Curriculum Vitae

Dr. Svetlana Glebovna Lukishova

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Education:

- Ph.D.: Moscow Institute of Physics and Technology (FizTech), physics and mathematics, 1977 (advisors: Nobel prize winner A.M. Prokhorov and P.P. Pashinin).
  Ph. D. Thesis title: “Aspects of Spatial and Temporal Profile Formation of Laser Radiation".
- Thesis title of the Second Doctoral Degree (Habilitation): "Coherent Beam Apodization as the Method of Improving High-Power Laser Beam Quality and Divergence". (In addition to the Ph.D level degree, there is a second academic degree in Russia, the "Doctor of Sciences". This Degree may be earned by those, who made a substantial contribution to Science; an American Full Professor may qualify for this degree).

  A recommendation for its defense after Thesis review and presentation was given in November 1996 by the scientific council of the General Physics Institute (its approval was signed by A.M. Prokhorov). In December 1996 Lukishova moved to the US accepting offering there because of lack of funding in Russia at this time.
- B.S./M.S. with highest Honor: Moscow Institute of Physics and Technology, General and Applied Physics Department, 1973.

  M.S. and Ph.D. research was carried out at the laboratories of the Soviet Academy of Sciences (Lebedev Physical Institute, Moscow, Russia).

Professional Career:

- University of Rochester, Senior Scientist, Group Leader (2001 - present);
- University of Rochester, Scientist (1999 - 2000);
- Liquid Crystal Institute, Kent State University, Visiting Scientist (1997 - 1998);
- Institute of Radioengineering and Electronics, Russian Acad. of Sciences, Moscow, Senior Scientist, Group Leader (1987 – 1998); Scientist (1981 – 1987);
- Kurchatov Nuclear Power Institute (Troitsk division TRINITI, Moscow Region), Research Associate (1977 – 1981);
- Lebedev Physical Institute, Soviet Acad. of Sciences, Moscow, Research Assistant (1971 – 1976).

Honors and Awards:

- Wadsworth C. Sykes Faculty Engineering Award, University of Rochester, the Hajim SEAS, 2012.
- Diploma of 36th Vavilov’s Lectures on Luminescence, Russian Academy of Sciences, 2012.
- Russian Foundation for Basic Research Award for research on nonlinear optics, 1996.
- Russian Government Award for research on nonlinear optics of liquid crystals, 1995.
- International Science (G. Soros) Foundation Long-Term Award with International peer-review for research on nonlinear optics, 1994-1995.
- Special Recognition “Red M.S. Honor Diploma” for outstanding grades, Moscow Institute of Physics and Technology.
- Special Soviet State gold medal for excellent high-school grades (Moscow, USSR).

Professional Activities:

- Topical/Associate editor, journal “Optics Letters” of the Opt. Soc. of America (since January 2010).
- Organizer and scientific/advisory board member of a number of symposia for OSA and ILCS (2004-2012), IQEC (2005), International Scientific Radio Union URSI (1981-1990).
- Panelist for National Science Foundation (Electronics, Photonics and Device Technologies and Undergraduate Education Programs).
- Reviewer for the National Science Foundation, books for Elsevier and Wiley, journals Optics Letters, Applied Optics, Optics Communications, J. Amer. Chemical Society, Pure and Applied Optics, Quantum and Semiclassical Optics, J. Modern Optics.
- Mentoring the immersion program project of the Advanced Laboratory Physics Association (2011).
- Member of C.E.K. Mees Medal Committee of the Optical Society of America, 1996.
- Author of reviews of the Russian/Soviet research on (1) Applications of Optics/Radiophysics in Medicine/Biology and (2) Quantum Electronics/Optics to the International Scientific Radio Union URSI, 1984, 1987, 1990.
- Consultant-expert on Optics and Optical Devices, Soviet State Patent Office (1983-1985).

Research Interests:

Optical material and optical radiation properties: quantum nanophotonics, nonlinear and quantum optics, liquid crystals, laser physics. In particular, current research interests include:

- single and entangled photon sources for quantum cryptography; fundamental physics experiments with single and entangled photons;
- fluorescence of single emitters in microresonators, plasmonic nanoantennas, photonic bandgap/crystal and nanostructured materials, including liquid crystal structures and infiltration;
- fabrication of photonic bandgap/crystal materials, plasmonic nanoantennae and metamaterials;
- manipulation of nanocrystals by atomic force microscope tips (placing a nanoemitter at selected place of a nanoantenna, a photonic crystal microcavity or a facet of an optical fiber).
- cholesteric liquid crystal microlasers and nonlinear optical properties of doped liquid crystals;
- quantum optics and nano-optics teaching experiments.

Research Accomplishments:

Quantum nanophotonics (quantum communication applications):

- proposal of room-temperature single-photon source based on single-emitter fluorescence in photonic bandgap liquid crystal hosts with enhanced efficiency and definite output polarization;
- observation of fluorescence antibunching for various types of single emitters doped into liquid crystals; investigation of various monomeric and oligomeric liquid crystals at the single-photon level;
- obtaining polarized single-photon sources with definite linear and circular polarizations using planar aligned nematic and cholesteric liquid crystal hosts; observation of polarized microcavity resonances and fluorescence enhancement in doped cholesteric photonic-bandgap microcavities;
- reducing emitter bleaching under long-term laser irradiation by special host treatment.

Liquid crystals (high-power laser optics and optical-power-limiting applications):

- detailed studies of reflective, absorptive and refractive nonlinearities of liquid crystals under pulsed laser irradiation;
- athermal cholesteric spiral pitch dilation and unwinding by the field of a light wave both in a laser cavity and in free space; it restricts using cholesteric liquid crystal mirrors in some laser systems.
- feedback-free hexagonal optical pattern formation and photoinduced phase separation in doped liquid and liquid crystal media under pulsed laser irradiation;

- influence of irradiation geometry and cumulative effects on nonlinear optical response of liquid crystals to low-repetition-rate (5-10-Hz) nanosecond laser radiation under two-photon absorption. Cumulative effects by heating are shown to restrict application of the widely used Z-scan method.
- development of dye-doped monomeric and oligomeric cholesteric liquid crystal microlasers.

Laser physics (improving laser beam quality and divergence, brightness enhancement):

- development of high-damage-threshold apodizing devices (graded reflectivity mirrors, total internal reflection, various types of color center apodizers) for spatial profile formation of high-power lasers;
- suppression of Fresnel diffraction ripples causing small-scale self-focusing damage in high-power Nd:glass laser amplifiers for thermonuclear fusion research using apodizing devices;
- improving beam quality and brightness enhancement of solid-state industrial lasers using apodizing devices;
- proposal for, and experimental realization of, using a regenerative amplifier for creation of Nuckolls' pulse shape for optimal compression of a laser-driven thermonuclear fusion target.

Teaching:

University of Rochester

- Spring 2014 course OPT 204 (Sources and Detectors Labs and Lab Lectures).
- 2004 – present: developing teaching experiments on photon quantum mechanics and nano-optics:

  A series of modular 3-hour experiments and 20-min-demonstrations based on technical elective, 4-credit-hour OPT 253 Lab/Lecture course were incorporated into a number of courses ranging from freshman to senior level. During the 8 years of this activity, a total of 290 students (64 groups) carried out the labs and more than 192 students (~17 groups) attended lab demonstrations:
- 2006 - present: 4-credit hour course “Quantum Optics and Quantum Information Laboratory” OPT 253/ OPT 453/ PHY 434 (undergraduate and graduate versions); in 2012 this course was upgraded with a new title “Quantum Optics and Nano-Optics Laboratory”.
- 2009: 4-credit-hour course PHY534/OPT554 “Advanced Topics in Quantum Optics” for graduate students (jointly with Alonso, Bigelow, Boyd, Eberly, Stroud).
- 2011 – present: co-advisor of Ph.D student *(a PI of student’s NASA fellowship);*
- 2005-2011: co-advisor of Ph.D student *(Ph.D thesis was defended in September 2011).*
- 2011: Mentoring the “immersion program” of the Advanced Laboratory Physics Association (*teaching quantum optics laboratory experiments to 6 professors from different US universities).*
- 2000 – present: advisor of research projects for 7 graduate students and 14 undergraduate students (*one undergraduate student was awarded a Goldwater National Competition scholarship, another a University of Rochester Presidential Award in Engineering and a Department of Physics and Astronomy Stoddard Prize);*
- participation in NSF Summer REU and RET programs as student advisor;
- 2008: teaching the quantum optics lab in the Summer School of the Institute of Optics for engineers;
- 2004: participation in Laboratory for Laser Energetics Summer K-12 program *(one student was awarded the semifinalist status in the Intel Science Talent Search for that year);*
- 2000: lecture-laboratory course “Liquid Crystals: from Displays to Life Science” for the K-12 University of Rochester Summer Program “Rochester Scholars”.

Moscow Institute of Physics and Technology (FizTech)

- 1994-1996: teaching undergraduate students (laboratory for optical materials, lectures on solid-state physics), supervising students’ research projects (*two M.D. students were awarded International Science (Soros) Foundation National Competition scholarships*).

Publications and Talks

Publications and Presentations Summary:

- More than 200 publications in total;
- One co-edited Springer book (7,865 chapter download requests during 2009-2011);
- Four book chapters;
- Four seminal journal papers were reprinted in the SPIE Series “books of selected reprints”;
- One US (number of claims: 127) and three Soviet patents;
- 50 papers in refereed journals;
- 60 papers in refereed conference proceedings;
- 21 papers in Proceedings SPIE;
- 32 invited presentations;
- 5 review booklets (200 copies) for the International Scientific Radio Union URSI

Full list of Publications

Book Editing

1. R.W. Boyd, S.G. Lukishova, Y.-R. Shen, Eds, Self-focusing: Past and Present. Fundamentals and Prospects, Springer Series: Topics in Applied Physics , Vol. 114, Springer NY, 2009, 605 p. 299 illus., ISBN: 978-0-387-32147-9. (7,865 chapter download requests from 2009-2011)

Book Chapters

4. S.G. Lukishova, R.W. Boyd, Y.-R. Shen, “Preface”, 14 pages, pp. v – xviii, in Self-focusing: Past and Present. Fundamentals and Prospects, Springer Series: Topics in Applied Physics, vol. 114, Springer NY, 2008, 605 p.

3. S.G. Lukishova, Y.V. Senatsky, N.E. Bykovsky, A.S. Scheulin, “Beam shaping and suppression of self-focusing in high-peak power Nd:glass laser systems”, Chapter 8, pp. 191-229, in Self-focusing: Past and Present. Fundamentals and Prospects, Springer Series:Topics in Applied Physics, vol. 114, Springer NY, 2008, 605 p.

