

CONFERENCE OPENING. PLENARY

Wednesday, January 24, 2024, 10.00

Room G-402

1. KOSOLOBOV S.S., SMIRNOV A.S., ZEMTSOVA A.K., ZEMTSOV D.S., VERGULES A.I., PSHENICHNYUK I.A., ZHIGUNOV D.M., TAZIEV K.R., GARBUZOV K.N., DRACHEV V.P.  
*Skolkovo Institute of Science and Technology*  
**Silicon-based integrated photonics technologies**
2. BOBROV I.B.<sup>1</sup>, STRUCHALIN G.I.<sup>1</sup>, GOLOSHCHAPOV M.Yu.<sup>1,3</sup>, ROZANOV A.<sup>1</sup>, KUZMENOK D.A.<sup>1</sup>, LOMOV E.V.<sup>1</sup>, STRAUPE S.S.<sup>1,2</sup>  
<sup>1</sup>*Lomonosov Moscow State University*  
<sup>2</sup>*Russian Quantum Center, Skolkovo*  
<sup>3</sup>*Moscow Institute of Physics and Technology (National Research University), Dolgoprudny*  
**Single atoms in holographic arrays of optical microtraps for quantum computing**
3. LARKIN I.A., VAGOV A.V.<sup>1,2</sup>, CROITORU M.D.<sup>2,3</sup>, AXT V.M.<sup>1</sup>  
*Institute of Microelectronics Technology and High-Purity Materials of the RAS, Chernogolovka*  
<sup>1</sup>*University of Bayreuth, Germany*  
<sup>2</sup>*National Research University «Higher School of Economics», Moscow*  
<sup>3</sup>*Federal University of Pernambuco, Recife, Brazil*  
**Superanomalous skin-effect and enhanced absorption of light scattered on conductive media**
4. SHUR V.Ya., AKHMATKHANOV A.R., ESIN A.A., CHUVAKOVA M.A., BOYKO A.A.<sup>1</sup>  
*Ural State University, Ekaterinburg*  
<sup>1</sup>*Novosibirsk State University*  
**Periodically poled ferroelectric crystals and thin films for light frequency conversion**

POSTERS 1

Wednesday, January 24, 2024, 12.00

Room G-401

Meeting 1

Wednesday, January 24, 2024, 13.00

Room G-402

5. PUTILIN A.N.<sup>1,3</sup>, GEIVANDOV A.R.<sup>2</sup>, DUBYNIN S.E.<sup>1</sup>, PUTILIN N.A.<sup>1,3</sup>, SIMDYANKIN I.V.<sup>2</sup>, KOPENKIN S.S.<sup>1,4</sup>  
<sup>1</sup>*Lebedev Physical Institute of the RAS, Moscow*  
<sup>2</sup>*Shubnikov Institute of Crystallography of FSRC «Crystallography and Photonics» of the RAS, Moscow*  
<sup>3</sup>*Moscow State University of Geodesy and Cartography «MIIGAIK»*  
<sup>4</sup>*MIREA – Russian Technological University, Moscow*  
**Polarization reconfiguration of the optical system of augmented reality displays**
6. BITYAEV E.P., AGAPOV D.M., FROLOVTSSEV D.N., MAGNITSKIY S.A.  
*Lomonosov Moscow State University*  
**Forming of a polarizing image of an object with linear phase anisotropy by quantum ghost polarimetry**
7. DADENKOV I.G., TOLSTIK A.L., MIKSIUK Yu.I.<sup>1</sup>, SAECHNIKOV K.A.<sup>1</sup>  
*Belarusian State University, Minsk*  
<sup>1</sup>*Belarusian State Pedagogical University, Minsk*  
**Pulse recording of dynamic holograms in the bismuth silicate crystal for holographic interferometry systems**
8. SIMONYAN R.A., SHMAKOV S.S., SHANDAROV S.M., BURIMOV N.I.  
*Tomsk State University of Control Systems and Radioelectronics*  
**Study of cut (111) bismuth silicate crystal by adaptive holographic interferometry**
9. POZHIDAEV E.P., KUZNETSOV A.V., ZHUKOVICH-GORDEEVA A.A., TORGOVA S.I.  
*Lebedev Physical Institute of the RAS, Moscow*  
**Electro-optical effects in ferroelectric and antiferroelectric phases of liquid crystals**
10. DOLGANOV P.V., BAKLANOVA K.D., DOLGANOV V.K.  
*Institute of Solid State Physics named after Yu.A. Osipyan of the RAS, Chernogolovka*  
**Liquid-crystalline photonic structures with multilevel ordering**
11. NOVIKOV V.B., ZAGRAVSKII A.K., SOTNICHUK S.V., DAVIDENKO N.K., BOBROVSKY A.Yu., MURZINA T.V.  
*Lomonosov Moscow State University*  
**Giant effect of thermal modulation of optical transmission in ENZ-metamaterial/liquid crystal structures**
12. DEMUSHKIN D.Yu.<sup>1</sup>, DENISOV D.A.<sup>1</sup>, GRISHCHENKO I.V.<sup>2</sup>, KHOKHLOV N.A.<sup>3</sup>, KONYASHKIN A.V.<sup>2</sup>, RYABUSHKIN O.A.<sup>1,2</sup>  
<sup>1</sup>*Moscow Institute of Physics and Technology (National Research University), Dolgoprudny*  
<sup>2</sup>*Fryazino Branch of Kotelnikov Institute of Radioengineering and Electronics of RAS*  
<sup>3</sup>*Mendeleeev University of Chemical Technology of Russia, Moscow*  
**Measurement of optical absorption coefficient of lithium-sodium molybdate crystals**
13. ROGALIN V.E., ZHELEZNOV V.Yu., MALINSKIY T.V., KHOMICH Yu.V., AFONIN G.V.<sup>1</sup>, KHONIK V.A.<sup>1</sup>  
*Institute for Electrophysics and Electric Power of the RAS, Saint-Petersburg*  
<sup>1</sup>*Voronesh State Pedagogical University*  
**Influence of exposure of UV laser nanosecond pulses on the shear modulus of aluminum single crystals**
14. KURNIKOV M.A., SHUGUROV A.I.<sup>1</sup>, BODROV S.B.<sup>1,2</sup>, BAKUNOV M.I.<sup>1</sup>  
<sup>1</sup>*Lobachevsky State University of Nizhny Novgorod*  
<sup>2</sup>*Institute of Applied Physics of the RAS, Nizhny Novgorod*  
**Cherenkov scheme of terahertz generation via optical rectification in semiconductor crystals**

15. MALINSKIY T.V., ZHELEZNOV V.Yu., ROGALIN V.E., KHOMICH Yu.V., KAPLUNOV I.A.<sup>1</sup>, IVANOVA A.I.<sup>1</sup>, SHAYKIN A.A.<sup>2</sup>, STUKACHEV S.E.<sup>2</sup>, SERGEEV A.A.<sup>3</sup>, IVAKIN S.V.<sup>3</sup>  
*Institute for Electrophysics and Electric Power of the RAS, Saint-Petersburg*  
<sup>1</sup>Tver State University  
<sup>2</sup>Institute of Applied Physics of the RAS, Nizhny Novgorod  
<sup>3</sup>Baltic State Technical University «VOENMEH» named after D.F. Ustinov, Saint-Petersburg  
**Influence of impact to nanosecond pulses of a neodymium laser on a germanium single crystal in an water environment**
16. DIAB M.O.<sup>1,2</sup>, POPOVA M.N.<sup>1</sup>, BOLDYREV K.N.<sup>1</sup>  
<sup>1</sup>Institute for Spectroscopy of the RAS, Troitsk  
<sup>2</sup>Moscow Institute of Physics and Technology (National Research University), Dolgoprudny  
**Luminescence spectra of Er<sup>3+</sup> ions in K<sub>2</sub>YF<sub>5</sub> crystal for applications in luminescence cryothermometry**

