CURRICULUM VITAE

NAME: Aram V. **Papoyan**

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DATE AND PLACE OF BIRTH: December 25, 1959, Yerevan, Armenia

NATIONALITY: Armenian

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LANGUAGES: Armenian, Russian, English

EDUCATION AND DEGREES:

1977-1982: Student of Department of Radiophysics of the Yerevan State University, Yerevan, Armenia. Diploma of Master in Radiophysics (1982);

1982-1985: PhD student at the Institute for Physical Research of Academy of Sciences of Armenia, Ashtarak, Armenia. PhD Diploma – Candidate of Physical and Mathematical Sciences in Optics (1991);

2004: 2nd level doctoral degree thesis defended at the Institute for Physical Research of National Academy of Sciences of Armenia, Ashtarak, Armenia. DSc Diploma – Doctor of Physical and Mathematical Sciences in Laser Physics (2005).

EMPLOYMENT HISTORY:

Probationer-Engineer, Institute for Physical Research of AS Arm.SSR, Ashtarak, Armenia (1982);

PhD Student at the Institute for Physical Research, AS of Armenia (1982-1985);

Junior Researcher, Institute for Physical Research of AS Arm.SSR, Ashtarak, Armenia (1986-1992);

Senior Researcher, Institute for Physical Research of NAS RA, Ashtarak, Armenia (1992-2006);

Vice-Director, Institute for Physical Research of NAS RA, Ashtarak, Armenia (2006).

PRESENT POSITION:

Director, Institute for Physical Research of NAS RA, Ashtarak, Armenia (2006-);

Head of the Laboratory of Optics,Institute for Physical Research of NAS RA, Ashtarak, Armenia (2006-).

OTHER AFFILIATIONS:

Member of Presidium of National Academy of Sciences of Armenia (2011-2016);

President of Armenian Territorial Committee for Optics (2011-);

Member of Bureau of Division of Physics and Astrophysics of the National Academy of Sciences of Armenia (2006-);

Armenian Coordinator of the CNRS-SCS French-Armenian International Associated Laboratory IRMAS - "Interaction of Radiation with Matter: From Atoms to Solids" (2009-2017);

Vice-Editor-in-Chief of the Journal of Contemporary Physics (Arm. Acad. Sci.) (2016-);

Topical Editor of Physical & Mathematical Section of Armenian scientific-popular journal "Gitutyan Ashkharhum" ("In the World of Science") (2012-);

Member of Editorial Board of the Armenian Journal of Physics (2015-);

Member of the Board of Trustees of the A.Alikhanian National Scientific Laboratory (Yerevan Physics Institute) Foundation (2012-);

Member of Governing Board of the Radioisotopes Production Center cjsc (2012-2015);

Member of Scientific Council of the Russian-Armenian (Slavonic) University (2012-);

Member of Scientific Council of the National Bureau of Expertise of NAS RA (2009-);

Member of Governing Board of the National Bureau of Expertise of NAS RA (2019-);

Coordinator of FP7 Project # 295025-IPERA ("Integrating the Institute for Physical Research of the National Academy of Sciences of the Republic of Armenia into ERA") (2011-2014);

Vice-Chairman of the Armenian Supreme Attestation Commission's Doctoral Council in Physics at the Yerevan State University (2011-);

Member of the Award Committee for the annual Prize of the President of Republic of Armenia in Physics (2008-2018);

Vice-Editor-in-Chief of the Journal of Contemporary Physics (Armenian Academy of Sciences) (2017-);

Member of the Science and Technology Development Council of Armenia under the leadership of Prime Minister; Head of the Quantum Technologies Workgroup (2024-).

ACADEMIC:

Corresponding Member of the National Academy of Sciences of Armenia (2010-);

Professor, Russian-Armenian (Slavonic) University (2006-);

Invited professor at Université de Bourgogne, France (2012);

Supervisor of 5 PhD students (including 2 French-Armenian co-supervised PhD students)

RESEARCH ABROAD (> 1 month stay):

Huygens Laboratory of the Leiden University, The Netherlands (1995);
Joint research at the Laboratoire de Physique des Lasers, Université Paris-Nord, France (1996);

Fachbereich Physik, Universitat Kaiserslautern, Germany (1997, 1998, 1999);

Laboratoire Kastler-Brossel, Ecole Normale Superieure, Paris, France (1998, 1999, 2000, 2001, 2002, 2003);

University of Siena, Italy (2015).

