

CURRICULUM VITAE

Ronald Arthur Phaneuf

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PERSONAL DATA:

Birth Date: January 26, 1947
Birth Place: Windsor, Ontario, Canada
Citizenship: U.S.A. (Naturalized, 1986)

EDUCATION:

Ph.D. (Atomic Physics), University of Windsor, Canada, 1973
M.Sc. (Atomic Physics), University of Windsor, Canada, 1970
B.Sc. (Honours Physics), University of Windsor, Canada, 1969

ACADEMIC AWARDS:

National Research Council of Canada Postdoctorate Fellowship, 1973-75
Province of Ontario Graduate Fellowship, 1969-73
Steel Company of Canada Bursary, 1966-68
University of Windsor Entrance Scholarship, 1965-66

PROFESSIONAL AWARDS:

Foundation Professor, University of Nevada, Reno, 2004
Alexander von Humboldt Research Award, 2003
David A. Shirley Award for Outstanding Scientific Achievement at the Advanced Light Source, 2002
Publication Award, Martin Marietta Energy Systems, 1989
Fellow of the American Physical Society, 1986

PROFESSIONAL EMPLOYMENT HISTORY:

1992-present:

Professor of Physics and Chemical Physics
Department of Physics
University of Nevada
Reno, Nevada 89557-0058
(Department Chair, 1992-2001, Foundation Professor, 2004)

1975-1992:

Senior Research Staff Member
Program Manager, Atomic Physics and Diagnostics Development for Fusion
Director, ORNL Controlled Fusion Atomic Data Center
Physics Division, Oak Ridge National Laboratory
Oak Ridge, Tennessee 37831-6372
(Research Associate, 1975-81; Research Staff Member, 1981-85; Senior Research Staff Member, 1986-1992; Program Manager 1983-92, Data Center Director 1985-92)

1988-1989:

Visiting Scientist
JILA
University of Colorado and National Institute of Standards and Technology
Boulder, Colorado 80309-0440

1973-1975:

Postdoctoral Research Associate
Joint Institute for Laboratory Astrophysics
University of Colorado and National Bureau of Standards
Boulder, Colorado 80309-0440

OTHER PROFESSIONAL ACTIVITIES AND DISTINCTIONS:

Member of Screening Panel, E. O. Lawrence Award, U.S. Department of Energy (1994).

Member of Committee on Atomic, Molecular and Optical Sciences (CAMOS), National Research Council, 1990-93.

Member of Atomic, Molecular and Optical Sciences Assessment Panel, Commission on Physical Sciences, Mathematics and Applications, National Research Council, 1992-93.

Member of American Association of Physics Teachers, 1995-present.

Secretary-Treasurer (1993-96); Chair of: Nominating Committee (1996-97), Davisson-Germer Prize Committee, 2005; Member of: Publications Committee (1985-86), Executive Committee (1988-89), Program Committee (1989-91) Nominating Committee (1997-98), Fellowship Committee (1999-2000): Division of Atomic, Molecular and Optical Physics, American Physical Society.

Member, of Program Committee, International Conference on the Physics of Highly Charged Ions (1990, 1992).

Member of General Committee, International Conference on the Physics of Electronic and Atomic Collisions (1983-87, 1997-2003).

Member, of Editorial Board, Journal of Physical and Chemical Reference Data (1986-88).

Member of Program Advisory Committee, Holifield Heavy Ion Research Facility, Oak Ridge National Laboratory (1987-89).

Member of Atomic and Molecular Data Center Network (1983-92), and Advisory Group on Atomic and Molecular Data for Fusion Plasma Modeling (1983-93), International Atomic Energy Agency.

PROFESSIONAL SPECIALTIES AND EXPERIENCE:

Management of an academic department as chair and professor for nine years (12 academic and 7 research faculty); director and principal investigator of a state-wide federally-funded academic research program (Nevada DOE EPSCoR, \$750,000 per year); management of a research and development program in atomic physics and plasma diagnostics at a national laboratory for ten years (12 professionals, annual budget of \$1,500,000).