2. S.G. Lukishova, I.K. Krasyuk, P.P. Pashinin, A.M. Prokhorov, “Apodization of light beams as a method of brightness enhancement in neodimium glass laser installations”, in Formation and Control of Optical Wavefronts, Proceedings of the Institute of General Physics of the USSR Academy of Sciences, Vol. 7, edited by P.P. Pashinin, Nauka Publ., Moscow, 1987, pp.92-147 (in Russian).

1. Selected Papers on Apodization: Coherent Optical Systems, SPIE Milestone Series on Selected Reprints, edited by J.P. Mills and B. J. Thomson, Vol. MS 119, 1996, Bellingham, Washington, four journal papers of Lukishova were reprinted in this book (pp. 301-304; pp. 334-341; pp. 362-374; pp. 447-458).

US Patents

1. S.G. Lukishova, R.W. Boyd, C.R. Stroud, “Efficient room-temperature source of polarized single photons”, US Patent 7, 253,871, Aug. 7, 2007.

Soviet Invention Certificates (Patents)

3. V.K. Ivanchenko, S.G. Lukishova, D.M. Margolin, Yu.V. Fedorov, L.V. Chernysheva, “Method for fabricating apodized apertures”, Soviet Invention Certificate, N 1098409, 1984.

2. I.K. Krasyuk, S.G. Lukishova, B.M. Terentiev, A.I. Yarkin, “Method of fabrication of apodized apertures”, Soviet Invention Certificate, N 4019583, 1985.

1. V.A. Arkhangelskaya, S.Kh. Batygov, S.G. Lukishova, A.E. Poletimov, A.S. Scheulin, “Method for making amplitude filters”, Soviet Invention Certificate, N 1647044A1, 1990.

Papers in Refereed Journals

50. S.G. Lukishova, “Nonlinear and quantum optics with liquid crystals”, J. Phys.: Conf. Ser., 17 pages, accepted for publication (2014).

49. A.C. Liapis, G.M. Gehring, S.G. Lukishova, R.W. Boyd, “Simulating Quantum-Mechanical Barrier Tunneling Phenomena with a Nematic-Liquid-Crystal-Filled Double-Prism Structure”, Molec. Cryst. Liquid Cryst., Special Issue, accepted for publication (2013).

48. S.G. Lukishova, J.M. Winkler, L. J. Bissell, “Quantum dot fluorescence in photonic bandgap glassy cholesteric liquid crystal structures: microcavity resonance under cw-excitation, antibunching and decay time”, Molec. Cryst. Liquid Cryst., Special Issue, accepted for publication (2013).

47. G.M. Gehring, A.C. Liapis, S.G. Lukishova, and R.W. Boyd, “Time-domain measurements of reflection delay in frustrated total internal reflection”, Phys. Rev. Lett. Vol. 111, 030404 – Published 19 July 2013 (“Editors’ Suggestion” for readers to examine).

46. J.M. Winkler, S.G. Lukishova, L.J. Bissell, “Room-temperature single-photon sources with definite circular and linear polarizations based on single-emitter fluorescence in liquid crystal hosts”, J. Phys.: Conf. Ser. Vol. 414, 012006-(1-14) (2013).

45. S.G. Lukishova, L.J. Bissell, J. Winkler, C.R. Stroud, Jr , “Resonance in quantum dot fluorescence in a photonic-bandgap liquid crystal host”, Opt. Lett., Vol. 37 Iss. 7, 1259-1261 (2012).

44. S.G. Lukishova, “Liquid crystals under two extremes: (1) high-power laser irradiation, and (2) single-photon level”, Molec. Cryst. Liq. Cryst., Vol. 559. Special Issue, 127-157 (2012).

43. S.G. Lukishova, “Valentin A. Fabrikant: negative absorption, his 1951 patent application for amplification of electromagnetic radiation (ultraviolet, visible, infrared and radio spectral regions) and his experiments”, J. Europ. Opt. Soc., Special issue devoted to the Laser Anniversary, Vol. 5, 10045S-1-10 (2010).

42. N.V. Karlov, O.N. Krokhin, and S.G. Lukishova, “History of quantum electronics at the Moscow Lebedev and General Physics Institutes: Nikolaj Basov and Alexander Prokhorov”, Appl. Opt., Special LaserFest issue, Vol. 49, No. 25, F32-F46 (2010)

41. S.G. Lukishova, L.J. Bissell, C. R. Stroud, Jr., R.W. Boyd, “Room-temperature single photon sources with definite circular and linear polarizations”, Optics and Spectroscopy, Special Quantum Optics issue, Vol. 108, No 3, 417-424 (2010).

40. S.G. Lukishova, L. J. Bissell, V.M. Menon, N. Valappil, M.A. Hahn, C.M. Evans, B, Zimmerman, T.D. Krauss, C. R. Stroud, Jr., R.W. Boyd, “Organic photonic bandgap microcavities doped with semiconductor nanocrystals for room-temperature single photon sources on demand”, J. Modern Optics, Special Issue on Single Photons, Vol. 56, is 2 & 3, 167-174 (2009).

39. S.K.H. Wei, Shaw H. Chen, K. Dolgaleva, S.G. Lukishova, R.W. Boyd, “Robust organic lasers comprising glassy-cholesteric pentafluorene doped with a red-emitting oligofluorene”, Appl. Phys. Lett., Vol. 94, 041111 (2009).

38. K. Dolgaleva, S.K.H. Wei, S.G. Lukishova, S.H. Chen, K. Schwertz, and R.W. Boyd, “Enhanced laser performance of cholesteric liquid crystals doped with oligofluorene dye”, J. Opt. Soc. Am. B, Vol. 25, Issue 9, pp. 1496-1504, 2008.

37. S.G. Lukishova, A.W. Schmid, R. Knox, P. Freivald, L. Bissell, R.W. Boyd, C.R. Stroud, Jr, K.L. Marshall, “Deterministically polarized, room temperature source of single photons”, J. Modern Optics, Special Issue on Single Photon: Sources, Detectors, Applications and Measurement Methods, Vol. 54, iss. 2 & 3, pp. 417-429, 2007.

36. S.G. Lukishova and A.W. Schmid, “Near-field optical microscopy of defects in cholesteric oligomeric liquid crystal films”, Molec. Cryst. Liq. Cryst., Vol. 454, pp. 417-423, 2006.

35. S.G. Lukishova, A.W. Schmid, R.P. Knox, P. Freivald, A. McNamara, R.W. Boyd, C.R. Stroud, Jr., K.L. Marshall, “Single-photon source for quantum information based on single dye molecule fluorescence in liquid crystal host”, Molec. Cryst. Liq. Cryst., Vol. 454, pp. 403-416, 2006.

34. S.G. Lukishova, N. Lepeshkin, R.W. Boyd, K. Marshall, “Far-field patterns from dye-doped planar-aligned nematic liquid crystals under nanosecond laser irradiation”, Molec. Cryst. Liq. Cryst., Vol. 453, pp. 393-401, 2006.

33. S.G. Lukishova, A.W. Schmid, R. Knox, P. Freivald, L. Bissell, R.W. Boyd, C.R. Stroud, Jr, K.L. Marshall, “Deterministically polarized fluorescence from uniaxually aligned single dye molecules”, LLE Review, Quarterly Report, DOE/SF/19460-485, Laboratory for Laser Energetics, University of Rochester, January March, DOE/SF/19460-667, Vol. 106, pp. 102-107, 2006.

32. S.G. Lukishova, A.W. Schmid, Ch. M. Supranowitz, N. Lippa, A. J. McNamara, R.W. Boyd, C.R. Stroud, Jr., “Dye-doped cholesteric-liquid-crystal room-temperature single photon source, J. of Modern Optics, Special Issue on Single Photon: Detectors, Applications and Measurements Methods, Vol. 51, No 9-10, pp.1535-1547, 2004.

31. S.G. Lukishova, A.W. Schmid, A. J. McNamara, R.W. Boyd, and C.R. Stroud, “Room temperature single photon source: single dye molecule fluorescence in liquid crystal host”, IEEE J. of Selected Topics in Quantum Electronics, Special issue on Quantum Internet Technologies, Vol. 9, No 6, pp.1512-1518, 2003.

30. S.G. Lukishova, A.W. Schmid, A.J. McNamara, R.W. Boyd, and C.R. Stroud, Demonstration of a room-temperature single-photon source for quantum information: single-dye-molecule fluorescence in a cholesteric liquid crystal host, LLE Review, Quarterly Report, DOE/SF/19460-485, Laboratory for Laser Energetics, University of Rochester, Vol. 94, Jan-March, pp. 97-106, 2003.

29. S.G. Lukishova, R.W. Boyd, N. Lepeshkin, and K.L. Marshal, “Cumulative birefringence effects of nanosecond laser pulses in dye-doped planar nematic liquid crystal layers”, J. Nonl. Opt. Phys. & Mater., Special issue on Novel Optical Materials and Applications, Vol. 11, December, pp. 341-350, 2002.

28. R.S. Bennink, V. Wong, A.M. Marino, D.L. Aronstein, R.W. Boyd, C.R. Stroud, Jt., S. Lukishova, D.J. Gauthier, “Honeycomb pattern formation by laser-beam filamentation in atomic sodium vapor”, Phys. Rev. Lett., Vol. 88, N 11, 113901-(pp.1-4), 2002.

27. R.S. Bennink, V. Wong, A.M. Marino, D.L. Aronstein, R.W. Boyd, C.R. Stroud, Jt., S. Lukishova, D. J. Gauthier, “Honeycomb pattern formation by laser-beam filamentation in atomic sodium vapor”, Opt. & Phot. News, p. 30, December selection, 2002.

26. S.G. Lukishova, "Nonlinear optical response of cyanobiphenyl liquid crystals to high-power, nanosecond laser radiation", J. Nonlinear Opt. Phys. & Mater., Vol. 9, pp. 365-411, 2000.

25. S.G. Lukishova, “Nanosecond Z-scan Measurements of Optical Nonlinearities in 5CB and CB15 at 532 nm”, Mol. Cryst. Liq. Cryst., Vol.331, pp. 609-618, 1999.

24. S.G. Lukishova, S.V. Belyaev, K.S. Lebedev, E.A. Magulariya, A.W. Schmid, and N.V. Malimonenko, “Nonlinear bleaching in the selective reflection of nonabsorbing chiral-nematic liquid-crystal thin films”, Molec. Cryst. Liq. Cryst, Vol. 303, pp.79-84, 1997.

23. S.G. Lukishova, K.S. Lebedev, E.A. Magulariya, S.V. Belyaev, N.V. Malimonenko, A.W. Schmid, “Nonlinear “brightening” of a film of nonabsorbing chiral nematic under selective reflection conditions”, JETP Lett., Vol. 63, No. 6, pp.423-428, 1996.