CURRENT RESEARCH INTERESTS:

Experimental studies in: Laser Physics; Atomic Physics and Spectroscopy, including Nanoscale Processes; Quantum and Nonlinear Optics; Optical Imaging,

in particular:

- Radiative and collisional redistribution of population of atomic levels;
- Interaction time effects in atomic spectroscopy;
- Resonant interaction of laser radiation with atomic media in wavelength-scale-thickness cells;
- Coherent population trapping and electromagnetically-induced transparency;
- Nonlinear Hanle and Faraday effects;
- Zeeman, Paschen-Back, and other magneto-optical effects;
- Nonlinear effects in alkali vapor;
- Selective reflection of light;
- Mirrorless degenerate lasing in atomic media;
- Laser-induced photochemical reactions, laser isotope separation;
- Laser spectroscopy of alkali dimers, molecular rovibronic spectra;
- Interaction of atomic vapor with dielectric surface;
- Parity violation in cesium atom;
- Locking laser radiation frequency to atomic resonance lines;
- Laser-optical screening and imaging of highly-scattering/absorbing objects.

AWARDS AND HONORS:

Diploma awarded by the President of the Academy of Sciences of Armenia (2003);

Award of the President of the Republic of Armenia in Physics (2004, shared with D. Sarkisyan and T. Varzhapetyan);

“Best Scientific Work 2009” Award of the National Academy of Sciences of Armenia, World Armenian Congress, and the Union of Armenians in Russia (2010, shared with D. Sarkisyan and A. Sargsyan);

“Anania Shirakatsi” medal, State Award of Republic of Armenia (2013);

Winner of the annual Armenian State competition “The 100 most efficient scientists” (2013-2014; 2015-2016; 2020-2021);

Galileo Galilei award and medal from the International Commission for Optics (2015);

Member of the Euro Mediterranean Academy of Arts and Sciences (2016);

Honorary Doctor of Russian-Armenian University (2017);

OSA Advocate of Optics recognition (2019).

RESEARCH GRANTS:

ISTC grant #A-635 “Laser-chemical separation of isotopes of alkali metals” - participant (2002-2005);

SCOPES grant #IB7320-110684/1 “Tunable frequency locking of a diode laser to atomic resonance lines using atomic vapor nanolayers” - participant (2005-2008);

INTAS grant No. 06-1000017-9001 “Study of atomic vapor layers of nanometric thickness and atom-surface interaction” - participant (2006-2008);

FP7 Project # 295025 - IPERA “Integrating the Institute for Physical Research of the National Academy of Sciences of the Republic of Armenia into ERA”- Coordinator (2011-2014);

FP7 Project # 295264 - COSMA “Coherent optics sensors for medical applications” - participant (2012-2016);

FP7 Project # 609534 - SECURE-R2I “Reinforcing cooperation with Eastern Partnership countries on bridging the gap between research and innovation for inclusive and secure societies” - participant (2013-2016);

NATO SPS G5794 - "Development of an Optical Magnetic Sensing System for Security Checkpoints" - Partner Country Project Director (2020-2023).

CONFERENCE ORGANIZATION:

Chair of “Laser Physics- 2008, 2009, 2010, 2011, 2012, 2013, 2015” International Conference (Armenia);

Co-Chair of OSA “Young Optician School” (Armenia, 2007);

Co-Chair of International Advanced Research Workshop «Modern Problems in Optics & Photonics» (Armenia, 2009);

Co-Chair of International Symposium on Optics and its Applications (Armenia, 2011, 2014, 2015, 2016, 2019);

Scientific Committee member of IONS Armenia International Conference (Armenia, 2013);

Scientific Committee member of the 23th Congress of International Commission for Optics (ICO) (Spain, 2014);

Chair of International Conference and Workshop QuantArm 2014 (Armenia, 2014);

Chair of the OMNIDAV German-Armenian Optical Magnetometry Workshop (Armenia, 2018).