Meeting 2

Wednesday, January 24, 2024, 13.00

Room G-401

17. SHUKLOV I.A.  
*Moscow Institute of Physics and Technology (State University), Dolgoprudny*  
**New precursors of selenium and tellurium for the preparation of colloidal quantum dots**
18. MARGARYAN I.V., BORODINA L.N., VEDERNIKOVA A.A., USHAKOVA E.V., LITVIN A.P.<sup>1</sup>  
*ITMO University, Saint-Petersburg*  
<sup>1</sup>Jilin University, Changchun, China  
**Modification of the anti-solvent with carbon dots to increase the efficiency of perovskite solar cells**
19. MILENKOVICH T., SHUKLOV I.A., MARDINI A.A., KORONNOV A.A., KHAKIMOV K.T., POPOV V.S.  
*Moscow Institute of Physics and Technology (State University), Dolgoprudny*  
**Study of the impact of ligand exchange on properties of photoresistors based on mercury chalcogenides**
20. KONONOV D.V., PALEHOVA A.V., KOCHAKOV A.V., AFANASIEVA A.V., VARTANYAN T.A., DADADZHANOV D.R.  
*ITMO University, Saint-Petersburg*  
**Chemiluminescence enhancement of lucigenin in the presence of metallic nanoparticles**
21. MURATOV D.A., NIKOLAEV N.E., CHEKHLOVA T.K.  
*Peoples' Friendship University of Russia (RUDN University), Moscow*  
**Optical properties of composite media containing copper and gold nanoparticles of different shapes**
22. KON I.I., POLTORABATKO D.A. E.A., ZYUBIN A.Yu., SAMUSEV I.G.  
*Immanuel Kant Baltic Federal University, Kaliningrad*  
**Numerical simulation of optical properties of gold nanoparticles using finite-difference time-domain method (FDTD)**
23. KOCHAKOV A.V., MITUSOVA A.A.<sup>1</sup>, KONONOV D.V., DADADZHANOV D.R.  
*ITMO University, Saint-Petersburg*  
<sup>1</sup>Pavlov First Saint-Petersburg State Medical University  
**Spectroscopy of gold and silver nanoparticles in cancer cells**
24. EPIFANOV E.O.<sup>1</sup>, RYBALTOVSKY A.O.<sup>1,2</sup>, YUSUPOV V.I.<sup>1</sup>, MINAEV N.V.<sup>1</sup>  
<sup>1</sup>Institute of Photonic Technologies of FSRC «Crystallography and Photonics» of the RAS, Troitsk  
<sup>2</sup>Lomonosov Moscow State University  
**Formation of microstructures from silver nanoparticles in nanoporous quartz glass by femtosecond laser radiation**
25. IZBASAROVA E.A.<sup>1</sup>, GAZIZOV A.R.<sup>1,2</sup>, PUDOVKIN M.S.<sup>1</sup>  
<sup>1</sup>Kazan Federal University  
<sup>2</sup>Institute of Applied Research of Tatarstan Academy of Sciences, Kazan  
**Contribution of the Purcell effect to the luminescence of Ce<sub>0.5</sub>Y<sub>0.35</sub>Tb<sub>0.15</sub>F<sub>3</sub> nanoparticles under conditions of plasmon enhancement**
26. RYBALKA A.Ye., BEZUS J.A., RUMYANTSEV V.V., FEDOROV S.A.  
*Galkin Donetsk Institute for Physics and Engineering*  
**Interaction of electromagnetic radiation with non-ideal 1D photon structure**
27. MALYSHEV O.K., MARTYNOV I.L., CHISTYAKOV A.A.  
*National Research Nuclear University MEPHI (Moscow Engineering Physics Institute)*  
**Various modes of optical excitation of the MDMO-PPV polymer in a porous silicon microcavity for detecting molecules of nitroaromatic compounds**
28. PORTNOVA K.A.<sup>1</sup>, SHELEMANOV A.A.<sup>1</sup>, EVSTROPIEV S.K.<sup>1,2,3</sup>  
<sup>1</sup>ITMO University, Saint-Petersburg  
<sup>2</sup>S.I. Vavilov State Optical Institute, Saint-Petersburg  
<sup>3</sup>Saint-Petersburg State Institute of Technology (Technical University)  
**Structural engineering of porous Cu(Mn)-doped ZnO-MgO nanostructures for the intensive singlet oxygen photogeneration, photocatalytic and antibacterial applications**

Meeting 3

Wednesday, January 24, 2024, 16.00

Room G-401

29. MAKIN V.S., MAKIN R.S.<sup>1</sup>  
*Scientific and Design Center for Optoelectronic Observation Complexes - Branch of JSC "Kometa Corporation", Saint-Petersburg*  
<sup>1</sup>National Research Nuclear University MEPHI (Moscow Engineering Physics Institute)  
**Optical skyrmion as (meta)stable quantum topological structure under laser radiation interaction with condensed media**
30. DOTSENKO A.A., NOVIKOV V.B., LEONTIEV A.P., NAPOLSKII K.S., MURZINA T.V.  
*Lomonosov Moscow State University*  
**Dynamics of chirped ultrashort laser pulses in ENZ-metamaterials**
31. BURTSEV A.A., IONIN V.V., KISELEV A.V., ELISEEV N.N., MIKHALEVSKY V.A., NEVZOROV A.A., LOTIN A.A.  
*Institute on Laser and Information Technologies – branch of FSRC «Crystallography and Photonics» of the RAS, Shatura*  
**Electrophysical properties modulation of chalcogenide materials by exposure to pulsed optical radiation**

32. MURZAKOV M.A.<sup>1</sup>, EVTIKHIEV N.N.<sup>1,2</sup>, GREZEV N.V.<sup>1</sup>, KATAEV D.M.<sup>1</sup>  
<sup>1</sup>*IRE-Polus Corporation, Fryazino*  
<sup>2</sup>*National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)*  
**Formation of welded joints of metal and glass under influence of picoseconds pulses**
33. EGOROVA X.A., ROZANOV K.A., SIDOROVA A.D., GORENSKII F.A., SINEV D.A.  
*ITMO University, Saint-Petersburg*  
**Improvement of a method for forming a hardness surface layer on titanium by laser treatment under a layer of carbon-containing substances**
34. VOROBYEV A.K.<sup>1,2</sup>, KAPRIDOV N.A.<sup>1,2</sup>, YUNUSOV T.R.<sup>1,2</sup>, SHITIKOV A.E.<sup>1</sup>, CHERMOSHENTSEV D.A.<sup>1,2,3</sup>, BILENKO I.A.<sup>1,4</sup>  
<sup>1</sup>*Russian Quantum Center, Skolkovo*  
<sup>2</sup>*Moscow Institute of Physics and Technology (National Research University), Dolgoprudny*  
<sup>3</sup>*Skolkovo Institute of Science and Technology*  
<sup>4</sup>*Lomonosov Moscow State University*  
**Frequency combs generation in dual-pumped optical microresonators**
35. MOROZOV D.V.<sup>1,2</sup>, VOROBYEV A.K.<sup>1,2</sup>, DMITRIEV N.Yu.<sup>1,2</sup>, CHERMOSHENTSEV D.A.<sup>1,2,3</sup>, BILENKO I.A.<sup>1,4</sup>  
<sup>1</sup>*Russian Quantum Center, Skolkovo*  
<sup>2</sup>*Moscow Institute of Physics and Technology (State University), Dolgoprudny*  
<sup>3</sup>*Skolkovo Institute of Science and Technology*  
<sup>4</sup>*Lomonosov Moscow State University*  
**Measurement of dispersion characteristics and quality factors of optical microresonators**
36. PATOLYATOV A.D.<sup>1</sup>, SHCHERBAKOV D.A.<sup>1</sup>, KOLYMAGIN D.A.<sup>1</sup>, VITUKHNOVSKY A.G.<sup>1,2</sup>  
<sup>1</sup>*Moscow Institute of Physics and Technology (State University), Dolgoprudny*  
<sup>2</sup>*Lebedev Physical Institute of the RAS, Moscow*  
**Refractive X-ray lenses made by the two-photon laser lithography method**
37. MAMIAN K.A., FROLOV A.Yu., POPOV V.V., FEDYANIN A.A.  
*Lomonosov Moscow State University*  
**Transverse magneto-optical Kerr effect enhancement in hybrid nanogratings**
38. MINAEV S.E.<sup>1,2</sup>, ASHIKHMIN D.I.<sup>1,2</sup>, SEDOVA Yu.K.<sup>1</sup>, MINAEV N.V.<sup>1</sup>, YUSUPOV V.I.<sup>1</sup>  
<sup>1</sup>*Institute of Photonic Technologies of FSRC «Crystallography and Photonics» of the RAS, Troitsk*  
<sup>2</sup>*National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)*  
**Laser bioprinting using femtosecond laser pulses**
39. LEVUS M.V.<sup>1,2</sup>, RIZAEV G.E.<sup>2</sup>, PUSHKAREV D.V.<sup>2</sup>, SELEZNEV L.V.<sup>2</sup>  
<sup>1</sup>*Lomonosov Moscow State University*  
<sup>2</sup>*Lebedev Physical Institute of the RAS, Moscow*  
**The spectrum in the terahertz range of the plasma channel during single-color filamentation of ultrashort laser pulses**
40. MOLKOV T.S., FADEEV S.V., MARTYNOV I.L., PLEKHANOV A.A., CHISTYAKOV A.A.  
*National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)*  
**Modeling and fabrication of terahertz bandpass filters by laser ablation**

Meeting 4

Wednesday, January 24, 2024, 16.00  
Room G-402

41. BIKBAEV R.G.<sup>1,2</sup>, CHEN K.-P.<sup>3</sup>, TIMOFEEV I.V.<sup>1,2</sup>  
<sup>1</sup>*Kirensky Institute of Physics of SB RAS, Krasnoyarsk*  
<sup>2</sup>*Siberian Federal University, Krasnoyarsk*  
<sup>3</sup>*National Tsing Hua University, Tainan, Taiwan*  
**Two-dimensional dynamic beam steering by Tamm plasmon polariton**
42. PROKOPOVA D.V., ABRAMOCHKIN E.G.  
*Samara Branch of the Lebedev Physical Institute of the RAS*  
**Location of the autofocusing plane of three airy beams depending on the shift parameter**
43. TSIPLAKOVA E.G.<sup>1</sup>, GRACHEV Ya.<sup>1</sup>, PETROV N.V.<sup>1,2</sup>  
<sup>1</sup>*ITMO University, Saint-Petersburg*  
<sup>2</sup>*Harbin Engineering University, Qingdao, China*  
**Numerical modeling of raster scanning with "diaphragm-lens" system applied for detection of broadband terahertz Bessel-Gaussian beams**
44. SIDOROVA M.N., VYSLANKO I.S., ERMOLAEV G.A.  
*Moscow Institute of Physics and Technology (National Research University), Dolgoprudny*  
**Evolution of points with a phase singularities in transition metal dichalcogenides**
45. LEVKOVSKAYA V.M.<sup>1</sup>, KHARITONOV A.V.<sup>1</sup>, KHARINCEV S.S.<sup>1,2</sup>  
<sup>1</sup>*Kazan Federal University*  
<sup>2</sup>*Institute of Applied Research of Tatarstan Academy of Sciences, Kazan*  
**Time-varying materials for analog optical computing**
46. VASHUKEVICH E.A., GOLUBEVA T.Yu., BASHMAKOVA E.N.  
*Saint Petersburg State University*  
**Entangling and non-local quantum operations based on qnd interaction in light-atomic systems**
47. TSUKANOV A.V.  
*Valiev Institute of Physics and Technology of the RAS, Moscow*  
**Resonant coulomb interaction of excitonic and charge qubits**
48. YUNUSOV T.R.<sup>1,2</sup>, CHERMOSHENTSEV D.A.<sup>1,2,3</sup>, MASALOV A.V.<sup>1,4</sup>, BILENKO I.A.<sup>1,5</sup>  
<sup>1</sup>*Russian Quantum Center, Skolkovo*  
<sup>2</sup>*Moscow Institute of Physics and Technology (State University), Dolgoprudny*  
<sup>3</sup>*Skolkovo Institute of Science and Technology*  
<sup>4</sup>*Lebedev Physical Institute of the RAS, Moscow*  
<sup>5</sup>*Lomonosov Moscow State University*  
**Numerical study of the efficiency of the integrated coherent Ising machine**