22. S.G. Lukishova, S.V. Belyaev, K.S. Lebedev, E.A. Magulariya, A.W. Schmid, N.V. Malimonenko, “Behaviour of nonlinear liquid-crystal mirrors, made of nonabsorbing cholesteric, in the cavity of an Nd:YAG laser operating in the cw regime and at a high pulse repetition frequency”, Russian J. Quant. Electron., Vol. 26, N 9, pp.796-798, 1996.

21. S.G. Lukishova, S.A. Chetkin, N.V. Mettus, E.A. Magulariya, “Techniques for fabrication of multilayer dielectric graded-reflectivity mirrors and their use in enhancement of the brightness of the radiation from a multimode Nd^{3+}:YAG laser with a stable cavity”, Russian J. Quant. Electron., Vol. 26, N 11, pp.1014-1017, 1996.

20. S.G. Lukishova, E.A. Magulariya, K.S. Lebedev, “Nd:YAG laser induced nonlinear selective reflection by a cholesteric liquid crystal mirror”, Bulletin of the Russian Acad. of Sciences (Izvestiya RAN), Ser. Physics, Vol. 59, N 12, pp.2086-2090, 1995.

19. S.G. Lukishova, A.A. Ermakov, and N.N. Ilichev, “Graded reflectance mirrors with high reflectivity for 1.06 μm lasers”, Pure and Applied Optics, Vol. 3, Special Issue, pp.457-465, 1994.

18. S.G. Lukishova, N.R. Minhuey-Mendez, T.V. Tulajkova, “Investigation of a soft aperture formed by photooxidation of a rare-earth impurity in fluorite and used as an intracavity component in a YAG:Er^{3+} laser”, Sov. J. Quant. Electron, Vol. 24, N 2, pp.117-119, 1994.

17. S.G. Lukishova, N.R. Minuey Mendez, V.V.Ter-Mikirtychev, T.V. Tulajkova,”Improvement of the beam quality of solid state laser systems using both outside- and inside-cavity devices with variable optical characteristics along the cross-section”, Journ. of Soviet Laser Research, NY, Vol. 12, pp. 295-307, 1991.

16. S.G. Lukishova, P.P. Pashinin, S.Kh. Batygov, V.A. Arkhangelskaya, A.E. Poletimov, A.S. Scheulin, B.M. Terentiev, “High-power laser beam shaping using apodized apertures”, Laser and Particle Beams, Vol. 8, N 1-2, pp. 349-360, 1990.

15. S.G. Lukishova, L.V. Chernysheva, “Apodized apertures for IR lasers”, Infrared Physics, Vol. 29, N 2-4, pp.285-289, 1989.

14. S.G. Lukishova, “Apodized apertures for visible and near infrared band powerful lasers”, Experimentelle Technik der Physik, Berlin, Vol. 36, pp. 435-442, 1988.

13. E.I. Ivlev, S.G. Lukishova, “Formation of spatial profiles of laser beams using tunnel layers”, in collected papers “Laser beams, nonlinear effects in media”, Khabarovsk, pp. 27-36, 1988.

12. I.K. Krasyuk, S.G. Lukishova, L.V. Chernysheva, “Laser systems apodized apertures”, Revue Roumaine de Physique, Vol. 32, N 1-2, pp. 89-92, 1987.

11. S.G. Lukishova, “XXI General Assembly of URSI”, Radio Engineering and Electronic Physics, Vol. 31, N 3, pp. 616-620, 1986 (in Russian).

10. S.G. Lukishova, G.A. Margulis, “6^{th} International symposium on information theory”, Problems of transmission of information, Vol. 22, N 1, p.110, 1986 (in Russian).

9. B.V. Gorshkov, V.K. Ivanchenko, V.K. Karpovich, I.K. Krasyuk, S.G. Lukishova, D.M. Margolin, P.P. Pashinin, EA. Simun, V.A. Sokolov, V.D. Terekhov, L.V. Chernysheva, “Apodizing induced-absorption apertures with a large optical beam diameter and their applications in high-power 1.06 μm laser systems”, Sov. J. Quant. Electron., Vol.15, N 7, pp. 959-962, 1985.

8. L.A. Lobachevsky, G.S. Bochkarev, S.G. Lukishova, “On the effects of modification of ionosphere by powerful radio waves”, Radio Engineering and Electronic Physics, Vol.30, N12, pp. 2463-2465, 1985 (in Russian).

7. M.E. Brodov, V.M. Gorbunkov, P.I. Ivashkin, S.G. Lukishova, R.V. Serov, “The Method of control of quality of polished surfaces with large sizes of active elements for laser amplifiers of the installation UMI-35”, in “Problems of the diffraction of electromagnetic waves”, Collected papers of the Moscow Inst. of Phys. and Technol. (MIPT), pp.115-120, 1982 (in Russian only).

6. I.K. Krasyuk, S.G. Lukishova. P.P. Pashinin, A.M. Prokhorov, A.V. Shirkov, “Formation of the radial distribution of intensity in a laser beam by “soft” apertures”, Sov. J. Quant. Electron., Vol. 6, pp. 725-727, 1976.

5. I.K. Krasyuk, S.G. Lukishova, D.M. Margolin, P.P. Pashinin, V.D. Terekhov, “Investigation of induced-absorption soft apertures at wavelength 1.06 μm”, Soviet Physics – Lebedev Institute Reports (Kratkie Soobshcheniya po Fizike: Sbornik ANSSR, Fizicheskii Institut im. P.N.Lebedeva), N 9, pp. 38-40, 1976 (in Russian only).

4. I.K. Krasyuk, S.G. Lukishova, D.M. Margolin, P.P. Pashinin, A.M. Prokhorov, V.D. Terekhov, “Soft apertures on the basis of induced absorption”, Soviet Technical Physics Letters (Pis’ma v Zhurnal Tekhnicheskoi Fiziki), Vol. 2, N 13, pp. 577-581, 1976 (in Russian only).

3. I.K. Krasyuk, S.G. Lukishova, P.P. Pashinin, A.M. Prokhorov, “Laser system with a regenerative amplifier for generation of a train of pulses of variable amplitude”, Sov. J. Quant. Electron. Vol. 4, pp. 832-834, 1974.

2. V.A. Batanov, I.A. Bufetov, S.G. Lukishova, V.B. Fedorov, “Intensive evaporation of germanium and silicon by millisecond laser radiation pulses”. Sov. J. Quant. Electron., Vol. 4, pp. 248-249, 1974.

1. S. Vartapetov, V. Vovchenko, I. Krasjuk, S. Lukishova, P. Pashinin, A. Prokhorov, ”Production of specially tailored laser pulses”, IEEE J. Quant. Electr., Vol. 11, is. 9, p. 854, 1975.

Papers in Refereed Conference Proceedings

60. A.C. Liapis, G.M. Gehring, S.G. Lukishova, R.W. Boyd, “Time-domain measurements of single photon tunneling phenomena”, Tenth Rochester Conference on Coherence and Quantum Optics (CQO-X), June 17-20, 2013, Technical Digest on CD, paper G-M6.51, Rochester NY (2013).

59. J.M. Winkler, S.G. Lukishova, L.J. Bissell, D. Goldberg, V.M. Menon, “Room-temperature single photon source: nanocrystals in photonic bandgap microcavities”, Second International Conference on Quantum Information and Measurement (QIM-2), June 17-20, 2013, Technical Digest on CD, paper W6.36 , Rochester NY (2013).

58. A.C. Liapis, G.M. Gehring, S.G. Lukishova, and R.W. Boyd, “Temporal reshaping of single photon wave packets using cholesteric liquid crystals”, paper LTu4J.7, Technical Digest on CD, Frontiers in Optics/Laser Science Conference, 14-18 October, 2012, Rochester NY.

57. L.J. Bissell, D. Goldberg, S.G. Lukishova, and V.M. Menon, “Quantum dot single-photon source in a Bragg reflector microcavity with a defect layer”, paper LTh1I.2, Technical Digest on CD, Frontiers in Optics/Laser Science Conference, 14-18 October, 2012, Rochester NY.

56. J. Winkler, S.G. Lukishova, L.J. Bissell, C.R. Stroud, Jr, “Glassy Chiral Photonic Bandgap Structures Doped with Quantum Dots for Single-Photon Source Applications”, Conference on Lasers and Electro-Optics CLEO 2012, paper CTh3M.2, 6-11 May, 2012, San Jose, CA.

55. S.G. Lukishova, “Quantum optics laboratory for the undergraduate curriculum: teaching quantum mechanics with photon counting equipment”, S.G. Lukishova, 6 pages, (http://stl.asee.org/papers_2011/Lukishova.pdf), Proceedings of the American Society for Engineering Education (ASEE), St-Lawrence Chapter Annual Conference, 18-19 March 2011, Excelsior College, Albany NY (2011).

54. S.G. Lukishova, L.J. Bissell, J. Winkler, A.W. Schmid, C.R. Stroud, Jr., R.W. Boyd, “Room-Temperature Single-Photon Sources with Definite Circular and Linear Polarizations”, OSA Technical Digest on CD, paper QWD3 (3 pages), International Conference on Quantum Information (ICQI) 2011, 6-9 June 2011, Ottawa.

53. A.C. Liapis, G.M. Gehring, S.G. Lukishova, R.W. Boyd, “Single-Photon Measurement of the Hartman Effect in Frustrated Total Internal Reflection”, paper QMB2, OSA Technical Digest on CD, paper QWD3 (3 pages), International Conference on Quantum Information (ICQI) 2011, 6-9 June 2011, Ottawa.

52. L.J. Bissell, S.G. Lukishova, C.R. Stroud, Jr., “Circularly-Polarized Resonances at the Photonic Band-edge of Chiral Liquid Crystal Microcavities”, Technical Digest on CD, paper JTuI38, Conference on Lasers and Electro-Optics CLEO 2011, 1-6 May 2011, Baltimore, MD.

51. G.M. Gehring, A.C. Liapis, S.G. Lukishova, R.W. Boyd, “Single-photon tunneling delay in a liquid-crystal frustrated-total-internal-reflection structure”, paper QThN6, Technical Digest on CD, 2 pages, Conference on Lasers and Electro-Optics CLEO 2011, 1-6 May 2011, Baltimore, MD.

50. L.J. Bissell, S.G. Lukishova, and C.R. Stroud, Jr., “Photonic band-edge circularl polarized microcavity resonances in glassy chiral liquid crystals under cw-irradiation”, Frontiers in Optics 2010 (Rochester, NY, 24-28 October 2010), paper FThQ1, CD-ROM (2010).

49. L.J. Bissell, S.G. Lukishova, A.W. Schmid, M.A. Hahn, C.M. Evans, T.D. Krauss, C.R. Stroud, Jr., and R.W. Boyd, “Room-temperature single photon sources with definite circular and linear polarizations based on single-emitter fluorescence in liquid crystal hosts”, International Conference on Coherent and Nonlinear Optics ICONO 2010 (Kazan’, Russia, 23-26 Aug. 2010), paper IWC5, CD-ROM (2010).