Teaching of eight different lecture courses, including General Physics I, Physics for Scientists and Engineers I & II, Physical Electronics; development of capstone course on Energy and Society and upper-division course on Waves and Oscillations, and Honors University Seminar on Science, Technology and Society; direction of B.S., M.S. and Ph.D. theses and of postdoctoral fellows in research; undergraduate and graduate academic advisement.

Research on interactions of multiply charged ions with electrons, atoms, molecules and photons; electron capture; electron-impact excitation, ionization and dissociation of ions; photoexcitation and photoionization; autoionizing states and resonances; role of many-electron processes in atomic interactions; role of atomic physics in modeling and diagnostics of high-temperature plasmas in fusion energy research and astrophysics; atomic data compilation and database management, critical data analysis. Experimental techniques include: absolute measurements with crossed and merged beams; electron spectroscopy; laser-produced plasmas; laser photodetachment; electron and ion beam production, analysis and detection; design of charged-particle optics and beam transport systems; position-sensitive and coincidence particle detection; time-of-flight analysis; computer data acquisition, analysis and control of experiments; design of ultra-high-vacuum systems.

Service on committees and panels of the National Research Council, Department of Energy, International Atomic Energy Agency and American Physical Society; three-year term as secretary-treasurer of the Division of Atomic, Molecular and Optical Physics of the American Physical Society; Faculty Senate Executive Board, Graduate Council, academic search committees for faculty, dean, DRI division director and classified staff; University Radiation Safety and Diversity Committees; College Personnel Committee; Dean Evaluation Committee; numerous graduate committees; regular reviewer of proposals and journal manuscripts; co-organizer of

conferences and workshops; science education outreach via physics demonstrations to elementary, middle and high-school students; presenter for Science and Technology Day, Engineers Day and Elder College; judge for regional Science Fair.

EXTERNAL RESEARCH GRANTS:

U.S. Department of Energy, Office of Basic Energy Sciences, \$577,000, August 2006 – January 2010.
NASA, Goddard Space Flight Center, \$29,029, March 2008 – March 2010.
NASA, Nevada Astrophysics EPSCoR, \$64,391, January 2008 – June 2010.
U.S. Department of Energy, Office of Basic Energy Sciences, \$480,000, August 2003 – July, 2006.
National Institute of Standards and Technology, \$9,188, July, 2005 – November, 2005.
National Institute of Standards and Technology, \$26,670, November, 2004 – March, 2005.
National Institute of Standards and Technology, \$96,610, July 2003 – November, 2004.
U.S. Department of Energy, Office of Basic Energy Sciences, \$45,000, April 2003 – July, 2003.
U.S. Department of Energy, Office of Basic Energy Sciences, \$455,900, August 2000 – July, 2003.
U.S. Department of Energy, Office of Basic Energy Sciences, \$456,500, August 1997 – July, 2000.
U.S. Department of Energy, Facilities Initiative, \$40,000, January, 1998 – July, 1999.
NASA, Jet Propulsion Laboratory, \$22,000, September 1998 – August 1999.
Lawrence Livermore National Laboratory, \$2,500, April 1996 – April 1997.
U.S. Department of Energy, Nevada Chemical Physics EPSCoR, \$410,300, July 1994 – September 2000.