49. SAVELYEV M.V., ALEFERKINA K.E.  
*Samara National Research University*  
**Influence of the layer rotation of the polydisperse suspension of nanoparticles on the spatial characteristics of the four-wave radiation converter**
50. TSUKANOV A.V., KATEEV I.Yu.  
*Valiev Institute of Physics and Technology of the RAS, Moscow*  
**Generation of spatially correlated photon states in an optical planar structure with a quantum dot**
51. SHIROKOVA A.V., MASLOV A.V., BAKUNOV M.I.  
*Lobachevsky State University of Nizhny Novgorod*  
**Constitutive relations for surface plasmons on dynamic graphene**
52. BUKHENSKY K.V., DUBOIS A.B., KONUKHOV A.N., KUCHERYAVYY S.I.<sup>1</sup>, SAFOSHKIN A.S.  
*Ryazan State Radio Engineering University named after V.F. Utkin*  
<sup>1</sup>*National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)*  
**Propagation of electromagnetic radiation in graphene structures**

Meeting 5

Thursday, January 25, 2024, 10.00  
 Room G-404

53. ZHELEZNOV V.Yu., MALINSKIY T.V., ROGALIN V.E., KHOMICH Yu.V., KAPLUNOV I.A.<sup>1</sup>, IVANOVA A.I.<sup>1</sup>, SHAYKIN A.A.<sup>2</sup>, STUKACHEV S.E.<sup>2</sup>, SERGEEV A.A.<sup>3</sup>, IVAKIN S.V.<sup>3</sup>  
*Institute for Electrophysics and Electric Power of the RAS, Saint-Petersburg*  
<sup>1</sup>*Tver State University*  
<sup>2</sup>*Institute of Applied Physics of the RAS, Nizhny Novgorod*  
<sup>3</sup>*Baltic State Technical University «VOENMEH» named after D.F. Ustinov, Saint-Petersburg*  
**Influence of aquatic environment on the effectiveness of impact of nanosecond pulses of neodymium laser on a polished surface of oxygen-free copper**
54. MINAEVA E.D., YUSUPOV V.I., MINAEV N.V.  
*Institute of Photonic Technologies of FSRC «Crystallography and Photonics» of the RAS, Troitsk*  
**Study of the effect of water content in polymer microparticles on the quality of sintering during formation of three-dimensional constructions using surface-selective laser sintering method**
55. SHUBIN I.R.<sup>1</sup>, RAZDOBARIN A.G.<sup>1,2</sup>, BELOKUR A.A.<sup>1</sup>, ELETS D.I.<sup>1,2</sup>, MEDVEDEV O.S.<sup>1,2</sup>, SMIRNOVA E.V.<sup>1</sup>, SNIGIREV L.A.<sup>1</sup>  
<sup>1</sup>*Ioffe Physical-Technical Institute of the RAS, Saint-Petersburg*  
<sup>2</sup>*Immanuel Kant Baltic Federal University, Kaliningrad*  
**Design of laser-based diagnostic system of the first wall in fusion devices**
56. KAPRIDOV N.A.<sup>1,2</sup>, SHITIKOV A.E.<sup>1</sup>, MINKOV K.N.<sup>1</sup>, MASALOV A.V.<sup>1,4</sup>, CHERMOSHENTSEV D.A.<sup>1,2,3</sup>, LVOVSKY A.I.<sup>1</sup>, BILENKO I.A.<sup>1,5</sup>  
<sup>1</sup>*Russian Quantum Centre, Skolkovo, Moscow region*  
<sup>2</sup>*Moscow Institute of Physics and Technology (State University), Dolgoprudny*  
<sup>3</sup>*Skolkovo Institute of Science and Technology*  
<sup>4</sup>*Lebedev Physical Institute of the RAS, Moscow*  
<sup>5</sup>*Lomonosov Moscow State University*  
**The technique of instantaneous and long-term stability of the frequency of laser radiation**
57. URYUPINA V.K.<sup>1,2</sup>, KOTOVA S.P.<sup>1,2</sup>, LOSEVSKY N.N.<sup>1</sup>, MAYOROVA A.M.<sup>1</sup>, TSELOGORODTSEV K.A.<sup>1,2</sup>  
*Samara Branch of the Lebedev Physical Institute of the RAS*  
**Formation of complex configurations of biological objects with fixation on a substrate in the scheme of an optothermal trap**
58. KRIVETSKAYA A.A.<sup>1,2</sup>, KUSTOV D.M.<sup>1</sup>, LEVKIN V.V.<sup>3</sup>, GORBUNOV A.S.<sup>3</sup>, PARSHIN V.D.<sup>3</sup>, URISOV M.A.<sup>3</sup>, OSMININ S.V.<sup>3</sup>, EVENTEVA E.V.<sup>3</sup>, VETSHEV F.P.<sup>3</sup>, SAVELIEVA T.A.<sup>1,2</sup>  
<sup>1</sup>*Prokhorov General Physics Institute of the RAS, Moscow*  
<sup>2</sup>*National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)*  
<sup>3</sup>*Sechenov First Moscow State Medical University*  
**Intraoperative application of optical-spectral method for assessing oxygen saturation of biological tissues**
59. SUDAS D.P., YAKUSHCHEVA G.G., KUZNETZOV P.I.  
*Fryazino Branch of Kotelnikov Institute of Radioengineering and Electronics of RAS*  
**Using lossy mode resonance to control the chemical resistance of aluminum oxide coatings**
60. ARAKELIAN S.M., BUKHAROV D.N., ZOTOV A.I.  
*Vladimir State University named after Alexander and Nikolay Stoletovs*  
**Determination of optical properties of bimetallic film using the Boxcount method**
61. KUTS R.I., BELOUSOV D.A., KOROLKOV V.P., MALYSHEV A.I., SAMETOV A.R.  
*Institute of Automation and Electrometry SB RAS, Novosibirsk*  
**Application of direct laser writing on bi-layer a-Si/Cr films for the production of binary computer-generated holograms**
62. BORODINA L.N., VENIAMINOV A.V.  
*ITMO University, Saint-Petersburg*  
**Laser scanning microscopy of photoinduced transformations of luminescent carbon nanoparticles and molecules**
63. TSELOGORODTSEV K.A.<sup>1,2</sup>, KOTOVA S.P.<sup>1,2</sup>, LOSEVSKY N.N.<sup>1</sup>, URYUPINA V.K.<sup>1,2</sup>  
<sup>1</sup>*Samara Branch of the Lebedev Physical Institute*  
<sup>2</sup>*Samara National Research University*  
**Vortex light fields for optical manipulation of microobjects ensembles**
64. BURKOV A.S.<sup>1,2</sup>, TERESCHENKO N.V.<sup>2</sup>, LARIONOV I.A.<sup>2</sup>, OBRONOV I.V.<sup>2</sup>, MYASNIKOV D.V.<sup>2</sup>  
<sup>1</sup>*Moscow Institute of Physics and Technology (State University), Dolgoprudny*  
<sup>2</sup>*IRE-Polus Corporation, Fryazino*  
**Thermal lens measurement in high-power optical systems using the Gerchberg-Saxton algorithm**

PLENARY 2

Thursday, January 25, 2024, 13.00  
Room G-404

65. SAZONOV S.V.<sup>1,2,3</sup>  
<sup>1</sup>National Research Centre "Kurchatov Institute", Moscow  
<sup>2</sup>Moscow Aviation Institute (National Research University)  
<sup>3</sup>Lomonosov Moscow State University  
**On the generation of broadband terahertz radiation by the optical rectification method**
66. PONOMAREV D.S.<sup>1</sup>, LAVRUKHIN D.V.<sup>1,2</sup>, YACHMENEV A.E.<sup>1</sup>, SPEKTOR I.E.<sup>2</sup>, ZAYTSEV K.I.<sup>2</sup>  
<sup>1</sup>Institute of Ultra-High Frequency Semiconductor Electronics of the of NRC «Kurchatov Institute», Moscow  
<sup>2</sup>Prokhorov General Physics Institute of the RAS, Moscow  
**Extremely efficient terahertz emission through photoconduction via seminal approaches**
67. ZIMNYAKOV D.A.<sup>1,2</sup>, VOLCHKOV S.S.<sup>1</sup>  
<sup>1</sup>Yury Gagarin State Technical University, Saratov  
<sup>2</sup>Institute of Precision Mechanics and Control of the RAS, Saratov  
**Amplification of spontaneous fluorescence in random media: competition between the dwell time of fluorescence photons in the pumped medium and radiation losses**
68. VENIAMINOV A.V., BORODINA L.N.  
ITMO University, Saint-Petersburg  
**Luminescence, diffusion and holography: laser scanning microscopy and holographic relaxometry of nanoparticles' and molecules' motion**