48. L.J. Bissell, S.G. Lukishova, A.W. Schmid, M.A. Hahn, C.M. Evans, T.D. Krauss, C.R. Stroud, Jr., and R.W. Boyd, "Chiral photonic bandgap microcavities doped with single colloidal semiconductor quantum dots", International Conference on Coherent and Nonlinear Optics ICONO 2010 (Kazan', Russia, 23-26 Aug. 2010), paper IThO24, CD-ROM (2010).

47. L.J. Bissell, S.G. Lukishova, R.A. Smith, M. Lahiri, C.R. Stroud, Jr., R.W. Boyd, "Polarized single photons from colloidal quantum dots in chiral microcavities at room temperature", International Conference on Quantum Electronics IQEC 2009 (Baltimore, MD, May 31-June 5, 2009), paper ITuJ5, CD-ROM (2009).

46. C.R. Stroud and S.G. Lukishova, "Teaching quantum mechanics with photon counting instrumentation", Annual Meeting of the Optical Society of America (Frontiers in Optics)/Laser Science Conference, Symposium-workshop "Quantum Optics and Quantum Engineering for Undergraduates" (Rochester, NY, October 23, 2008), paper SThD2, CD-ROM (2008), invited.

45. S.G. Lukishova, C.R. Stroud, Jr., L.J. Bissell, B. Zimmerman, W. H. Knox, "Teaching experiments on photon quantum mechanics", Annual Meeting of the Optical Society of America (Frontiers in Optics)/Laser Science Conference, Symposium-workshop "Quantum Optics and Quantum Engineering for Undergraduates" (Rochester, NY, October 23, 2008), paper SThD3, CD-ROM (2008).

44. S.G. Lukishova, C.R. Stroud, L.J. Bissell, "Teaching experiments on photon quantum mechanics", Book of Abstracts, pp. 39-40, XXII International Conference on Quantum Information ICQO 2008 (Sept. 20-23, 2008), Vilnius, Lithuania.

43. S.G. Lukishova, L.J. Bissell, C.R. Stroud, Jr., R.W. Boyd, "Single photons with definite polarization from single emitters in liquid crystals", Book of Abstracts, pp. 69-71, XXII International Conference on Quantum Information ICQO 2008 (Sept. 20-23, 2008), Vilnius, Lithuania, invited.

42. S.G. Lukishova, L.J. Bissell, C.M. Evans, M.A. Hahn, Y.J. Choi, C.J. Clarkson, X.F. Qian, T.D. Krauss, C.R. Stroud, Jr., R.W. Boyd, "Visible and telecom-wavelength single quantum dots in 1-D photonic bandgap chiral microcavities", Proceed. of the Quantum Electronics and Laser Science Conference (CLEO/QELS 2008, Optical Society of America, May 4-9, San Jose, CA, paper QFA5, CD-ROM (2008).

41. L.J. Bissell, Z. Shi, H. Shin, S.G. Lukishova, S.M. White, M.A. Hahn, R.W. Boyd, C.R. Stroud, Jr., T.D. Krauss, "Quantum dot fluorescence antibunching in chiral photonic bandgap hosts as a single photon source", Frontiers in Optics/Laser Science Conference, Special symposium on Nanocrystals and Quantum Dots, Technical Digest, paper SThH4, 16-20 September 2007, San Jose, CA.

40. S.G. Lukishova, L. Bissell, C.R. Stroud, Jr., R.W. Boyd, M.A. Hahn, T.D. Krauss, V. Menon, N. Valappil, "Room-temperature single-photon source based on colloidal quantum dots in photonic bandgap structures", Single-photon workshop SPW 2007, Sources, Detectors, Applications and Measurements Methods, Technical Digest, 2 pages, 25-28 September 2007, Turin, Italy.

39. L.J. Bissell, Z. Shi, H. Shin, S.G. Lukishova, S.M. White, M.A. Hahn, R.W. Boyd, C.R. Stroud, Jr., T.D. Krauss, "Single photon source on demand based on single-colloidal-quantum-dot fluorescence in chiral photonic bandgap liquid crystal hosts", QELS 2007, paper JMC4, 2 pages, 6-11 May 2007, Baltimore, MD.

38. L.J. Bissell, Z. Shi, H. Shin, S.G. Lukishova, S.M. White, M.A. Hahn, R.W. Boyd, C.R. Stroud, Jr., T.D. Krauss, "Single-colloidal-quantum-dot fluorescence antibunching in chiral photonic bandgap hosts at room temperature", IQEC 2007, paper IC-6-TUE, 17-22 June 2007, Munich, Germany.

37. S.G. Lukishova, L.J. Bissell, V. Menon, N. Valappil, R.W. Boyd, C. R. Stroud, Jr., "Organic photonic crystal microcavities for room-temperature single-photon source on demand", Photonic Metamaterials: from Random to Periodic, Technical Digest, 3 pages, Jackson Hole, June 4-7 2007.

36. S.G. Lukishova, A.K. Jha, N. Savidis, S. White, L. Bissell, L. Elgin, C.R. Stroud, Jr., "Quantum optics teaching laboratory", The Ninth Rochester Conference on Coherence and Quantum Optics CQO9, Technical Digest, 2 pages, June 10-13, Rochester, NY, 2007.

35. S.G. Lukishova, L.J. Bissell, S.K.H. Wei, A.W. Schmid, Z. Shi, H. Shin, R. Knox, P. Freivald, R.W. Boyd, C.R. Stroud, Jr., S.-H. Chen, K. Marshall, "Room-temperature single photon sources with fluorescent emitters in liquid crystal hosts", The International Conference on Quantum Information ICQI, Technical Digest, 2 pages, June 13-15, Rochester, NY, 2007.

34. S.G. Lukishova, A.W. Schmid, R.P. Knox, P. Freivald, L. Bissell. R.W. Boyd, C.R. Stroud, Jr, K.L. Marshall, "Deterministically polarized, room temperature source of single photons based on single-emitter fluorescence in aligned liquid crystal hosts", Technical Digest, CLEO/QELS Conference, May 21-26, 2006, Long Beach, CA, paper JWB97, 2 pages, 2006.

33. S.G. Lukishova, A.W. Schmid, R. Knox, P. Freivald, S. Schrauth, L. Bissell, R.W. Boyd, C.R. Stroud, Jr, K.L. Marshall, "Deterministically polarized, room temperature source of single photons", Single-Photon Workshop (SPW) 2005: Sources, Detectors, Applications and Measurement Methods (24-26 October 2005, Teddington, UK), Technical Digest, pp. 15-16, 2005.

32. S.G. Lukishova, C.R. Stroud, Jr., A.K. Jha, L. Elgin, S. Schrauth, L. Bissell, "Quantum Optics and Quantum Information Teaching Laboratory at the Institute of Optics, University of Rochester", Single-Photon Workshop (SPW) 2005: Sources, Detectors, Applications and Measurement Methods (24-26 October 2005, Teddington, UK), Technical Digest, pp. 83-84, 2005.

31. S.G. Lukishova, A.W. Schmid, R.P. Knox, P. Freivald, C.M. Supranowitz, A.J. McNamara, R.W. Boyd, C.R. Stroud, Jr., K.L. Marshall, "Single-photon source for quantum information based on single dye molecule fluorescence in liquid crystal host", Technical Digest of the 11th International Topical Meeting on Optics of Liquid Crystals (2-7 October 2005, Sand Key, Florida), pp. 26-27, 2005.

30. S.G. Lukishova, N. Lepeshkin, R.W. Boyd, K.L. Marshall, "Feedback-free hexagon pattern formation with liquid crystals and isotropic liquids", Technical Digest of the 11th International Topical Meeting on Optics of Liquid Crystals (2-7 October 2005, Sand Key, Florida), pp. 142-143, 2005.

29. S.G. Lukishova and A.W. Schmid, "Near-field optical microscopy of cholesteric oligomeric liquid crystal layers, Technical Digest of the 11th International Topical Meeting on Optics of Liquid Crystals (2-7 October 2005, Sand Key, Florida)", pp.112-113, 2005.

28. S.G. Lukishova, A.W. Schmid, R.P. Knox, P. Freivald, R.W. Boyd, C.R. Stroud, Jr, K.L. Marshall, "Deterministically polarized fluorescence from single dye molecules aligned in liquid crystal host", Technical Digest, QELS 2005, May 2005, Baltimore, MD, paper QTuE6, 2005.

27. S. Lukishova, N. Bykovsky, Yu. Senatsky, A. Scheulin "SuperGaussian beams for suppression of diffraction and self-focusing in high-power Nd:glass laser amplifiers", Technical Digest, IQEC 2005 Symposium "Self-focusing: Past and Present" (11-15 July 2005, Tokyo, Japan), pp. 1596-1597, paper QFL2-4, 2005.

26. S.G. Lukishova, A.W. Schmid, R.P. Knox, P. Freivald, R.W. Boyd, C.R. Stroud, Jr, K.L. Marshall, "Deterministically polarized fluorescence from single dye molecules aligned in liquid crystal host", Technical Digest, IQEC 2005 (11-15 July 2005, Tokyo, Japan), pp. 268-270, paper JWH1-2, 2005.

25. S. Lukishova, "Single-beam light-induced phenomena in dye-doped liquids and liquid crystals", Technical Digest, IQEC 2005 (11-15 July 2005, Tokyo, Japan), pp. 771-772, paper QWAB3-P54, 2005.

24. S.G. Lukishova, A.W. Schmid, A. J. McNamara, R.W. Boyd, and C.R. Stroud, "Demonstration of a room temperature single-photon source: laser control of single dye molecule fluorescence in photonic-band-gap liquid crystal host, Quantum Electronics and Laser Science Conference QELS 2003 (Baltimore, June 2003), Technical Digest, pp. 965-966, paper WC7, 2003.

23. R.S. Bennink, V. Wong, A.M. Marino, D.L. Aronstein, R.W. Boyd, C.R. Stroud, Jr., S. Lukishova, D.J. Gauthier, "Honeycomb pattern formation by laser-beam filamentation in atomic sodium vapor", European Quantum Electronics Conference EQEC 03, Technical Digest, p. 112, 22-27 June 2003.

22. S.G. Lukishova, A.W. Schmid, C.M. Supranowitz, N. Lippa, A.J. McNamara, R.W. Boyd, C.R. Stroud, “Deterministically polarized, room-temperature single-photon source: single dye molecule fluorescence in liquid crystal host”, IQEC04, San Francisco, CA (May 16-21, 2004), Technical Digest, paper IThG5, 2004.

21. S.G. Lukishova, R.W. Boyd, K.L. Marshall, “Feedback-free hexagon pattern formation with nematic liquid crystals”, IQEC2002, Technical Digest, paper QWE3, Moscow, Russia, 2002.