CURRENT RESEARCH COLLABORATORS:

Ignacio Álvarez	Universidad Nacional Autónoma de México, Cuernavaca, Mexico
Mark Bannister	Oak Ridge National Laboratory
Nora Berrah	Western Michigan University
John Bozek	Stanford Synchrotron Radiation Laboratory
Carmen Cisneros	Universidad Nacional Autónoma de México, Cuernavaca, Mexico
Gordon Dunn	JILA, University of Colorado
Finn Folkmann	Aarhus University, Denmark
Henrik Kjeldsen	Aarhus University, Denmark
Guillermo Hinojosa	Universidad Nacional Autónoma de México, Cuernavaca, Mexico
A. L. David Kilcoyne	Lawrence Berkeley National Laboratory
Brendan McLaughlin	Queen's University, Belfast, U.K.
Alfred Müller	Justus Liebig Universität, Giessen, Germany
Sultana Nahar	Ohio State University
Sandor Ricz	ATOMKI, Debrecen, Hungary
Jan-Michael Rost	Max Planck Institute for the Physics of Complex Systems, Dresden, Germany
Stephan Schippers	Justus Liebig Universität, Giessen, Germany
Alfred Schlachter	Lawrence Berkeley National Laboratory
John West	Daresbury Laboratory, U.K.

GRADUATE THESES AND DISSERTATIONS SUPERVISED AND COMPLETED:

X. Da, "Multicharged Ion Beam Transport and Analysis System for ECR Ion Source," M.S. (1995).
Y. Li, "A Protective Interlock System for the UNR Multicharged Ion Research Facility," M.S. (1995).
R. Rejoub, "Electron-Impact Ionization of Multiply Charged Manganese Ions," Ph.D. (1998).
V. Golovkina, "Extreme Ultraviolet (EUV) Spectroscopy a Probe of Multicharged Ion Interactions," M.S. (2000).
M. Lu, "Electron Spectroscopy of Sodium-like Autoionizing Metastable Ions," M.S. (2001).
A. Aguilar, "Photoionization of Positive Ions: the Nitrogen Isoelectronic Sequence," Ph.D. (2003).
E.D. Emmons, "A Complementary Study of Photoionization and Electron-Impact Ionization of an Atomic Ions: Xe³⁺," M.S. (2004).
M.F. Gharaibeh, "Systematic Photoionization Study along the Iron Isonuclear Sequence", Ph.D. (2005).
M. Lu, "Photoionization and Electron-impact Ionization of Multiply Charged Krypton Ions," Ph.D. (2006).
J.C. Wang, "Photoionization and Electron-impact Ionization of Ar⁵⁺," M.S. (2006).
G. Alna'Washi, "Photoionization of Cl-like K²⁺ and Ca³⁺," Ph.D. (2007)

RESEARCH PRESENTATIONS AND PUBLICATIONS:

46 invited presentations at research conferences and symposia.

29 invited seminars and colloquia at universities and research laboratories.

100 refereed journal articles.

13 other significant scientific and technical publications (reports, book chapters, encyclopedia articles).

INVITED PRESENTATIONS AT CONFERENCES AND SYMPOSIA:

“Giant Resonances in Photoionization of Ions: Making Electrons Dance in Unison,” Atomic, Molecular and Optical Sciences Research Meeting, Warrenton, VA, September 11, 2006.

“Colliding-beams Experiments for Studying Fundamental Atomic Processes,” 13th International Conference on the Physics of Highly Charged Ions, Belfast, Northern Ireland, August 28, 2006; *J. Phys. Conf. Ser.* **58**, 1 (2007).

“Giant Resonances in Photoionization of Ions: Making Electrons Dance in Unison,” Workshop on Forefront AMO Science: Clusters, Ions, Dressed States, Advanced Light Source Users’ Meeting, Berkeley California, October 22, 2005.

“Photoionizing Ions using Synchrotron Radiation,” XXIV International Conference on Photonic, Electronic and Atomic Collisions, Rosario, Argentina, July 25, 2005; *Photonic, Electronic and Atomic Collisions*, pp. 176-183, World Scientific, Singapore (2006).

“Energetic Photon and Electron Interactions with Positive Ions,” Atomic, Molecular and Optical Sciences Research Meeting, Tahoe City, California, September 23, 2003.

“Photoion Spectroscopy with Ion Beams,” ALS Users’ Association Annual Meeting, October 10-12, 2002.