POSTERS 2

Thursday, January 24, 2024, 15.00  
Room G-405

POSTERS 3

Thursay, January 24, 2024, 15.00  
Room G-404

Meeting 6

Thursay, January 24, 2024, 16.00  
Room G-405

69. POPOV S.M., BUTOV O.V.<sup>1</sup>, RYBALTOVSKII A.A.<sup>2</sup>, RYAKHOVSKIY D.V., LIPATOV D.S.<sup>3</sup>, FOTIADI A.A.<sup>4</sup>, CHAMOROVSKIY Yu.K.  
Fryazino Branch of Kotelnikov Institute of Radioengineering and Electronics of RAS  
<sup>1</sup>Kotelnikov Institute of Radioengineering and Electronics of RAS, Moscow  
<sup>2</sup>Prokhorov General Physics Institute of the RAS, Moscow  
<sup>3</sup>Devyatykh Institute of Chemistry of High-Purity Substances of the RAS, Nizhny Novgorod  
<sup>4</sup>Ulyanovsk State University  
**Highly efficient single frequency fiber random laser operating in the telecommunications wavelength range**
70. MAGNITSKIY N.D.<sup>1,2</sup>, PUYU I P.V.<sup>2</sup>, MYASNIKOV D.V.<sup>2</sup>  
Moscow Institute of Physics and Technology (National Research University), Dolgoprudny  
<sup>1</sup>IRE-Polus Corporation, Fryazino  
**Generation of powerful green range radiation from a picosecond fiber laser**
71. LOBANOV A.I.<sup>1,2</sup>, SIROTKIN A.A.<sup>1</sup>, KALACHEV Yu.L.<sup>1</sup>, FILATOVA S.A.<sup>1</sup>, KAMYNNIN V.A.<sup>1</sup>, OVCHARENKO B.D.<sup>1</sup>, TSVETKOV V.B.<sup>1</sup>  
<sup>1</sup>Prokhorov General Physics Institute of the RAS, Moscow  
<sup>2</sup>National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)  
**Hybrid fiber/solid-state power amplifier laser system with 2086 nm picosecond master oscillator**
72. DENISOV A.N., SEMJONOV S.L.  
Dianov Fiber Optic Research Center of the GPI RAS, Moscow  
**Effect of polymer coating on bending losses of all-glass microstructured optical fibers**
73. GASIN A.S., SMOZHNY A.M., SUDAS D.P.<sup>1</sup>, GOLANT K.M.<sup>1</sup>  
MIREA – Russian Technological University, Moscow  
<sup>1</sup>Fryazino Branch of Kotelnikov Institute of Radioengineering and Electronics of RAS  
**Influence of the feedback factor on the output radiation parameters of a ring fiber laser**
74. MAKOVETSKII A.A., POPOV S.M., RYAKHOVSKIY D.V., ZAMYATIN A.A.  
Fryazino Branch of Kotelnikov Institute of Radioengineering and Electronics of RAS  
**"Resonance" trajectories of oblique rays in multimode optical fibers**
75. YAKIMUK V.A., KOMISAROV V.A., YANDYBAEVA Yu.I., KOROBKOVA U.R., VARZHEL S.V.  
ITMO University, Saint-Petersburg  
**Fiber Bragg gratings inscription by phase mask method with laser beam translation**
76. VOSKANYAN G.R.<sup>1,2,3</sup>, GRITSYENKO A.V.<sup>2,3</sup>, KUROCHKIN N.S.<sup>2,3</sup>  
<sup>1</sup>Bauman Moscow State Technical University  
<sup>2</sup>Lebedev Physical Institute of the RAS, Moscow  
<sup>3</sup>Moscow Institute of Physics and Technology (National Research University), Dolgoprudny  
**Self-writing as a tool for luminescent micro-particle to optical fiber coupling**
77. VLASOV S.V., IVANOV A.V., IVANOV A.D., MALYSHEV I.V., POPOV M.V.  
Russian Quantum Center, Skolkovo  
**Optical microfiber tactile sensors**

78. KOMISAROV V.A., DMITRIEV A.A., VARZHEL S.V., YAKIMUK V.A., KOZLOVA A.I., KALYAZINA D.V.  
ITMO University, Saint-Petersburg  
**Tilted chirped fiber Bragg gratings fabrication by Talbot interferometer**
79. ZABALUEVA Z.A., KORCHAGINAV A.V., USHAKOV N.A.  
Peter the Great Saint-Petersburg Polytechnic University  
**Study of singlemode optical fibers' internal structure using spectral-domain optical coherence tomography**
80. ZYKINA A.A., PLYASTSOV S.A., GLADSKIKH I.A.  
ITMO University, Saint-Petersburg  
**Modeling of a fiber-optical sensor based on surface plasmon resonance and MMF-SMF-MMF fiber**

Meeting 7

Thursday, January 25, 2024, 16.00  
Room G-404

81. GORLOV N.I., TALANOV D.A.  
Siberian State University of Telecommunications and Information Science, Novosibirsk  
**Distributed fiber sensing based on backscattering Mandelstam-Brillouin**
82. PLJONKIN A.P., YUSHITSYNA V.V.  
Southern Federal University, Taganrog  
**Quantum key distribution in the safe city system**
83. MAKOVETSKAYA T.A., USHAKOV N.A.  
Peter the Great Saint-Petersburg Polytechnic University  
**Application of many-photon spectral-domain interferometry for absolute optical measurements**
84. PRZHIYALKOVSKIY Ya.V., STAROSTIN N.I., MORSHNEV S.K., SAZONOV A.I.  
Fryazino Branch of Kotel'nikov Institute of Radioengineering and Electronics of RAS  
**Fiber-optic sensor for plasma current measurement in fusion reactors**
85. ANPILOV V.S.<sup>1,2</sup>, KOVALENKO N.V.<sup>2</sup>, RYABUSHKIN O.A.<sup>1,2</sup>  
<sup>1</sup>Moscow Institute of Physics and Technology (State University), Dolgoprudny  
<sup>2</sup>Fryazino Branch of Kotel'nikov Institute of Radioengineering and Electronics of RAS  
**Fiber-optic hydrophone based on polymer interferometer Fabry-Perot for registration of laser-induced cavitation bubbles in water**
86. AKHMEROV A.Kh., SYCHEVA S.D.  
ITMO University, Saint-Petersburg  
**Non-destructive capillary object testing system based on an active quasi-distributed fiber optic acoustic sensor**
87. US N.A., AVERSHIN A.A., PECHENKIN N.S., DMITRIYEV V.K.  
Air Force Academy named after prof. N.E. Zhukovsky and Yu.A Gagarin, Voronezh  
**Fiber optic splitter for laser gyroscope**
88. MOSKALEV D.N.<sup>1,2</sup>, KOZLOV A.A.<sup>1,2</sup>, SALGAEVA U.O.<sup>2</sup>, KRISHTOP V.V.<sup>1,2,3</sup>, VOLYNTSEV A.B.<sup>2</sup>  
<sup>1</sup>Perm Scientific-Industrial Instrument Making Company  
<sup>2</sup>Perm National Research State University  
<sup>3</sup>Perm National Research Polytechnic University  
**Applying a semi-analytical model to the simulation of a 2x2 multimode interference coupler**
89. VOKHNIK O.M.<sup>1</sup>, ZOTOV A.M.<sup>1</sup>, KOROLENKO P.V.<sup>1,2</sup>, KUBANOV R.T.<sup>1</sup>, PAVLOV N.N.<sup>1</sup>  
<sup>1</sup>Lomonosov Moscow State University  
<sup>2</sup>Lebedev Physical Institute of the RAS, Moscow  
**Fractal-like light structures: properties and applications**
90. PROSOVSKIY Yu.O., DENISOV D.G.<sup>1</sup>, PROSOVSKIY O.F., ISAMOV A.N., SMOL'YANINOV V.A., BUDNEV V.A.  
Obninsk Research and Production Enterprise Tekhnologiya, Kaluga Region  
<sup>1</sup>Bauman Moscow State Technical University  
**Key aspects of the technology for producing multilayer interference optical coatings**
91. SAPTSOVA O.A., KORONNOV A.A., YAKOVLEV V.O., POPOV V.S.  
Moscow Institute of Physics and Technology (State University), Dolgoprudny  
**Measuring equipment for investigation photosensitivity and response of photosensors in the spectral range 3 - 5 microns**
92. SMOL'YANINOV V.A., PROSOVSKIY Yu.O., PROSOVSKIY O.F., PETRACHKOV D.N., ISAMOV A.N., BUDNEV V.A.  
Obninsk Research and Production Enterprise Tekhnologiya, Kaluga Region  
**Comparative analysis of aluminum coatings obtained by different conditions**

