.6 MeV/u	Exp

1227. M. Nekab, A. Kahoul
Semi-empirical and empirical L X-ray production cross sections for elements with 50 ¡ Z ¡ 92 for protons of 0.5-3.0 MeV.
Nucl. Instrum. Methods Phys. Res. B 245, 395 (2006)

$\mathbf{H^+ + A}$	Excitation	0.5-3.0 MeV	Exp
$\mathbf{H^+ + A}$	Ionization	0.5-3.0 MeV	Exp

1228. M. Goudarzi, F. Shokouhi, M. Lamehi-Rachti, P. Oliaiy
L-subshell and total M-shell X-ray production cross sections of Ta, W, Pt, Au, Pb and Bi by 0.7-2.4 MeV protons.
Nucl. Instrum. Methods Phys. Res. B 247, 217 (2006)

$\mathbf{H^+ + Ta}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + W}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Pt}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Au}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Pb}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Bi}$	Excitation	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Ta}$	Ionization	0.7-2.4 MeV	Exp
$\mathbf{H^+ + W}$	Ionization	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Pt}$	Ionization	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Au}$	Ionization	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Pb}$	Ionization	0.7-2.4 MeV	Exp
$\mathbf{H^+ + Bi}$	Ionization	0.7-2.4 MeV	Exp

1229. N. P. Barradas, E. Alves, C. Jeynes, M. Tosaki
Accurate simulation of backscattering spectra in the presence of sharp resonances.
Nucl. Instrum. Methods Phys. Res. B 247, 381 (2006)

$\mathbf{H^+ + C}$	Elastic Scattering	1.8-6.0 MeV	Exp
$\mathbf{H^+ + Si}$	Elastic Scattering	1.8-6.0 MeV	Exp
$\mathbf{H^+ + C}$	Interaction Potentials	1.8-6.0 MeV	Exp
$\mathbf{H^+ + Si}$	Interaction Potentials	1.8-6.0 MeV	Exp

1230. S. Ouziane, A. Amokrane, I. Toumert, A. Noureddine, A. Pape
Proton induced L and L-subshell X-ray cross-sections in Sm and Yb at 1-2.5 MeV.
Nucl. Instrum. Methods Phys. Res. B 249, 73 (2006)

$\mathbf{H^+ + Sm}$	Excitation	1-2.5 MeV	E/T
$\mathbf{H^+ + Yb}$	Excitation	1-2.5 MeV	E/T
$\mathbf{H^+ + Sm}$	Ionization	1-2.5 MeV	E/T
$\mathbf{H^+ + Yb}$	Ionization	1-2.5 MeV	E/T

1231. H. Martinez
Absolute cross sections for the production of positive atomic ions from dissociative collisions of $H_3{}^+$, $D_3{}^+$ and $HD_2{}^+$ in He.
Nucl. Instrum. Methods Phys. Res. B 249, 89 (2006)

$\mathbf{H_3{}^+ + He}$	Dissociation	1-5 keV	Exp
$\mathbf{HD_2{}^+ + He}$	Dissociation	1-5 keV	Exp
$\mathbf{D_3{}^+ + He}$	Dissociation	1-5 keV	Exp
$\mathbf{H_3{}^+ + He}$	Total Scattering	1-5 keV	Exp
$\mathbf{HD_2{}^+ + He}$	Total Scattering	1-5 keV	Exp
$\mathbf{D_3{}^+ + He}$	Total Scattering	1-5 keV	Exp

1232. K. L. Streib, T. L. Alford, J. W. Mayer
Experimental verification of theoretical cross sections for FIB-PIXE.
Nucl. Instrum. Methods Phys. Res. B 249, 92 (2006)

$\mathbf{H^+ + Cr}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Cu}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Ge}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Ag}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{H^+ + W}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Au}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Cr}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Cu}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Ge}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Ag}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + W}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Au}$	Excitation	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Cr}$	Ionization	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Cu}$	Ionization	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Ge}$	Ionization	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Ag}$	Ionization	0.3-3.5 MeV	Exp
$\mathbf{H^+ + W}$	Ionization	0.3-3.5 MeV	Exp
$\mathbf{H^+ + Au}$	Ionization	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Cr}$	Ionization	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Cu}$	Ionization	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Ge}$	Ionization	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Ag}$	Ionization	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + W}$	Ionization	0.3-3.5 MeV	Exp
$\mathbf{Be^+ + Au}$	Ionization	0.3-3.5 MeV	Exp

1233. A. Caciolli, M. Chiari, A. Climent-Font, M. T. Fernandez-Jimenez, G. Garcia-Lopez, F. Lucarelli, S. Nava, A. Zucchiatti
Proton elastic scattering cross-sections on F, C and Li from 3 to 7 MeV.
Nucl. Instrum. Methods Phys. Res. B 249, 95 (2006)

$\mathbf{H^+ + Li}$	Elastic Scattering	3-7 MeV	Exp
$\mathbf{H^+ + C}$	Elastic Scattering	3-7 MeV	Exp
$\mathbf{H^+ + F}$	Elastic Scattering	3-7 MeV	Exp

1234. A. Caciolli, M. Chiari, A. Climent-Font, M. T. Fernandez-Jimenez, G. Garcia-Lopez, F. Lucarelli, S. Nava, A. Zucchiatti
Measurements of gamma-ray emission induced by protons on fluorine and lithium.
Nucl. Instrum. Methods Phys. Res. B 249, 98 (2006)

$\mathbf{H^+ + Li}$	Excitation	3-5.7 MeV	Exp
$\mathbf{H^+ + F}$	Excitation	3-5.7 MeV	Exp
$\mathbf{H^+ + Li}$	Ionization	3-5.7 MeV	Exp
$\mathbf{H^+ + F}$	Ionization	3-5.7 MeV	Exp

1235. J. C. Banks, W. R. Wampler, J. F. Browning, B. L. Doyle
Cross sections for 165 deg **backscattering of 8.0-11.7 MeV** α **from carbon.**
Nucl. Instrum. Methods Phys. Res. B 249, 101 (2006)

$\mathbf{He^{2+} + C}$	Elastic Scattering	8-11.7 MeV	Exp
$\mathbf{He^{2+} + C}$	Total Scattering	8-11.7 MeV	Exp

1236. M. A. Munoz-Marquez, G. S. Parkinson, D. P. Woodruff, A. Hentz, P. L. Grande, G. Schiwietz, T. J. Wood, C. Boney, S. P. Tear, P. Bailey, T.C.Q. Noakes

Energy loss in medium-energy ion scattering: A combined theoretical and experimental study of the model system Y on Si(111).
Nucl. Instrum. Methods Phys. Res. B 72, 075415 (2005)

$\mathbf{H^+ + Si}$	Ionization	100 keV	E/T
$\mathbf{H^+ + Y}$	Ionization	100 keV	E/T

1237. G. Laurent, J. Fernandez, S. Legendre, M. Tarisien, L. Adoui, A. Cassimi, X. Frechard, F. Fremont, B. Gervais, E. Giglio, J. P. Grandin, F. Martin
Kinematically complete study of dissociative ionization of D_2 by ion impact.
Nucl. Instrum. Methods Phys. Res. B 96, 173201 (2006)

$\mathbf{S^{15+} + H_2}$	Dissociation	13.6 MeV/u	Exp
$\mathbf{S^{15+} + D_2}$	Dissociation	13.6 MeV/u	Exp
$\mathbf{S^{15+} + H_2}$	Excitation	13.6 MeV/u	Exp
$\mathbf{S^{15+} + D_2}$	Excitation	13.6 MeV/u	Exp
$\mathbf{S^{15+} + H_2}$	Ionization	13.6 MeV/u	Exp
$\mathbf{S^{15+} + D_2}$	Ionization	13.6 MeV/u	Exp

3.3 Surface Interactions

1238. M. N. Faraggi, M. S. Gravielle, M. Alducin, J. I. Juaristi, V. M. Silkin
Band-structure-based collisional model for electronic excitations in ion-surface collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 012901 (2005)

$\mathbf{H^+ + Al}$	Secondary Electron Emission	100 keV	Th

1239. P. L. Grande, A. Hentz, G. Schiwietz, D. Starodub, E. Garfunkel, T. Gustafsson
Observation of collective inner-shell effects for protons backscattered from the Al(110) surface.
Nucl. Instrum. Methods Phys. Res. B 72, 012902 (2005)

$\mathbf{H^+ + Al}$	Reflection	98 keV	E/T

1240. Y.-H. Song, Y.-N. Wang, Z. L. Miskovic
Vicinage effects in energy loss and electron emission during grazing scattering of heavy molecular ions from a solid surface.
Nucl. Instrum. Methods Phys. Res. B 72, 012903 (2005)

$\mathbf{N_2{}^+ + C}$	Secondary Electron Emission	100-400 keV/u	Th

1241. M. J. Gordon, J. Mace, K. P. Giapis
Charge-exchange mechanisms at the threshold for inelasticity in Ne^+ collisions with surfaces.
Nucl. Instrum. Methods Phys. Res. B 72, 012904 (2005)

$\mathbf{Ne^+ + Mg}$	Reflection	100-400 eV	Exp
$\mathbf{Ne^+ + Al}$	Reflection	100-400 eV	Exp
$\mathbf{Ne^+ + Si}$	Reflection	100-400 eV	Exp
$\mathbf{Ne^+ + P}$	Reflection	100-400 eV	Exp
$\mathbf{Ne^+ + Mg}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp
$\mathbf{Ne^+ + Al}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp
$\mathbf{Ne^+ + Si}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp
$\mathbf{Ne^+ + P}$	Neutraliz., Ioniz., Dissoc.	100-400 eV	Exp