“Absolute Photo-Ion Spectroscopy of Positive Ions,” International Seminar on Ion-Atom Collisions, Baja California, Mexico, July 27, 2001.

“High-Resolution Photo-Ion Spectroscopy using Synchrotron Radiation,” 2001 Joint Meeting of the Division of Atomic, Molecular and Optical Physics and the Canadian Association of Physicists Division of Atomic and Molecular Physics, London, Ontario, Canada, May 18, 2001.

“Photoionization of Ions,” 16th International Conference on the Applications of Accelerators in Research and Industry, Denton, TX, November 3, 2000.

“Atomic, Molecular and Optical Physics at ALS Beamline 10,” DOE Basic Energy Sciences Advisory Committee Review of the Advanced Light Source, Berkeley, CA, February 4, 2000.

“High-Resolution Measurements of Photoionization of O⁺ Ions,” ALS Users’ Association Annual Meeting, October 18-19, 1999.

“Energetic Photon and Electron Interactions with Positive Ions,” DOE Atomic, Molecular and Optical Physics Workshop, Boulder, CO, October 25-27, 1999.

“Studies of Photon-ion Interactions at the Advanced Light Source,” ALS Science Policy Board, Lawrence Berkeley National Laboratory, December 14, 1999.

“Photon and Electron Emission Experiments at the University of Nevada, Reno Multicharged Ion Facility,” 14th International Conference on the Application of Accelerators in Research and Industry, Denton, TX, November 6-9, 1996.

“Electron and EUV Spectroscopy of Multicharged Ion-Atom Collision Processes,” 23rd National Conference on Atomic, Molecular and Optical Physics, Keble College, Oxford University, U.K., April 1-4, 1996.

“Multiply Charged Ion Facility at the University of Nevada, Reno: Performance and First Experiments,” Thirteenth International Conference on the Applications of Accelerators in Research and Industry, Denton, Texas, November 7-10, 1994.

"Electron-Impact Excitation of Ions: Experimental Status and Perspectives," XVIII International Conference on the Physics of Electronic and Atomic Collisions, Aarhus, Denmark, July 21-27, 1993.

"Atomic Physics with ECR Multicharged Ion Sources," Annual Meeting of the Division of Atomic, Molecular and Optical Physics, American Physical Society, Reno, Nevada, May 16-19, 1993.

"Status of Atomic and Molecular Collisional Databases," IAEA Technical Committee Meeting on Atomic and Molecular Data for Fusion Reactor Technology," Cadarache, France, October 14, 1993.

"Critical Assessment of Atomic Collision Cross-Section Data for Fusion Plasma Applications," 4th International Colloquium on Atomic Spectra and Oscillator Strengths for Astrophysical and Laboratory Plasmas, Gaithersburg, MD, September 17, 1992.

"Progress in Collisions of Highly Charged Ions," 1992 Congress of the Canadian Association of Physicists, Windsor, Ontario, Canada, June 16, 1992.

"Progress in Collisions of Multiply Charged Ions," 8th APS Topical Conference on Atomic Processes in Plasmas, Portland, Maine, August 25, 1991.

"Database Assessment for Excitation, Ionization and Charge Exchange in Collisions of Be⁹⁺ and B⁹⁺ with H, H₂ and He," IAEA Consultants' Meeting on Atomic Data Base for Be and B, International Atomic Energy Agency, Vienna, Austria, June 10, 1991.

"Low-Energy Collisions of Multiply Charged Ions with Electrons, Atoms and Surfaces, Third U.S.-Mexico Atomic and Molecular Physics Symposium, Cocoyoc, Mexico, March 13-16, 1991).

"Atomic Physics at the ORNL-ECR Multicharged Ion Source Facility," Eleventh International Conference on the Application of Accelerators in Research and Industry, Denton, Texas, November 7, 1990.

"Future Opportunities for Research," Forty-First Gaseous Electronics Conference, Urbana-Champaign, Illinois, October 18, 1990.