20. S.G. Lukishova, R.W. Boyd, N. Lepeshkin, R.S. Bennink, K.L. Marshall, “Feedback-free kaleidoscope of pattens from nanosecond laser irradiated nematic liquid crystals, Technical Digest, QELS 2002, pp. 235-236, Long Beach, CA.

19. S.G. Lukishova, R.W. Boyd, K.L. Marshall, “Laser-induced cumulative birefringence effects in nematic liquid crystal: 10-Hz pulse repetition rate”, Technical Digest, CLEO’2002, Long Beach, CA.

18. R.S. Bennink, V. Wong, D.C. Aronstein, R.W. Boyd, S.G. Lukishova, A.M. Marino, C.R. Stroud, Jr., “Honeycomb pattern formation by laser-beam filamentation in atomic sodium vapor”, QELS 2001, Technical Digest, p. 227, May 2001, Baltomore, MD.

17. M.S. Bigelow, S.G. Lukishova, R.W. Boyd, M.D. Skeldon, “Transient stimulated Brillouin scattering dynamics in polarization maintaining optical fiber”, Technical Digest, pp. 326-327, CLEO 2001, 256, May 200, Baltimore, MD.

16. S.G. Lukishova and A.W. Schmid, "Transverse cumulative effects in pulsed laser irradiation of nematic liquid crystals: 2-10-Hz pulse-repetition rate, nanosecond mode", International Quantum Electronics Conference, IQEC2000, Conference Digest, paper QThD107, Sept. 2000, Nice, France.

15. R.W. Boyd, D. Aronstein, R. Bennink, S. Lukishova, Q.-H. Park, C. Stroud, V. Wong, “Enhanced self-action effects and slow-light optical solitons by electromagnetically induced transparency in the two-level atom”, Nonlinear Optics: Materials, Fundamentals and Applications, 2000, Technical Digest, pp. 284-286, 6-10 Aug. 2000.

14. S.G. Lukishova, “Nonlinear absorption and refraction of linearly polarized nanosecond laser radiation by liquid crystals in the transient regime: 532-nm, 2 - 10-Hz mode”, Optical Society of America, Technical Digest, CLEO'99, pp. 266-267, 1999.

13. S.G. Lukishova, “High-intensity, far-field transverse effects in a 532-nm, nanosecond laser beams as a result of nonlinear interaction with nematics”, Optical Society of America, Technical Digest, QELS'99, pp.129-130, 1999.

12. S.G. Lukishova, “Cumulative negative nonlinearity in planar nematics driven by nanosecond, 532-nm laser pulses with linear polarization parallel to the liquid crystal director”, Optical Society of America, Technical Digest, QELS’99, pp.126-127, 1999.

11. S.G. Lukishova, K.S. Lebedev, E.A. Magulariya,”cw and high-repetition rate Nd:YAG laser with nonlinear cholesteric liquid crystal mirror”, Optical Society of America, 1996 Technical Digest Series, Vol. 9, CLEO’96, pp.382-383,1996.

10. S.G. Lukishova, K.S. Lebedev, E.A. Magulariya, “Nonlinear optics of nonabsorbing chiral media: experiments on frustration of selective reflection by powerful laser radiation”, Optical Society of America, 1996 Technical Digest Series, Vol.10, QELS’96, pp.5-6,1996.

9. S.G. Lukishova, K.S. Lebedev, E.A. Magulariya, S.V. Belyaev, N.V. Malimonenko, A.W. Schmid, “Nonlinear bleaching of non-absorbing cholesteric liquid crystal mirrors by CW and pulsed high-power laser radiation", European Quantum Electronics Conference EQEC’96, Technical Digest, pp. 142, paper QWI6, 8-13 September 1996, Hamburg, Germany, 1996.

8. S.G. Lukishova, N.E. Bykovsky, A.E. Poletimov, A.S. Scheulin, “Apodization by color centres apertures on the Dolphin laser”, Optical Society of America, Technical Digest, Vol.8, CLEO’94, pp.135-136, 1994.

7. V.A. Arkhangelskaya, S.G. Lukishova, A.E. Poletimov, A.S. Scheulin, “Apodized aperture for high-peak power near infrared and visible lasers without phase shift at the edges”, Optical Society of America, Technical Digest Series, CLEO’92, paper CThQ6, 1992.

6. S.G. Lukishova, V.A. Arkhangelskaya, A.E. Poletimov, A.S. Scheulin, “Apodized aperture for high-peak power near infrared and visible lasers without phase shift at the edges”, Technical Digest of XVIII International Quantum Electronics Conference, IQEC'92, Vienna, pp. 84-85, 1992.

5. S.G. Lukishova, P.P. Pashinin, V.V. Ter-Mikirtychev, T.V. Tulajkova, V.I. Vovchenko, N.R. Minuey Mendez, “Improvement of beam quality and output characteristics of laser systems, using both outside and inside cavity devices with variablle transmission along the cross-section”, Optical Society of America, Technical Digest, CLEO’91, pp. 438-439, 1991.

4. S.G. Lukishova, N.R. Minuey Mendez, V.V. Ter-Mikirtychev, T.V. Tulajkova, “Improvement of beam quality of solid state laser systems using both outside and inside cavity devices with variable optical characteristics along the cross-section”, in Technical Digest of 3d European Conference on Quantum Electronics, EQEC'91, 1991, Edinburgh, pp.48-49, 1991.

3. S.G. Lukishova, N.R. Minuey Mendez, V.V. Ter-Mikirtychev, T.V. Tulajkova, “Application of apodized apertures for improvement of beam quality and output characteristics of IR and visible high-power lasers”, Proceed. of Laser'90 Conference, San Diego, pp. 449-456, 1990.

2. S.G. Lukishova, P.P. Pashinin, V.A. Arkhangelskaya, S.Kh. Batygov, A.E. Poletimov, A.S. Sheulin, B.M. Terentiev, “High-power laser beam shaping using the apodized apertures”, Proceed. of 19th European Conference on Laser Interaction with Matter, 19 ECLIM, Madrid, 4 pages, 1988.

1. I.K. Krasyuk, S.G. Lukishova, P.P. Pashinin, “Light beams apodization by the layered media under the frustrated total reflection”, Proceed. of the International Symposium "Surface waves in solids and layed structures", Vol. 2, pp. 221-224, Novosibirsk 1986.

Proceedings SPIE

21. S.G. Lukishova, “Single-photon sources for secure quantum communications”, Proceed. SPIE, FLAMN-13: Young Scientists Workshop "Terahertz Radiation Interaction with a Matter", 26 June 2013, NRU ITMO, Saint Petersburg, Russia, Vol 9065, paper 9065-29 (2013).

20. S.G. Lukishova, J. Winkler, L.J. Bissell, and C.R. Stroud, Jr., “Resonance in quantum dot fluorescence on a band-edge of a 1-D photonic bandgap cholesteric structure under cw-laser excitation”, Proceed. SPIE, Vol. 8642, paper 8642-37, 7 pages (2013).

19. S.G. Lukishova ,” Liquid crystals under high-power nanosecond laser irradiation”, Proceed. SPIE, Vol. 8642, paper 8642-9, 14 pages (2013).

18. L.J. Bissell, S.G. Lukishova, A.W. Schmid, M.A. Hahn, C.M. Evans, T.D. Krauss, C.R. Stroud, Jr., and R.W. Boyd, “Room-temperature single photon sources with definite circular and linear polarizations based on single-emitter fluorescence in liquid crystal hosts”, Proceed. SPIE Vol 7993, C. Fabre, V. Zadkov, K. Drabovich, Eds, paper 7993-1O (2011).

17. L.J. Bissell, S.G. Lukishova, A.W. Schmid, M.A. Hahn, C.M. Evans, T.D. Krauss, C.R. Stroud, Jr., and R.W. Boyd, “Chiral photonic bandgap microcavities doped with single colloidal semiconductor quantum dots”, Proceed. SPIE, Vol 7993, C. Fabre, V. Zadkov, K. Drabovich, Eds., paper 7993-1N (2011).

16. N.N. Lepeshkin, S.G. Lukishova, R.W. Boyd, and K.L. Marshall, “Feedback-free single-beam pattern formation by nanosecond pulses in dye-doped liquid crystals”, Proc. SPIE Vol. 6332, 63320A (4 pages), Sept. 15, 2006.

15. S.G. Lukishova, “Nonlinear optical response of liquid crystals to nanosecond laser radiation", Proceed. SPIE, Vol. 3900, pp. 102-113, 1999.

14. S.G. Lukishova, “Cumulative self-phase modulation in planar nematics driven by 532-nm nanosecond laser pulses”, Proceed. SPIE, Vol. 3798, pp. 128-139, 1999.

13. S.G. Lukishova, “Nonlinear absorption and refraction of linearly polarized nanosecond laser radiation by liquid crystals in the transient regime”, Proceed. SPIE, Vol. 3796, pp. 100-111, 1999.

12. S.G. Lukishova, S.V. Belyaev, K.S. Lebedev, E.A. Magulariya, A.W. Schmid, and N.V. Malimonenko, “Reflective nonlinearity of nonabsorbing cholesteric liquid crystal mirrors driven by pulsed high-repetition rate laser radiation”, Proceed. SPIE, Vol. 3800, pp.164-172, 1999.

11. S.G. Lukishova “High-intensity effects in liquid crystals driven by 532-nm nanosecond laser pulses”, Part of the 18th Congress of the International Commission for Optics (ICO XVIII), 1999, SPIE Vol. 3749, pp.629-630, 1999, San Francisco, CA.

10. S.G. Lukishova, K. Lebedev, E. Magulariya, S. Belyaev, A. Schmid, N. Malimonenko, “Reflective nonlinearities in high-power chiral liquid crystal laser optics”, Part of the 18th Congress of the International Commission for Optics (ICO XVIII), 1999, SPIE, Vol. 3749, pp.673-674, 1999, San Francisco, CA.

9. S.G. Lukishova, E.A. Magulariya, K.S. Lebedev, "Experimental observation of Nd:YAG laser field-induced nonlinear frustration of selective Bragg reflection in the cholesteric liquid crystal", Proceed. SPIE, Vol. 2800, pp.196-204, 1995.

8. S.G. Lukishova, K.S. Lebedev, E.A. Magulariya, "Influence of nonlinear effects in the CLC end mirror on the output characteristics of the Nd:YAG laser”, Proceed. SPIE, Vol. 2795, pp.14-23, 1995.

7. S.G. Lukishova, K.S. Lebedev, E.A. Magulariya, "Light-induced nonlinear bleaching of the CLC film under the conditions of selective reflection", Proceed. SPIE, Vol. 2795, pp. 24-33, 1995.