1242. M. Alducin, J. I. Juaristi, R. Diez Muino, M. Roesler, P. M. Echenique
Spin-dependent electron emission from metals in the neutralization of He^+ ions.
Nucl. Instrum. Methods Phys. Res. B 72, 024901 (2005)

He^+ + Al	Secondary Electron Emission	15-500 eV	Th
He^+ + Cu	Secondary Electron Emission	15-500 eV	Th
He^+ + Au	Secondary Electron Emission	15-500 eV	Th
He^+ + Al	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th
He^+ + Cu	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th
He^+ + Au	Neutraliz., Ioniz., Dissoc.	15-500 eV	Th

1243. L. I. Vergara, F. W. Meyer, H. F. Krause
Chemical sputtering of ATJ graphite induced by low-energy $D_2{}^+$ bombardment.
Nucl. Instrum. Methods Phys. Res. B 347, 118 (2005)

$H_2{}^+$ + C	Sputtering	10-250 eV	Exp
$D_2{}^+$ + C	Sputtering	10-250 eV	Exp

1244. S. B. Gilliam, S. M. Gidcumb, N. R. Parikh, D. G. Forsythe, B. K. Patnaik, J. D. Hunn, L. L. Snead, G. P. Lamaze
Retention and surface blistering of helium irradiated tungsten as a first wall material.
Nucl. Instrum. Methods Phys. Res. B 347, 289 (2005)

He^+ + W	Trapping, Detrapping	1.3 MeV	Exp

1245. B. B. Cipiti, G. L. Kulcinski
Helium and deuterium implantation in tungsten at elevated temperatures.
Nucl. Instrum. Methods Phys. Res. B 347, 298 (2005)

H^+ + W	Trapping, Detrapping	20-40 keV	Exp
He^+ + W	Trapping, Detrapping	20-40 keV	Exp
D^+ + W	Trapping, Detrapping	20-40 keV	Exp

1246. N. Hashimoto, J. D. Hunn, N. Parikh, S. Gilliam, S. Gidcumb, B. Patnaik, L. L. Snead
Microstructural analysis on helium retention of ion-irradiated and annealed tungsten foils.
Nucl. Instrum. Methods Phys. Res. B 347, 307 (2005)

He^+ + W	Trapping, Detrapping	1.3 MeV	Exp

1247. C. Focsa, C. Mihesan, M. Ziskind, B. Chazallon, E. Therssen, P. Desgroux, J. L. Destombes
Wavelength-selective vibrationally excited photodesorption with tunable IR sources.
Nucl. Instrum. Methods Phys. Res. B 18, S1357 (2006)

hν + H_2O	Desorption	0.32-0.42 eV	Exp

1248. E. Kobayashi, K. Mase, A. Nambu, J. Seo, S. Tanaka, T. Kalkiuchi, K. K. Okudaira, S.-I. Nagaoka, M. Tanaka
Recent progress in coincidence studies on ion desorption induced by core excitation.
Nucl. Instrum. Methods Phys. Res. B 18, S1389 (2006)

hν + Si	Desorption	98-690 eV	Exp
hν + TiO_2	Desorption	98-690 eV	Exp
hν + SiO_2	Desorption	98-690 eV	Exp
hν + H_2O + Si	Desorption	98-690 eV	Exp
hν + H_2O + SiO_2	Desorption	98-690 eV	Exp

1249. P. Saalfrank, M. Nest, I. Andrianov, T. Klamroth, D. Kroener, S. Beyvers
Quantum dynamics of laser-induced desorption from metal and semiconductor surfaces, and related phenomena.
Nucl. Instrum. Methods Phys. Res. B 18, S1425 (2006)

hν + Pt	Desorption		Th
hν + NO + Pt	Desorption		Th

1250. A. Hoffman, A. Laikhtman
Photon stimulated desorption of hydrogen from diamond surfaces via core-level excitations: Fundamental processes and applications to surface studies.
Nucl. Instrum. Methods Phys. Res. B 18, S1517 (2006)

hν + C	Desorption	150-600 eV	Exp
hν + H + C	Desorption	150-600 eV	Exp
hν + D + C	Desorption	150-600 eV	Exp

1251. M. Szymonski, A. Droba, M. Goryl, J. J. Kolodziej, F. Krok
Alkali halide decomposition and desorption by photons – the role of excited point defects and surface topographies.
Nucl. Instrum. Methods Phys. Res. B 18, S1547 (2006)

hν + RbI	Desorption	4-6 eV	Exp

1252. T. Hirayama, I. Arakawa
Exciton induced photodesorption in rare gas solids.
Nucl. Instrum. Methods Phys. Res. B 18, S1563 (2006)

hν + Ne	Desorption	16-22 eV	Exp
hν + Ar	Desorption	16-22 eV	Exp
hν + Kr	Desorption	16-22 eV	Exp

1253. R. P. Doerner
Low-energy sputtering yields of tungsten and tantalum.
Nucl. Instrum. Methods Phys. Res. B 23, 1545 (2005)

Xe^+ + Mo	Sputtering	30-125 eV	Exp
Xe^+ + Ta	Sputtering	30-125 eV	Exp
Xe^+ + W	Sputtering	30-125 eV	Exp

1254. Y. Suetsugu, K. Kanazawa, K. Shibata, H. Hisamatsu, K. Oide, F. Takasaki, R. V. Dostovalov, A. A. Krasnov, K. V. Zolotarev, E. S. Konstantinov, V. A. Chernov, A. E. Bondar, A. N. Shmakov
First experimental and simulation study on the secondary electron and photoelectron yield of NEG materials (Ti-Zr-V) coating under intense photon irradiation.
Nucl. Instrum. Methods Phys. Res. B 554, 92 (2005)

hν + Ti	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp
hν + V	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp
hν + Zr	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp
e + Ti	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp
e + V	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp
e + Zr	Secondary Electron Emission	0-600 eV; 4.1 keV	Exp

1255. M. P. Seah
Erratum to "An accurate semi-empirical equation for sputtering yields, II: for neon, argon and xenon ions" [Nucl. Instr. and Meth. B 229 (2005) 348-358].
Nucl. Instrum. Methods Phys. Res. B 239, 286 (2005)

Ne^+ + PERT	Sputtering	1-5 keV	Exp
Ar^+ + PERT	Sputtering	1-5 keV	Exp
Xe^+ + PERT	Sputtering	1-5 keV	Exp

1256. J. Samela, J. Kotakoski, K. Nordlund, J. Keinonen
A quantitative and comparative study of sputtering yields in Au.
Nucl. Instrum. Methods Phys. Res. B 239, 331 (2005)

Xe^+ + Au	Sputtering	0.1-200 keV	Th

1257. J. P. Allain, D. N. Ruzic, D. A. Alman, M. D. Coventry
A model for ion-bombardment induced erosion enhancement with target temperature in liquid lithium.
Nucl. Instrum. Methods Phys. Res. B 239, 347 (2005)

Li^+ + Li	Sputtering	200-1000 eV	Th

1258. S. Mammeri, S. Ouichaoui, R. Zemih, H. Ammi, M. Abdesselam, A. C. Chami
Sputtering yields, range and range straggling in Al following Kr^+ ions bombardment in the energy range (20-160) keV.
Nucl. Instrum. Methods Phys. Res. B 240, 162 (2005)

Kr^+ + Al	Sputtering	20-160 keV	Exp

1259. C. S. Lee, M. C. Chueh, Y. C. Liu, C.-Y. Hsu, S. H. Liu, W. H. Ip, S. Lee
The measurement of sputtering yields and spectrum of mass and optical emission of sputtered particles induced by ion bombardment of H_2O ice.
Nucl. Instrum. Methods Phys. Res. B 240, 345 (2005)

He^+ + H_2O	Sputtering	15 keV	Exp
Ar^+ + H_2O	Sputtering	15 keV	Exp
$H_3{}^+$ + H_2O	Sputtering	15 keV	Exp
$N_2{}^+$ + H_2O	Sputtering	15 keV	Exp

1260. H. Labrim, M.-F. Barthe, T. Sauvage, P. Desgardin, G. Blondiaux, C. Corbel, F. Miserque, J. P. Piron
Deuterium trapping in sintered polished UO_2 disks.
Nucl. Instrum. Methods Phys. Res. B 240, 434 (2005)

H_2 + UO_2	Trapping, Detrapping	700 deg K	Exp
D_2 + UO_2	Trapping, Detrapping	700 deg K	Exp

1261. J. W. McDonald, T. Schenkel, A. V. Hamza, D.H.G. Schneider
Material dependence of total electron emission yields following slow highly charged ion impact.
Nucl. Instrum. Methods Phys. Res. B 240, 829 (2005)

O^{8+} + C	Secondary Electron Emission	2 keV/amu	Exp
O^{8+} + Si	Secondary Electron Emission	2 keV/amu	Exp
O^{8+} + Au	Secondary Electron Emission	2 keV/amu	Exp
O^{8+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp
Xe^{12+} + C	Secondary Electron Emission	2 keV/amu	Exp
Xe^{12+} + Si	Secondary Electron Emission	2 keV/amu	Exp
Xe^{12+} + Au	Secondary Electron Emission	2 keV/amu	Exp
Xe^{12+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp
Xe^{20+} + C	Secondary Electron Emission	2 keV/amu	Exp
Xe^{20+} + Si	Secondary Electron Emission	2 keV/amu	Exp

