

**Alicija Kupliauskienė (maiden name Matulaitytė, in translations from Russian Matulaitite, Kuplyauskene)**

## Curriculum Vitae

### Business address:

Institute of Theoretical Physics and Astronomy,  
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### Education

- 1968-1973 Department of Physics, Vilnius University, Lithuania.  
Major: Theoretical Physics, degrees BA and MA  
summa cum laude
- 1974-1977 Institute of Physics and Mathematics, Vilnius, Lithuania.  
Doctor of Sciences studies, Physics, PhD.  
Advisors: Prof. A. Jucys, Prof. Z. Rudzikas

### Employment

- 1969--1973 Vilnius University, Lithuania, (*Laboratory Assistant*)
- 1973--1976 Institute of Physics and Mathematics, Vilnius, Lithuania,  
Department of Quantum Mechanical Calculations (*Junior scientific researcher*).
- 1977-1989 Institute of Physics, Vilnius, Lithuania,  
Department of the theory of Atom  
(*Scientific Researcher and Senior Scientific Researcher*)
- 1990--2002 Institute of Theoretical Physics and Astronomy, Vilnius, Lithuania,  
Department of the Theory of an Atom (*Senior Scientific Researcher*)
- 2002--present Institute of Theoretical Physics and Astronomy of Vilnius University, Vilnius,  
Lithuania,  
Department of The theory of an Atom (*Senior Researcher*)
- 2008--present Institute of Theoretical Physics and Astronomy of Vilnius University, Vilnius,  
Lithuania,  
Head of the Department of The Theory of an Atom

### Research projects.

#### Ongoing research projects.

1. PF7 project EURATOM/LEI, EFDA collaboration, 2007-2013, Principal investigator.

2. Subcontract of the FP7 project ADAS-EU between Strathclyde University and Vilnius University, 2010-2012, Principal investigator.

### **Reports prepared with the participation or under the supervision of the applicant.**

1. Experimental and theoretical investigation of electron-impact excited complex atoms and molecules, Project for the Collaboration between Lithuania and Ukraine, 2009-2010, Principal Investigator.
2. FP6 project BASNET No. 017170, European Union, 2006-2007, Coordinator.
3. Taiwan - Baltic theoretical studies of spectroscopy of atoms and their behaviour in strong laser fields project, 2006-2009, Principal Investigator.
4. FP6 project BalticGrid No. RI026715, 2005-2008, Research scientist.
5. Electron, Photon Interactions with Atoms, Ions and Molecules, EC PECO Contract No ERB CIPD CT940025, UK-Lithuania, 1994-1996, Research scientist.
6. Travel grant, Open Society Fund - Lithuania, Vilnius, Lithuania, 1998.
7. A Mayer Foundation Research Grant "Theoretical investigation of laser-assisted processes in atoms" awarded by the American Physical Society, 1993-1994, Principal Investigator.
8. Travel grant to the XVIII ICPEAC in Denmark, 1993.
9. Theoretical atomic spectroscopy and its applications in laboratory and astrophysical plasma (TASAP-II), contract with World Laboratory, Vilnius, 1993, Principal investigator.
10. Mathematical simulation of laser processes, contract with Laser Centre, Vilnius, 1992, Principal investigator.
11. Investigation of autoionizing states of Ar atom, project with Meudon Observatory, France, 1989, researcher.
12. Investigation of the excitation, radiation and autoionization processes of atoms and ions in plasma and lasers, project with Bukarest University, Romania, 1986-1990, researcher.
13. Kinetics of the origin of X-rays in tokamak plasma, project with I.V.Kurchatov institute, Moscow, 1986-1987, Principal Investigator.
14. X-ray spectroscopic diagnostics of impurity ions in tokamak plasma, project with I.V.Kurchatov institute, Moscow, 1985-1986, Principal Investigators Z.Rudzikas and A.Kupliauskienė.
15. Complex of programs for the scattering of photons by atoms FOTON for the multiprocess computing complex ELBRUS, 1980, Principal investigator.