MEMBERSHIPS:

President of Armenian Territorial Committee for Optics affiliated to International Commission for Optics (ICO);

Member of the Alfred Kastler Foundation of the French Academy of Sciences;

Member of the Optica (former OSA) Society.

PUBLICATIONS:

4 edited or co-edited books/volumes;

250 published works, including:
- 4 book chapters,
- 112 articles in refereed journals,
- 28 articles in conference proceeding books,
- 106 conference abstracts

(*see attached list of publications*)

Aram V. Papoyan
Publications list

Articles in reviewed journals

1. A.K. Saakyan, A.V. Papoyan, "Two-stage pulse generator for copper-vapor laser", **Instruments and Experimental Techniques**, v.29, No.1, pp.110-112 (1986).
2. K.I. Zemskov, M.A. Kazaryan, M.E. Movsesyan, A.V. Papoyan, G.G. Petrash, S.V. Shmavonyan, "Image transformation in potassium vapors from the red range of the spectrum into the violet", **Soviet Physics- Lebedev Institute Reports**, No.12, pp.26-28 (1988).
3. A.M. Davtyan, M.E. Movsesyan, A.V. Papoyan, S.V. Shmavonyan, "Laser resonance radiation at the atomic-potassium D_1 line", **Optics and Spectroscopy**, v.66, No.5, pp.686-687 (1989).
4. A.V. Papoyan, "Authomatized system for recording and processing of pulsed optical radiation spectra", **Izvestiya AN Arm.SSR. Ser. Tekhn. Nauk**, v.43, No.6, pp.290-293 (1990) [in Russian].
5. M.E. Movsesyan, A.V. Papoyan, S.V. Shmavonyan, "Shape of spectral line shape of violet emission of potassium vapor with a buffer gas", **Soviet Journal of Contemporary Physics**, v.25, No.4, pp.28-32 (1990).
6. M.E. Movsesyan, A.V. Papoyan, "Conversion of IR image into violet image in potassium vapor", **JETP Letters**, v.51, No.5, pp.285-287 (1990).
7. M.E. Movsessyan, A.V. Papoyan, S.V. Shmavonyan, "The influence of buffer gas on violet radiation in potassium vapour under two-photon excitation", **Soviet Journal of Contemporary Physics**, v.25, No.2, pp.81-87 (1990).
8. M.E. Movsessyan, A.V. Papoyan, S.V. Shmavonyan, "Radiations amplification and image conversion in stimulated four-wave parametric mixing in potassium vapor", **International Journal of Nonlinear Optical Physics**, v.1, No.4, pp.775-783 (1992).
9. M.E. Movsesyan, A.V. Papoyan, S.V. Shmavonyan, "Amplification of radiation due to the four-photon parametric process in potassium vapor", **Journal of Russian Laser Research**, v.16, No.2, pp.172-177 (1995).
10. A.V. Papoyan, S.V. Shmavonyan, "Effect of buffer gas on IR emission of potassium vapor", **Journal of Russian Laser Research**, v.16, No.2, pp.152-155 (1995).
11. A.V. Papoyan, "Collisional redistribution of energy in the infrared spectrum of potassium vapor under two-photon excitation", **Applied Physics B**, v.62, No.2, pp.165-167 (1996).
12. R. Loe-Mie, A.V. Papoyan, A.M. Akulshin, A. Lezama, J.R. Rios Leite, O. Lopez, D. Bloch, M. Ducloy, "Nearly all-optical frequency-stabilization of a laser diode on the 120 kHz intercombination line of Ba", **Optics Communications**, v.139, No.1, pp.55-59 (1997).
13. H. van Kampen, A.V. Papoyan, V.A. Sautenkov, P.H.A.M. Castermans, E.R. Eliel, J.P. Woerdman, "Observation of collisional modification of the Zeeman effect in a high-density atomic vapor", **Physical Review A**, v.56, No.1, pp.310-315 (1997).
14. D.H. Sarkisyan, A.V. Papoyan, "Frequency-stabilized high power ruby laser Q switched by Rb_2 vapor", **Applied Optics**, v.35, No.18, pp.3207-3209 (1996).
15. A.V. Papoyan, G.S. Sarkisyan, S.V. Shmavonyan, "Selective reflection of light from dense sodium vapors", **Optics and Spectroscopy**, v.85, No.5, pp.649-652 (1998).
16. D.H. Sarkisyan, A.V. Papoyan, G. Bonnet, K. Bergmann, "Passively Q-switched diode-pumped cw YAG:Nd^{3+} laser", **Journal of Contemporary Physics** (Armenian Academy of Sciences), v.33, No.5, pp.8-13 (1998).