$\mathbf{Xe^{20+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{20+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{24+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{24+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{24+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{24+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{26+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{26+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{26+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{26+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{28+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{28+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{28+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{28+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{30+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{30+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{30+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{30+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{34+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{34+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{34+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{34+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{38+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{38+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{38+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{38+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{40+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{40+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{40+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{40+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{44+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{44+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{44+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{44+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{48+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{48+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{48+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{48+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{52+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{52+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{52+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Xe^{52+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{52+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{52+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{52+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{52+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{58+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{58+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{58+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{58+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{64+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{64+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{64+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{64+} + SiO_2}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{69+} + C}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{69+} + Si}$	Secondary Electron Emission	2 keV/amu	Exp
$\mathbf{Au^{69+} + Au}$	Secondary Electron Emission	2 keV/amu	Exp

Au^{69+} + SiO_2	Secondary Electron Emission	2 keV/amu	Exp

1262. H. S. Chakraborty, T. Niederhausen, U. Thumm
On the effect of image states on resonant neutralization of hydrogen anions near metal surfaces.
Nucl. Instrum. Methods Phys. Res. B 241, 43 (2005)

H^- + Pd	Neutraliz., Ioniz., Dissoc.	1 keV	Th
H^- + Ag	Neutraliz., Ioniz., Dissoc.	1 keV	Th

1263. M. A. Karolewski
Molecular dynamics simulations of the initial stages of sputter erosion of a metal overlayer system: 2 keV Ar -¿ Cu/Ni(100).
Nucl. Instrum. Methods Phys. Res. B 243, 6 (2005)

Ar^+ + Ni	Sputtering	2 keV	Th
Ar^+ + Cu	Sputtering	2 keV	Th

1264. J. Cazaux
e-Induced secondary electron emission yield of insulators and charging effects.
Nucl. Instrum. Methods Phys. Res. B 244, 307 (2005)

e + BeO	Secondary Electron Emission	0-10 keV	E/T
e + SiO_2	Secondary Electron Emission	0-10 keV	E/T
e + LiF	Secondary Electron Emission	0-10 keV	E/T
e + BaF_2	Secondary Electron Emission	0-10 keV	E/T
e + MgO	Secondary Electron Emission	0-10 keV	E/T
e + KCl	Secondary Electron Emission	0-10 keV	E/T
e + KBr	Secondary Electron Emission	0-10 keV	E/T
e + KI	Secondary Electron Emission	0-10 keV	E/T

1265. Y. Zhao, G. Xiao, X. Zhang, Z. Yang, W. Zhan, X. Chen, F. Li
X-ray spectroscopy of hollow argon atoms formed on a beryllium surface.
Nucl. Instrum. Methods Phys. Res. B 245, 72 (2006)

Ar^{15+} + Be	Reflection		Exp
Ar^{16+} + Be	Reflection		Exp
Ar^{17+} + Be	Reflection		Exp
Ar^{18+} + Be	Reflection		Exp

1266. P. Rajasekar, D. Scott, N. F. Materer
Light emission from ion-bombarded Ge(100) surfaces under continuous germane and silane exposures.
Nucl. Instrum. Methods Phys. Res. B 245, 411 (2006)

Ar^+ + Ge	Sputtering	1-5 keV	Exp
Ar^+ + GeH_4	Sputtering	1-5 keV	Exp
Ar^+ + SiH_4	Sputtering	1-5 keV	Exp

1267. S. I. Kononenko, O. V. Kalantaryan, V. I. Muratov, V. P. Zhurenko
Features of silica luminescence induced by molecular hydrogen ions.
Nucl. Instrum. Methods Phys. Res. B 246, 340 (2006)

H^+ + Si	Surface Interactions	210-420 keV	Exp
H_2^+ + Si	Surface Interactions	210-420 keV	Exp

1268. F. Gou, M. A. Gleeson, J. Villette, A. W. Kleyn
3 keV Ar scattering from unreconstructed Si(100) at grazing incidence: Molecular dynamics simulation.
Nucl. Instrum. Methods Phys. Res. B 247, 244 (2006)

Ar + Si	Reflection	3 keV	Th

1269. A. Kutana, M. J. Gordon, K. P. Giapis
Neutralization of hyperthermal Ne^+ on metal surfaces.
Nucl. Instrum. Methods Phys. Res. B 248, 16 (2006)

Ne^+ + Mg	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Al	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Si	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Ti	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Y	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Zr	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Nb	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Te	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Nd	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Gd	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Dy	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Ta	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Au	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + Hf	Neutraliz., Ioniz., Dissoc.	320 eV	Exp
Ne^+ + At	Neutraliz., Ioniz., Dissoc.	320 eV	Exp

1270. K. Nakajima, A. Nakamoto, M. Suzuki, K. Kimura
Convoy electrons emitted by 2-MeV He^+ ions at grazing incidence on KCl(001).
Nucl. Instrum. Methods Phys. Res. B 248, 311 (2006)

He^+ + KCl	Secondary Electron Emission	2 MeV	Exp

1271. P. K. Kuiri, B. Joseph, J. Ghatak, H. P. Lenka, G. Sahu, B. S. Acharya, D. P. Mahapatra
Observation of ZnS nanoparticles sputtered from ZnS films under 2 MeV Au irradiation.
Nucl. Instrum. Methods Phys. Res. B 248, 25 (2006)

Au^+ + ZnS	Sputtering	2 MeV	Exp

1272. J. Deiwiks, G. Schiwietz, S. R. Bhattacharyya, G. Xiao, R. Hippler
Evidence for enhanced desorption of hydrogen atoms from a Si(100) surface induced by slow highly-charged ions.
Nucl. Instrum. Methods Phys. Res. B 248, 253 (2006)

Xe^{6+} + Si	Desorption	30 keV	Exp
Xe^{6+} + H + Si	Desorption	30 keV	Exp
Xe^{10+} + Si	Desorption	30 keV	Exp
Xe^{10+} + H + Si	Desorption	30 keV	Exp
Xe^{11+} + Si	Desorption	30 keV	Exp
Xe^{11+} + H + Si	Desorption	30 keV	Exp
Xe^{14+} + Si	Desorption	30 keV	Exp
Xe^{14+} + H + Si	Desorption	30 keV	Exp
Xe^{19+} + Si	Desorption	30 keV	Exp
Xe^{19+} + H + Si	Desorption	30 keV	Exp
Xe^{20+} + Si	Desorption	30 keV	Exp
Xe^{20+} + H + Si	Desorption	30 keV	Exp

Xe^{22+} + Si	Desorption	30 keV	Exp
Xe^{22+} + H + Si	Desorption	30 keV	Exp
Xe^{6+} + Si	Sputtering	30 keV	Exp
Xe^{6+} + H + Si	Sputtering	30 keV	Exp
Xe^{10+} + Si	Sputtering	30 keV	Exp
Xe^{10+} + H + Si	Sputtering	30 keV	Exp
Xe^{11+} + Si	Sputtering	30 keV	Exp
Xe^{11+} + H + Si	Sputtering	30 keV	Exp
Xe^{14+} + Si	Sputtering	30 keV	Exp
Xe^{14+} + H + Si	Sputtering	30 keV	Exp
Xe^{19+} + Si	Sputtering	30 keV	Exp
Xe^{19+} + H + Si	Sputtering	30 keV	Exp
Xe^{20+} + Si	Sputtering	30 keV	Exp
Xe^{20+} + H + Si	Sputtering	30 keV	Exp
Xe^{22+} + Si	Sputtering	30 keV	Exp
Xe^{22+} + H + Si	Sputtering	30 keV	Exp

1273. A. H. Dogar, A. Qayyum
Study of the cascading effect on photon emission from sputtered excited carbon atoms and ions.
Nucl. Instrum. Methods Phys. Res. B 248, 259 (2006)

Ar^{+} + C	Sputtering	10 keV	Exp

1274. P.-G. Fournier, O. Varenne, A. Nortier, J. Baudon, M. Boustimi
Light emission from Be and BeO surfaces bombarded by 5 keV Kr^{+} ions.
Nucl. Instrum. Methods Phys. Res. B 249, 153 (2006)

Kr^{+} + Be	Surface Interactions	5 keV	Exp
Kr^{+} + BeO	Surface Interactions	5 keV	Exp
Kr^{+} + Be	Sputtering	5 keV	Exp
Kr^{+} + BeO	Sputtering	5 keV	Exp

1275. S. Kusanagi, H. Kobayashi
Study of SiO_2 surface sputtering by a 250-550 keV He^{+} ion beam during high-resolution Rutherford backscattering measurements.
Nucl. Instrum. Methods Phys. Res. B 249, 421 (2006)

He^{+} + SiO_2	Sputtering	250-550 keV	Exp

1276. Y. Morimoto, Y. Tanaka, A. Ide-Ektessabi
Low energy ion induced secondary electron emission coefficient of magnesium oxide films.
Nucl. Instrum. Methods Phys. Res. B 249, 440 (2006)

Ne^{+} + MgO	Secondary Electron Emission	0-2000 eV	Exp

1277. Y. Hirohata, T. Yamada, Y. Yamauchi, T. Hino, T. Nagasaka, T. Muroga
Deuterium and helium retentions of V-4Cr-4Ti alloy used as first wall of breeding blanket in a fusion reactor.
Nucl. Instrum. Methods Phys. Res. B 348, 33 (2006)

