CURRICULUM VITAE

Biographical Data

- Name: Leonid Gerasimov
- Birth date: August 10, 1989
- Birthplace: Leningrad, Russia

Expertise: theoretical atomic physics, quantum optics

Affiliations: Faculty of Physics, Moscow State University; Laboratory of Quantum Optics and Quantum Information, Center for Advanced Studies, SPbPU

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(i) <u>Education</u>

- St.-Petersburg State Polytechnic University, Bachelor of Physics, Nuclear Physics, 2010
- St.-Petersburg State Polytechnic University, Master of Physics, Nuclear Physics, 2012 Thesis: Coherent control of light diffusion in optically dense atomic ensembles, Supervisor: D.V. Kupriyanov
- St.-Petersburg State Polytechnic University, PhD student, 2012-2016 Thesis: Coherent control of light scattering from disordered systems of cold atoms Supervisor: D.V. Kupriyanov

(ii) Employment

- Moscow State University, Faculty of Physics, senior researcher, 2017 present
- St.-Petersburg State Polytechnic University, Laboratory of Quantum Optics and Quantum Information, senior researcher, 2018 present
- St.-Petersburg State Polytechnic University, Department of Theoretical Physics, research fellow, Professor D.V. Kupriyanov's group, 2010 2017
- "International center of quantum optics and quantum technologies", research fellow A. Kavokin's group, 2015

Involved in research programs

- RSCF 18-72-10039, Quantum interface based on neutral atoms in dipole traps
- Research program between "Minobrnauki" of Russia and MSU #03.G25.31.0254 #20170210-1
- RFBR 18-02-00265-a, Quantum registers based on neutral atoms in optical dipole traps, 2018-2020

(iii) <u>Recent Publications</u>

- 1. V.M. Porozova, L.V. Gerasimov, I.B. Bobrov, S.S. Straupe, S.P. Kulik, and D.V. Kupriyanov "Raman sideband cooling of a single atom in an optical dipole trap: Towards theoretical optimum in a three-dimensional regime", Phys. Rev. A 99, No 4 (2019)
- V.M. Porozova, V.A. Pivovarov, L.V. Gerasimov, D.V. Kupriyanov, "Bragg diffraction in atomic systems under condition of quantum degeneracy", JETP Letters Vol. 108 #10, pp. 714-721 (2018)
- 3. Porozova, V.M., Gerasimov, L.V., Havey, M.D., Kupriyanov, D.V. "Light scattering from an atomic gas under conditions of quantum degeneracy" Phys. Rev. A 97, 053805 (2018); arXiv:1712.04592
- "Light scattering from an atomic array trapped near a one-dimensional nanoscale waveguide: A microscopic approach" V.A. Pivovarov, A.S. Sheremet, L.V. Gerasimov, V.M. Porozova, N.V. Corzo, J. Laurat, and D. V. Kupriyanov Phys Rev A 97, 023827 (2018); arXiv:1711.06844
- V.M. Ezhova, L.V. Gerasimov, D.V. Kupriyanov, "On a theory of light scattering from a Bose-Einstein condensate", 2016 J. Phys.: Conf. Ser. 769 012045, arXiv:1602.07562
- 6. L.V. Gerasimov, D.V. Kupriyanov, M.D. Havey, "Random Lasing in an Inhomogeneous and Disordered System of Cold Atoms", Optics & Spectroscopy Vol. 119#3 pp. 377-384. (2015) arXiv:1507.02296
- 7. A.S. Sheremet, D.F. Kornovan, L.V. Gerasimov, B. Gouraud, J. Laurat, and D.V. Kupriyanov, "Coherent control of light transport in a dense and disordered atomic ensemble", Phys. Rev. A. 91 053813 (2015) arXiv:1411.4771

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(iv) Professional and academic experience

Recent reports

4th Russian-German-French Laser Symposium 2018, "Bragg scattering from a fractured Bose-Einstein condensate", 24-26 April 2018, Kazan, Russia

- EMN Meeting on Quantum Communication and Quantum Imaging-2016, "Coherent light scattering from a quantum degenerate Bose-gas", 23-26 August 2016, Berlin, Germany
- International conference on Laser Physics (LPHYS'15), "Random lasing under conditions of radiation trapping in an inhomogeneous and disordered system of cold atoms ", 21-25 July 2015, Shanghai
- International Conference on Quantum Technologies (ICQT'15), "On a theory of light scattering on a Bose-Einstein condensate", 13-17 July 2015, Moscow

Support in the form of grants or fellowships

- 1. Support program of «Dynasty» foundation for students and young scientists stipend, 2010-2015;
- 2. Support from Alferov, President of Russian Federation foundations stipend, 2014-2015
- 3. Support from RFBR young scientists program (project #15-32-50411)
- 4. Foundation for the Advancement of Theoretical Physics and Mathematics "BASIS" 18-1-1-48, Coherent control and operation with atomic systems in optical dipole traps, 2018-2021