6. S.G. Lukishova, S.A. Kovtonuk, A.A. Ermakov, P.P. Pashinin, E.E. Plavtov, A.S. Svakhin, A.A. Golubsky, “Dielectric films deposition with cross-section variable thickness for amplitude filters on the basis of frustrated total internal reflection”, Proceed. SPIE, Vol.1270, pp. 260-271, 1991.

5. S.G. Lukishova, A.Z. Obidin, S.Kh.Vartapetov, A.V. Osiko, T.V. Tulajkova, V.V. Ter-Mikirtychev,”Photochemical changes of rare-earth valent state in gamma-irradiated CaF2:Pr crystals by the eximer laser radiation: investigation and application”, Proceed. SPIE, Vol. 1503, pp. 338-345, 1991.

4. S.G. Lukishova, N.R. Minuey Mendez, V.V. Ter-Mikirtychev, T.V. Tulajkova, “Brightness enhancement of solid state laser oscillators in single-mode lasing using novel inside resonator optical elements with radially variable transmission”, Proceed. SPIE, Vol.1527, pp. 380-391, 1991.

3. S.G. Lukishova, P.P. Pashinin, S.Kh. Batygov, B.M. Terentiev, “Soft apertures to shape high-power laser beams”, Proceed. SPIE, Vol. 1132, pp. 42-49, 1989.

2. S.G. Lukishova, “Beam shaping of powerful lasers”, Proceed. SPIE, Vol. 1031, pp. 506-511, 1988.

1. S.G. Lukishova, “Apodized apertures for infrared and visible high-power lasers”, Proceed. SPIE, Vol. 965, paper 5, 1988.

Booklets for the International Scientific Radio Union URSI (200 copies)

5. S.G. Lukishova, M.E. Zhabotinsky, “Electronic and optical devices and their applications”, Report to the XXIII General Assembly of URSI (Review of the Soviet papers 1987-1989), 8 pages, IRE of the Soviet Academy of Science Publisher, Fryazino-Moscow, 1990.

4. S.G. Lukishova, V.S. Troitskij, R.V. Troitskij, “Applications of radiophysical and optical methods in biology and medicine”, Report to the XXIII General Assembly of URSI (Review of the Soviet papers 1987-1989), 22 pages, IRE of the Soviet Academy of Science Publisher, Fryazino-Moscow, 1990.

3. V.S. Troitskij, E.E. Godik, S.G. Lukishova, Report to the XXII General Assembly of URSI (Review of the Soviet papers 1983-1986) on Applications of radiophysical methods in biology and medicine, 26 pages, IRE of the Soviet Academy of Science Publisher, Fryazino-Moscow, 1990.

2. M.E. Zhabotinsky, V.N. Gubankov, S.G. Lukishova, Report to the XXII General Assembly of URSI (Review of the Soviet papers 1983-1986) on Commission D URSI “Electronic and optical devices and their applications”, 126 pages, IRE of the Soviet Academy of Science Publisher, Fryazino-Moscow, 1987.

1. M.E. Zhabotinsky, V.N. Gubankov, S.G. Lukishova, Report to the XXI Assembly of URSI (Review of the Soviet papers 1981-1984) on Commission D URSI "Electronic and optical devices and their applications", 19 pages, IRE of the Soviet Academy of Science Publisher, Fryazino-Moscow, 1984.

Reprints

3. S.G. Lukishova, N.R. Minuey Mendez, V.V.Ter-Mikirtychev, T.V. Tulajkova,"Improvement of the beam quality of solid state laser systems using both outside and inside cavity devices with variable optical characteristics along the cross-section", Reprint of the General Physics Institute, N 17, 1991.

2. B.G. Gorshkov, I.K. Krasyuk, S.G. Lukishova, A.A. Manenkov, P.P. Pashinin, "Investigation of fluoride soft apertures in the beams of high peak-power lasers", Reprint of the P.N. Lebedev Physical Institute N 143, 1976 (in Russian only).

1. S.G. Lukishova, "Some problems of spatial and temporal profile formation of laser radiation", Short version (Avtoreferat) of Ph.D. Thesis, Moscow Institute of Physics and Technology, 14 pages, Moscow, 1976.

Invited presentations

32. S.G. Lukishova, "Liquid crystals under two extremes: (1) high-power laser irradiation, and (2) single-photon level", Proceedings on CD, 22th International Laser Physics Workshop (LPHYS'13), July 15–19, 2013, Prague, Czech Republic.

31. S.G. Lukishova, "Single-photon sources for secure quantum communications", FLAMN-13: Young Scientists Workshop "Terahertz Radiation Interaction with a Matter", 26 June 2013, NRU ITMO, Saint Petersburg, Russia.

30. S.G. Lukishova," Liquid crystals under high-power nanosecond laser irradiation", Photonics West, SPIE OPTO, 5 February 2013, San Francisco, CA.

29. S.G. Lukishova, J.M. Winkler, L.J. Bissell, "Room-temperature single-photon sources with definite circular and linear polarizations based on single-emitter fluorescence in liquid crystal hosts", Book of Abstracts on CD, p. 66, Seminar 1. Modern Trends in Laser Physics, 21st International Laser Physics Workshop LPHYS 12 (July 23–27, 2012), Calgary, Canada.

28. S.G. Lukishova, "Single-photon sources for quantum cryptography", S.I. Vavilov's Lecture, Moscow Lebedev Physical Institute (27 March, 2012).

27. S.G. Lukishova, "Single-photon sources with definite linear and circular polarizations for quantum cryptography based on single-emitter fluorescence in liquid crystal hosts', Moscow Lebedev Physical Institute colloquium (22 June, 2011).

26. S.G. Lukishova, "Liquid crystals under high-power laser irradiation", Book of Abstracts, 1 page, International Conference "Nonlinear Optics: East-West Reunion" , 50th Anniversary of Nonlinear Optics (September 21-23, 2011, Suzdal, Russia).

25. S.G. Lukishova, "Liquid crystals under two extremes: (1) high-power laser irradiation, and (2) single-photon level", Book of Abstracts, 14th International Topical Meeting on Optics of Liquid Crystals, 25th Anniversary (Sept. 25 – Oct. 1, 2011, Yerevan, Armenia).

24. S.G. Lukishova, "Quantum optics laboratory for the undergraduate curriculum: teaching quantum mechanics with photon counting equipment", 2011 Conference of the American Society of Engineering Education on Innovations in Engineering and Technology Education (18-19 March 2011, Albany, NY).

23. S.G. Lukishova, "Quantum optics and quantum information teaching laboratories at the Institute of Optics, University of Rochester", State University of New York at Buffalo, Norton Hall Seminar (29 October 2010, Buffalo, NY).

22. S.G. Lukishova, “Quantum optics and quantum information teaching laboratories at the Institute of Optics, University of Rochester”, University of Oklahoma –Tulsa, Schusterman Center Seminar (14 September 2010, Tulsa, OK).

21. S.G. Lukishova, “Quantum optics in the teaching labs”, S&T Seminar, Laboratory for Laser Energetics (Rochester NY, April 17, 2009).

20. C.R. Stroud and S.G. Lukishova, “Teaching quantum mechanics with photon counting instrumentation”, Annual Meeting of the Optical Society of America (Frontiers in Optics)/Laser Science Conference, Symposium-workshop “Quantum Optics and Quantum Engineering for Undergraduates” (Rochester, NY, October 23, 2008).

19. S.G. Lukishova, L.J. Bissell, C.R. Stroud, Jr., R.W. Boyd, “Single photons with definite polarization from single emitters in liquid crystals”, Book of Abstracts, pp. 69-71, XXII International Conference on Quantum Information ICQO 2008 (Sept. 20-23, 2008), Vilnius, Lithuania.

18. S.G. Lukishova, L.J. Bissell, S.K.H. Wei, A.W. Schmid, Z. Shi, H. Shin, R. Knox, P. Freivald, R.W. Boyd, C.R. Stroud, Jr., S.-H. Chen, K. Marshal, **“**Room-Temperature Single Photon Sources with Fluorescent Emitters in Liquid Crystal Hosts”, BBN Technologies, Boston, MA, 29 June 2007.

17. S.G. Lukishova, C.R. Stroud, Jr., L. Bissell, A. K. Jha, L. Elgin, “Quantum Optics and Quantum Information Teaching Laboratory Course*”,* Frontiers in Optics, Special Symposium *“*Quantum Optics and Quantum Information Teaching Experiments”, Rochester, NY, October 12, 2006.

16. N.N. Lepeshkin, S.G. Lukishova, R.W. Boyd, K.L. Marshall, “Feedback-free, single-beam pattern formation by nanosecond pulses in dye-doped liquid crystals”, SPIE International Symposium on Optics & Photonics, Liquid Crystal X (NP423), 13-17 August 2006, San Diego, CA.

15. S.G. Lukishova, A.W. Schmid, Ch.M. Supranowitz, A.J. McNamara, R.W. Boyd, C.R. Stroud, Jr., “Dye-doped liquid-crystal room-temperature single photon source”, Laser Science XX/Frontiers in Optics 2004, paper LMF2, October 10-14, Rochester, NY.

14. S.G. Lukishova, “Nonlinear optical response of liquid crystals to high-power, nanosecond laser radiation”, Institute of Radioengineering and Electronics of the Russian Academy of Sciences, September 2000.

13. S.G. Lukishova, “Nonlinear optical response of liquid crystals to high-power, nanosecond laser radiation”, Institute of General Physics of the Russian Academy of Sciences, September 2000.

12. S.G. Lukishova, “Athermal nonlinear reflectivity drop of cholesteric liquid crystal layer by the optical field of light wave”, Liquid Crystal Institute, Kent State University, Kent, OH, November 1996.

11. S.G. Lukishova, “Athermal nonlinear reflectivity drop of cholesteric liquid crystal layer by the optical field of light wave”, Institute of Radioengineering and Electronics of the Russian Academy of Sciences, 1996.

10. S.G.Lukishova, “Graded reflectance mirrors”, Physics Instrumentation Center, General Physics Institute, Troitsk, Moscow Region, Russia, 1994.

9. S.G. Lukishova, “Apodized apertures and graded reflectance mirrors”, Institut National d’ Optique, Quebec, Canada, September 1993.

8. S.G. Lukishova,”Experimental comparison of different apodizers for minimizing diffraction rings in 1.06um laser fusion system”, Laboratory for Laser Energetics, Rochester NY, September 1993.

7. S.G.Lukishova, A.A. Ermakov, N.N. Ilichev, I.N. Olimpiev, A.S. Svakhin, “Graded reflectance mirrors with high reflectivity for 1.06μm lasers”, International Workshop on Laser Resonators with Graded Reflectance Mirrors, Florence, Italy, 1993, Technical Abstracts, ENEA.

6. S.G. Lukishova, “Improving laser beam quality using apodizers and graded reflectivity mirrors”, Scientific Research Center for Technological Lasers, Shatura, Russia, 1992.