Meeting 8

Friday, January 26, 2024, 10.00  
Room G-404

93. DENISOV D.G.  
Bauman Moscow State Technical University  
**Coherent methods of control of scattered optical radiation for measuring the quality parameters of the surfaces of optical parts**
94. SARGSYAN A.S., PARFENOV V.A.<sup>1</sup>  
National Polytechnic University of Armenia, Yerevan, Armenia  
<sup>1</sup>Saint-Petersburg State Electrotechnical University "LETI"  
**Development of the concept of adjustment of the main reflector of the radio-telescope**
95. LETOVA E.Yu., IVANOVA T.V., ZAVGORODNIJ D.S.<sup>1</sup>  
ITMO University, Saint-Petersburg  
<sup>1</sup>JSC LOMO, Saint-Petersburg  
**Automation of test-objects images preprocessing for software-hardware complex for optical systems quality control**
96. SHIPKO V.V.<sup>1,2</sup>, POZHAR V.E.<sup>2</sup>, MACHIKHIN A.S.<sup>2,3</sup>  
<sup>1</sup>Air Force Academy named after prof. N.E. Zhukovsky and Yu.A Gagarin, Voronezh  
<sup>2</sup>Scientific and Technological Center of Unique Instrumentation of the RAS, Moscow  
<sup>3</sup>National Research University «Moscow Power Engineering Institute»  
**The method of complex control of spectral, spatial and radiometric permits in hyperspectral monitoring system for ground objects**

97. BORITKO S.V.  
*Scientific and Technological Center of Unique Instrumentation of the RAS, Moscow*  
**Use of direct recording of derivatives of the optical spectrum in spectrometry**
98. KOTOV V.M., AVERIN S.V.  
*Fryazino Branch of Kotelnikov Institute of Radioengineering and Electronics of RAS*  
**Peculiarities of the transfer functions of an acousto-optic filter operating at low acoustic frequencies**
99. KASHAPOV A.I.<sup>1,2</sup>, BEZUS E.A.<sup>1,2</sup>, BYKOV D.A.<sup>1,2</sup>, GOLOVASTIKOV N.V.<sup>1,2</sup>, DOSKOLOVICH L.L.<sup>1,2</sup>  
<sup>1</sup>*Image Processing Systems Institute – Branch of the Federal Scientific Research Centre “Crystallography and Photonics”, Samara*  
<sup>2</sup>*Samara National Research University*  
**Application of metal-dielectric layered structures for optical image edge detection**
100. BELOV K.N.<sup>1</sup>, KUNDIKOVA N.D.<sup>1,2</sup>  
<sup>1</sup>*South Ural State University, Chelyabinsk*  
<sup>2</sup>*Institute of Electrophysics, UB RAN, Yekaterinburg*  
**Spatial filtering of Fourier images as a method of defect detection in transparent materials**
101. VASILYEV S.V., ZHIGULINA I.V., DERBUSH D.A.<sup>1</sup>  
*Air Force Academy named after prof. N.E. Zhukovsky and Yu.A. Gagarin, Voronezh*  
<sup>1</sup>*222 Central Research Institute of Defense Ministry, Korolev*  
**Identification of the movement of point objects**
102. PAVLOV A.V.  
*ITMO University, Saint-Petersburg*  
**On the implementation of quantum-like models of the information processing by the Fourier holography technique**
103. ZHIKHOREVA A.A., BELASHOV A.V., SEMENOV A.A., BELYAEVA T.N.<sup>1</sup>, SALOVA A.V.<sup>1</sup>, LITVINOV I.K.<sup>1</sup>, KORNILOVA E.S.<sup>1</sup>, SEMENOVA I.V., VASUTINSKII O.S.  
*Ioffe Physical-Technical Institute of the RAS, Saint-Petersburg*  
<sup>1</sup>*Institute of Cytology of the RAS, Saint-Petersburg*  
**Quantitative phase imaging of living cells and localized photodynamic treatment using Icos spatial light modulator**
104. TROPINA E.V.<sup>1,2</sup>, BOLDYREV K.N.<sup>1</sup>  
<sup>1</sup>*Institute for Spectroscopy of the RAS, Troitsk*  
<sup>2</sup>*National Research University «Higher School of Economics», Moscow*  
**Spectroscopy of human blood: rapid diagnostics using machine learning**

PLENARY 3

Friday, January 26, 2024, 13.00  
Room G-404

105. PROKHOROV A.V.<sup>1,2</sup>, GUBIN M.Yu.<sup>1,2</sup>, SHESTERIKOV A.V.<sup>1,2</sup>, TOKSUMAKOV A.N.<sup>1</sup>, NOVIKOV S.M.<sup>1</sup>, KIRTAEV R.V.<sup>3</sup>, TATMYSHEVSKIY M.K.<sup>1,2</sup>, YAKUBOVSKY D.I.<sup>1</sup>, TITOVA E.I.<sup>1</sup>, ZHUKOVA E.S.<sup>1</sup>, GHAZARYAN D.A.<sup>1</sup>, ARSENIN A.V.<sup>3</sup>, VOLKOV V.S.<sup>3</sup>  
<sup>1</sup>*Moscow Institute of Physics and Technology (National Research University), Dolgoprudny*  
<sup>2</sup>*Vladimir State University named after Alexander and Nikolay Stoletovs*  
<sup>3</sup>*Emerging Technologies Research Center XPANCEO, Dubai, United Arab Emirates*  
**Hybrid and heterostructured van der Waals metasurfaces for observation of collective and coherent optical effects**
106. BOLDYREV K.N.  
*Institute for Spectroscopy of the RAS, Troitsk*  
**New methods of high resolution spectroscopy and their application in quantum technologies**
107. BYKOVSKY A.Yu.  
*Lebedev Physical Institute of the RAS, Moscow*  
**Mutual data verification by autonomous agents, using classic and quantum data links**
108. PETROV N.V.<sup>1,2</sup>, RABOSH E.V.<sup>1</sup>, BALBEKIN N.S.<sup>1</sup>  
<sup>1</sup>*ITMO University, Saint-Petersburg*  
<sup>2</sup>*Harbin Engineering University, Qingdao, China*  
**Approaches to digitization of information contained in display holograms**

POSTERS 4

Friday, January 26, 2024, 15.00  
Room G-404

Meeting 9

Friday, January 26, 2024, 16.00  
Room G-404

109. PUTILIN A.N.<sup>1,2</sup>, DUBYNIN S.E.<sup>1</sup>, PUTILIN N.A.<sup>1,2</sup>, KOPENKIN S.S.<sup>1,3</sup>, BORODIN Yu.P.<sup>1,2,3</sup>  
<sup>1</sup>*Lebedev Physical Institute of the RAS, Moscow*  
<sup>2</sup>*Moscow State University of Geodesy and Cartography «MIIGAiK»*  
<sup>3</sup>*MIREA – Russian Technological University, Moscow*  
**Influence of waveguide manufacturing errors on image quality in HMD on waveguide holograms**
110. GANZHERLI N.M., GULYAEV S.N.<sup>1</sup>, ILYUSHINA D.A.<sup>1</sup>, MAURER I.A.  
*Ioffe Physical-Technical Institute of the RAS, Saint-Petersburg*  
<sup>1</sup>*Peter the Great Saint-Petersburg Polytechnic University*  
**Using a counter-directional scheme for registering a phase-relief surface holographic structure**
111. SOSHNIKOV D.V.<sup>1,2</sup>, DOSKOLOVICH L.L.<sup>1,2</sup>, PORFIREV A.P.<sup>1,2</sup>  
<sup>1</sup>*Image Processing Systems Institute – Branch of the Federal Scientific Research Centre “Crystallography and Photonics”, Samara*  
<sup>2</sup>*Samara National Research University*  
**Gradient method of cascaded doe design and its application in the problem of image classification**

112. CHERNYKH A.V.<sup>1</sup>, PETROV N.V.<sup>1,2</sup>, EZERSKII A.S.<sup>1</sup>, TSIPLAKOVA E.G.<sup>1</sup>, RAKOV I.I.<sup>3</sup>, RAGINOV N.I.<sup>3</sup>, KRASNIKOV D.V.<sup>3</sup>, RADIVON A.V.<sup>4</sup>, KATYBA G.M.<sup>4</sup>, BURDANOVA M.G.<sup>4</sup>  
<sup>1</sup>ITMO University, Saint-Petersburg  
<sup>2</sup>Harbin Engineering University, Qingdao, China  
<sup>3</sup>Skolkovo Institute of Science and Technology  
<sup>4</sup>Moscow Institute of Physics and Technology (National Research University), Dolgoprudny  
**Improving the efficiency of spiral zone plates for generation of vortex terahertz beams**
113. IVANOV P.A.  
Yaroslavl State Technical University  
**Generalized constraint correlation filter in problems of distorted images recognition**
114. STSEPURO N.G., KOVALEV M.S., MINIKHANOV T.Z.<sup>1</sup>, ZLOKAZOV E.Yu.<sup>1</sup>  
Lebedev Physical Institute of the RAS, Moscow  
<sup>1</sup>National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)  
**Measuring wave aberrations using a holographic image correlator**
115. IBRAGIMOVA E.I., PAVLOV I.N.  
National Research University «Moscow Power Engineering Institute»  
**Artifact extraction on images obtained by scanning near-field optical microscopy method**
116. MANUCHAROV D.R., PAVLOV P.V., VLADIMIROV A.P.<sup>1,2</sup>  
Air Force Academy named after prof. N.E. Zhukovsky and Yu.A. Gagarin, Voronezh  
<sup>1</sup>Institute of Engineering Science of Ural Branch of the RAS, Yekaterinburg  
<sup>2</sup>Federal Research Institute of Viral Infections "Virom" of Rosпотребнадзор, Yekaterinburg  
**Method for determining biological contamination of aviation fuel by digital speckle photography method**
117. PROHORENKOV N.O., VOLYNSKY M.A.  
ITMO University, Saint-Petersburg  
**Investigation of phase artifacts in colour digital Fresnel holograms**
118. SVISTUNOV A.S., RYMOV D.A., KOZLOV A.V., STARIKOV R.S., CHEREMKHIN P.A.  
National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)  
**Improving reconstruction quality of images from the holograms recorded under different illumination using neural networks**
119. BEKHTIN Yu.S., ELMANOV A.V.  
Ryazan State Radio Engineering University named after V.F. Utkin  
**Image restoration with point spread function regularization and active learning**
120. OVCHINNIKOV A.S., KRASNOV V.V., RYMOV D.A., SHIFRINA A.V., CHEREMKHIN P.A., STARIKOV R.S.  
National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)  
**Improving decryption image quality using neural networks and post-processing in optical encryption under spatially-incoherent illumination**