17. A.V. Papoyan, “Measurement of collisional self-broadening of atomic resonance lines in selective reflection experiment”, **Journal of Contemporary Physics** (Armenian Academy of Sciences), v.33, No.3, pp.7-12 (1998).
18. M.A. Bouchiat, J. Guéna, Ph. Jacquier, M. Lintz, A.V. Papoyan, “Electrical conductivity of glass and sapphire cells exposed to dry cesium vapor”, **Applied Physics B**, v.68, No.5, pp.1109-1116 (1999).
19. A.V. Papoyan, G.S. Sarkisyan, D.H. Sarkisyan, “Laser spectroscopy of dilute cesium vapor in a weak magnetic field”, **Journal of Contemporary Physics** (Armenian Academy of Sciences), v.34, No.1, pp.5-12 (1999).
20. M. Lintz, A.V. Papoyan, “A simple and efficient laser beam trap using a highly absorbing glass plate at Brewster incidence”, **Review of Scientific Instruments**, v.71, No.12, pp.4681-4682 (2000).
21. E. Jahier, J. Guéna, Ph. Jacquier, M. Lintz, A.V. Papoyan, M.A. Bouchiat, “Temperature-tunable sapphire windows for reflection loss-free operation of vapour cells”, **Applied Physics B**, v.71, No.4, pp.561-565 (2000).
22. E. Jahier, M.A. Bouchiat, J. Guéna, Ph. Jacquier, M. Lintz, A.V. Papoyan, D.H. Sarkisyan, “Violation de la parité dans le césium. Progrès expérimentaux grâce à des cellules en saphir”, **Journal de Physique IV** (Proceedings), v.10, pp.149-150 (2000).
23. D. Sarkisyan, D. Bloch, A. Papoyan, M. Ducloy, “Sub-Doppler spectroscopy by sub-micron thin Cs vapour layer”, **Optics Communications**, v.200, No.1-6, pp.201-208 (2001).
24. A.V. Papoyan, J. Guéna, M. Lintz, M.A. Bouchiat, “Thermionic emission and photoemission of electrons from dielectric and metal surfaces in Cs vapor cells”, **The European Physical Journal AP**, v.19, No.1, pp.15-24 (2002).
25. G. Dutier, S. Saltiel, D. Bloch, M. Ducloy, A. Papoyan, D. Sarkisyan, “Observation de l’interaction entre atome et surface en cellule de vapeur submicrométrique”, **Journal de Physique IV** (Proceedings), v.12, pp.155-157 (2002).
26. A.V. Papoyan, M. Auzinsh, K. Bergmann, “Nonlinear Hanle effect in Cs vapor under strong laser excitation”, **The European Physical Journal D**, v.21, No.1, pp.63-71 (2002).
27. J. Guéna, E. Jahier, M. Lintz, A. Papoyan, S. Sanguinetti, M.A. Bouchiat, “Grooving an alumina surface as a mean to inhibit secondary electron emission under grazing incidence”, **Applied Physics B**, v.75, No.6-7, pp.739-743 (2002).
28. D.H. Sarkisyan, A.V. Papoyan, T.S. Varzhapetyan, T. Becker, H. Walther, “Influence of the spectral width of laser radiation on the sub-Doppler structure of resonance fluorescence of atomic vapors in extremely thin cells”, **Journal of Contemporary Physics** (Armenian Academy of Sciences), v.37, No.6, pp.14-20 (2002).
29. D.H. Sarkisyan, T.S. Varzhapetyan, A.V. Papoyan, “Features of fluorescence on D_1 line of submicron layer of Rb vapor in external magnetic field”, **Journal of Contemporary Physics** (Armenian Academy of Sciences), v.38, No.4, pp.19-25 (2003).
30. A.V. Papoyan, D.H. Sarkisyan, K. Blush, M. Auzinsh, D. Bloch, M. Ducloy, “Magnetic field-induced mixing of hyperfine states of the Cs $6^2P_{3/2}$ level observed with a submicron vapor cell”, **Laser Physics**, v.13, No.12, pp.1467-1477 (2003).
31. D. Sarkisyan, T. Becker, A. Papoyan, P. Thoumany, H. Walther, “Sub-Doppler fluorescence on the atomic D_2 line of a sub-micron rubidium-vapor layer”, **Applied Physics B**, v.76, No.6, pp.625-631 (2003).
32. G. Dutier, A. Yarovitski, S. Saltiel, A. Papoyan, D. Sarkisyan, D. Bloch, M. Ducloy,“Collapse and revival of a Dicke-type coherent narrowing in a sub-micron thick vapor cell transmission spectroscopy”, **Europhysics Letters**, v.63, No.1, pp.35-41 (2003).
33. J. Guéna, D. Chauvat, Ph. Jacquier, E. Jahier, M. Lintz, S. Sanguinetti, A. Wasan, M.A. Bouchiat, A.V. Papoyan, D. Sarkisyan, “New manifestation of atomic parity violation in cesium: a chiral optical gain induced by linearly polarized 6S-7S excitation”, **Physical Review Letters**, v.90, No.14, 143001 (4p.) (2003).