### **Researcher training.**

#### **Supervising and consulting doctoral students.**

1. Kazimieras Glemža (defended 1987) – Candidate of Physics and Mathematics, Supervisors A.Kupliauskienė and Z.Kupliauskis.
2. Nerijus Rakštikas (defended 2002 m.) – Doctor of Physical Sciences.

3. Algis Maknickas – aspirant, (PhD student, studied 1990-1991 m., did not finished)
4. Egidijus Kiršis – doctorate student, (studied 1993-1994 m., did not finished)

Supervisor of 29 VU Physics Faculty, Vilnius Pedagogical University Diploma, Bachelor and Master degree students.

### **Subjects taught**

1. Atomic Theory for VGTU students, third year, 14 hours.
2. Quantum Scattering Theory, 3 years (20 hours) ITPA VU PhD students, 3 years (16 hours) VPU Master degree students.
3. Angular Momentum Theory, 40 hours, ITPA VU PhD students.

### **Publications used for the studies.**

1. A.V.Kupliauskienė, Z.J.Kupliauskis. The excitation of ions by electrons in Coulomb-Born approximation. Vilnius, Vilniaus University Press, 1988, 74 p. (in Russian).
2. A.Kupliauskienė. Quantum Scattering Theory, <http://www.itpa.lt/~akupl/kvstudenten.htm>. 2006 (in Lithuanian).

### **Organisation of scientific events.**

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|------|---|
| 2000 | European Group Atomic Spectroscopy Conference, EGAS-32, Vilnius, Secretary of the Local Organizing Committee.   |
| 2004 | 12 <sup>th</sup> International conference on Highly Charged Ions (HCI-12), Vilnius, Member of the Local Organizing Committee.                                   |
| 2007 | Closing Conference on the FP6 project BASNET, Vilnius, Organizer.   |
| 2010 | 7 <sup>th</sup> International Conference on Atomic and Molecular Data and their Applications (ICAMDATA 2010), Vilnius, Chair of the Local Organizing Committee. |

### **Scientific expertise and other academic activity.**

Expert of Lithuanian Science and Studies Fund, 2003 – 2009.

Evaluator of FP6 projects, 2003-2006.

Evaluator of FP7 projects, from 2007.

Referee of Physica Scripta and Lithuanian Journal of Physics.

### **Participation at professional enhancement courses.**

1. Project supported by EU Structural funds „The training of the abilities of Lithuanian scientists integrating into European Union infrastructure“, 2004-2006, (SFMIS No. BPD2004-ESF-2.5.0-03-05/0038), Course of Lectures “International Thermofusion Eksperimental Reactor ITER for future energetics”.
2. Project supported by EU Structural funds “Enhancement of the competence of scientists and other workers in the field of scientific investigations and technology development”, Course of Lectures “Management and administration of the FP7 projects”.
3. Project supported by EU Structural funds „The training of the abilities of Lithuanian scientists integrating into European Union infrastructure“, 2004-2006, (SFMIS No. BPD2004-ESF-2.5.0-03-05/0038), Summer School “Software for the analysis of astronomical data”.

4. Project supported by EU Structural funds “ The training of the abilities of Lithuanian scientists integrating into European Union infrastructure”, 2004-2006, (SFMIS No. BPD2004-ESF-2.5.0-03-05/0038), Course of Lectures “Synchrotron radiation for the future changes”.

5. Project supported by EU Structural funds “ The training of the Lithuanian scientists integrating into European Union infrastructure”, 2004-2006, (SFMIS No. BPD2004-ESF-2.5.0-03-05/0038), Course of Lectures “Laws of Europe for the regulation of scientific activity and juridical aspects in biomedical, physical and humanitarian investigations.

6. Project supported by EU Structural funds “ The training of the Lithuanian scientists integrating into European Union infrastructure”, 2004-2006, (SFMIS No. BPD2004-ESF-2.5.0-03-05/0038), Course of Lectures “Joint Research Center of Europe: science – industry – product – user – science”.

### **Mastering new research methods.**

Development of the graphical technique of the angular momentum theory to obtain the expressions of the matrix elements of physical operators in the case of non-orthogonal radial orbitals.

Development and application of atomic theory for the description of the polarization and the asymmetry of angular distributions in the interaction of atoms and ions with photons and electrons.

