

Articles Published in Refereed Journals and Refereed Proceedings,  
Books and \*Reports

(Reports from Yugoslavia are not listed.)

Publications: 75 Papers, 9 Books or Book Chapters, 26 Reports

Vušković, L., S. Cvejanović, and M. Kurepa, "The Effective Geometrical Factor in Differential Cross Sections Measurement," *Fizika* **2** (suppl. 1), 26 (1970).

Vušković, L., "Differential Cross Sections for Elastic Scattering of Electrons on Atoms," *Proceedings of Invited Lectures*, VI Summer School and International Symposium on the Physics of Ionized Gases, ed. by M. Kurepa, Institute of Physics, Belgrade University, p. 65 (1972).

Vušković, L., and R. Joksimović, "Handling a Scientific Meeting with the Use of Computer," *Proceedings of Invited Lectures*, INFORMATIKA 73, ed. by B. Navinšek, Institute Jozef Stefan, University of Ljubljana, C6 (1973).

Kurepa, M. V., and L. Vušković, "Differential Cross Sections of 100, 150 and 200 eV Electrons Elastically Scattered in Helium," *J. Phys. B: Atom. Molec. Phys.* **8**, 2067 (1975).

Vušković, L., M. V. Kurepa, and V. Bocvanski, "Differential Cross Sections of 200 and 300 eV Electrons Elastically Scattered by Krypton Atoms," *Fizika* **7**, 163 (1975).

Vušković, L., and M. Kurepa, "Differential Cross Sections of 60-150 eV Electrons Elastically Scattered in Argon," *J. Phys. B: Atom. Molec. Phys.* **9**, 837 (1976).

Kessler, J., C. B. Lucas, and L. Vušković, "The Polarization of Electrons Elastically Scattered from Xenon at Energies between 150 and 1200 eV," *J. Phys. B: Atom. Molec. Phys.* **10**, 847 (1977).

Vušković, L., and S. K. Srivastava, "Electron Scattering by Highly Polar Molecules. II. LiF," *J. Phys. B: Atom. Molec. Phys.* **11**, 1643 (1978).

Vušković, L., S. K. Srivastava, S. Trajmar and D. Bozinis, "Excitation of Thallium by 20 eV Electrons," *Ciencia e Cultura Sao Paulo* **31**, 1018 (1979).

Vušković, L., and S. Trajmar, "Electron Impact Study of Potassium Hydroxide," *J. Chem. Phys. Lett.* **71**, 3887 (1979).

Srivastava, S. K., and L. Vušković, "Elastic and Inelastic Scattering of Electrons by Na," *J. Phys. B: Atom. Molec. Phys.* **13**, 2633 (1980).

Vušković, L., and S. K. Srivastava "Scattering of Intermediate Energy Electrons by Potassium," *J. Phys. B: Atom. Molec. Phys.* **13**, 4849 (1980).

Vušković, L., and S. K. Srivastava, "Electron Scattering by Highly Polar Molecules. III. CsCl," *J. Phys. B: Atom. Molec. Phys.* **14**, 2677 (1981).

Vušković, L., and S. Trajmar, "The Electron Impact Spectra of SO<sub>2</sub>," *J. Raman Spectroscopy* **10**, 136 (1981).

Vušković, L., et al. "Metrology of Gaseous Pollutants," Center for Multidisciplinary Sciences, University of Belgrade, Belgrade, 1981. (Published in Serbian.)

Vušković, L., S. Trajmar, and D. F. Register, "Electron Impact Cross Sections for 2<sup>2</sup>P State Excitation of Lithium," *J. Phys. B: Atom. Molec. Phys.* **15**, 2517 (1982).

Vušković, L., and S. Trajmar, "Electron Impact Excitation of SO<sub>2</sub> - Differential, Integral and Momentum Transfer Cross Sections," *J. Chem. Phys.* **77**, 5436 (1982).

Kurepa, M. and L. Vušković, "Investigation of Electron-Atom Interactions," in *Contemporary Investigations in Physics*, ed. B. Dragovic, Naucna knjiga, Belgrade, 1982. (Published in Serbian.)

Vušković, L., and S. Trajmar, "Electron Impact Excitation of Methane," *J. Chem. Phys.* **78**, 4947 (1983).