34. V. Chaltykyan, Yu. Malakyan, S. Shmavonyan, A. Papoyan, “Resonant laser-induced formation of caesium hydride molecules in a room temperature vapour cell: experimental results and rate equation calculations”, **Journal of Physics B**: Atomic, Molecular and Optical Physics, v.37, No.18, pp.3735-3743 (2004).
35. A.V. Papoyan, G.G. Grigoryan, S.V. Shmavonyan, D. Sarkisyan, J. Guéna, M. Lintz, M.A. Bouchiat, “New feature in selective reflection with a highly parallel window: phase-tunable homodyne detection of the radiated atomic field”, **The European Physical Journal D**, v.30, No.2, pp.265-273 (2004).
36. D. Sarkisyan, T. Varzhapetyan, A. Sarkisyan, Yu. Malakyan, A. Papoyan, A. Lezama, D. Bloch, M. Ducloy, “Spectroscopy in an extremely thin vapor cell: Comparing the cell-length dependence in fluorescence and in absorption techniques”, **Physical Review A**, v.69, No.6, 065802 (4p.) (2004).
37. G. Dutier, A. Yarovitski, S. Saltiel, D. Sarkisyan, A. Papoyan, T. Varzhapetyan, D. Bloch, M. Ducloy, “Spectroscopy in a sub-micrometer thick cell or how to probe the atom-surface interaction with a nanometric spatial resolution”, **Journal de Physique IV** (Proceedings), v.119, No.7, pp.179-180 (2004).
38. D. Sarkisyan, A. Papoyan, T. Varzhapetyan, J. Alnis, K. Blush, M. Auzinsh, “Sub-Doppler spectroscopy of Rb atoms in a sub-micron vapor cell in the presence of a magnetic field”, **Journal of Optics A**: Pure and Applied Optics, v.6, No.3, pp.S142-S150 (2004).
39. D.H. Sarkisyan, A.V. Papoyan, T.S. Varzhapetyan, K. Blush, M. Auzinsh, “Hyperfine structure Zeeman effect on of an atomic D_1 line of a sub-micron ^{87}Rb vapor layer”, **Optics and Spectroscopy**, v.96, No.3, pp.328-334 (2004).
40. A. Badalyan, V. Chaltykyan, G. Grigoryan, A. Papoyan, S. Shmavonyan, M. Movsessian, “Application of selective reflection from atomic vapor for determination of isotope abundances”, **Proceedings of the American Nuclear Society**, v.6, pp.3414-3419 (2005).
41. D. Sarkisyan, A. Papoyan, T. Varzhapetyan, K. Blushs, M. Auzinsh, **“**Fluorescence of rubidium in a submicrometer vapor cell: spectral resolution of atomic transitions between Zeeman sublevels in a moderate magnetic field”, **Journal of Optical Society of America B**, v.22, No.1, pp.88-95 (2005).
42. A. Badalyan, V. Chaltykyan, Y. Fujii, Yu. Malakyan, M. Ozawa, A. Papoyan, S. Shmavonyan, “Studies of laser induced cesium and rubidium hydride formation in vapor cells and their application for isotope separation”, **Progress in Nuclear Energy**, v.47, No.1-4, pp.389-396 (2005).
43. A.V. Papoyan, E.A. Gazazyan, “Nonlinear forward scattering in cesium vapor: experiment with simultaneous scanning of laser frequency and B-field”, **Applied Spectroscopy**, v.60, No.9, 1085-1089 (2006).
44. A. Sargsyan, D. Sarkisyan, A. Papoyan, “Dark-line atomic resonances in a submicron-thin Rb vapor layer”, **Physical Review A**, v.73, No.3, 033803 (7p.) (2006).
45. A. Badalyan, V. Chaltykyan, G. Grigoryan, A. Papoyan, S. Shmavonyan, M. Movsessian, “Selective reflection by atomic vapor: experiments and self-consistent theory”, **The European Physical Journal D**, v.37, No.2, pp.157-162 (2006).
46. D. Sarkisyan, T. Varzhapetyan, A. Papoyan, D. Bloch, M. Ducloy, “Absorption and fluorescence in atomic submicron cell: high laser intensity case”, **Proceedings of SPIE**, v.6257, 625701 (2006).
47. D. Sarkisyan, A. Sargsyan, A. Papoyan, Y. Pashayan-Leroy, “Formation of narrow optical resonances using submillimeter and sibmicron-thin atomic vapor layer”, **Proceedings of SPIE**, v.6604, 660405 (14p.) (2007).
48. E.A. Gazazyan, A.V. Papoyan, D. Sarkisyan, A. Weis, “Laser frequency stabilization using selective reflection from a vapor cell with a half-wavelength thickness”, **Laser Physics Letters**, v.4, No.11, pp.801-808 (2007).
49. Y. Pashayan-Leroy, C. Leroy, A. Sargsyan, A. Papoyan, D. Sarkisyan, “Electromagnetically induced transparency: the thickness of the vapour column is of order of light wavelength”, **Journal of Optical Society of America B**, v.24, No.8, pp.1829-1838 (2007).