Application of relaxed-orbital approximation for the investigations of the simultaneous ionization and excitation of atoms and ions by electrons and photons.

### **Scientific papers.**

#### **Scientific monographs, studies, fundamental and theoretical works.**

E.V.Aglitskiy, V.V.Viktorov, A.V.Gulov, V.V.Ivanov, E.P.Ivanova, R.S.Kiselyus, K.N.Koshelev, **A.V.Kuplyauskene**, A.M.Panin, Z.B.Rudzikas, Yu.V.Sidelnikov, A.N.Ryabtsev, U.I.Safronova, S.S.Churilov, V.P.Shevelko. The spectroscopy of multicharged ions in high temperature plasmas. Moscow, Nauka Press., 1991, 206 p. (in Russian).

#### **Scientific articles included in international databases of refereed publications;**

1. P.Serapinas, A.V.Kupliauskienė. On current filament formation in arc cathode plasmas. J.Phys.D: Appl.Phys. 1994, v. 27, N2, p.330-337.
2. A.V.Kupliauskienė. Relative intensities of shake-up satellites in photoionization of potassium atoms from  $3p^64s$  and  $3p^64p$ . J.Phys. B: At.Mol.Opt.Phys.,1994, v. 27, N23, p. 5647-5660.
3. A.Kupliauskienė. Simultaneous photoionization and excitation of Li, Na, and K atoms in the ground and excited state. Physica Scripta, v.53, 149 -158 (1996).
4. A.Kupliauskienė. Simultaneous ionization and excitation of B and Al atoms in the ground and excited states by photons. Physica Scripta, v. 55, N 4, 445-454 (1997).
5. N.Rakštikas, A.Kupliauskienė. Strong dependence of the 2p photoionization cross sections of Na atoms on valence electron state. Physica Scripta, 1998, v. 58, N 6, p. 587-594.
6. A.Kupliauskienė. The influence of valence electron excitation on the 2s subshell photoionization cross sections of atomic sodium. J.Phys. B: At. Mol. Opt. Phys., 1998, v. 31, N 13, p. 2885-2896.
7. A.Kupliauskienė. On the application of relaxed-orbital Hartree-Fock approximation for the ionization cross sections of atoms. J.Phys.B: At.Mol.Opt.Phys., 1999, v. 32, p. 3939-3954.
8. A.Kupliauskienė. On the application of relaxed-orbital and sudden perturbation approximations for the photoionization of atoms. J. Phys. B: At. Mol. Opt. Phys., 2001, v. 34, No. 3, p. 345-361.