Posters 1

Wednesday, January 24, 2024, 12.00

Room G-401

121. GAVRUSHKO V.V., KADRIEV O.R., LASTKIN V.A.<sup>1</sup>  
Yaroslav-the-Wise Novgorod State University  
<sup>1</sup>OJSK «Planeta-OKB», Veliky Novgorod  
**Silicon differential photodetectors technology, characteristics, application**
122. GORYAEV M.A.  
Herzen State Pedagogical University of Russia, Saint-Petersburg  
**Dye influence on the photo-EMF in the n- and p-type silicon**
123. AIMUKHANOV A.K., SEISEMBEKOVA T.E., TOLEGEN N.  
Buketov Karaganda University, Kazakhstan  
**Photoelectric characteristics of ZnO in various alcohol solvents**
124. VESELOVA V.O.<sup>1</sup>, DUDKINA T.D., VOLODIN V.D.<sup>2</sup>, EGORYSHEVA A.V.<sup>1</sup>  
National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)  
<sup>1</sup>Kurnakov Institute of General and Inorganic Chemistry of the RAS, Moscow  
<sup>2</sup>Vernadsky Institute of Geochemistry and Analytical Chemistry of the RAS, Moscow  
**Thin-film alpha-particle detector based on Bi<sub>4</sub>Ge<sub>3</sub>O<sub>12</sub>**
125. KASHINA R.R., DEMIDOV V.V.<sup>1</sup>, NIKONOROV N.V.  
ITMO University, Saint-Petersburg  
<sup>1</sup>S.I. Vavilov State Optical Institute, Saint-Petersburg  
**Er/Yb doped nanocomposites combination for the formation of thin film coatings inside a hollow anti-resonance optical fiber**
126. ABEUOV D.R., ROZHKOVA X.S., AIMUKHANOV A.K.  
Buketov Karaganda University, Kazakhstan  
**Influence of WS<sub>2</sub> nanoparticles on optical properties of PEDOT:PSS nanocomposite films**
127. KORNEEVA A.A., BYKOV A.A., ZININ P.V.  
Scientific and Technological Center of Unique Instrumentation of the RAS, Moscow  
**Application of diamond-like coatings obtained by laser deposition**
128. GANGO S.E.<sup>1</sup>, NAGOVITSYN K.M.<sup>2</sup>, PANKOVA S.V.<sup>1</sup>, SOLOVYEV V.G.<sup>1,3</sup>  
<sup>1</sup>Pskov State University  
<sup>2</sup>Synthesis Technology Ltd, Moglino, Pskov region  
<sup>3</sup>S.M. Budyonny Military Academy of the Signal Corps, Saint-Petersburg  
**On the possibility of using spectral ellipsometry in investigations of optical properties of synthetic diamonds**
129. VOITSEKHOVSKII A.V.<sup>1</sup>, DZYADUKH S.M.<sup>1</sup>, GORN D.I.<sup>1</sup>, DVORETSKY S.A.<sup>1,2</sup>, MIKHAILOV N.N.<sup>1,2</sup>, SIDOROV G.Yu.<sup>2</sup>, YAKUSHEV M.V.<sup>2</sup>  
<sup>1</sup>National Research Tomsk State University  
<sup>2</sup>Rzhanov Institute of Semiconductor Physics of SB RAS, Novosibirsk  
**Effect of constant illumination on the electrical characteristics of nB(SL)n structures based on HgCdTe**
130. MUSSABEKOVA A.K., AIMUKHANOV A.K., ZHAKANOVA A.M., KABDIYEVA A.U.  
Buketov Karaganda University, Kazakhstan  
**Influence of thermal annealing on the morphology and structure of SnO<sub>2</sub> films**



131. VASILYUK G.T., KARPACH P.V., MASKEVICH A.A., GLEBOVICH T.S., AYT A.O.<sup>1</sup>, VENIDIKTOVA O.V.<sup>1</sup>, VALOVA T.M.<sup>1</sup>, MASKEVICH S.A.<sup>2</sup>  
*Yanka Kupala State University, Grodno, Belarus*  
<sup>1</sup>Photochemistry Center of FSRC «Crystallography and Photonics» of the RAS, Moscow  
<sup>2</sup>International Sakharov Environmental Institute of Belarusian State University, Minsk  
**Electronic structure of a photochromic diarylethenes series**
132. MUSSABEKOVA A.K., AIMUKHANOV A.K., ZIYAT A.Z., MUSSABEK N.K.  
*Buketov Karaganda University, Kazakhstan*  
**Influence of thermal annealing parameters of SnO<sub>2</sub> films on the photovoltaic characteristics of organic solar cells**
133. KARPACH P.V., VASILYUK G.T., AYT A.O.<sup>1</sup>, GORELIK A.M.<sup>1</sup>, MASKEVICH S.A.<sup>2</sup>  
*Yanka Kupala State University, Grodno, Belarus*  
<sup>1</sup>Photochemistry Center of FSRC «Crystallography and Photonics» of the RAS, Moscow  
<sup>2</sup>International Sakharov Environmental Institute of Belarusian State University, Minsk  
**Effectiveness of fluorescence modulation of photochromic nanocomposites based on quantum dots and chromenes**
134. TAZHIBAYEV S.K., BEISEMBEKOV M.K., BOKANOVA A.A., BERIK A.A.  
*Buketov Karaganda University, Kazakhstan*  
**Investigation of the effect of metallophthalocyanine film thickness on optical characteristics**
135. BEZRUKOV P.A.<sup>1</sup>, PESNYAKOV V.V.<sup>1</sup>, NASHEKIN A.V.<sup>2</sup>, SIDOROV A.I.<sup>1,3</sup>, NIKONOROV N.V.<sup>1</sup>  
<sup>1</sup>ITMO University, Saint-Petersburg  
<sup>2</sup>Ioffe Physical-Technical Institute of the RAS, Saint-Petersburg  
<sup>3</sup>Saint-Petersburg State Electrotechnical University «LETI»  
**Photocatalytic quantum efficiency of water splitting by fractal AgI nanostructures**
136. MARASANOV D.V., PESNYAKOV V.V., SARATOVSKII A.S., SGIBNEV Ye.M., NIKONOROV N.V.  
*ITMO University, Saint-Petersburg*  
**Influence of sodium bromide concentration on the photocatalytic properties of Ag-AgBr nanostructures in ion-exchanged layers of sodium silicate glass**
137. SHEREMET V.G., BABKINA A.N., ZYRYANOVA K.S., KUZMENKO N.K.  
*ITMO University, Saint-Petersburg*  
**Investigation of the influence of boron oxide concentration on the structure of alkali-alumina-borate glass-ceramics with chromium**
138. MIKHAREV E.A.<sup>1</sup>, LUNEV A.Yu.<sup>1</sup>, SIDOROV A.I.<sup>1,2</sup>  
<sup>1</sup>Saint-Petersburg State Electrotechnical University «LETI»  
<sup>2</sup>ITMO University, Saint-Petersburg  
**Optically active microspheres with whispering gallery modes from silicate glass with silver molecular clusters for sensory applications**
139. LUNEV A.Yu.<sup>1</sup>, MIKHAREV E.A.<sup>1</sup>, SIDOROV A.I.<sup>1,2</sup>  
<sup>1</sup>Saint-Petersburg State Electrotechnical University «LETI»  
<sup>2</sup>ITMO University, Saint-Petersburg  
**Numerical simulation of the influence of pump power on dispersion of a phosphate glass microspherical resonator doped with Er<sup>3+</sup> in the NIR region**
140. BULYGA D.V.<sup>1,2</sup>, EVSTROPIEV S.K.<sup>1,2,3</sup>, DEMIDOV V.V.<sup>1</sup>, DUKELSKY K.V.<sup>1</sup>  
<sup>1</sup>S.I. Vavilov State Optical Institute, Saint-Petersburg  
<sup>2</sup>ITMO University, Saint-Petersburg  
<sup>3</sup>Saint-Petersburg State Technological Institute (Technical University)  
**Study on the influence of additional annealing on the defect structure of quartz glass using the luminescence spectroscopy**
141. LOSIN A.L., BABKINA A.N., KHARISOVA R.D., ZYRYANOVA K.S., DOLGOPOLOV A.D., SERGEEV M.M.  
*ITMO University, Saint-Petersburg*  
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221. MARKVART A.A., SEDOV N.S., LIOKUMOVICH L.B., USHAKOV N.A.  
Peter the Great Saint-Petersburg Polytechnic University  
**Resolution of the Fabry-Perot fiber-optic interferometer with increased reflection coefficients**
222. ZHUKOVSKY D.D., KAZANTSEV S.Yu., PCHELKINA N.V.  
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**Laboratory stand for studying the influence of controlled optical perturbations on the characteristics of a quantum communication channel in free space**