"Assessment of Ion-Atom Collision Data for Magnetic Fusion Plasma Edge Modeling," Specialists' Meeting on Atomic and Molecular Data for Fusion Edge Plasmas, International Atomic Energy Agency, Vienna, Austria, September 25, 1990.

"Low-Energy Electron Capture by Multiply-Charged Ions," Physics Symposium on Highly Charged Ions, Superconducting Accelerator and Ion Source Laboratory Dedication, Kansas State University, April 13, 1989.

"Electron-Impact Ionization of Highly Charged Ions," Annual Meeting of the Canadian Association of Physicists, Montreal, Canada, June 22, 1988.

"Electron-Impact Excitation and Ionization: Status of the Data Base for C⁹⁺ and O⁹⁺," IAEA Specialists' Meeting on Carbon and Oxygen Collision Data for Fusion Plasma Research," Vienna, Austria, May 12, 1988.

"Measurements of Electron-Impact Ionization Cross Sections for Ions," Fortieth Gaseous Electronics Conference, Atlanta, Georgia, October 14, 1987.

"Indirect Mechanisms in Electron-impact Ionization of Multiply Charged Ions," Joint Workshop of the U.S.-Japan Fusion Collaboration Program, Institute of Plasma Physics, Nagoya University, Japan, September 1, 1986.

"Collision Experiments with Highly Ionized Atoms," Tenth International Conference on Atomic Physics and Few-Body Systems, Tokyo, Japan, August 28, 1986.

"Experiments on Electron-Impact Excitation and Ionization of Ions," NATO Advanced Study Institute on Electron-Ion and Ion-Ion Collisions," Han-sur-Lesse, Belgium, September 30-31, 1985.

"Collisions between Highly Charged Ions and Electrons," Workshop on Physics at the CRYSIS Ion Source, Stockholm, Sweden, September 24, 1985.

"Review of Charge Exchange Data," IAEA Advisory Group on Atomic Data for Fusion Plasma Modeling, Vienna, Austria, September 18, 1985.

"Single Ionization of Multiply Charged Ions by Electron Impact," International Seminar on Atomic Processes in Fusion Plasmas, Santa Cruz, California, August 1, 1985.

"Recent Developments in Charge Exchange Measurements at ORNL," Fifth APS Topical Conference on Atomic Processes in High-Temperature Plasmas, Pacific Grove, California, February 28, 1985.

"Many-Electron Effects in Electron-Impact Ionization of Multiply Charged Ions," Second International Workshop on Cross Sections for Fusion and Other Applications, College Station, Texas, November 9, 1984.

"Electron Capture by Multiply Charged Ions from Hydrogen Atoms at Low Energies," Annual Meeting of the Southeastern Section of the American Physical Society, Columbia, North Carolina, November 3, 1983.

"Electron Capture by Multiply Charged Ions from Hydrogen Atoms at Low Energies," Eighth International Seminar on Ion-Atom Collisions, Utrecht, the Netherlands, August 4, 1983.

"Low-Energy Electron Capture by Multiply Charged Ions from a Laser-Pumped Source," Spring Meeting of the American Physical Society, Baltimore, Maryland, April 18, 1983.

"Low-Energy Inelastic Collisions of Multiply Charged Ions with Electrons and Hydrogen Atoms," Symposium on Production and Physics of Highly Charged Ions, Stockholm, Sweden June 3, 1982.

"Production of High-Q Ions by Laser Bombardment Method," Sixth Conference on the Application of Accelerators in Research and Industry, Denton, Texas, November 4, 1980.

"Measurements of Atomic Collision Cross Sections for High-Temperature Plasma Applications," Second APS Topical Conference on Atomic Processes in High-Temperature Plasmas, Boulder, Colorado, January 18, 1979.

"Measurements of Electron Transfer from Hydrogen Atoms to Multiply-Charged Ions," APS Annual Meeting of the Division of Electron and Atomic Physics, Knoxville, Tennessee, December 7, 1977.