9. A.Kupliauskienė, N.Rakštikas, V.Tutlys. Polarization studies in the photoionization of atoms using graphical technique. *J. Phys. B: At. Mol. Opt. Phys.*, v. 34, No. 9, 1783-1804 (2001).
10. N.Rakštikas, A.Kupliauskienė. The influence of valence electron state on the 2p ionization of atomic sodium by electrons. *Physica Scripta*, 2001, v. 63, N 3, p. 230-236.
11. A.Kupliauskienė, K.Glemža. Strong dependence of shake probability on valence electron state for the inner-shell ionization of atoms. *J.Phys. B: At. Mol. Opt. Phys.*, 2002, v. 35, No. 23, p. 4637-4646.
12. A.Kupliauskienė, V.Tutlys. Application of graphical technique for Auger decay following photoionization of atoms. *Physica Scripta*, 2003, v. 67, No 4, 290-300.
13. A.Kupliauskienė, V.Tutlys. Angular distribution of radiation following photoionization of polarized atoms. *Physica Scripta*, 2004, v 70, No. 4, 241-250.
14. A.Kupliauskienė, K.Glemža. Dependence of shake probability on nuclear charge of Li-, Na- and K-like ions. *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, v. 235, 180-183 (2005).
15. A.Kupliauskienė. Investigation of fluorescence radiation following radiative recombination of ions and electrons. *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, v. 235, 252-256 (2005).
16. A.Kupliauskienė, V.Tutlys. General expression for the dielectronic recombination cross section of polarized ions with polarized electrons. *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, v. 235, 257-260 (2005).
17. A.Kupliauskienė, P.Bogdanovich, A.A.Borovik, O.Zatsarinny, A.N.Grzmichailo, K.Bartschat. The role of cascade processes in electron-impact excitation of the  $(3p^5 4s^2) ^2P_{3/2,1/2}$  autoionizing levels in potassium. *J.Phys. B.*, v. 39, No. 3, 591-601 (2006).
18. A.Kupliauskienė. A general expression for the excitation cross-section of polarized atoms by polarized electrons. *Physica Scripta*, 75, 524-530 (2007).
19. A.Borovik, A.Kupliauskienė. On cascade transitions between autoionizing doublet levels in sodium, *Physica Scripta*, 77, 055301 (4pp) (2008).
20. A.Kupliauskienė. Fluorescence of polarized atoms excited by polarized electrons, *Nucl. Instr. and Meth. B*, v. 267, 266-269 (2009).
21. A.Kupliauskienė, V.Tutlys. Properties of Auger electrons following excitation of polarized atoms by polarized electrons, *Nucl. Instr. and Meth. B*, v. 267, 263-265 (2009).
22. A.Kupliauskienė, V.Tutlys. Properties of Auger electrons following excitation of polarized atoms by polarized electrons, *Nuclear Instruments and Methods in Physics Research B*, 267, 263-265 (2009).
23. A.Kupliauskienė. Fluorescence of polarized atoms excited by polarized electrons, *Nuclear Instruments and Methods in Physics Research B*, 267, 266-269 (2009).
24. A.Borovik, A.Kupliauskienė. The  $5p^6$  autoionization cross section of cesium atoms: contribution to single ionization by electron impact. *J. Phys. B: At. Mol. Opt. Phys.* 42, 165202 (5pp) (2009).
25. A.Kupliauskienė, Theoretical study of the  $5p^5 n l n' l'$  autoionizing states of Cs, *Physica Scripta*, 2011 (submitted).

**Scientific articles in refereed international, foreign, and Lithuanian periodical and serial publications, including on-line publications;**

1. Z.J.Kuplyauskis, A.V.Matulaitite, A.P.Jucys. On the application of generalized hydrogen-like radial orbitals for the calculation of atomic structure. *Lietuvos fizikos rinkinys*, 1971, v. 11, N 4, p. 557-563 (in Russian).