H^{+} + Ti	Trapping, Detrapping	1.7-5.0 keV	Exp
H^{+} + V	Trapping, Detrapping	1.7-5.0 keV	Exp
H^{+} + Cr	Trapping, Detrapping	1.7-5.0 keV	Exp
He^{+} + Ti	Trapping, Detrapping	1.7-5.0 keV	Exp
He^{+} + V	Trapping, Detrapping	1.7-5.0 keV	Exp

He^+ + Cr	Trapping, Detrapping	1.7-5.0 keV	Exp
D^+ + Ti	Trapping, Detrapping	1.7-5.0 keV	Exp
D^+ + V	Trapping, Detrapping	1.7-5.0 keV	Exp
D^+ + Cr	Trapping, Detrapping	1.7-5.0 keV	Exp

1278. R. M. Van Ginhoven, A. Chartier, C. Meis, W. J. Weber, L. R. Corrales
Theoretical study of helium insertion and diffusion in 3C-SiC.
Nucl. Instrum. Methods Phys. Res. B 348, 51 (2006)

H^+ + Ti	Trapping, Detrapping		Th
H^+ + V	Trapping, Detrapping		Th
H^+ + Cr	Trapping, Detrapping		Th
He^+ + SiC	Trapping, Detrapping		Th

1279. M. A. Munoz-Marquez, G. S. Parkinson, D. P. Woodruff, A. Hentz, P. L. Grande, G. Schiwietz, T. J. Wood, C. Boney, S. P. Tear, P. Bailey, T.C.Q. Noakes
Energy loss in medium-energy ion scattering: A combined theoretical and experimental study of the model system Y on Si(111).
Nucl. Instrum. Methods Phys. Res. B 72, 075415 (2005)

H^+ + Si	Reflection	100 keV	E/T
H^+ + Y	Reflection	100 keV	E/T

1280. L. G. Glazov, S. Tougaard
Electron backscattering from surfaces: Azimuth-resolved distributions.
Nucl. Instrum. Methods Phys. Res. B 72, 085406 (2005)

e + Al	Reflection	300-2000 eV	Th
e + Au	Reflection	300-2000 eV	Th

1281. HP. Winter, S. Lederer, H. Winter, C. Lemell, J. Burgdorfer
Kinetic electron emission induced by grazing scattering of slow atoms: Local probe of the Compton profile near the Fermi edge.
Nucl. Instrum. Methods Phys. Res. B 72, 161402 (2005)

Ne + Al	Secondary Electron Emission	3-5 keV	Exp
Ar + Al	Secondary Electron Emission	3-5 keV	Exp

1282. M. Commisso, M. Minniti, A. Sindona, A. Bonanno, A. Oliva, R. A. Baragiola, P. Riccardi
Kinetic electron excitation in the interaction of slow Kr^+ ions with Al surfaces.
Nucl. Instrum. Methods Phys. Res. B 72, 165419 (2005)

Kr^+ + Al	Secondary Electron Emission	1-8 keV	Exp

1283. Y. Ekinci, J. P. Toennies
Elastic and rotationally inelastic diffraction of D_2 molecules from the LiF(001) surface.
Nucl. Instrum. Methods Phys. Res. B 72, 205430 (2005)

D_2 + LiF	Reflection	300 deg K	Exp

1284. V. Tuboltsev, P. Jaklanen, M. Kolodyazhnaya, J. Raisanen
Composition dependence of $Si_{1-x}Ge_x$ sputter yield.
Nucl. Instrum. Methods Phys. Res. B 72, 205434 (2005)

Ar^+ + Si	Sputtering	3 keV	E/T
Ar^+ + Ge	Sputtering	3 keV	E/T

1285. B. D. Teolis, R. A. Vidal, J. Shi, R. A. Baragiola
Mechanisms of O_2 sputtering from water ice by keV ions.
Nucl. Instrum. Methods Phys. Res. B 72, 245422 (2005)

Ar^+ + H_2O	Sputtering	100 keV	Exp

1286. Z. Sroubek, X. Chen, J. A. Yarmoff
Ion formation and kinetic electron emission during the impact of slow atomic metal particles on metal surfaces.
Nucl. Instrum. Methods Phys. Res. B 73, 045427 (2006)

Na^+ + Ru	Secondary Electron Emission	50 eV	Exp
Na^+ + Au	Sputtering	50 eV	Exp

1287. M. Tan, B. V. King
Population inversion of metastable Ni atoms sputtered from Ni(100), $Ni_3Al(100)$, and NiAl(110).
Nucl. Instrum. Methods Phys. Res. B 73, 075414 (2006)

Ar^+ + Ni	Sputtering	4 keV	Exp
Ar^+ + NiAl	Sputtering	4 keV	Exp
Ar^+ + Ni_3Al	Sputtering	4 keV	Exp

1288. X. Chen, Z. Sroubek, J. A. Yarmoff
Formation of multiply charged Al ions by direct recoil.
Nucl. Instrum. Methods Phys. Res. B 73, 132408 (2006)

Si^+ + Al	Sputtering	1-5 keV	E/T

1289. S. Prawer, S. Rubanov, S. M. Hearne, D. N. Jamieson, R. Kalish
Spatial extent of band bending in diamond due to ion impact as measured by secondary electron emission: Experiment and theory.
Nucl. Instrum. Methods Phys. Res. B 73, 153202 (2006)

e + C	Secondary Electron Emission	1-30 keV	Exp
e + Ga	Secondary Electron Emission	1-30 keV	Exp

1290. G. A. Grieves, T. M. Orlando
The importance of pores in the electron stimulated production of D_2 and O_2 in low temperature ice.
Nucl. Instrum. Methods Phys. Res. B 593, 180 (2005)

e + H_2O	Desorption	100 eV	Exp

1291. L. Markowski
Electron-stimulated desorption from alkali halide surfaces: Yield and kinetic-energy distributions of positive alkali ions.
Nucl. Instrum. Methods Phys. Res. B 593, 187 (2005)

e + LiF	Desorption	300-600 eV	Exp
e + NaCl	Desorption	300-600 eV	Exp

1292. B. V. Yakshihnskiy, T. E. Madey
Temperature-dependent DIET of alkalis from SiO_2 films: Comparison with a lunar sample.
Nucl. Instrum. Methods Phys. Res. B 593, 202 (2005)

K + Na	Adsorption, Desorption	300 deg K; 200 eV	Exp
K + SiO_2	Adsorption, Desorption	300 deg K; 200 eV	Exp
e + Na + SiO_2	Desorption	300 deg K; 200 eV	Exp
e + K + SiO_2	Desorption	300 deg K; 200 eV	Exp
e + Ba + SiO_2	Desorption	300 deg K; 200 eV	Exp

1293. P. E. Trevisanutto, P. V. Sushko, A. L. Shluger, K. M. Beck, M. Henyk, A. G. Joly, W. P. Hess
A mechanism of photo-induced desorption of oxygen atoms from MgO nano-crystals.
Nucl. Instrum. Methods Phys. Res. B 593, 210 (2005)

hν + MgO	Desorption	4.7 eV	E/T

1294. K. Wettergren, B. Kasemo, D. Chakarov
Photodesorption of NO from graphite(0001) surface mediated by silver clusters.
Nucl. Instrum. Methods Phys. Res. B 593, 235 (2005)

hν + C	Desorption	3.5 eV	Exp
hν + NO + C	Desorption	3.5 eV	Exp

1295. G. Comtet, G. Dujardin
Electronic processes producing O^+ ion photodesorption from oxygen adsorbed on Si(111)7x7.
Nucl. Instrum. Methods Phys. Res. B 593, 256 (2005)

hν + Si	Desorption	108 eV	Exp
hν + O + Si	Desorption	108 eV	Exp

1296. T. Tachibana, Y. Yamauchi, T. Miura, T. Hirayama, M. Sakurai, I. Arakawa
Photodesorption of ionized water clusters from water physisorbed on rare gas solids.
Nucl. Instrum. Methods Phys. Res. B 593, 264 (2005)

hν + H_2O + Ne	Desorption	6-1000 eV	Exp
hν + H_2O + Ar	Desorption	6-1000 eV	Exp
hν + H_2O + Kr	Desorption	6-1000 eV	Exp
hν + H_2O + Xe	Desorption	6-1000 eV	Exp

1297. A. Nambu, E. Kobayashi, M. Mori, K. K. Okudaira, N. Ueno, K. Mase
Isotope effects in $H^+(D^+)$ desorption induced by $4a_1$ ¡- 0 1s resonant transition of condensed H_2O (D_2O).
Nucl. Instrum. Methods Phys. Res. B 593, 269 (2005)

hν + H_2O	Desorption	525-555 eV	Exp
hν + D_2O	Desorption	525-555 eV	Exp

1298. S.-I. Nagaoka, K. Mase
Ion desorption caused by N 1s core-level photoexcitation of N_2O on Si(100) surface.
Nucl. Instrum. Methods Phys. Res. B 593, 276 (2005)

hν + SiO_2	Desorption	390-450 eV	Exp
hν + N_2O + SiO_2	Desorption	390-450 eV	Exp

1299. S. Takahashi, K. Nagata, M. Tona, M. Sakurai, N. Nakamura, C. Yamada, S. Ohtani
DIET in highly charged ion interaction with silicon surfaces.
Nucl. Instrum. Methods Phys. Res. B 593, 318 (2005)