SEMINARS AND COLLOQUIA:

"From Astrophysics to Nanoscience: Probing Ion Beams with Synchrotron Radiation," Center for X-Ray Optics, Advanced Light Source, Lawrence Berkeley National Laboratory, March 17, 2004.

"From Light Years to Nanometers: Atomic Physics Between the Big Bang and Big Business," Physics Colloquium, Justus Liebig University, Giessen, Germany, October 27, 2003.

"Probing the Electronic Structure of Ions with Synchrotron Radiation," Atomic Physics Seminar, Gesellschaft für Schwerionenforschung (GSI), Darmstadt, Germany, October 29, 2003.

"Experiments with Synchrotron Radiation," Atomic Physics Lecture, Institut für Kernphysik, Justus Liebig University, Giessen, Germany, December 15, 2003.

"Probing the Innards of Ions with Synchrotron Radiation," University of Nevada, Reno, Feb. 8, 2002.

"High-Energy-Density Science: New Research Opportunities," Justus-Liebig University, Giessen, Germany, June 18, 2001.

"Ionization of Ions by Electrons and Photons," University of Stockholm, Sweden, May 30, 2000.

"Studies of Photon-Ion Interactions at the Advanced Light Source," Lawrence Berkeley National Laboratory, July 13, 1998.

"Merged-Beams Experiments with Highly Charged Ions," University of Nevada - Las Vegas, Sept. 16, 1994.

"Laboratory Experimental Atomic Physics of Highly Charged Ions," Plasma Physics Laboratory, Princeton University, December 6, 1989.

"Collisions of Multiply Charged Ions," Distinguished Alumni Lecture Series, Department of Physics, University of Windsor, Canada, April 18, 1988.

"Electron Capture by Multiply Charged Ions from Hydrogen Atoms at eV Energies Using Merged Beams," Strahlenzentrum, Justus-Liebig University, Giessen, West Germany, July 17, 1987.

"Charge-Changing Collisions of Multiply Charged Ions," Physics Department, Auburn University, Alabama, April 3, 1987.

"Multicharged Ion-Atom Collision Experiments at ORNL," Institute for Nuclear Physics, University of Frankfurt, West Germany, September 27, 1985.

"Electron-Impact Ionization of Multiply Charged Ions" and "Electron Capture by Multiply Charged Ions from Hydrogen," Strahlenzentrum, Justus-Liebig University, Giessen, West Germany, September 26-27, 1985.

"Electron Capture by Highly Charged Ions from Hydrogen Atoms and Molecules," Institute for Experimental Physics, University of Innsbruck, Austria, September 17, 1985.

"Role of Atomic Physics in Fusion Research," Department of Physics, University of Georgia, Athens, Georgia, December 1, 1983.

"The Role of Atomic Physics in Thermonuclear Fusion Research," and "Electron Capture by Multiply Charged Ions from Hydrogen Atoms at Low Energies," Elena Aizen de Moshinsky Chair of Physics Lectures, Institute of Physics, University of Mexico, Mexico City, December 9-10, 1982.

"Electron Capture by Low-Energy Multiply Charged Ions from Hydrogen Atoms," FOM Institute for Atomic and Molecular Physics, Amsterdam, the Netherlands, May 28, 1982.

"Collisions of Multiply Charged Ions with Hydrogen Atoms," Institute of Physics, Aarhus University, Denmark, June 9, 1982.

"Electron Capture by Low-Energy Multiply Charged Ions from Hydrogen Atoms," Department of Physics, Queen's University, Belfast, Northern Ireland, May 25, 1982.

"Charge Transfer Measurements with a Pulsed-Laser Ion Source," Physics Department, University of Arkansas, Fayetteville, October 24, 1980.

"Charge-Changing Collisions of Multiply Charged Ions," Physics Department, University of Tennessee, January 22, 1980.