Vušković, L., L. Maleki, and S. Trajmar, "Elastic and Inelastic Electron Scattering by Rubidium at 10, 20 and 200 eV Impact Energies," *J. Phys. B: Atom. Molec. Phys.* **17**, 2519 (1984).

Vušković, L., "The Physics of Cinematography," ed. M. Kurepa, University of Arts, Belgrade, 1985. (Published in Serbian.)

\*Vušković, L., "Measurements of Differential Cross Sections for Elastic and Inelastic Electron Dispersion in Atomic Particles," report of research results to the National Institute of Standards and Technology (1985).

Register, D. F., L. Vušković, and S. Trajmar, "Elastic Electron Scattering Cross Sections for Xe in 1 to 100 eV Impact Energy Region," *J. Phys. B: Atom. Molec. Phys.* **19**, 1685 (1986).

Marinkovic, B., Cz. Szmytkowski, V. Pejcev, D. Filipović, and L. Vušković, "Differential Cross Sections for Elastic and Inelastic Scattering of Electrons by N<sub>2</sub>O in the Range of 10 to 80 eV," *J. Phys. B: Atom. Molec. Phys.* **19**, 2365 (1986).

\*Vušković, L., "Measurements of Differential Cross Sections for Elastic and Inelastic Electron Dispersion in Atomic Particles," report of research results to the National Institute of Standards and Technology (1986).

Jiang, T., Y.J. Shin, B. Stumpf, L. Vušković, and B. Bederson, "Velocity Compression of Focussed Atomic Sodium Beam," *JOSA B, Optical Physics* **4**, 86 (1987).

\*Vušković, L., "Measurements of Differential Cross Sections for Elastic and Inelastic Electron Dispersion in Atomic Particles," report of research results to the National Institute of Standards and Technology (1987).

Filipović, D., B. Marinković, V. Pejcev, and L. Vušković, "Electron Impact Excitation of Xenon at Incident Energies between 15 and 80 eV," *Phys. Rev. A* **37**, 356 (1988).

Filipović, D., V. Pejcev, B. Marinković, and L. Vušković, "Electron Impact Excitation of Krypton at Incident Energies of 60 eV," *Fizika* **20** (4), 421 (1988).

\*Bederson, B. and L. Vušković, "Atomic Investigations with Electrons and Fields in Ground and Excited States," technical report of research results to the National Science Foundation (1988).

Vušković, L., M. Zuo, G.F. Shen, B. Stumpf, and B. Bederson, "Scattering of Electrons by Alkali-halide Molecules: LiBr and CsCl," *Phys. Rev. A* **40**, 133 (1989).

\*Bederson, B. and L. Vušković, "Atomic Investigations with Electrons and Fields in Ground and Excited States," report of research results to the National Science Foundation (1989).

Vušković, L., "Low Energy Electron Scattering by 3<sup>2</sup>P<sub>3/2</sub> Sodium," *Proceedings of the International Symposium on Correlation and Polarization in Electronic and Atomic Collisions*, edited by P. A. Neill, K. H. Becker, and M. H. Kelley, National Institute for Standards and Technology, Special Publication 789, p. 83 (1990).

Zuo, M., T. Jiang, L. Vušković, and B. Bederson, "Absolute Elastic Differential Cross Sections of Electrons Scattered by 3<sup>2</sup>P<sub>3/2</sub> Sodium," *Phys. Rev. A* **41**, 2489 (1990).

Jiang, T. Y., C. H. Ying, L. Vušković, and B. Bederson, "Absolute Small Angle Differential Electron Excitation Cross Sections for the Resonant Transition in Sodium," *Phys. Rev. A* **42**, 3852 (1990).

\*Bederson, B. and L. Vuškovic, "Atomic Investigations with Electrons and Fields in Ground and Excited States, report of research results to the National Science Foundation (1990).

\*Bederson, B. and L. Vuškovic, "Atomic Investigations with Electrons and Fields in Ground and Excited States," report of research results to the National Science Foundation (1990).

Marinković, B., V. Pejčev, D. Filipović, and L. Vušković, "Elastic and Inelastic Electron Scattering by Cadmium," *J. Phys. B: At. Mol. Opt. Phys.* **24**, 1817 (1991).