50. A. Atvars, M. Auzinsh, E.A. Gazazyan, A.V. Papoyan, S.V. Shmavonyan, “Implementation of a double-scanning technique for studies of the Hanle effect in rubidium vapor”, **The European Physical Journal D**, v.44, No.3, pp.411-417 (2007).
51. A. Papoyan, D. Sarkisyan, “Magneto-optical processes in atomic vapor cells with radiation wavelenght-scale thickness”, **Proceedings of SPIE**, v.7027, 70270E (15p.) (2008).
52. A. Sargsyan, G. Hakhumyan, A. Papoyan, D. Sarkisyan, A. Atvars, M. Auzinsh, “A novel approach to quantitative spectroscopy of atoms in a magnetic field and applications based on an atomic vapor cell with L=λ”, **Applied Physics Letters**, v.93, No.2, 021119 (3p.) (2008).
53. A. Sargsyan, D. Sarkisyan, A. Papoyan, Y. Pashayan-Leroy, P. Moroshkin, A. Weis, A. Khanbekyan, E. Mariotti, L. Moi, “Saturated absorption spectroscopy: elimination of crossover resonances with the use of a nanocell”, **Laser Physics**, v.18, No.6, pp.749-755 (2008).
54. A. Sargsyan, A.V. Papoyan, D. Sarkisyan, A. Weis, “Efficient technique for measuring laser frequency stability”, **The European Physical Journal AP**, v.48, No.2, 20701 (5p.) (2009).
55. A. Sargsyan, A. Papoyan, A. Sarkisyan, Yu. Malakyan, G. Grigoryan, D. Sarkisyan, Y. Pashayan-Leroy, C. Leroy, “Narrow and contrast resonance of increased absorption in Λ-system observed in Rb cell with buffer gas”, **Armenian Journal of Physics**, v.2, No.2, pp.84-94 (2009).
56. V. Chaltikyan, A. Papoyan, H. Oshita, H. Shiotani, K. Ono, M. Ishikawa, M. Ozawa, “Perspectives of laser-chemical isotope separation of a long-lived fission product: Cs-135”, **Journal of Radioanalytical and Nuclear Chemistry**, v.280, No.2, pp.347-356 (2009); **INCS News**, Issue 24, v.6, No.4, pp.18-26 (2009).
57. A.D. Sargsyan, A.S. Sarkisyan, A.V. Papoyan, D.H. Sarkisyan, “Investigation of quadratic stark effect on Rb D_2 atomic line”, **Journal of Contemporary Physics** (Armenian Academy of Sciences), v.44, No.3, pp.131-135 (2009).
58. G. Hakhumyan, A. Sargsyan, C. Leroy, Y. Pashayan-Leroy, A. Papoyan, D. Sarkisyan, “Essential features of optical processes in neon-buffered submicron-thin Rb vapor cell”, **Optics Express**, v.18, No.14, pp.14577-14585 (2010).