"Charge Transfer Cross Section Measurements for Highly Charged Ions at Low Energies," Physics Department, Kansas State University, Manhattan, November 30, 1979.

"Atomic Physics in Thermonuclear Fusion Research," Oak Ridge Associated Universities Traveling Lecture Series, Physics Department, Tennessee Technological University, Cookeville, April 17, 1979; Carlisle College, Pennsylvania, March 13, 1979; University of Missouri-Rolla, November 9, 1978; University of Missouri-St. Louis, November 10, 1978; Valdosta State College, Georgia, November 1, 1978.

PUBLICATIONS IN REFEREED JOURNALS:

"Significant redistribution of Ce 4d oscillator strength observed in photoionization of endohedral Ce@C₈₂⁺," A. Müller, S. Schippers, M. Habibi, D. Esteves, J.C. Wang, R.A. Phaneuf, A.L.D. Kilcoyne, A. Aguilar and L. Dunsch, Phys. Rev. Lett. 101, 133001 (2008).

"Photoionization and electron-impact ionization of Ar⁵⁺," Jing Cheng Wang, M. Lu, D. Esteves, M. Habibi, G. Alna'Washi, R.A. Phaneuf and A.L.D. Kilcoyne, Phys. Rev. A 75, 062712 (2007).

"Reply to Comment on photoexcitation of a volume plasmon in C₆₀ ions," S.W.J. Scully, E.D. Emmons, M.F. Gharaibeh, R.A. Phaneuf, A.L.D. Kilcoyne, A.S. Schlachter, S. Schippers, A. Müller, H.S. Chakraborty, M.E. Madjet and J.M. Rost, Phys. Rev. Lett. 98, 179602 (2007).

"Photoionization and electron-impact ionization of Kr³⁺," M. Lu, G. Alna'Washi, M. Habibi, M.F. Gharaibeh, R.A. Phaneuf, A.L.D. Kilcoyne, E. Levenson, A.S. Schlachter, C. Cisneros and G. Hinojosa, Phys. Rev. A 74, 062701 (2006).

“Doubly excited resonances in the photoionization spectrum of Li^+ : experiment and theory,” S.W.J. Scully, I. Álvarez, C. Cisneros, E.D. Emmons, M.F. Gharaibeh, D. Leitner, M.S. Lubbell, A. Müller, R.A. Phaneuf, R. Püttner, A.S. Schlachter, S. Schippers, W. Shi, C.P. Balance and B.M. McLaughlin, *J. Phys. B: At. Mol. Opt. Phys.* **39**, 3957 (2006).

“Photoionization and electron-impact ionization of Kr^{5+} ,” M. Lu, M.F. Gharaibeh, G. Alna'Washi, R.A. Phaneuf, A.L.D. Kilcoyne, E. Levenson, A.S. Schlachter, A. Müller, S. Schippers, J. Jacobi and C. Cisneros, *Phys. Rev. A* **74**, 012703 (2006).

“Absolute photoionization cross sections for Xe^{4+} , Xe^{5+} and Xe^{6+} near 13.5 nm: Experiment and theory,” A. Aguilar, J.D. Gillaspay, G.F. Gribakin, R.A. Phaneuf, M.F. Gharaibeh, M.G. Kozlov, J.D. Bozek and A.L.D. Kilcoyne, *Phys. Rev. A* **74**, 032717 (2006).

“Photoexcitation of a volume plasmon in C_{60} ions,” S.W.J. Scully, E.D. Emmons, M.F. Gharaibeh, R.A. Phaneuf, A.L.D. Kilcoyne, A.S. Schlachter, S. Schippers, A. Müller, H.S. Chakraborty, M.E. Madjet and J.M. Rost, *Phys. Rev. Lett.* **94**, 065503 (2005).

