

RESUME

Name: Olga Kocharovskaya
Title: Distinguished Professor of Physics

Educational background:

1996 – Dr. Habilitation awarded by the Highest Attestation Commission of the Russian Federation
 1986 – Ph.D. received from Gorky State University
 1978 – Master's degree received from Gorky State University

Institutional affiliations:

2006 – present Distinguished Professor, Department of Physics, Texas A&M University
 2001 – 2006 Professor, Texas A&M University
 1998 – 2001 Associate Professor, Texas A&M University
 1996 – 1998 Leading Research Scientist, Institute of Applied Physics, Russian Academy of Science, Nizhny Novgorod, Russia
 1992 – 1996 Senior Research Scientist, Institute of Applied Physics, Russian Academy of Science, Nizhny Novgorod, Russia
 1986 – 1991 Research Scientist, Institute of Applied Physics, Russian Academy of Science, Nizhny Novgorod, Russia
 1990 – 1996 Free Research Scientist, Universite Libre de Bruxelles, joint appointment
 1984 – 1986 Ph.D. Student, Gorky State University
 1978 – 1984 Junior Research Scientist, Gorky State University

Area of expertise:

quantum, coherent and nonlinear optics and laser physics.

Honors:

Fellow of the American Physical Society, 2005
 Fellow of the Optical Society of America, 1997
 Association of Former Students and Texas A&M University
 Distinguished Achievement Award in Research, 2005
 Lecturer of the Distinguished Women Physicists Lecture Series, The University at Austin, 2005
 Willis Lamb Medal for Laser Physics and Quantum Electronics,
 Physics of Quantum Electronics Winter Symposium, 1998
 Outstanding Young Professor of the Russian Federation, 1996
 (Presidential Award of the Russian Academy of Sciences)

Research supervision (last 10 years):

Number of Ph D students: 6
 Number of Ph D received: 4
 Number of postdocs: 6

Synergistic activities

Member of the Program Committees and Organizer of many International Workshops, Symposia and Conferences; Member of APS Fellowship Committee for Laser Physics Division
 Referee for Phys. Rev. Lett., Phys. Rev. A, Journal of Optics, part B, Opt. Express, Opt. Commun., J. Mod. Optics; National Science Foundations and other founding agencies in USA, Europe and Asia.

Publications (about 100 papers in the refereed journals which received over 2000 citations)

Selected recent scientific publications relevant to the project:

1. E. Kuznetsova, O. Kocharovskaya, P. Hemmer, M. Scully, "Atomic interference phenomena in solids with a long-lived spin coherence", Phys. Rev. A **66**, 063802 (2002).
2. R. Coussemment, Y. Rostovtsev, J. Odeurs, G. Neyens, H. Muramutsu, S. Gheysen, R. Callens, K. Vyvey, G. Kozyreff, P. Mandel, R. Shakhmuratov, and O. Kocharovskaya, "Controlling absorption of gamma radiation via nuclear level anticrossing", Phys. Rev. Lett. **89**, 107601 (2002).
3. Y. Rostovtsev, O. Kocharovskaya, G. Welch, M.O. Scully, "Slow, ultra-slow and freezing light", Optics and Photonics News, October 2002.
4. Y. Rostovtsev, R. Kolesov, O. Kocharovskaya, "Laser-Mossbauer spectroscopy as a new tool for studies of nuclear transitions", Hyperfine Interactions, v **143**, p 121 (2002).
5. R. Kolesov and O. Kocharovskaya, "Ultrashort pulses generation in solid media with long-lived spin coherence", Phys. Rev. A **67**, 023810 (2003).
6. E. Kuznetsova, R. Kolesov, O. Kocharovskaya, "Compression of gamma-ray photons into ultrashort pulses", Phys. Rev. A **68**, 043825 (2003).
7. E. Kuznetsova, R. Kolesov, O. Kocharovskaya, "Suppression of excited-state absorption: a path to ultraviolet tunable solid-state lasers", Phys. Rev. A **70**, 043801 (2004).
8. R. Kolesov, E. Kuznetsova, O. Kocharovskaya, "Continuum-coupled solitary waves in a resonant amplifier with excited-state absorption", Phys. Rev. A **71**, 043815 (2005).
9. R. Shakhmuratov, J. Odeurs, S. Gheysen, Y. Rostovtsev, O. Kocharovskaya, P. Mandel, "Level mixing induced transparency for gamma radiation", Appl. Phys. B **81**, pp 883-888 (2005).
10. V.A. Sautenkov, C.Y. Ye, Y. Rostovtsev, G.R. Welch, O. Kocharovskaya, M.O. Scully, "Electromagnetically induced transparency in rubidium vapor prepared by a comb of short optical pulses", Phys. Rev. A **71**, 063804, (2005).
11. E.K. Sadykov, V.V. Arinin, G.I. Petrov, A.V. Pyataev, F.G. Vagizov, O. Kocharovskaya, "Radio-frequency coherence and controllable quantum interference in Mossbauer spectroscopy", Hyperfine Interactions **167**, 893 (2006).
12. E. Kuznetsova, R. Kolesov, O. Kocharovskaya, "Coherent population trapping via a continuum with train of ultrashort pulses", Phys. Rev. A **74**, 033804 (2006).
13. R. Kolesov, M.O. Scully, O. Kocharovskaya, "Manipulation of Zeeman coherence in solids at room temperature: Ramsey interference in CPT in ruby", Phys. Rev. A **74**, 053820 (2006).
14. E. Kuznetsova, Y. Rostovtsev, N. Kalugin, R. Kolesov, O. Kocharovskaya, M.O. Scully, "Generation of coherent terahertz pulses in ruby at room temperature", Phys. Rev. A **74**, 023819 (2006).
15. F. Vagizov, R. Kolesov, S. Olariu, Y. Rostovtsev, O. Kocharovskaya, "Experimental observation of vibration produced by pulsed laser beam in MgO:⁵⁷Fe", Hyperfine Interactions **167**, 917 (2006).
16. Y.V. Radeonychev, M.D. Tokman, A.G. Litvak, O. Kocharovskaya, "Acoustically induced transparency in optically dense resonance medium", Phys. Rev. Lett. **96**, 093602 (2006).
17. F. Vagizov, S. Olariu, O. Kocharovskaya, "Experimental search for laser-induced effects in ¹⁵¹Eu and ⁵⁷Fe doped crystals", Laser Phys. **17**, 734, (2007).
18. E. Kuznetsova, R. Kolesov, O. Kocharovskaya, "Coherent population trapping with a train of pulses and its applications", Laser Phys. **17**, 1187 (2007).
19. P. Anisimov, F. Vagizov, Y. Rostovtsev, R. Shakhmuratov, O. Kocharovskaya, "Suppression of gamma absorption via quantum interference", J. Mod. Optics **54**, 2595 (2007).
20. P. Anisimov, Y. Rostovtsev, O. Kocharovskaya, "Concept of spinning magnetic field at magic-angle condition for line narrowing in Mossbauer spectroscopy", Phys. Rev. B **76**, 094422 (2007).