Guella, T., Thomas M. Miller, J. A. D. Stockdale, B. Bederson, and L. Vušković, "Polarizabilities of the Alkali Halide Dimers II," *J. Chem. Phys.* **94**, 6857 (1991).

\*Vuškovic, L., "Atomic Interactions with Electrons and Fields in Ground and Excited States," report of research results to the National Science Foundation (1991).

Jiang, T. Y., M. Zuo, L. Vušković, and B. Bederson, Absolute Cross Sections for Low Energy Electron Excited-Sodium Scattering," *Phys. Rev. Lett.* **68**, 915 (1992).

Marinković, B., V. Pejčev, D. Filipović, I. Čadez, and L. Vušković, "Eastic and Inelastic Electron Scattering by Sodium at 10, 20 and 54.4 eV," *J. Phys. B: At. Mol. Opt. Phys.* **25**, 5179 (1992).

\*Bederson, B. and L. Vuškovic, "Tensor Polarizabilities of Clusters," report of research results to the Research Challenge Fund of New York University (1992).

\*Vuškovic, L., "Atomic Interactions with Electrons and Fields in Ground and Excited States," report of research results to the National Science Foundation (1992).

Tarnovsky, V., M. Bunimovicz, L. Vušković, B. Stumpf, and B. Bederson, "Measurements of the dc Electric Dipole Polarizabilities of the Alkali Dimer Molecules, Homonuclear and Heteronuclear," *J. Chem. Phys.* **98**, 3894 (1993).

Ying, C. H., F. Perales, L. Vušković, and B. Bederson, "Threshold-energy Region in the Electron-excitation Cross Sections of the Sodium Resonant Transition," *Phys. Rev. A* **48**, 1189 (1993).

\*Vuškovic, L., "Atomic Interactions with Electrons and Fields in Ground and Excited States," report of research results to the National Science Foundation (1993).

Jiang, T. Y., Z. Shi, C. H. Ying, L. Vušković, and B. Bederson, "Superelastic Electron Scattering by Laser-excited Sodium; Absolute Differential Cross Sections," *Phys. Rev. A* **51**, 3773 (1995).

Shi, Z., C. H. Ying, and L. Vušković, "Orbital Effect in Elastic Electron Scattering by a Polarized Excited Target," *Phys. Rev. A* **53**, R16 (1996).

Shi, Z., C. H. Ying, and L. Vušković, "Azimuthal Asymmetry in Elastic Electron Scattering by Polarized 3P Sodium Atoms," *Phys. Rev. A* **54**, 480 (1996).

Vušković, L., "Experiments with Low-Energy Electrons Scattered by Polarized, Excited Sodium," *Can. J. of Phys.* **74**, 991 (1996).

Tan, W., Z. Shi, C. H. Ying, and L. Vušković, "Electron-impact ionization of laser-excited sodium atom," *Phys. Rev. A* **54**, R3710 (1996).

Vušković, L., R. L. Ash, Z. Shi, S. Popović, and T. Dinh, "Radio-Frequency Discharge Reaction Cell for Oxygen Extraction from Martian Atmosphere," SAE Paper 972499 (1997). (American Institute of Aeronautics and Astronautics, Washington, DC).

Panajotović, R., D. Filipović, B. Marinković, V. Pejčev, M. Kurepa, and L. Vušković, "Critical Minima in Elastic Electron Scattering by Argon," *J. Phys. B: At. Mol. Opt. Phys.* **30**, 5877 (1997).

Vušković, L., R. L. Ash, S. Popović, T. Dinh, and A. Van Orden, "Radio-Frequency Plasma Assisted Production of Carbon Monoxide/Oxygen Directly from Martian Atmosphere," AIAA Paper 98-3304 (1998). (American Institute of Aeronautics and Astronautics, Washington, DC).

Vušković, L., C. H. Ying, Y. Wang, and S. Popović, "Low-Energy Electron Collision by Excited atoms," in *Gaseous Dielectrics VIII*, p. 97, edited by L. G. Christophorou and J. K. Olthoff (Plenum Press, 1998).

Vušković, L., R. L. Ash, Z. Shi, S. Popović, and T. Dinh, "Radio-Frequency-Discharge Reaction Cell for Oxygen Extraction from Martian Atmosphere," *Transactions of the Society of Automotive Engineers, J. of Aerospace* **106**, 1041-1047 (1998).