59. M. Auzinsh, R. Ferber, F. Gahbauer, A. Jarmola, L. Kalvans, A. Papoyan, D. Sarkisyan, “Nonlinear magneto-optical resonances at D_1 excitation of ^{85}Rb and ^{87}Rb in an extremely thin cell”, **Physical Review A**, v.81, No.3, 033408 (10p.) (2010).
60. K. Vardanyan, A. Khachaturova, S. Varzhapetyan, A. Badalyan, S. Shmavonyan, A. Papoyan, “Straightforward optical transmission method for visualization of highly-absorbing and scattering objects”, **Optoelectronics and Advanced Materials- Rapid Communications**, v.4, No.8, pp.1163-1165 (2010).
61. K. Khanbekyan, G. Bevilaqua, A. Khanbekyan, E. Mariotti, A. Papoyan, L. Moi, “A phenomenological model for collisional collisional coherence transfer in an optically pumped atomic system”, **Journal of Physics B**: Atomic, Molecular and Optical Physics, v.44, No.5, 055502 (7p.) (2011).
62. M. Movsisyan, S. Shmavonyan, A. Papoyan, “Selective reflection studies of molecular cesium vapor”, **Proceedings of SPIE**, v.7998, 79980U (9p.) (2011).
63. K. Vardanyan, A. Khachaturova, S. Varzhapetyan, A. Badalyan, S. Shmavonyan, A. Papoyan, “New synchronous detection approach in optical transmission imaging”, **Proceedings of SPIE**, v.7998, 799814 (5p.) (2011).
64. K. Khanbekyan, G. Bevilaqua, A. Khanbekyan, E. Mariotti, A. Papoyan, L. Moi,“Coherent transfer of population in an atomic system in the presence of buffer gas”, **Proceedings of SPIE**, v.7998, 79980W (6p.) (2011).
65. E. Gazazyan, G. Grigoryan, A. Papoyan, “Amplification of a weak circularly polarized light signal in a multilevel atomic medium”, **Journal of Contemporary Physics** (Armenian Academy of Sciences), v.46, No.4, pp.145-149 (2011).
66. M. Movsisyan, S. Shmavonyan, A. Papoyan, “Amplification of radiation in atomic vapor induced by a linearly polarized laser radiation”, **Central European Journal of Physics**, v.9, No.4, pp.948-955 (2011).

67. A. Sargsyan, Y. Pashayan-Leroy, C. Leroy, R. Mirzoyan, A. Papoyan, D. Sarkisyan, "High contrast D_1 line electromagnetically induced transparency in nanometric-thin rubidium vapor cell", **Applied Physics B**: Lasers and Optics, v.105, No.4, pp.767-774 (2011).

68. A. Sargsyan, G. Hakhumyan, C. Leroy, Y. Pashayan-Leroy, A. Papoyan, D. Sarkisyan, "Hyperfine Paschen–Back regime realized in Rb nanocell", **Optics Letters**, v.37, No.8, pp.1379-1381 (2012).

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