“A theoretical and experimental study of the photoionization of Al II,” C.E. Hudson, J.B. West, K.L. Bell, A. Aguilar, R.A. Phaneuf, F. Folkmann, H. Kjeldsen, J. Bozek, A.S. Schlachter and C. Cisneros, *J. Phys. B: At. Mol. Opt. Phys.* **38**, 2911 (2005).

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

“Photofragmentation of ionic carbon monoxide,” G. Hinojosa, M.M. Sant'Anna, A.M. Covington, R.A. Phaneuf, I.R. Covington, I. Dominguez, A.S. Schlachter, I. Alvarez and C. Cisneros, *J. Phys. B: At. Mol. Opt. Phys.* **38**, 2701 (2005).

K-shell photoionization of Be-like carbon ions: experiment and theory for C^{2+} , S.W.J. Scully, A. Aguilar, E.D. Emmons, R.A. Phaneuf, M. Halka, D. Leitner, J.C. Levin, M.S. Lubbell, R. Püttner, A.S. Schlachter, A.M. Covington, S. Schippers, A. Müller and B.M. McLaughlin, *J. Phys. B: At. Mol. Opt. Phys.* **38**, 1967 (2005).

“Photoionization of ions of the nitrogen isoelectronic sequence: experiment and theory for F^{2+} and Ne^{3+} ,” A. Aguilar, E.D. Emmons, M.F. Gharaibeh, A.M. Covington, J.D. Bozek, G. Ackerman, S. Canton, B. Rude, A.S. Schlachter, G. Hinojosa, I. Alvarez, C. Cisneros, B.M. McLaughlin and R.A. Phaneuf, *J. Phys. B* **38**, 343 (2005).

“K-shell photoionization of C^{2+} ions: experiment and theory,” A.S. Schlachter, S.W.J. Scully, R.A. Phaneuf, E.D. Emmons, A. Aguilar, D. Leitner, M.S. Lubbell, A.M. Covington, R. Püttner, A. Müller, M. Halka, J.C. Levin and B.M. McLaughlin, *J. El. Spectrosc. Relat. Phen.* **144-147**, 53 (2005).

“Electron-impact ionization of Ti^{3+} ions,” T. van Zoest, H. Knopp, J. Jacobi, S. Schippers, R.A. Phaneuf and A. Müller, *J. Phys. B: At. Mol. Opt. Phys.* **37**, 4387 (2004).

“Threshold truncation of a ‘giant’ dipole resonance in photoionization of Ti^{3+} ,” S. Schippers, A. Müller, R.A. Phaneuf, T. van Zoest, I. Álvarez, C. Cisneros, E.D. Emmons, M.F. Gharaibeh, G. Hinojosa, A.S. Schlachter and S.W.J. Scully, *J. Phys. B: At. Mol. Opt. Phys.* **37**, L209 (2004).

“Lifetime of a K-shell vacancy in atomic carbon created by 1s - 2p photoexcitation of C^+ ,” A.S. Schlachter, M.M. Sant'Anna, A.M. Covington, A. Aguilar, M.F. Gharaibeh, E.D. Emmons, S.W.J. Scully, R.A. Phaneuf, G. Hinojosa, I. Álvarez, C. Cisneros, A. Müller and B.M. McLaughlin, *J. Phys. B: At. Mol. Opt. Phys.* **37**, L103 (2004).

“Absolute photoionization cross section measurements of O II ions from 29.7 to 46.2 eV,” A. Aguilar, A.M. Covington, G. Hinojosa, R.A. Phaneuf, I. Álvarez, C. Cisneros, J.D. Bozek, I. DomíM.M. Sant'Anna, A.S. Schlachter, S. Nahar and B.M. McLaughlin, *Astrophys. J. Suppl. Ser.* **146**, 467-477 (2003).

“Photoionization of Sc^{2+} ions by synchrotron radiation, Measurements and absolute cross sections in the photon energy range 23-68 eV,” 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 and R.A. Phaneuf, *Phys. Rev. A* **67**, 032702 (2003).

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