Popović, S. and L. Vušković, "Anomalous Propagation of Planar Shock Wave in Weakly Ionized Gas," *Physics of Plasmas* **7**, 1448 (1999).

Popović, S. and L. Vušković, "Ionization-Recombination Model for the Supersonic Flow in Weakly Ionized Gas," AIAA Paper 99-4905 (1999). (American Institute of Aeronautics and Astronautics, Washington, DC).

\*Vušković, L., S. Popović, and R. Ash, "Radio Frequency Dust Removal in Microgravity Conditions," report of research results to the National Center for Microgravity Research on Fluids Combustion, July 1999.

\*Vušković, L. and S. Popović, "Weakly Ionized Gas Generator, Phase I" report of research results to the Accurate Automation Corp., October 1999.

Filipović, D. V., B. Marinković, V. Pejčev, and L. Vušković, "Electron Excitation of Argon: I. The  $4s'[1/2]_1$ ,  $4p[1/2]_1$  and  $4p'[1/2]_0$  states," *J. Phys. B: At. Mol. Opt. Phys.* **33**, 677-691 (2000).

Filipović, D. V., B. Marinković, V. Pejčev, and L. Vušković, "Electron Excitation of Argon: II. The lowest resonance  $4s[3/2]_1$  and metastable  $4s[3/2]_2$  and  $4s'[1/2]_0$  states," *J. Phys. B: At. Mol. Opt. Phys.* **33**, 2081-2094 (2000).

\*Vušković, L., "Proton Transfer Reaction Method for Lung Cancer-Related Study of Exhaled Air," final report of research results to the Jeffress Memorial Trust, March 2000.

\*Vušković, L., Final Report for 52<sup>nd</sup> Gaseous electronic conference to the Division of Atomic Molecular and Optical Physics, American Physical Society, May 2000.

\*Vušković, L., "Gaseous Electronic Conference," final report on the award No. 0000377 to the National Science foundation, November 2000.

Božić, M., D. Arsenović, and L. Vušković, "The Transverse Momentum Distribution of Atoms in an Interferometer," *Zeitschrift für Naturforschung A* **56**, 173-177 (2001).

Popović, S. and L. Vušković, "Interaction between Acoustic Shock Wave and glow Discharge," AIAA Paper 2001-3049 (2001). (American Institute of Aeronautics and Astronautics, Washington, DC).

Grujić, P. and L. Vušković, "Milan V. Kurepa – Obituary," *Phys. Today* **54**, Issue 8, 64-65 (2001).

Vušković, L. and S. Popović "Collisions of excited atoms in gas discharges," 20<sup>th</sup> International Symposium on the Physics of Ionized Gases, full article in Book of Invited Talks, ed. N. Konjević, Z. Lj. Petrović, and G.

Malović, SFIN year XIV Series A, No. A1 (2001) p. 347.  
YU ISBN 86-82441-08-X

Popović, S., P. Kessarati, A. Markhotok, G. Brooke IV, and L. Vušković, "Shock Wave Propagation and Dispersion in a Microwave Cavity Discharge," AIAA Paper 2002-2279 (2002). (American Institute of Aeronautics and Astronautics, Washington, DC).

\*Vušković, L. and S. Popović, "Interaction of Acoustic Waves with Weakly Ionized Gas Generated by Microwave Discharge," report of research results to the NASA Langley Research Center, April 2002.

Arsenović, D., M. Božić, and L. Vušković, "Is the Classical Law of the Addition of Probabilities violated in Quantum Interference?," J. Opt. B: Quantum Semiclass. Opt. **4**, S358 (2002).

Popović, S., L. Vušković, I. I. Esakov, L. P. Gratchev, and K. V. Khodataev, "Subcritical Microwave Streamer Discharge at the Surface of a Polymer Foil," Appl. Phys. Lett. **81**, 1964-1965 (2002).

Vušković, L. D. Arsenović, and M. Božić, "Non-classical Behavior of Atoms in an Interferometer," Foundation of Phys. **32**, 1329-1346 (2002).

Vušković, L. and S. Popović, "Electron Scattering and Hydrodynamic Effects in Ionized Gas," in *Electron Scattering – From Atoms, Molecules, Nuclei and Bulk Matter*, edited by C. T. Whelan and N. J. Mason (Kluwer Academic / Plenum Publishers, New York, 2005) 291-300.