2. Z.J.Kuplyauskis, A.V.Matulaitite, A.P.Jucys. Application of the non-orthogonal radial orbitals to the ground configuration of the magnesium-type atoms. *Lietuvos fizikos rinkinys*, 1971, v. 11, N 4, p. 565 -571 (in Russian).
3. Z.J.Kuplyauskis, A.V.Matulaitite, A.P.Jucys. Application of the generalized hydrogen-like radial orbitals to the ground configuration of the sodium- and aluminium-type atoms. *Lietuvos fizikos rinkinys*, 1972, v. 12, N 1, p. 19 -24 (in Russian).
4. Z.J.Kuplyauskis, A.V.Matulaitite, J.A.Yakimavichus. Intensity calculation of X-ray scattering by Al and Al<sup>+</sup>. *Lietuvos fizikos rinkinys*, 1972, v. 12, N 1, p. 26-33 (in Russian).
5. Z.J.Kuplyauskis, A.V.Kuplyauskene. The theoretical investigation of berillium-like atoms in the configuration 1s<sup>2</sup>2s3s. *Optika i spektroskopija*, 1975, v. 38, N 3, p. 409-410 (in Russian).
6. Z.J.Kuplyauskis, A.V.Kuplyauskene. On the investigation of atoms with vacancies. *Izvestiya vuzov USSR, Fizika*, 1975, N 9, p. 19 -23 (in Russian).
7. Z.J.Kuplyauskis, A.V.Kuplyauskene. The investigation of fluorine-type atoms in the configuration 2p<sup>4</sup>3p. *Izvestiya vuzov USSR, Fizika*, 1975, N 9, p. 143 -145 (in Russian).
8. Z.J.Kuplyauskis, A.V.Kuplyauskene. On the investigation of second row atoms with K vacancy. *Optika i spektroskopija*, 1975, v. 39, N 5, p. 993 -995 (in Russian).
9. Z.J.Kuplyauskis, A.V.Kuplyauskene. The investigation of coherent scattering of photons by oxygen atoms and ions. - *Izvestiya vuzov USSR, Fizika*, 1976, N 4, p. 95-99 (in Russian).
10. A.V.Kuplyauskene, Z.J.Kuplyauskis. The investigation of the 1s-hole state of neon. *Lietuvos fizikos rinkinys*, 1976, v. 16, N 2, p. 231 -238 (in Russian).
11. A.V.Kuplyauskene, Z.J.Kuplyauskis. The investigation of the elastic photon scattering cross sections by copper atom and ions. *Lietuvos fizikos rinkinys*, 1976, v. 16, N 4, p. 524 -531 (in Russian).
12. Z.J.Kuplyauskis, A.V.Kuplyauskene. The effect of the division of 2p-shell in nitrogen-type atoms. *Izvestiya vuzov USSR, Fizika*, 1976, N 10, p. 97 -103 (in Russian).
13. Z.J.Kuplyauskis, A.V.Kuplyauskene. Investigation of coherent scattering cross sections of photons by zinc atom and ions. *Optika i spektroskopija*, 1976, v. 41, N 4, p. 677 -679 (in Russian).
14. Z.J.Kuplyauskis, A.V.Kuplyauskene. The oscillator strengths of transitions 3s<sup>2</sup>3p<sup>N</sup> - 3s3p<sup>N+1</sup> in atoms, single and double ions. *Optika i spektroskopija*, 1977, v. 42, N 3, p. 600 -601 (in Russian).
15. Z.J.Kuplyauskis, A.V.Kuplyauskene. Division of the 2p-shell of oxygen-type atoms. *Lietuvos fizikos rinkinys*, 1977, v. 17, N 1, p. 21 -28 (in Russian).
16. Z.J.Kuplyauskis, A.V.Kuplyauskene. The investigation of Li and He<sup>-</sup> in the configuration 1s2s2p. *Izvestiya vuzov USSR, Fizika*, 1977, N 6, p. 70 -74 (in Russian).
17. A.A.Bandzaitis, A.V.Kuplyauskene, Z.J.Kuplyauskis, V.J. Tutlis. Theoretical calculations of the autoionizing terms of neon in the configuration 1s<sup>2</sup>2s<sup>2</sup>2p<sup>4</sup>(<sup>3</sup>P)3s3p. - *Lietuvos fizikos rinkinys*, 1979, v. 19, N 2, p. 187 -193 (in Russian).
18. S.L.Yonushauskas, A.V.Kuplyauskene, Z.J.Kuplyauskis. Investigation of photon scattering cross sections by iron atom and ions. *Optika i spektroskopija*, 1979, v. 47, N 3, p. 447 -450 (in Russian).
19. S.L.Yonushauskas, A.V.Kuplyauskene, Z.J.Kuplyauskis. Investigation of the Rayleigh and Compton photon scattering cross sections by atoms and ions of chromium. *Lietuvos fizikos rinkinys*, 1979, v. 19, N 6, p. 757 -764 (in Russian).
20. A.V.Kuplyauskene, Z.J.Kuplyauskis. Rayleigh and Compton scattering cross sections of x-rays by oxygen ions. *Journal de Physique*, 1979, C7, t. 40, p. C7-853.
21. A.V.Kuplyauskene, Z.J.Kuplyauskis. The doubly excited states of lithium atoms. *Optika i spektroskopija*, 1980, v. 48, N 3, p. 430 -434 (in Russian).
22. S.L.Yonushauskas, A.V.Kuplyauskene, Z.J.Kuplyauskis. Investigation of Compton scattering cross sections by the atoms and ions of nickel. *Izvestiya vuzov USSR, Fizika*, 1980, v. 23, N 3, p. 131 -132 (in Russian).
23. V.E.Brijyunas, A.V.Kuplyauskene, Z.J.Kuplyauskis. Energies of x-ray and Auger satellites in neon. Initial configuration 1s2p<sup>N</sup>. - *Izvestiya vuzov USSR, Fizika*, 1980, v. 23, N 7, p. 108 -110 (in Russian).
24. A.V.Kuplyauskene, Z.J.Kuplyauskis. Analytical radial orbitals for negative ions of second, third, and fourth period. *Lietuvos fizikos rinkinys*, 1980, v. 20, N 4, p. 95 -96 (in Russian).