Xe^{26+} + Si	Desorption	520-1000 keV	Exp
Xe^{26+} + H_2 + Si	Desorption	520-1000 keV	Exp
Xe^{34+} + Si	Desorption	520-1000 keV	Exp
Xe^{34+} + H_2 + Si	Desorption	520-1000 keV	Exp
Xe^{44+} + Si	Desorption	520-1000 keV	Exp
Xe^{44+} + H_2 + Si	Desorption	520-1000 keV	Exp
Xe^{50+} + Si	Desorption	520-1000 keV	Exp
Xe^{50+} + H_2 + Si	Desorption	520-1000 keV	Exp
Xe^{26+} + Si	Sputtering	520-1000 keV	Exp
Xe^{26+} + H_2 + Si	Sputtering	520-1000 keV	Exp
Xe^{34+} + Si	Sputtering	520-1000 keV	Exp
Xe^{34+} + H_2 + Si	Sputtering	520-1000 keV	Exp
Xe^{44+} + Si	Sputtering	520-1000 keV	Exp
Xe^{44+} + H_2 + Si	Sputtering	520-1000 keV	Exp
Xe^{50+} + Si	Sputtering	520-1000 keV	Exp
Xe^{50+} + H_2 + Si	Sputtering	520-1000 keV	Exp

1300. Y. Baba, T. Sekiguchi, I. Shimoyama
Desorption of cluster ions from frozen gases following high-density electronic excitation.
Nucl. Instrum. Methods Phys. Res. B 593, 324 (2005)

He^{+} + Ar	Sputtering	0-10 keV	E/T
He^{+} + CH_4	Sputtering	0-10 keV	E/T
He^{+} + N_2	Sputtering	0-10 keV	E/T

1301. T. Ito, I. Bolotin, R. Zhang, B. Makarenko, B. Bahrim, J. W. Rabalais
Electron-ion/atom coincidence measurements of 3 keV He^{+} interacting with a SiH(100)-(2 x 1) surface.
Nucl. Instrum. Methods Phys. Res. B 594, 54 (2005)

He^{+} + SiH	Reflection	3 keV	Exp
He^{+} + SiH	Secondary Electron Emission	3 keV	Exp

1302. B. Bahrim, B. Makarenko, J. W. Rabalais
Band gap effect on H^{-} ion survival near Cu surfaces.
Nucl. Instrum. Methods Phys. Res. B 594, 62 (2005)

H^{+} + Cu	Reflection	6 eV; 5 keV	E/T
H^{-} + Cu	Neutraliz., Ioniz., Dissoc.	6 eV; 5 keV	E/T

1303. Y. Rosandi, H. M. Urbassek
Grazing incidence impact of ions on an adatom-covered surface: Molecular-dynamics study of sputtering, surface-damage formation and ion-induced adatom mobility.
Nucl. Instrum. Methods Phys. Res. B 600, 1260 (2006)

Ar^{+} + Pt	Reflection	5 keV	Th
Ar^{+} + Pt	Sputtering	5 keV	Th

1304. A. J. Nelson, T. E. Felter, K. J. Wu, C. Evans, J. L. Ferreira, W. J. Siekhaus, W. McLean
Uranium passivation by C^{+} implantation: A photoemission and secondary ion mass spectrometry study.
Nucl. Instrum. Methods Phys. Res. B 600, 1319 (2006)

C^{+} + U	Chemical Reactions	33 keV	Exp

1305. V. N. Ageev, Yu. A. Kuznetsov, T. E. Madey
Electron stimulated desorption of cesium atoms from germanium-covered tungsten.
Nucl. Instrum. Methods Phys. Res. B 600, 2163 (2006)

e + Ge	Sputtering	0-150 eV	Exp
e + W	Sputtering	0-150 eV	Exp
e + Cs + Ge	Sputtering	0-150 eV	Exp
e + Cs + W	Sputtering	0-150 eV	Exp

1306. E. A. Garcia, C. Gonzalez Pascual, P. G. Bolcatto, M.C.G. Passeggi, E. C. Goldberg
Ion fractions in the scattering of hydrogen on different reconstructed silicon surfaces.
Nucl. Instrum. Methods Phys. Res. B 600, 2195 (2006)

H + Si	Reflection	1-4 keV	Th

1307. W. Zheng, A. Gallagher
Hydrogen dissociation on high-temperature tungsten.
Nucl. Instrum. Methods Phys. Res. B 600, 2207 (2006)

$\mathbf{H_2 + W}$	Neutraliz., Ioniz., Dissoc.	4.5 eV	Exp

1308. G. F. Liu, J. A. Yarmoff
Charge exchange between low energy alkali ions and cerium oxide surfaces.
Nucl. Instrum. Methods Phys. Res. B 600, 2293 (2006)

$\mathbf{Na^+ + CeO_2}$	Reflection	1-4.5 keV	Exp

1309. F. J. Kontur, J. C. Lancaster, F. B. Dunning
The dynamics of He^+ ion neutralization at a xenon film: Energy- and spin-resolved studies.
Nucl. Instrum. Methods Phys. Res. B 600, 2543 (2006)

$\mathbf{He^+ + Xe}$	Reflection	10-500 eV	Exp
$\mathbf{He^+ + Xe}$	Secondary Electron Emission	10-500 eV	Exp

1310. M. Tan, B. V. King
Deexcitation of sputtered metastable aluminum atoms.
Nucl. Instrum. Methods Phys. Res. B 600, 2771 (2006)

$\mathbf{Ar^+ + NiAl}$	Sputtering	4 keV	Exp
$\mathbf{Ar^+ + Ni_3Al}$	Sputtering	4 keV	Exp

1311. A. M. Borisov, E. S. Mashkova, A. S. Nemov, E. S. Parilis
Effect of radiation damage on ion-induced electron emission from highly oriented pyrolytic graphite.
Nucl. Instrum. Methods Phys. Res. B 80, 295 (2005)

$\mathbf{N_2{}^+ + C}$	Secondary Electron Emission	30 keV	Exp

1312. M. Rosler, N. Pauly, A. Dubus, R. Diez Muino, M. Alducin
Influence of plasmon-assisted charge exchange processes on ion-induced electron emission from metals.
Nucl. Instrum. Methods Phys. Res. B 80, 554 (2006)

$\mathbf{H^+ + Mg}$	Secondary Electron Emission	10-100 eV	Th

3.4 Particle Beam-Matter Interactions

1313. M. N. Faraggi, M. S. Gravielle, M. Alducin, J. I. Juaristi, V. M. Silkin
Band-structure-based collisional model for electronic excitations in ion-surface collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 012901 (2005)

$\mathbf{H^+ + Al + Mg}$	Part. Beam-Matter Interaction	100 keV	Th

1314. P. L. Grande, A. Hentz, G. Schiwietz, D. Starodub, E. Garfunkel, T. Gustafsson
Observation of collective inner-shell effects for protons backscattered from the Al(110) surface.
Nucl. Instrum. Methods Phys. Res. B 72, 012902 (2005)

$\mathbf{H^+ + Al + Mg}$	Part. Beam-Matter Interaction	98 keV	E/T

1315. Y.-H. Song, Y.-N. Wang, Z. L. Miskovic
Vicinage effects in energy loss and electron emission during grazing scattering of heavy molecular ions from a solid surface.
Nucl. Instrum. Methods Phys. Res. B 72, 012903 (2005)

$\mathbf{N_2{}^+ + C + Mg}$	Part. Beam-Matter Interaction	100-400 keV/u	Th

1316. G. A. Bocan, J. E. Miraglia
Plasmon decay mechanisms in proton-solid collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 042903 (2005)

$\mathbf{H^+ + Na + Mg}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th
$\mathbf{H^+ + Mg + Mg}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th
$\mathbf{H^+ + K + Mg}$	Part. Beam-Matter Interaction	1-13 v(a.u.)	Th

1317. O. N. Rosmej, A. Blazevic, S. Korostiy, R. Bock, D.H.H. Hoffmann, S. A. Pikuz Jr., V. P. Efremov, V. E. Fortov, A. Fertman, T. Mutin, T. A. Pikuz, A. Ya. Faenov
Charge state and stopping dynamics of fast heavy ions in dense matter.
Nucl. Instrum. Methods Phys. Res. B 72, 052901 (2005)

$\mathbf{Ca^{15+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp
$\mathbf{Ca^{16+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp
$\mathbf{Ca^{17+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp
$\mathbf{Ca^{18+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp
$\mathbf{Ca^{19+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	11.4 MeV/u	Exp

1318. S. Heredia-Avalos, R. Garcia-Molina, J. M. Fernandez-Varea, I. Abril
Calculated energy loss of swift He, Li, B, and N ions in SiO_2, Al_2O_3, and ZrO_2.
Nucl. Instrum. Methods Phys. Res. B 72, 052902 (2005)

$\mathbf{He^+ + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{He^+ + SiO_2 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{He^+ + ZrO_2 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{Li^{2+} + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{Li^{2+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{Li^{2+} + ZrO_2 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{B^{4+} + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{B^{4+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{B^{4+} + ZrO_2 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{N^{6+} + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{N^{6+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T
$\mathbf{N^{6+} + ZrO_2 + Mg}$	Part. Beam-Matter Interaction	10-5000 keV/amu	E/T