Vušković, L. and S. Popović, "Excited Atoms and Molecules in High Pressure Gas Discharges," in *Application of Accelerators in Research and Industry*, edited by J. L. Duggan and I. L. Morgan (2003 American Institute of Physics, New York) 172-175.

Popović, S. and L. Vušković, "Nano-scale Dipole Electrodes for Subcritical Discharges," in *From the Atomic to the Nano-Scale*, edited by C. T. Whelan and J. H. McGuire, ISBN 0-9742874-0-7 (2003 Old Dominion University) 142-151.

Exton, R. J., R. J. Balla, G. C. Herring, Popović, S., and L. Vušković, "Volumetric Near Field Microwave Plasma Generation," AIAA Paper 2003-4181 (2003). (American Institute of Aeronautics and Astronautics, Washington, DC).

Jovičević, S., M. Ivković, N. Konjević, Popović, S., and L. Vušković, "On the Excessive Balmer Line Broadening in Microwave Induced Discharges," J. Appl. Phys. **95**, 24-29 (2004).

Kessarati, P., S. Popović and L. Vušković, "Dispersion and Propagation of Weak Shock Waves through Micriwave Cavity Discharges," AIAA 2004-1021 (American Institute of Aeronautics and Astronautics) (2004).

Božić, M., D. Arsenović, and L. Vušković, "Interference of small and of large quantum particles behind an asymmetric grating," Phys. Rev. A **69**, 053618 (9pp) (2004).

\*Vušković, L. and S. Popović, "Plasma Aerodynamics and Combustion," report of research results to the NASA Langley Research Center, February 2004.

\*Vušković, L. and S. Popović, "Magnetohydrodynamic Power Generator," report of research results to the NASA Langley Research Center, March 2004.

\*Vušković, L. and S. Popović, "Magnetohydrodynamic Power Generator," report of research results to the NASA Langley Research Center, April 2005.

Vušković, L., S. Popović, J. Drake, and R. W. Moses, "Magnetohydrodynamic Power Generation in the Laboratory Simulated Martian Entry Plasma," Proc. XV International Conference on MHD Science and

Applications, ed. V. Bityrin, pp 150-155, IVTAN, Moscow, May 2005.

Vušković, L. and S. Popović, "Atomic Interactions in Weakly Ionized Gas: Ionizing Shock Waves," in *Advances in Atomic, Molecular, and Optical Physics*, edited by H. Stroke and P. Berman (2005 Elsevier B.V., ISBN 0-12-003851-X Book/Hardback) **51**, 451-470 (2005).

Arsenović, D., M. Božić, and L. Vušković, "On the (non)existence of quantum particle's trajectories behind an interferometric grating," *Concepts of Physics* Vol. II, 163-184 (2005).

Božić, M., D. Arsenović, and L. Vušković, S. Nikolić, and V. Majić, "Entangling School Architecture and Physics Education," *Physics Teacher*, **43**, 608-612 (2005).

Popović, S., S. Williams, and L. Vušković, "Electron-Impact Dissociative Ionization of Ethylene," *Phys. Rev. A* **73**, 022711 (7pp) (2006).

\*Vušković, L., "Investigation of Plasma Etching for Superconducting RF Cavities Surface Modification," progress report of research results to the DOE, April (2006).

Rašković, M., L. Vušković, S. Popović, L. Phillips, A.-M. Valente-Feliciano, S. B. Radovanov, and L. Godet, "Plasma Treatment of Bulk Niobium Surface for SRF Cavities," *Nucl. Instrum. Methods Phys. Res. A* **569**, 663-670 (2006).

Popović, S. and L. Vušković, "Aerodynamic Effects in Weakly Ionized Gas: Phenomenology and Applications," in *The Physics of Ionized Gases*, edited by Lj. Hadžievski, B. P. Marinković, and N. S. Simonović (AIP Melville, New York, ISBN 978-0-7354-0377-2) **876**, 272-283 (2006).

Popović, S. and L. Vušković, "Studies of Flow in Ionized Gas: Historical Perspective, Contemporary Experiments, and Applications," in *Sixth International Conference of the Balkan Physical Union*, edited by S. Ali Cetin and I. Hikmet, (AIP Melville, New York, ISBN: 978-0-7354-0404-5) **899**, 61-77 (2007).