25. V.E.Briyjunas, A.V.Kuplyauskene, Z.J.Kuplyauskis. Investigation of neon ions in the configuration  $1s2s2p^N$ . Lietuvos fizikos rinkinys, v. 20, N 6, p. 33 -40 (in Russian).
26. Z.J.Kuplyauskis, A.V.Kuplyauskene, V.J.Tutlis. On the investigation of the excited states of atoms using non-orthogonal radial orbitals. Izvestiya vuzov USSR. Fizika, 1981, v 24, N 3, p. 7 - 10 (in Russian).
27. A.A.Borovik, I.S.Aleksakhin, A.V.Kuplyauskene. Excitation and electronic decay of the autoionizing states of alkaline earth atoms. Calcium. Atomic states. Optika i spektroskopiya, 1981, v. 51, N 3, p. 433—439 (in Russian).
28. A.A.Borovik, I.S.Aleksakhin, A.V.Kuplyauskene. Excitation and electronic decay of the autoionizing states of alkaline earth atoms. Calcium. (Atomic optically forbidden and ionic states). Optika i spektroskopiya, 1982, v. 52, N 3, p. 425 -428 (in Russian).
29. A.V.Kuplyauskene, Z.J.Kuplyauskis. Doubly excited states of  $B^{2+}$ . Lietuvos fizikos rinkinys, 1982, v. 22, N 1, p. 13 -23 (in Russian).
30. A.V.Kuplyauskene, Z.J.Kuplyauskis. Doubly excited states of  $Be^+$ . Optika i spktroskopiya. 1982, v. 52, N 5, p. 793 -798 (in Russian).
31. V.E.Briyounas, R.S.Kiselyus, A.V.Kuplyauskene, Z.J.Kuplyauskis. The investigation of the decay of two K vacancies in neon ions. Izvestiya vuzov USSR. Fizika, v. 25, N 8, p. 119 -120 (in Russian).
32. A.A.Borovik, I.S.Aleksakhin, V.F.Bratsev, A.V.Kuplyauskene. Excitation and electronic decay of the autoionizing states of alkaline earth atoms. Strontium. Optika i spektroskopiya, 1982, v. 53, N 6, p. 976 -980 (in Russian).
33. V.E.Briyjunas, R.S.Kisielyus, A.V.Kuplyauskene, Z.J.Kuplyauskis. Fluorescence yield for the decay of autoionizing states in ions. Lietuvos fizikos rinkinys, 1982, v. 22, N 4, p. 95 -97 (in Russian).
34. A.V.Kuplyauskene, Z.J.Kuplyauskis. Doubly excited states of  $C^{3+}$ . Optika i spektroskopiya, 1982, v. 54, N 1, p. 48-53 (in Russian).
35. A.V.Kuplyauskene, Z.J.Kuplyauskis, V.J.Tutlis. Dielectronic satellites in the three-electron ions of nitrogen. Lietuvos fizikos rinkinys, 1982, v. 22, N 5, p. 15 -21 (in Russian).
36. G.N.Ogurtsov, V.M.Mikoushkin, I.P.Flaks, A.V.Kuplyauskene, Z.J.Kuplyauskis. Experimental and theoretical determination of the autoionization energies for the states  $2p^3nl'n'l'$  of NeII. Optika i spektroskopiya, 1983, v. 54, N 3, p. 391 -396 (in Russian).
37. Z.J.Kuplyauskis, K.K.Glemzha, A.V.Kuplyauskene. Dielectronic satellites of the resonance line of  $C^{4+}$ . Optika i spektroskopiya, 1984, v. 56, N 1, p. 21 -25 (in Russian).
38. V.G.Gontis, J.J.Grudzinskas, R.S.Kisielius, A.V.Kuplyauskene, Z.B.Rudzikas, V.J.Tutlis. The simulation of atomic processes in tokamak plasma. Lietuvos fizikos rinkinys, 1984, v. 24, N2, p. 120 -121 (in Russian).
39. V.E.Briyjunas, A.V.Kuplyauskene, Z.J.Kuplyauskis. The investigation of the radiative and Auger decay probabilities of  $KL^2_1$  states with vacancies in neon ions. - Lietuvos fizikos rinkinys, 1984, v. 24, N 4, p. 90—91 (in Russian).
40. A.A.Borovik, I.S.Aleksakhin, V.F.Bratsev, A.V.Kuplyauskene. Excitation and electronic decay of the autoionizing states of alkaline earth atoms. Barium. Optika i spektroskopiya, 1985, v. 58, N 5, p. 988 -992 (in Russian).
41. A.V.Kuplyauskene, Z.J.Kuplyauskis. Stude of transitions worth-while for the creation of VUV lasers on potassium vapours. Optika i spektroskopiya, 1985, v. 58, N 6, p. 1341 -1344 (in Russian).
42. K.K.Glyamzha, A.V.Kuplyauskene, A.H.Nakas. The influence of the use of more accurate wave functions and the account of exchange on the excitation cross sections of ions by electrons. Izvestiya USSR, seriya fizicheskaya, 1986, v. 50, N 7, p. 1343 -1348 (in Russian).
43. V.E.Briyounas, K.K.Glyamzha, A.V.Kuplyauskene, Z.J.Kuplyauskis. Theoretical investigation of the dependence of the intensities of resonance line satellites on plasma temperature. Lietuvos fizikos rinkinys, 1986, v. 26, N 2, p. 231 -232 (in Russian).
44. K.K.Glyamzha, A.V.Kuplyauskene, Z.J.Kuplyauskis. The influence of the account of ortogonalily of the continuum and bound electrons on the cross sections of the excitation of ions by electron impact. Optika i spektroskopiya, 1987, v. 62, N 1, p. 23 -25 (in Russian).