5. S.G. Lukishova, “Apodized apertures for high power lasers”, Lebedev Physical Institute, Moscow, Russia, 1991.

4. S.G. Lukishova, “Apodized apertures for high-power lasers”, Lawrence Livermore National Laboratory, Livermore CA, December 1991.

3. S.G. Lukishova, “Apodized apertures for high power lasers”, Rutherford Appleton Laboratory, Didcot, Oxfordshire, 1991.

2. S.G. Lukishova, “Apodized apertures for high-power lasers”, Naval Research Laboratory, May 1991.

1. S.G. Lukishova, “Apodized apertures based on color centers in fluorite”, Optical State Institute, Leningrad (St.-Petersburg), 1979.

Conference Publications

64. J.M. Winkler, S.G. Lukishova, L.J. Bissell, D. Goldberg, V.M. Menon, Z. Shi, R.W. Boyd, “ Room-Temperature Single Photon Sources: Nanocrystals in Photonic Bandgap Microcavities and Plasmonic Nanoantennae, Book of Abstracts (1 page), 6th Single-Photon Workshop 2013 (15-18 October 2013, Oak-Ridge National Laboratory, TN).

63. S.G. Lukishova and C.R. Stroud, “Collaborative Research – CCLI Phase II: Diverse Partnership for Teaching Quantum Mechanics and Modern Physics with Photon Counting Instrumentation”, Conference Program, Poster Abstracts, #226, p. 121, 2013 TUES Principal Investigators Conference “Transforming Undergraduate Education in STEM”, AAAS HER and NSF DUE, January 23-25, Washington DC (2013).

62. S.G. Lukishova, L.J. Bissell, J. Winkler, A.W. Schmid, C.R. Stroud, Jr., R.W. Boyd, “Room-Temperature Single-Photon Sources with Definite Circular and Linear Polarizations”, Book of Abstracts (1 page), p. 116, 5th Single Photon Workshop 2011 (27-30 June 2011, Braunschweig, Germany.

61. G.M. Gehring, A.C. Liapis, S. Lukishova, R.W. Boyd, “Measurement of the single-photon tunneling time through a chiral photonic bandgap liquid crystal structure”, Book of Abstracts, International Workshop on Nonlinear Physics (Dresden, Aug. 2010).

60. C.R. Stroud and S.G. Lukishova, “CCLI-Phase I: Quantum optics laboratory for the undergraduate curriculum – teaching quantum mechanics with photon counting instrumentation”, paper 370, A201-A202, Technical Digest, National Science Foundation, CCLI PI Conference, Washington D.C., August 13-15 (2008).

59. S.G. Lukishova and C.R. Stroud, “Quantum optics and quantum information teaching laboratory”, Workshop “Photon Quantum Mechanical Labs” of American Association of Physics Teachers 2008 Summer Meeting (Edmonton, Alberta, CA, July 19-23, 2008), paper PST1-32 (2008).

58. S. K.-H. Wei, K. Dolgaleva, S. Lukishova, S.H. Chen, and R.W. Boyd, “Circularly polarized lasers from solid films comprising chiral conjugated oligomers doped with functionalized oligofluorenes”, paper 616f, 08A05, Polymer Thin Films and Interfaces I, The 2008 Annual Meeting of the American Institute of Chemical Engineers, November 2008, Philadelphia, PA.

57. L.J. Bissell, Z. Shi, H. Shin, S.G. Lukishova, S.M. White, M.A. Hahn, R.W. Boyd, C.R. Stroud, Jr., T.D. Krauss, “Quantum dot fluorescence antibunching in chiral photonic bandgap hosts as a single photon source”, Frontiers in Optics/Laser Science Conference, Special symposium on Nanocrystals and Quantum Dots, Technical Digest, paper SThH4, 16-20 September 2007, San Jose, CA.

56. L.J. Bissell, Z. Shi, H. Shin, S.G. Lukishova, S. White, R.W. Boyd, C.R. Stroud, Jr., “Single Photon Source on Demand Based on Single Colloidal Quantum Dot Fluorescence in Chiral Photonic Bandgap Liquid Crystal Hosts”, Abstracts, 15 Annual Symposium on Materials Research, Rochester NY, May 4, 2007.

55. K. Dolgaleva, S. K. Wei, A. Trajkovska, S. Lukishova, R.W. Boyd, S.- H. Chen “Oligofluorene as a new high-performance dye for cholesteric liquid crystal lasers”, Frontiers in Optics/Laser Science 2006, Technical Digest, paper FThD4, October 8-12, 2006, Rochester, NY.

54. S.G. Lukishova, C.R. Stroud, Jr., L. Bissell, A. K. Jha, L. Elgin, "Quantum Optics and Quantum Information Teaching Laboratory Course", Frontiers in Optics, Special Symposium "Quantum Optics and Quantum Information Teaching Experiments", Rochester, NY, October 12, 2006.

53. N.N. Lepeshkin, S.G. Lukishova, R.W. Boyd, K.L. Marshall, "Feedback-free, single-beam pattern formation by nanosecond pulses in dye-doped liquid crystals", SPIE International Symposium on Optics & Photonics, Liquid Crystal X (NP423), 13-17 August 2006, San Diego, CA.

52. K.-H. Wei, K. Dolgaleva, A. Trajkovska, S. Lukishova, R.W. Boyd, S.H. Chen "Cholesteric liquid crystal laser using an oligofluorene for high performance and spectral purity", Organic Photonics and Electronics, October 9-11, 2006, Rochester, NY, paper OPTuD16, 2006.

51. S.G. Lukishova, "Deterministically Polarized, Room Temperature Source of Single Photons", Workshop on Linear Optical Quantum Information Processing, Baton Rouge, Louisiana, 10-12 April 2006.

50. S.G. Lukishova, "Quantum Optics and Quantum Information Teaching Experiments", Workshop on Linear Optical Quantum Information Processing, Baton Rouge, Louisiana, 10-12 April 2006.

49. S.G. Lukishova, "Room-temperature single-photon source for quantum information based on single-dye molecules in liquid crystal hosts", Abstracts, 14 Annual Symposium on Materials Research, Rochester NY, April 2006.

48. S.G. Lukishova, C.R. Stroud. Jr., A.K. Jha, L. Elgin, S. Schrauth, "Quantum optics and quantum information teaching laboratory at the Institute of Optics, University of Rochester, Frontiers in Optics/Laser Science 2005, Forum on Education, Technical digest, paper FThL2, October 16-20, 2005, Tucson, Arizona.

47. S.G. Lukishova, A.W. Schmid, Ch. M. Supranowitz, A.J. McNamara, R.W. Boyd, C.R. Stroud, Jr., "Dye-doped liquid-crystal room-temperature single photon source", Laser ScienceXX/Frontiers in Optics 2004, paper LMF2, October 10-14, Rochester, NY.

46. S.G. Lukishova, A.W. Schmid, R. Knox, P. Freivald, R.W. Boyd, C.R. Stroud, Jr, "Deterministically polarized single-photon source", Abstract Digest, Quantum Optics II, Cozumel, Mexico, December 6-9, 2004. See website http://speckle.inaoep.mx/QOII/ppts/Lukishova.pdf.

45. S.G. Lukishova, A.W. Schmid, A. J. McNamara, R.W. Boyd, and C.R. Stroud, "Dye-doped cholesteric liquid crystal single photon source", NIST Workshop on Single Photons: Detectors, Applications and Measurements Methods, Abstracts, Gaithersburg, MD, March 31 – April 1, 2003.

44. S.G. Lukishova, A.W. Schmid, A. J. McNamara, R.W. Boyd, and C.R. Stroud, "Efficient room temperature single-photon source for quantum information: single dye molecule fluorescence in photonic-band-gap cholesteric liquid crystal host", Frontiers in Optics, the 87th OSA Annual meeting, Technical Digest, paper WF6, Oct. 5-9, 2003, Tucson, Arizona.

43. S.G. Lukishova, R.W. Boyd, K.L. Marshall, A.W. Schmid, N. Lepeshkin, "Feedback-free pattern formation in dye-doped nematic liquid crystals", OSA Annual Meeting, Technical Digest, paper ThR2, Orlando, Florida, 2002.

42. S.G. Lukishova, "Light-field control of 1-D photonic band-gap of chiral nematic-liquid crystal mirrors with special boundary conditions", Cross-Border Workshop "Controlling light with matter and matter with light", Conference Program, May 2001, Toronto.

41. S.G. Lukishova, "Nonlinear optical response of cyanobiphenyl liquid crystals to high-power, nanosecond laser radiation", 2000 OSA Annual Meeting, Conference Program p.107, Oct. 2000, Providence, RI.

40. R.S. Bennink, R.W. Boyd, S.G. Lukishova, I.A. Walmsley, Y.-K. Yoon, R.L. Nelson, J.E. Sipe, "Resonant enhancement of nonlinear optical properties in a 1-dimensional metallo-dielectric photonic bandgap structure", 2000 OSA Annual Meeting, Conference Program, p.78, Oct. 2000, Providence, RI.

39. S.G. Lukishova, "Cumulative effects in pure and doped planar nematics after nonlinear absorption of nanosecond laser radiation: 2 to 10-Hz repetition rate mode", 1999 OSA Annual Meeting, Conference Program, p.123, 1999, Santa Clara, CA.

38. S.G. Lukishova, "Apodization of coherent light for improving beam quality and divergence of high-power lasers", 1999 OSA Annual Meeting, Conference Program, p.79, 1999, Santa Clara, CA.

37. S.G. Lukishova, T. Kosa, B. Taheri, P. Palffy-Muhoray, “Nanosecond Z-scan measurements of optical nonlinearities in 5CB and CB15, Abstracts, 17th International Liquid Crystal Conference, July 1998, paper P3-130, Strasbourg, France,

36. S.G. Lukishova, T. Kosa, B. Taheri, P. Palffy-Muhoray, “Nonlinear absorption and refraction of nanosecond laser radiation by liquid crystals”, Optical Society of America, Program, 1998 OSA Annual Meeting.

35. S. Lukishova, K. Lebedev, E. Magulariya, S. Belyaev, A. Schmid, N. Malimonenko, “Nonlinear bleaching in the selective reflection of non-absorbing chiral-nematic liquid crystal thin films”, 16th International Liquid Crystal Conference, Abstracts, p.120, June 24-28 1996, Kent, USA,

34. S.G. Lukishova, K.S. Lebedev, E.A. Magulariya, S.V. Belyaev, N.V. Malimonenko, A.W. Schmid, “Reflective nonlinearities of nonabsorbing chiral liquid crystals: frustration of selective reflection by powerful laser radiation”, 1996 OSA Annual Meeting, Optical Society of America, Program, Rochester, New York, Oct. 1996.