1319. V. P. Shevelko, H. Tawara, O. V. Ivanov, T. Miyoshi, K. Noda, Y. Sato, A. V. Subbotin, I. Yu. Tolstikhina
Target density effects in collisions of fast ions with solid targets.
Nucl. Instrum. Methods Phys. Res. B 38, 2675 (2005)

$\mathbf{C^{4+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{C^{5+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{C^{6+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Ne^{8+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Ne^{9+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Ne^{10+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Mg^{10+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Mg^{11+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Mg^{12+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Si^{12+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Si^{13+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Si^{14+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Ar^{13+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Ar^{14+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Ar^{15+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Ar^{16+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Ar^{17+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Ar^{18+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Fe^{19+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Fe^{20+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Fe^{21+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Fe^{22+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Fe^{23+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Fe^{24+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Fe^{25+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T
$\mathbf{Fe^{26+} + C + Mg}$	Part. Beam-Matter Interaction	100-40,000 keV/u	E/T

1320. I. B. Smirnov
Modeling of ionization produced by fast charged particles in gases.
Nucl. Instrum. Methods Phys. Res. B 554, 474 (2005)

$\mathbf{e + Ar + Mg}$	Part. Beam-Matter Interaction	$10^2 - 10^5$ eV	E/T

1321. M. Bianconi, N. P. Barradas, L. Correra
The stopping cross-section of aluminum for He ions.
Nucl. Instrum. Methods Phys. Res. B 239, 127 (2005)

$\mathbf{He^{+} + Al + Mg}$	Part. Beam-Matter Interaction	0.1-3.0 MeV	Exp

1322. C. Pascual-Izarra, N. P. Barradas, G. Garcia, A. Climent-Font
Experimental stopping forces for He, C, O, Al and Si ions in Al_2O_3 in the energy range of 40-1250 keV/nucleon.
Nucl. Instrum. Methods Phys. Res. B 239, 135 (2005)

$\mathbf{He^{+} + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp
$\mathbf{C^{+} + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp
$\mathbf{O^{+} + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp
$\mathbf{Al^{+} + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp
$\mathbf{Si^{+} + Al_2O_3 + Mg}$	Part. Beam-Matter Interaction	40-1250 keV/amu	Exp

1323. S. Mammeri, S. Ouichaoui, R. Zemih, H. Ammi, M. Abdesselam, A. C. Chami
Sputtering yields, range and range straggling in Al following Kr^+ ions bombardment in the energy range (20-160) keV.
Nucl. Instrum. Methods Phys. Res. B 240, 162 (2005)

Kr^{+} + Al + Mg	Part. Beam-Matter Interaction	20-160 keV	Exp

1324. J. Oddershede, J. R. Sabin, R. Cabrera-Trujillo
Comparison of shell corrections in the Bohr and Bethe formulations of stopping power.
Nucl. Instrum. Methods Phys. Res. B 241, 144 (2005)

He + He Z= ?-? + Mg	Part. Beam-Matter Interaction	25-500 eV	Th
He^{2+} + He + Mg	Part. Beam-Matter Interaction	25-500 eV	Th
He^{2+} + Ne + Mg	Part. Beam-Matter Interaction	25-500 eV	Th
He^{2+} + Ar + Mg	Part. Beam-Matter Interaction	25-500 eV	Th
Ne + He Z= ?-? + Mg	Part. Beam-Matter Interaction	25-500 eV	Th
Al + He Z= ?-? + Mg	Part. Beam-Matter Interaction	25-500 eV	Th

1325. J. Y. Hsu, Y. C. Yu, J. H. Liang, K. M. Chen
Experimental stopping forces in aluminum and silver by $^{3}He/^{4}He$, $^{6}Li/7Li$ and $^{10}B/^{11}B$ ions.
Nucl. Instrum. Methods Phys. Res. B 241, 155 (2005)

He^{+} + Al + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
He^{+} + Ag + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
Li^{+} + Al + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
Li^{+} + Ag + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
B^{+} + Al + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
B^{+} + Ag + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp

1326. J. Y. Hsu, J. H. Liang, Y. C. Yu, K. M. Chen
Energy straggling of He, Li, and B isotopes in aluminum and silver.
Nucl. Instrum. Methods Phys. Res. B 241, 160 (2005)

H^{+} + Al + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
H^{+} + Ag + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
Li^{+} + Al + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
Li^{+} + Ag + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
B^{+} + Al + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp
B^{+} + Ag + Mg	Part. Beam-Matter Interaction	0.1-1.5 MeV/amu	Exp

1327. Y. Zhang, W. J. Weber, A. Razpet, G. Possnert
Electronic stopping powers for Be, Ca and Ti in SiC.
Nucl. Instrum. Methods Phys. Res. B 242, 82 (2005)

Be^{+} + SiC + Mg	Part. Beam-Matter Interaction	40-680 keV/u	E/T
Ca^{+} + SiC + Mg	Part. Beam-Matter Interaction	40-680 keV/u	E/T
Ti^{+} + SiC + Mg	Part. Beam-Matter Interaction	40-680 keV/u	E/T

1328. A. E. Stuchbery, A. N. Wilson, P. M. Davidson
Equilibrium charge-state distributions for S and Si ions emerging from iron and gadolinium targets with velocities near their K-shell electron velocity.
Nucl. Instrum. Methods Phys. Res. B 243, 265 (2005)

Si^{+} + Fe + Mg	Part. Beam-Matter Interaction	84-237 MeV	Exp
Si^{+} + Ga + Mg	Part. Beam-Matter Interaction	84-237 MeV	Exp
S^{+} + Fe + Mg	Part. Beam-Matter Interaction	84-237 MeV	Exp
S^{+} + Ga + Mg	Part. Beam-Matter Interaction	84-237 MeV	Exp

1329. A. L'Hoir, L. Adoui, F. Barrue, A. Billebaud, F. Bosch, A. Brauning-Demian, H. Brauning, A. Cassimi, M. Chevallier, C. Cohen, D. Dauvergne, C. E. Demonchy, L. Giot, R. Kirsch, A.

Gumberidze, C. Kozhuharov, D. Liesen, W. Mittig, P. H. Mokler, S. Pita, J.-C. Poizat, C. Ray, P. Roussel-Chomaz, H. Rothard, J.-P. Rozet, Th. Stoehlker, M. Tarisien, E. Testa, S. Toleikis, M. Toulemonde, D. Vernhet
Ion slowing down and charge exchange at small impact parameters selected by channeling: Superdensity effects.
Nucl. Instrum. Methods Phys. Res. B 245, 1 (2005)

$\mathbf{Pb^{56+} + Si + Mg}$	Part. Beam-Matter Interaction	29 MeV/u	E/T
$\mathbf{U^{91+} + Si + Mg}$	Part. Beam-Matter Interaction	29 MeV/u	E/T

1330. F. Gruener, F. Bell
First-principles-simulation of both charge state and stopping power of swift heavy ions in solids.
Nucl. Instrum. Methods Phys. Res. B 245, 15 (2005)

$\mathbf{Ni^{13+} + C + Mg}$	Part. Beam-Matter Interaction	1 MeV/u	Th
$\mathbf{Ni^{17+} + C + Mg}$	Part. Beam-Matter Interaction	1 MeV/u	Th
$\mathbf{Ni^{22+} + C + Mg}$	Part. Beam-Matter Interaction	1 MeV/u	Th

1331. A. Fettouhi, H. Geissel, A. Schinner, P. Sigmund
Stopping of high-Z ions at intermediate velocities.
Nucl. Instrum. Methods Phys. Res. B 245, 22 (2005)

$\mathbf{Xe^{+} + C + Mg}$	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th
$\mathbf{Au^{+} + C + Mg}$	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th
$\mathbf{Pb^{+} + C + Mg}$	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th
$\mathbf{U^{+} + C + Mg}$	Part. Beam-Matter Interaction	$0.1 - 10^3$ MeV/u	Th

1332. L. L. Balashova, A. A. Sokolik
Alignment dependence of the stopping effective charge of swift excited ions in the degenerate electron gas.
Nucl. Instrum. Methods Phys. Res. B 245, 28 (2005)

$\mathbf{He + C + Mg}$	Part. Beam-Matter Interaction		Th
$\mathbf{Li^{+} + C + Mg}$	Part. Beam-Matter Interaction		Th

1333. A. Fettouhi, H. Weick, M. Portillo, F. Becker, D. Boutin, H. Geissel, R. K. Knoebel, J. Kurcewicz, W. Kurcewicz, J. Kurpeta, Yu. Litvinov, R. J. Livesay, D. J. Morrissey, G. Muenzenberg, J. A. Nolen, H. Ogawa, N. Sakamoto, C. Scheidenberger, J. Stadlmann, M. Winkler, N. Yao
Gas-solid effect in mean charge and slowing down of uranium ions at 60.2 and 200 MeV/u.
Nucl. Instrum. Methods Phys. Res. B 245, 32 (2005)

$\mathbf{U^{81+} + B + Mg}$	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+} + C + Mg}$	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+} + Ne + Mg}$	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+} + Si + Mg}$	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+} + Cl + Mg}$	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+} + Ti + Mg}$	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+} + Cu + Mg}$	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+} + Br + Mg}$	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+} + Pd + Mg}$	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+} + Xe + Mg}$	Part. Beam-Matter Interaction	60-200 MeV/u	Exp
$\mathbf{U^{81+} + Au + Mg}$	Part. Beam-Matter Interaction	60-200 MeV/u	Exp