45. R.S.Kiselyus, A.V.Kuplyauskene, Z.B.Rudzikas. Fitting formula of the radiative recombination rates of electron with ion in the configuration  $1s^2 2s^{N_1} 2p^{N_2}$ . *Optika i spektroskopija*, 1987, v. 63, N 2, p. 244 -248 (in Russian).
46. K.K.Glyamzha, A.V.Kuplyauskene, Z.J.Kuplyauskis. On the contribution of the large momenta of incoming electron on the excitation cross sections of ions by electron impact. *Optika i spektroskopija*, 1987, v. 63, N 2, p. 445 -448 (in Russian).
47. K.K.Glyamzha, A.V.Kuplyauskene, Z.J.Kuplyauskis, A.H.Nakas. The investigation of excitation cross sections of ions by electrons in the Coulomb-Born approximation. *Lietuvos fizikos rinkinys*, 1987, v. 27, N 1, p. 121 -123 (in Russian).
48. A.V.Kuplyauskene, V.E.Briyunas, A.Maknitskas. Autoionization-state energies of boron-to-neon three-electron ions. *Optika i spektroskopija*, 1988, v. 64, N 2, p. 245 -256 (in Russian).
49. A.V.Kuplyauskene. Recombination of electron with positive ions. *Lietuvos fizikos rinkinys*, 1988, v. 28, N 1, p. 97 -98 (in Russian).
50. K.K.Glyamzha, A.V.Kuplyauskene, Z.J.Kuplyauskis, A.H.Nakas. Investigation of the excitation of positive ions by electron impact. *Lietuvos fizikos rinkinys*, 1988, v. 28, N 1, p. 98-99 (in Russian).
51. A.V.Kuplyauskene. Doubly excited states of  $Ne^{2+}$ ,  $Ne^{3+}$ , and  $Ne^{4+}$ . - *Lietuvos fizikos rinkinys*, 1988, v. 28, N 2, p. 263 -264 (in Russian).
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**Reports at scientific conferences** (by personal presentation only).

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### **Science popularisation.**

19 papers are published, a number of lectures were presented to pupils and society.