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223. EGAMOV M.Kh., MAKHSUDOV B.I.<sup>1</sup>  
Khujand Scientific Center of the Academy of Sciences of the Republic of Tajikistan  
<sup>1</sup>Tajik National University, Dushanbe, Republic of Tajikistan  
**Self-focusing effect induced by a low-power laser in liquid crystals with hybrid reorientation**
224. PEREVOSHCHIKOV D.A., KALUGIN A.I., ANTONOV E.A.  
Udmurt Federal Research Center of UB RAS, Izhevsk  
**Band structures and optical properties of A<sup>N</sup>B<sup>8-N</sup> crystals**
225. SUKHANOV A.E., GALUTSKIY V.V.  
Kuban State University, Krasnodar  
**Features of signal modulation in an electro-optical modulator based on a gradient crystal**
226. KOSTRITSKII S.M., FEDOROV V.A., SEVOSTYANOV O.G.<sup>1</sup>, CHIRKOVA I.M.<sup>1</sup>  
RPC Optolink Ltd, Zelenograd  
<sup>1</sup>Kemerovo State University  
**Electro-optic effect in channel Li<sub>1-x</sub>H<sub>x</sub>NbO<sub>3</sub> waveguides**
227. SAVCHENKOV E.N., DUBIKOV A.V., SHANDAROV S.M., BURIMOV N.I., BELSKAYA D.E., SHUR V.Ya.<sup>1</sup>, AKHMATKHANOV A.R.<sup>1</sup>, CHUVAKOVA M.A.<sup>1</sup>  
Tomsk State University of Control Systems and Radioelectronics  
<sup>1</sup>Ural State University, Ekaterinburg  
**Bragg diffraction of an elliptical gaussian beam on a regular domain structure in a lithium niobate crystal**

228. KADETOVA A.V.<sup>1,2</sup>, TOKKO O.V.<sup>1</sup>, PRUSSKII A.I.<sup>1</sup>, PALATNIKOV M.N.<sup>2</sup>  
<sup>1</sup>Petrozavodsk State University  
<sup>2</sup>I.V. Tananaev Institute of Chemistry and Technology of Rare Elements and Mineral Raw Materials of FRC Kola Science Center of the RAS, Apatity, Murmansk region  
**Effect of double doping on structural characteristics and concentration of intrinsic defects in lithium niobate**
229. BOBREVA L.A., SIDOROV N.V., PALATNIKOV M.N., PYATYSHEV A.Yu.<sup>1</sup>  
I.V. Tananaev Institute of Chemistry and Technology of Rare Elements and Mineral Raw Materials of FRC Kola Science Center of the RAS, Apatity, Murmansk region  
<sup>1</sup>Lebedev Physical Institute of the RAS, Moscow  
**Features of defect structure of single crystals LiNbO<sub>3</sub>:Tb**
230. KOZLOV A.A.<sup>1,2</sup>, MOSKALEV D.N.<sup>1,2</sup>, SALGAEVA U.O.<sup>2</sup>, ZHURAVLEV V.A.<sup>1,2</sup>, KRISHTOP V.V.<sup>1,2,3</sup>, VOLYNTSEV A.B.<sup>2</sup>  
<sup>1</sup>Perm Scientific-Industrial Instrument Making Company  
<sup>2</sup>Perm National Research State University  
<sup>3</sup>Perm National Research Polytechnic University  
**Depth profile of ion-sputtering rate of thin film lithium niobate**
231. TITOV R.A., SMIRNOV M.V., BOBREVA L.A., TEPLYAKOVA N.A., SIDOROV N.V., PALATNIKOV M.N.  
I.V. Tananaev Institute of Chemistry and Technology of Rare Elements and Mineral Raw Materials of FRC Kola Science Center of the RAS, Apatity, Murmansk region  
**Comparative studies of the optical properties of LiNbO<sub>3</sub>:Zn:Mg single crystals obtained by different technologies**
232. NABILKOVA A.O., GUSELNIKOV M.S., OPARIN E.N., MELNICK M.V., TCYPKIN A.N., KOZLOV S.A.  
ITMO University, Saint-Petersburg  
**Investigation of transmission bistability of high-intense terahertz radiation by a nonlinear "mirrorless" Fabry-Perot interferometer based on LiNbO<sub>3</sub>**
233. SMIRNOV M.V., SIDOROV N.V., PALATNIKOV M.N., SHCHERBINA O.B., PIKULEV V.B.<sup>1</sup>  
I.V. Tananaev Institute of Chemistry and Technology of Rare Elements and Mineral Raw Materials of FRC Kola Science Center of the RAS, Apatity, Murmansk region  
<sup>1</sup>Petrozavodsk State University  
**The appearance of photo-induced effects in photoluminescence spectra of lithium niobate crystal and ceramics**
234. UMAROV M.F.  
Vologda State University  
**Analysis of photoluminescence spectra for recognition of bioactive drugs**
235. TOKKO O.V.<sup>1</sup>, KADETOVA A.V.<sup>1,2</sup>, PETROVA S.V.<sup>1</sup>, PALATNIKOV M.N.<sup>2</sup>, TEPLYAKOVA N.A.<sup>2</sup>  
<sup>1</sup>Petrozavodsk State University  
<sup>2</sup>I.V. Tananaev Institute of Chemistry and Technology of Rare Elements and Mineral Raw Materials of FRC Kola Science Center of the RAS, Apatity, Murmansk region  
**Defect structure and optical characteristics of lithium niobate crystals doped with cerium**
236. NABILKOVA A.O., MELNICK M.V., ISMAGILOV A.O., ARTSER I.R., TCYPKIN A.N., KOZLOV S.A.  
ITMO University, Saint-Petersburg  
**Modified Z-scan method for studying giant nonlinearities in the terahertz frequency range**
237. UMAROV M.F.  
Vologda State University  
**Features of isofrequency spectra of combined light scattering of strontium niobium barium crystals**
238. PIKOUL O.Yu., SIDOROV N.V., TEPLYAKOVA N.A.<sup>1</sup>, PALATNIKOV M.N.<sup>1</sup>  
Far Eastern State Transport University, Khabarovsk  
<sup>1</sup>I.V. Tananaev Institute of Chemistry and Technology of Rare Elements and Mineral Raw Materials of FRC Kola Science Center of the RAS, Apatity, Murmansk region  
**Study of KTP crystal by laser conoscopy and photo-induced light scattering methods**
239. DYU V.G., KISTENEVA M.G., SHANDAROV S.M., TSYKALOVA A.V., MURASHKIN V.V., KARGIN Yu.F.<sup>1</sup>  
Tomsk State University of Control Systems and Radioelectronics  
<sup>1</sup>Baikov Institute of Metallurgy and Material Sciences of the RAS, Moscow  
**Photoinduced absorption spectra in Bi<sub>2</sub>TiO<sub>20</sub>:Zn,P crystal**
240. DAVYDOUSKAYA V.V., FEDOROVA A.V.  
Mozyr State Pedagogical University named after I.P. Shamyakin, Belarus  
**Implementation of energy transfer between in-phase beams in a photorefractive SBN crystal**
241. MARINICHEVA K.A., IVANOVA A.I., KAPLUNOV I.A., EGOROVA K.A., TRETIKOV S.A., IVANOV A.M., RAKUNOV P.A.  
Tver State University  
**Influence of magnetic field on the optical properties of semiconductor crystals**
242. KUZMIN N.N.<sup>1,2</sup>, BOLDYREV K.N.<sup>1</sup>, MALTSEV V.V.<sup>2</sup>, MIKLIAEVA E.P.<sup>3</sup>  
<sup>1</sup>Institute for Spectroscopy of the RAS, Troitsk  
<sup>2</sup>Lomonosov Moscow State University  
<sup>3</sup>Geological Institute of the RAS, Moscow  
**Synthesis, optical and magnetic properties of double borate HoCr<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub>**
243. SUBBOTIN K.A.<sup>1,2</sup>, ZIMINA Yu.I.<sup>1,2</sup>, DIDENKO Ya.S.<sup>1,2</sup>, TITOV A.I.<sup>1,2</sup>, ISHAKOVA L.I.<sup>1</sup>, LIS D.A.<sup>1</sup>, PAVLOV S.K.<sup>1,2</sup>, KULESHOVA K.V.<sup>1,2</sup>, LOIKO P.A.<sup>3</sup>, ELABEDINE G.Z.<sup>4</sup>, NADI A.<sup>3</sup>, CAMY P.<sup>3</sup>, BRAUD. A.<sup>3</sup>, SOLÉ R.M.<sup>4</sup>, AGUILÓ M.<sup>4</sup>, DÍAZ F.<sup>4</sup>, MATEOS X.<sup>4</sup> P.A.  
<sup>1</sup>Prokhorov General Physics Institute of the RAS, Moscow  
<sup>2</sup>Mendeleev University of Chemical Technology of Russia, Moscow  
<sup>3</sup>Centre for Researches of Ions, Materials and Photonics, Caen, France  
<sup>4</sup>University Rovira i Virgili, Tarragona, Spain  
**Growth, structure and spectroscopy of laser crystal MgMoO<sub>4</sub> doped by Yb<sup>3+</sup> ions**
244. SEMENOVA L.E.  
Prokhorov General Physics Institute of the RAS, Moscow  
**Theoretical study of resonant scattering under two-photon excitation in a CdS crystal**
245. MOLCHANOVA A.D.<sup>1</sup>, DIAB M.O.<sup>1,2</sup>, POPOVA M.N.<sup>1</sup>, BOLDYREV K.N.<sup>1</sup>  
<sup>1</sup>Institute for Spectroscopy of the RAS, Troitsk  
<sup>2</sup>Moscow Institute of Physics and Technology (National Research University), Dolgoprudny  
**Luminescent spectroscopy of YAl<sub>3</sub>(BO<sub>3</sub>)<sub>4</sub>:Cr crystal**