Popović, S., M. Rašković, S. P. Kuo, and L. Vušković, "Reactive Oxygen Emission from Microwave Discharge Plasmas," *J. Phys.: Conf. Ser.* **86**, 012013 (5pp) (2007).

Markhotok, A., S. Popović, and L. Vušković, "The boundary effects of the shock wave dispersion in discharges," *Phys. Plasmas* **15**, 032103 (5pp) (2008).

D. J. Drake, S. Popović, and L. Vušković, "Characterization of a supersonic microwave discharge in Ar/H<sub>2</sub>/Air mixtures," *J. Appl. Phys.* **104**, 063305 (7pp) (2008).

M. Rašković, S. Popović, J. Upadhyay, L. Vušković, L. Phillips, and A-M. Valente-Feliciano, "High etching rates of bulk Nb in Ar/Cl microwave discharge," *J. Vac. Sci. Technol. A* **27(2)**, 301-305 (2009).

M. Rašković, L. Vušković, and S. Popović, "The High Quality Factor Niobium Cavities Preparation by Plasma Treatment," *Phys. Scr. T* **135**, 014018 (7pp) (2009).

D. J. Drake, S. Popović, L. Vušković, and T. Dinh, "Kinetic Description of Martian Atmospheric Entry Plasma," *IEEE Trans. on Plasma Sci.*, **37**, 1646-1655 (2009).

\*L. Vušković, "Investigation of Plasma Etching for Superconducting RF Cavities Surface Preparation," Final report of research results to the DOE, June (2009).

D. J. Drake, S. Popović, and L. Vušković, "Characterization of a CO<sub>2</sub>/N<sub>2</sub>/Ar supersonic flowing discharge," *J. Appl. Phys.* **106**, 083305 (2009).

D. J. Drake, S. Popović, L. Vušković, and T. Dinh, "Effects of Water Vapor Presence in Martian Atmospheric Entry Plasma," AIAA-2010-1536 (American Institute of Aeronautics and Astronautics)

(2010).

M. Nikolić, A. Samolov, J. Upadhyay, A. Godunov, S. Popović, L. Vušković, A.-M. Valente-Feliciano, L. Phillips, "Tomographic Analysis of SRF Cavities as Asymmetric Plasma Reactors," Proc. IPAC, pp. 3072-3074 (2010) (Kyoto, Japan) (ISBN 978-92-9083-352-9).

S. Popović, M. Rašković, J. Upadhyay, L. Vušković, H.L. Phillips, and A-M. Valente-Feliciano, "Plasma Treatment of Niobium SRF Cavity Surfaces," Proc. IPAC, pp. 3058-3060 (2010) (Kyoto, Japan) (ISBN 978-92-9083-352-9).

S. Popović, M. Nikolić, J. Upadyay, and L. Vušković, "On Optimizing the Metastable Oxygen Production from Electrical Discharges," AIAA-2010-5042 (American Institute of Aeronautics and Astronautics) (2010).

M. Rašković, J. Upadhyay, L. Vušković, S. Popović, A-M. Valente-Feliciano, and H.L. Phillips, "Plasma treatment of bulk niobium surface for superconducting rf cavities: Optimization of the experimental conditions on flat samples," Phys. Rev. ST Accel. Beams **13**, 112001 (7pp) (2010).

M. Božić, L. Vušković, M. Davidović, and A. S. Sanz, "On Wheeler's delayed-choice Gedankenexperiment and its laboratory realization," Phys. Scr. **T143**, 014007 (4pp) (2011).

M. Nikolić, S. Popović, L. Vušković, G. C. Herring, and R. J. Exton, "Electron Density Measurements in a Pulse-Repetitive Microwave Discharge in Air," J. Appl. Phys. **110**, 113654 (7pp) (2011).

M. Nikolić, S Popović, J Upadhyay, L Vušković, R Leiweke, and B Ganguly, "On a Dielectric-Barrier and a Microwave Cavity Discharge in Synchronized Operation - Case of Helium/Oxygen Mixture," Plasma Sources Sci. Technol. **20** in press (8pp), (2011). Published Online at stacks.iop.org/PSST/20