1334. A. Blazevic, H. G. Bohlen, W. von Oertzen, V. V. Balashov, A. V. Stysin
Charge-state resolved energy spectra of swift ^{22}Ne ions passing through thin carbon foils.
Nucl. Instrum. Methods Phys. Res. B 245, 41 (2006)

Ne^{7+} + C + Mg	Part. Beam-Matter Interaction	2 MeV/u	Th
Ne^{8+} + C + Mg	Part. Beam-Matter Interaction	2 MeV/u	Th
Ne^{9+} + C + Mg	Part. Beam-Matter Interaction	2 MeV/u	Th
Ne^{10+} + C + Mg	Part. Beam-Matter Interaction	2 MeV/u	Th

1335. A. Itoh, M. Kaneda, S. Satoh, K. Ishii, H. Tsuchida
Energy loss of swift protons in liquid water and ethanol.
Nucl. Instrum. Methods Phys. Res. B 245, 76 (2006)

H^+ + H_2O + Mg	Part. Beam-Matter Interaction	1.7-2.0 MeV	Exp

1336. M. A. Gagliardi, A. W. Hunt
Monte Carlo simulations of slow-positron production from normal and glancing incident targets.
Nucl. Instrum. Methods Phys. Res. B 245, 347 (2006)

e + Al + Mg	Part. Beam-Matter Interaction	0.01-10 MeV	Th
e + Si + Mg	Part. Beam-Matter Interaction	0.01-10 MeV	Th

1337. M. Lindenblatt, E. Pehlke, A. Duvenbeck, B. Rethfeld, A. Wucher
Kinetic excitation of solids: The concept of electronic friction.
Nucl. Instrum. Methods Phys. Res. B 246, 333 (2006)

H + Al + Mg	Part. Beam-Matter Interaction	2-10 eV	Th

1338. H. Paul
A comparison of recent stopping power tables for light and medium-heavy ions with experimental data, and applications to radiotherapy dosimetry.
Nucl. Instrum. Methods Phys. Res. B 247, 166 (2006)

H^+ + H_2O + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
H^+ + N_2 + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
H^+ + O_2 + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
Li^+ + Ag + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
Li^+ + H_2O + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
Li^+ + N_2 + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
Li^+ + O_2 + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
C^+ + C + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T
A^+ + A + Mg	Part. Beam-Matter Interaction	0.025-1000 MeV/u	E/T

1339. A. D. Fertman, T. Yu. Mutin, M. M. Basko, A. A. Golubev, T. V. Kulevoy, R. P. Kuybeda, V. I. Pershin, I. V. Roudskoy, B. Yu. Sharkov
Stopping power measurements for 100-keV/u Cu ions in hydrogen and nitrogen.
Nucl. Instrum. Methods Phys. Res. B 247, 199 (2006)

Cu^+ + H_2 + Mg	Part. Beam-Matter Interaction	100 keV/u	E/T
Cu^+ + N_2 + Mg	Part. Beam-Matter Interaction	100 keV/u	E/T

1340. H. Paul, A. Schinner
Statistical analysis of stopping data for protons and alphas in compounds.
Nucl. Instrum. Methods Phys. Res. B 249, 1 (2006)

H^+ + H_2O + Mg	Part. Beam-Matter Interaction	$10^{-3} - 1$ MeV	E/T

1341. R. Garcia-Molina, I. Abril, C. D. Denton, S. Heredia-Avalos
Allotropic effects on the energy loss of swift H^+ and He^+ ion beams through thin foils.
Nucl. Instrum. Methods Phys. Res. B 249, 6 (2006)

H^+ + C + Mg	Part. Beam-Matter Interaction	10-10,000 keV/amu	Th

1342. V. Kuzmin
Range parameters of heavy ions in carbon calculated with first-principles potentials.
Nucl. Instrum. Methods Phys. Res. B 249, 13 (2006)

Au^+ + C + Mg	Part. Beam-Matter Interaction	1-1000 keV	Th

1343. Y. Zhang, J. Jensen, G. Possnert, D. A. Grove, D. E. McCready, B. W. Arey, W. J. Weber
Electronic stopping forces of heavy ions in metal oxides.
Nucl. Instrum. Methods Phys. Res. B 249, 18 (2006)

He^+ + ZrO_2 + Mg	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T
He^+ + Ta_2O_5 + Mg	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T
He^+ + Nb_2O_5 + Mg	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T
C^+ + ZrO_2 + Mg	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T
F^+ + Ta_2O_5 + Mg	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T
F^+ + Nb_2O_5 + Mg	Part. Beam-Matter Interaction	0-1500 keV/amu	E/T

1344. S. Damache, S. Ouichaoui, D. Moussa, A. Dib
Effects of the projectile electronic structure on stopping parameters for nickel.
Nucl. Instrum. Methods Phys. Res. B 249, 22 (2006)

H^+ + Ni + Mg	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp
He^{2+} + Ni + Mg	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp
D^+ + Ni + Mg	Part. Beam-Matter Interaction	0.166-2.72 MeV/amu	Exp

1345. D. Emfietzoglou, H. Nikjoo, A. Pathak
Electronic cross sections for proton transport in liquid water based on optical-data models.
Nucl. Instrum. Methods Phys. Res. B 249, 26 (2006)

H^+ + H_2O + Mg	Part. Beam-Matter Interaction	50-10,000 keV	Th

1346. J. C. Moreno-Marin, I. Abril, S. Heredia-Avalos, R. Garcia-Molina
Electronic energy loss of swift H^+ and He^+ ions in solids with material science applications.
Nucl. Instrum. Methods Phys. Res. B 249, 29 (2006)

H^+ + Ti + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
H^+ + Fe + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
H^+ + Ge + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
H^+ + Pd + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
H^+ + LiF + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
H^+ + Si_3N_4 + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
He^+ + Ti + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
He^+ + Fe + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
He^+ + Ge + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
He^+ + Pd + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
He^+ + LiF + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th
He^+ + Si_3N_4 + Mg	Part. Beam-Matter Interaction	1-10,000 keV/amu	Th

1347. S. Amadon, W. A. Lanford
He stopping power and straggle in Al, Ti, Co, Cu, Ag, Ta and Au from 1.5 to 4 MeV.
Nucl. Instrum. Methods Phys. Res. B 249, 34 (2006)

He^{+} + Al + Mg	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
He^{+} + Ti + Mg	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
He^{+} + Co + Mg	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
He^{+} + Cu + Mg	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
He^{+} + Ag + Mg	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
He^{+} + Ta + Mg	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp
He^{+} + Au + Mg	Part. Beam-Matter Interaction	1.5-4.0 MeV	Exp

1348. J.A.M. Pereira
Extension of the Brandt-Kitagawa model for Hartree-Fock electronic densities.
Nucl. Instrum. Methods Phys. Res. B 249, 38 (2006)

Li^{+} + Al + Mg	Part. Beam-Matter Interaction		Th
O^{+} + Al + Mg	Part. Beam-Matter Interaction		Th

1349. K. Takahiro, K. Kawatsura, B. Tsuchiya, S. Nagata
Difference in stopping cross section factor for ^{4}He ions between polycrystalline diamond and glassy carbon.
Nucl. Instrum. Methods Phys. Res. B 249, 43 (2006)

He^{+} + C + Mg	Part. Beam-Matter Interaction	1.4-4.0 MeV	Exp

1350. Y. C. Yu, J. Y. Hsu, J. H. Liang, K. M. Chen
Energy loss straggling of energetic ^{3}He and ^{6}Li ions into polymer foils.
Nucl. Instrum. Methods Phys. Res. B 249, 47 (2006)

He^{+} + H + Mg	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp
He^{+} + C + Mg	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp
Li^{+} + H + Mg	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp
Li^{+} + C + Mg	Part. Beam-Matter Interaction	1.1-4.8 MeV	Exp

1351. J. Perkowski, J. Andrzejewski, A. Climent-Font, G. Knyazheva, V. Lyapin, T. Malkiewicz, A. Munoz-Martin, W. H. Trzaska
Stopping power measurement of $^{4}8Ca$ in a broad energy range in solid absorbers.
Nucl. Instrum. Methods Phys. Res. B 249, 55 (2006)

Ca^{+} + C + Mg	Part. Beam-Matter Interaction	5-250 MeV	Exp
Ca^{+} + Ni + Mg	Part. Beam-Matter Interaction	5-250 MeV	Exp
Ca^{+} + Au + Mg	Part. Beam-Matter Interaction	5-250 MeV	Exp

1352. S. P. Chenakin, S. N. Markin, E. Steinbauer, M. Draxler, P. Bauer
Electronic stopping of hydrogen ions deduced from TOF-LEIS spectra.
Nucl. Instrum. Methods Phys. Res. B 249, 58 (2006)

H^{+} + Au + Mg	Part. Beam-Matter Interaction	0.33-10 keV	Exp
D^{+} + Au + Mg	Part. Beam-Matter Interaction	0.33-10 keV	Exp

1353. E. Strub, W. Bohne, J. Roehrich
Determination of the energy loss of various elements in metal foils with the TOF-ERDA setup at the ISL Berlin.
Nucl. Instrum. Methods Phys. Res. B 249, 62 (2006)

$\mathbf{He^{2+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{He^{2+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{He^{2+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{B^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{B^{+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{B^{+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{O^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{O^{+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{O^{+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Al^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Al^{+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Al^{+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Si^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Si^{+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Si^{+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Cu^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Cu^{+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Cu^{+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Ba^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Ba^{+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Ba^{+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Au^{+} + Fe + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Au^{+} + Ag + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp
$\mathbf{Au^{+} + Au + Mg}$	Part. Beam-Matter Interaction	6-86 MeV	Exp