33. S.G. Lukishova, S.V. Belyaev, N.V. Malimonenko, K.S. Lebedev, E.A. Magulariya, "Nd:YAG laser with cholesteric liquid crystal end mirror", 1995 OSA Annual Meeting, Program, Portland, Oregon, Sept.10-15, 1995, p. 84, 1995.

32. S.G. Lukishova, K.S. Lebedev, E.A. Magularyia, ”Nonlinear reflection of high-reflectivity cholesteric liquid crystal mirror: experiment”, 1995 OSA Annual Meeting, Optical Society of America, Program, Portland, Oregon, Sept.10-15 1995, pp. 84-85, 1995.

31. S.G. Lukishova, E.A. Magulariya, K.S. Lebedev, "Experimental observation of Nd:YAG laser field-induced nonlinear frustration of selective Bragg reflection in the cholesteric liquid crystal", Symposium “Nonlinear Optical Interactions and Wave Dynamics”, International Conference on Coherent and Nonlinear Optics, St-Petersburg, Postdeadline Papers , Abstracts, 1995.

30. S.G. Lukishova, E.A. Magulariya, “Laser-induced photobleaching in γ-irradiated doped fluorite: fabrication of absorbing layers with variable transmission in visible and infrared”, 10th Interdisciplinary Laser Science Conference of American Physical Society (ILS-X), p.146,1994, Dallas.

    The same paper - Joint Symposium on Applications of Laser Materials Processing (OSA and APS), p.175, 1994, Dallas.

29. S.G. Lukishova, S.A. Kovtonuk, A.A. Ermakov, N.N. Ilichev, E.A. Magulariya, “Graded reflectivity mirrors with 0.985 maximum reflectivity for 1.06-micron and visible lasers”, Technical Digest, Optical Society of America, 1994 OSA Annual Meeting, pp.188-189, 1994, Dallas.

28. S.G. Lukishova, N.E. Bykovsky, A.E. Poletimov, A.S. Scheulin, ”Experimental comparison of different apodizers for minimizing diffraction rings in 1.06um laser fusion system”, Technical Digest, Optical Society of America, 1993 Annual OSA Meeting, Toronto, paper FFF7, p.265, 1993.

27. S.G.Lukishova, A.A. Ermakov, N.N. Ilichev, I.N. Olimpiev, A.S. Svakhin, “Graded reflectance mirrors with high reflectivity for 1.06μm lasers”, International Workshop on Laser Resonators with Graded Reflectance Mirrors, Florence 1993, Technical Abstracts, ENEA.

26. S.G. Lukishova, S.A. Kovtonuk, A.A. Ermakov, I.N. Olimpiev, A.S. Svakhin, “Graded reflectivity dielectric mirrors for high-power near-infrared lasers”, Abstracts of reports to the International Conference “Laser Optics”, St-Petersburg, Optical State Institute Publ., p. 249, 1993.

25. S.G. Lukishova, “Apodized apertures for beam profile formation and avoiding hard-edge Fresnel diffraction ripples”, Technical Digest, Optical Society of America, 1991 Annual OSA Meeting, San Jose, USA, paper ThV5.

24. S.G. Lukishova, S.A. Kovtonuk, A.A. Ermakov, A.S. Svakhin, E.E. Plavtov, O.E. Sedoruk, “Optical coatings with cross-section variable thickness: fabrication techniques, applications and

investigations in powerful laser beams", Technical Digest, Optical Society of America, 1991 Annual OSA Meeting, San Jose, USA, paper TuQ3.

23. S.G. Lukishova, A.Z. Obidin, S.Kh. Vartapetov, A.V. Osiko, T.V. Tulajkova, V.V. Ter-Mikirtychev, "Photochemical changes of rare- earth valent state in gamma-irradiated CaF_2:Pr crystals by the eximer laser radiation: investigation and application", Program, IV International Congress on Optical Science & Engineering, 11-15 March 1991, The Hague, the Netherlands.

22. S.G. Lukishova, N.R. Minuey Mendez, V.V. Ter-Mikirtychev, T.V. Tulajkova, "Brightness enhancement of solid state laser oscillators in single-mode lasing using novel inside resonator optical elements with radially variable transmission", International Symposium on Optical Applied Science and Engineering , 21-26 July 1991, San Diego, California.

21. S.G. Lukishova, S.Kh. Batygov, A.A. Ermakov, A.V. Osiko, E.E. Plavtov, V.V. Ter-Mikirtychev, "Apodized apertures for high peak power lasers and their applications for improvement the beam quality and mode-composition", Abstracts of reports to the 6th Soviet Conference "Laser Optics", Leningrad, March 1990 (in Russian only).

20. S.G. Lukishova, N.R. Minuey Mendez, V.V. Ter-Mikirtychev, T.V. Tulajkova, "Application of apodized apertures for improvement of beam quality and output characteristics of IR and visible high-power lasers", Abstracts, Laser'90 Conference, San Diego, USA, 1990.

19. S.G. Lukishova, P.P. Pashinin, "Avoiding of spatial inhomogeneities in beam expanders of optical processors using apodized apertures made of fluoride with impurities", Soviet conference "Problems of optical memory", Abstracts of reports, Moscow-Telavi, pp.270-271, 1990 (in Russian only).

18. S.G. Lukishova, S.B. Mirov, Yu.K. Nizienko, A.V. Osiko, V.V. Ter-Mikirtychev, V.V. Fedorov, "Improvement of quality and mode-composition of laser radiation using soft apertures made of fluoride doped by rare-earths", Abstracts of reports to the 13th Soviet workshop "Pulsed photometry", Moscow-Leningrad, State Optical Institute, 1990 (in Russian only).

17. S.G. Lukishova, A.A. Ermakov, E.I. Ivlev, E.E. Plavtov, "Optical elements with variable transmission along the cross-section on the basis of frustrated total reflection and their application in visible and near-infrared lasers", Abstracts of reports to the 13th Soviet workshop "Pulsed photometry", Moscow-Leningrad, State Optical Institute, 1990 (in Russian only).

16. S.G. Lukishova, P.P. Pashinin, S.Kh. Batygov, B.M. Terentiev, "Soft apertures to shape high-power laser beams", Program, 2nd International Congress on Optical Science & Engineering, Paris, April 1989.

15. S.G. Lukishova, "Beam shaping of powerful lasers", Book of Abstracts of 7th International Symposium on Gas Flow & Chemical Lasers, Vienna, p.112, 1988.

14. S.G. Lukishova, "Beam shaping of powerful lasers", Program, 32nd Annual International Technical Symposium on Optical & Optoelectronic Applied Science & Engineering, 14-19 August 1988, San Diego, California.

13. S.G. Lukishova, L.V. Chernysheva, "Apodized apertures for IR lasers", in Proceed. of 4th International Conference on Infrared Physics, Zurich, paper CIRP4, p.325, 1988.

12. S.G. Lukishova, P.P. Pashinin, V.A. Arkhangelskaya, S.Kh. Batygov, A.E. Poletimov, A.S. Sheulin, B.M. Terentiev, "High-power laser beam shaping using the apodized apertures", 19th European Conference on Laser Interaction with Matter, Book of Abstracts, 19 ECLIM, Madrid, October 1988.

11. S.G. Lukishova, "Apodized apertures for near infrared and visible high-power laser", Abstracts of Ernst-Abbe-Conference, Jena, p. 8, 1987.

10. I.K. Krasyuk, S.G. Lukishova, L.V. Chernysheva, "Induced absorption and photooxidation apodized apertures investigations in powerful lasers", Abstracts of 5th International Conference on Lasers and Their Applications, Dresden 1985, p. 97.

9. I.K. Krasyuk, S.G. Lukishova, L.V. Chernysheva, "Apodized apertures for high-power lasers", Abstracts of the International Conference "Trends in Quantum Electronics", Bucharest 1985.

8. I.K. Krasyuk, S.G. Lukishova, P.P. Pashinin, L.V. Chernysheva, “Amplitude filters and soft apertures on the basis of photooxidation of Pr^{2+} ions in fluoride crystals induced by γ-irradiation”, Abstracts of reports to the 12th Soviet Conference on Coherent and Nonlinear Optics, Moscow, publ. by Moscow State University, Moscow, 1985, part 2, pp. 783-784 (in Russian only).

7. I.K. Krasyuk, S.G. Lukishova, P.P. Pashinin, “Spatial filters and amplitude filters of low frequencies made of fluoride with rare-earth impurities for optical processors”, Abstracts of reports to the 2nd Soviet Conference “The Problems of the Development of Radiooptics”, Moscow-Tbilisi, 1985, pp.189-190 (in Russian only).

6. I.K. Krasyuk, S.G. Lukishova, L.V. Chernysheva, “Using of fluoride crystals doped by rare-earths for fabrication of soft apertures”, Abstracts of reports to the 8th Soviet Feofolov’s symposium on spectroscopy of crystals, doped by rare-earths”, Sverdlovsk, Sept. 1985, part 2, p.30 (in Russian only).

5. I.K. Krasyuk, S.G. Lukishova, P.P. Pashinin, V.A. Sokolov, L.V. Chernysheva, “Apodized apertures on absorption induced by ionising radiation for laser systems”, Abstracts of the International Symposium Optika 84, Budapest, p.102, 1984.

4. B.G. Gorshkov, I.K. Krasyuk, S.G. Lukishova, L.V. Chernysheva, “The results of investigations of soft apertures in powerful lasers”, Abstracts of reports to the 4th Soviet Conference “Laser Optics”, Leningrad, Optical State Institute Publ., 1984, p.288 (in Russian only).

3. I.K. Krasyuk, S.G. Lukishova, P.P. Pashinin, Yu.P. Rudnitsky, L.V. Chernysheva, “Apodized apertures on the basis of induced absorption for powerful lasers with wavelengh λ = 1.06 μm and large beam diameter”, Abstracts of reports to the 10th Soviet Conference on Coherent and Nonlinear Optics, Kiev, part 1, pp.169-170, 1980 (in Russian only).

2. I.K. Krasyuk, S.G. Lukishova, D.M. Margolin, P.P. Pashinin, A.M. Prokhorov, V.D. Terekhov, “Soft apertures fabrication using coloration of optical media by ionizing radiation”, Abstracts of reports to the Soviet workshop “The phenomena in wide-band optical materials under the irradiation by ionizing radiation”, Samarkand, p.135, 1979 (in Russian only).

1. S.Kh. Vartapetov, V.I. Vovchenko, B.G. Gorshkov, I.K. Krasyuk, S.G. Lukishova, A.A. Manenkov, P.P. Pashinin, A.M. Prokhorov, “Spatial and temporal profile formation of high-power laser radiation”, Abstracts of reports to the 1st Soviet Conference “Laser Optics”, Leningrad, publ. by Optical State Insitute, Leningrad, pp. 59-60. 1977 (in Russian only).