1354. R. Gonzalez-Arrabal, V. A. Khodyrev, N. Gordillo, G. Garcia, D. O. Boerma
The Coulomb explosion of swift $C_2{}^+$ molecules under channeling conditions.
Nucl. Instrum. Methods Phys. Res. B 249, 65 (2006)

$\mathbf{C^{+} + Si + Mg}$	Part. Beam-Matter Interaction	1.8 MeV/amu	Exp
$\mathbf{C_2{}^{+} + Si + Mg}$	Part. Beam-Matter Interaction	1.8 MeV/amu	Exp

1355. H. Amekura, O. A. Plaksin, N. Umeda, K. Kono, N. Kishimoto, Ch. Buchal
Concentration profiles of Zn ions implanted with 60 keV for nanoparticle formation in silica glass.
Nucl. Instrum. Methods Phys. Res. B 80, 802 (2006)

$\mathbf{Zn^{+} + SiO_2 + Mg}$	Part. Beam-Matter Interaction	60 keV	Exp

3.5 Interactions of Atomic Particles with Fields

1356. A. V. Turbiner, J. C. Lopez Vieyra, N. L. Guevara
Exotic $H_3{}^{2+}$ ion in a strong magnetic field: Linear configuration.
Nucl. Instrum. Methods Phys. Res. B 72, 023403 (2005)

$\mathbf{H_3{}^{2+} + Mg}$	Atom Field Interaction		Th

1357. K. M. Dunseath, M. Terao-Dunseath, G. Bourhis
Selection rules for laser-assisted electron-atom collisions with the laser field normal to the scattering plane.
Nucl. Instrum. Methods Phys. Res. B 72, 033410 (2005)

e + He + Mg	Atom Field Interaction	4-22 eV	Th

1358. A. S. Alnaser, M. Zamkov, X. M. Tong, C. M. Maharjan, P. Ranitovic, C. L. Cocke, I. V. Litvinyuk
Resonant excitation during strong-field dissociative ionization.
Nucl. Instrum. Methods Phys. Res. B 72, 041402 (2005)

O_2 + Mg	Atom Field Interaction	550-1800 nm	Exp

1359. C. M. Maharjan, A. S. Alnaser, X. M. Tong, B. Ulrich, P. Ranitovic, S. Ghimire, Z. Chang, I. V. Litvinyuk, C. L. Cocke
Momentum imaging of doubly charged ions of Ne and Ar in the sequential ionization region.
Nucl. Instrum. Methods Phys. Res. B 72, 041403 (2005)

Ne + Mg	Atom Field Interaction	800 nm	Exp
Ar + Mg	Atom Field Interaction	800 nm	Exp

1360. M. Buser, L. Frommhold
Collision-induced rototranslational absorption in compressed methane gas.
Nucl. Instrum. Methods Phys. Res. B 72, 042715 (2005)

CH_4 + Mg	Atom Field Interaction	163-297 K	Th

1361. E. J. Angstmann, T. H. Dinh, V. V. Flambaum
Parity nonconservation in atomic Zeeman transitions.
Nucl. Instrum. Methods Phys. Res. B 72, 052108 (2005)

K + Mg	Atom Field Interaction	0-1 T	Th
Rb + Mg	Atom Field Interaction	0-1 T	Th
Cs + Mg	Atom Field Interaction	0-1 T	Th
Ba^+ + Mg	Atom Field Interaction	0-1 T	Th
Au + Mg	Atom Field Interaction	0-1 T	Th
Tl + Mg	Atom Field Interaction	0-1 T	Th
Fr + Mg	Atom Field Interaction	0-1 T	Th

1362. A. Chattopadhyay, C. Sinha
Ionization of a hydrogenic ion by electron and positron impact in the presence of a laser field.
Nucl. Instrum. Methods Phys. Res. B 72, 053406 (2005)

e + He^+ + Mg	Atom Field Interaction	200-500 eV	Th

1363. C. Rangan, R.J.A. Murray
Theory of detection of angular momentum states in Rydberg atoms using half-cycle pulses.
Nucl. Instrum. Methods Phys. Res. B 72, 053409 (2005)

H + Mg	Atom Field Interaction	0.001-0.009 a.u.	Th
H^* + Mg	Atom Field Interaction	0.001-0.009 a.u.	Th
Cs + Mg	Atom Field Interaction	0.001-0.009 a.u.	Th
Cs^* + Mg	Atom Field Interaction	0.001-0.009 a.u.	Th

1364. L. G. Marcassa, A.R.L. Caires, V. A. Nascimento, O. Dulieu, J. Weiner, V. S. Bagnato
Storage ring to investigate cold unidimensional atomic collisions.
Nucl. Instrum. Methods Phys. Res. B 72, 060701 (2005)

Rb + Rb + Mg	Atom Field Interaction	10 cm/s	Exp
Rb + Rb^* + Mg	Atom Field Interaction	10 cm/s	Exp

1365. A. Krug, A. Buchleitner
Universal ionization threshold for strongly driven Rydberg states.
Nucl. Instrum. Methods Phys. Res. B 72, 061402 (2005)

H + Mg	Atom Field Interaction	8.9-36 GHz	Th
Li + Mg	Atom Field Interaction	8.9-36 GHz	Th
Na + Mg	Atom Field Interaction	8.9-36 GHz	Th
Rb + Mg	Atom Field Interaction	8.9-36 GHz	Th

1366. A. V. Lugovskoy, I. Bray
Sudden perturbation of hydrogen atoms by intense ultrashort laser pulses.
Nucl. Instrum. Methods Phys. Res. B 72, 063402 (2005)

H + Mg	Atom Field Interaction	$10^{-3} - 0.2$ a.u.	Th

1367. M. G. Dimova, M. S. Kaschiev, S. I. Vinitsky
The Kantorovich method for high-accuracy calculations of a hydrogen atom in a strong magnetic field: Low-lying excited states.
Nucl. Instrum. Methods Phys. Res. B 38, 2337 (2005)

H + Mg	Atom Field Interaction	$0 - 10^{13}$ Ga	Th

1368. M. N. Guimaraes, F. V. Prudente
A study of the confined hydrogen atom using the finite element method.
Nucl. Instrum. Methods Phys. Res. B 38, 2811 (2005)

H + Mg	Atom Field Interaction		Th

1369. S. Cohen, S. I. Themelis
Construction of RKR-QDT atomic model potentials for the calculation of Lithium polarizabilities and hyper-polarizabilities.
Nucl. Instrum. Methods Phys. Res. B 38, 3705 (2005)

Li + Mg	Atom Field Interaction		Th

1370. O. Guyetand, M. Gisselbrecht, A. Huetz, P. Agostini, R. Taieb, V. Veniard, A. Maquet, L. Antonucci, O. Boyko, C. Valentin, D. Douillet
Multicolour above-threshold ionization of helium: Quantum interference effects in angular distributions.
Nucl. Instrum. Methods Phys. Res. B 38, L357 (2005)

He + Mg	Atom Field Interaction	810 nm	E/T

1371. V. A. Pazdzersky, A. V. Koval
Angular photoelectron spectra for atom ionization in an intense two-colour laser field.
Nucl. Instrum. Methods Phys. Res. B 38, 3945 (2005)

H + Mg	Atom Field Interaction	1.93 eV	Th
Xe + Mg	Atom Field Interaction	1.93 eV	Th

1372. M. Ortiz, R. Mayo
Measurement of the Stark broadening for several lines of singly ionized gold.
Nucl. Instrum. Methods Phys. Res. B 38, 3953 (2005)

Au^+ + Mg	Atom Field Interaction		Exp

1373. M. Madine, H. W. van der Hart
Competition between multi-photon emission of the 1s and the 2s electron from He 1s2s ^1S.
Nucl. Instrum. Methods Phys. Res. B 38, 3963 (2005)

He + Mg	Atom Field Interaction	11.2-49.50 eV	Th
He* + Mg	Atom Field Interaction	11.2-49.50 eV	Th

1374. M. Awasthi, Y. V. Vanne, A. Saenz
Non-perturbative solution of the time-dependent Schrodinger equation describing H_2 in intense short laser pulses.
Nucl. Instrum. Methods Phys. Res. B 38, 3973 (2005)

He + Mg	Atom Field Interaction	2-30 eV	Th
H_2 + Mg	Atom Field Interaction	2-30 eV	Th

1375. V. N. Ostrovsky
High harmonic generation by anions and atoms: Effect of initial/final-state wavefunctions.
Nucl. Instrum. Methods Phys. Res. B 38, 4399 (2005)

H + Mg	Atom Field Interaction		Th
H* + Mg	Atom Field Interaction		Th
B + Mg	Atom Field Interaction		Th
F$^-$ + Mg	Atom Field Interaction		Th
Ne + Mg	Atom Field Interaction		Th
I$^-$ + Mg	Atom Field Interaction		Th
Xe + Mg	Atom Field Interaction		Th

1376. R. J. Pelaez, V. R. Gonzalez, F. Rodriguez, J. A. Aparicio, S. Mar
Stark parameters of neutral helium 318.8 nm line.
Nucl. Instrum. Methods Phys. Res. B 453, 751 (2006)

He + Mg	Atom Field Interaction	318.8 nm	Exp

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