246. ZIMINA Yu.I.<sup>1,2</sup>, SUBBOTIN K.A.<sup>1,2</sup>, TITOV A.I.<sup>1,2</sup>, LIS D.A.<sup>1</sup>, DIDENKO Ya.S.<sup>1,2</sup>, KULESHOVA K.V.<sup>1,2</sup>, LOIKO P.A.<sup>3</sup>, ELABEDINE G.Z.<sup>4</sup>, ZHONGBEN P.<sup>5</sup>, NADI A.<sup>3</sup>, CAMY P.<sup>3</sup>, BRAUD. A.<sup>3</sup>, SOLÉ R.M.<sup>4</sup>, AGUILÓ M.<sup>4</sup>, DÍAZ F.<sup>4</sup>, CHEN W.<sup>6</sup>, MATEOS X.<sup>4</sup>, PETROV V.<sup>6</sup>  
<sup>1</sup>Prokhorov General Physics Institute of the RAS, Moscow  
<sup>2</sup>Mendeleev University of Chemical Technology of Russia, Moscow  
<sup>3</sup>Centre for Researches of Ions, Materials and Photonics, Caen, France  
<sup>4</sup>University Rovira i Virgili, Tarragona, Spain  
<sup>5</sup>Shandong University, Jinan, China, China  
<sup>6</sup>Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy, Berlin, Germany  
**Investigations of a new laser crystal ZnWO<sub>4</sub> doped by Tm<sup>3+</sup> ions**
247. PAVLOV V.I.<sup>1,2</sup>  
<sup>1</sup>All-Russian Scientific Research Institute of Physical-Technical and Radiotechnical Measurements, Mendeleev, Moscow region  
<sup>2</sup>Lomonosov Moscow State University  
**In search of the optimal temperature point for a hot magnesium fluoride microresonator**
248. USHAKOV F.A.<sup>1,2</sup>, GATATDINOV A.R.<sup>1,2</sup>, PAVLOV V.I.  
<sup>1</sup>All-Russian Scientific Research Institute of Physical-Technical and Radiotechnical Measurements, Mendeleev, Moscow region  
<sup>2</sup>National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)  
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249. SEKTAROV E.S.<sup>1,2</sup>, KHOMICH A.A.<sup>3</sup>, BOLSHAKOV A.P.<sup>3</sup>, SEDOV V.S.<sup>3</sup>, RALCHENKO V.G.<sup>3</sup>, BOLDYREV K.N.<sup>1</sup>  
<sup>1</sup>Institute for Spectroscopy of the RAS, Troitsk  
<sup>2</sup>National Research University «Higher School of Economics», Moscow  
<sup>3</sup>Prokhorov General Physics Institute of the RAS, Moscow  
**Influence of annealing on color centers in diamond**
250. MEDNIKOV S.V., ZHUKOV S.S.<sup>1</sup>  
<sup>1</sup>Volgograd State Technical University  
<sup>1</sup>Moscow Institute of Physics and Technology (State University), Dolgoprudny  
**Solvatochromic effect in the vicinity ferroelectric phase transition in ferroelectric TGS**
251. KORNILICYN A.R., KUNEVA M.<sup>1</sup>, MOLOLKIN A.A.<sup>2</sup>, SOSUNOV A.V.  
<sup>1</sup>Perm State National Research University  
<sup>1</sup>Institute of Solid State Physics Bulgarian Academy of Sciences, Sofia, Bulgaria  
<sup>2</sup>National University of Science and Technology «MISIS», Moscow  
**Optical waveguides in mixed ferroelectric single crystals**
252. BEZUS J.A., RYBALK A.Ye., RUMYANTSEV V.V., FEDOROV S.A.  
<sup>1</sup>Galkin Donetsk Institute for Physics and Engineering  
**Propagation of light in an imperfect superlattice Si-liquid crystal**
253. KHALYAPIN V.A.<sup>1,2</sup>, BUGAY A.N.<sup>3</sup>  
<sup>1</sup>Kaliningrad State Technical University  
<sup>2</sup>Immanuel Kant Baltic Federal University, Kaliningrad  
<sup>3</sup>Joint Institute of Nuclear Researches, Dubna  
**Modes of filament distribution in the air**
254. PETROV N.I.  
<sup>1</sup>Scientific and Technological Center of Unique Instrumentation of the RAS, Moscow  
**Focusing of partially coherent bessel-correlated beams by a graded-index lens**
255. MAKSIMOV D.V., BOGUSLAVSKAYA-GAPESHINA A.A., YAKUBOV S.I., HALILOV S.I., BRETSCO M.V.  
<sup>1</sup>V.I. Vernadsky Crimean Federal University, Simferopol  
**OAM transformation of astigmatic structured Laguerre-Gaussian beams**
256. BOGUSLAVSKAYA-GAPESHINA A.A., MAKSIMOV D.V., YAKUBOV S.I., HALILOV S.I., BRETSCO M.V.  
<sup>1</sup>V.I. Vernadsky Crimean Federal University, Simferopol  
**Polarized structure of vector structured Laguerre-Gaussian beams**
257. PETROV N.I., SOKOLOV Yu.M., STOIAKIN V.V., DANILOV V.A., POPOV V.V.<sup>1</sup>  
<sup>1</sup>Scientific and Technological Center of Unique Instrumentation of the RAS, Moscow  
<sup>1</sup>Lomonosov Moscow State University  
**Angular Imbert-Fedorov shift near the surface plasmon resonance in subwavelength gratings**
258. BARANOV M.A., GORLACH M.A.  
<sup>1</sup>ITMO University, Saint-Petersburg  
**Bianisotropic response of multilayered structure with rotating anisotropy axis**
259. TYUTKOV V.S., VASHUKEVICH E.A.  
<sup>1</sup>Saint-Petersburg State University  
**Entanglement formation in hybrid atomic-field high-dimensional systems for quantum computing in discrete variables**
260. DZEDOLIK I.V.  
<sup>1</sup>V.I. Vernadsky Crimean Federal University, Simferopol  
**Plasmonic logic gates based on carbon nanotubes**
261. SINGH R.<sup>1</sup>, TERETENKOV A.E.<sup>2</sup>  
<sup>1</sup>Self-employed researcher, Domodedovo  
<sup>2</sup>Steklov Mathematical Institute of the RAS, Moscow  
**Quantum sensitivity of squeezed Schrodinger cat state**
262. KUZNETSOVA K.R., BAEVA A.V., VASHUKEVICH E.A.  
<sup>1</sup>Saint Petersburg State University  
**Grover's algorithm: implementation and quantum systems**
263. YAKUSHENKOV P.O.  
<sup>1</sup>Lebedev Physical Institute of the RAS, Moscow  
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264. POLETAEV D.A., SOKOLENKO B.V.  
<sup>1</sup>V.I. Vernadsky Crimean Federal University, Simferopol  
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265. DENISOV D.G.  
*Bauman Moscow State Technical University*  
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266. TERLO Ya.V., VOZNESENSKAYA A.O.  
*ITMO University, Saint-Petersburg*  
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267. BUDNEV V.A., PROSOVSKIY O.F., ISAMOV A.N., PROSOVSKIY Yu.O., SMOL'YANINOV V.A.  
*Obninsk Research and Production Enterprise Tekhnologiya, Kaluga Region*  
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*Bonch-Bruевич Saint-Petersburg State University of Telecommunications*  
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269. LAVROV A.P., IVANOV S.I.  
*Peter the Great Saint-Petersburg Polytechnic University*  
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270. BUSURIN V.I., KOROBKOV K.A., ZAW L.H.  
*Moscow Aviation Institute (National Research University)*  
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271. SAGATELYAN H.R., PISKUNOVA E.R., KUZNETSOV A.S., SOLOMASHENKO A.B.  
*Bauman Moscow State Technical University*  
**Technological support of geometric characteristics of precision optical parts by abrasive finishing methods**
272. TSAREVA A.M., SHAKIROV N.I., IVANOVA A.A., ERGASHEVA O.V., MAKAEVA R.Kh.  
*Kazan National Research Technical University named after A.N. Tupolev – KAI*  
**Application of the results of round plates' holographic tests in the resonant oscillations analysis of engineering products' impellers**
273. PAVLENKO D.V., PETROVA E.K., STARIKOV R.S.  
*National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)*  
**Correlation peak shape control for MACE filters**
274. BATASHOVA S.S.<sup>1</sup>, ZOLOTUKHINA A.A.<sup>2,3</sup>, GURYLEVA A.V.<sup>1,2</sup>, MACHIKHIN A.S.<sup>2,3</sup>  
<sup>1</sup>*Bauman Moscow State Technical University*  
<sup>2</sup>*Scientific and Technological Center of Unique Instrumentation of the RAS, Moscow*  
<sup>3</sup>*National Research University «Moscow Power Engineering Institute»*  
**Correlation of spectrophotometric, hyperspectral and fluorimetric measurements of chlorophyll content in plant leaves**
275. EGORCHENKOV N.A., PAVLOV I.N., RASKOVSKAYA I.L.  
*National Research University "Moscow Power Engineering Institute"*  
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276. CHERESHNEV V.O., PROSKURIN S.G.  
*Tambov State Technical University*  
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277. VOLCOV V.G., GINDIN P.D., KARPOV V.V., KUZNETSOV S.A.  
*JSC «Moscow Plant «SAPHIR»*  
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278. KOROBKOV M.A., ZAJKIN V.D., DEMIDOV A.S., KHOMUTSKAYA O.V.  
*Moscow Aviation Institute (National Research University)*  
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279. KRUGLOV S.K., LUPIN A.V.  
*Peter the Great Saint-Petersburg Polytechnic University*  
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280. VOLCOV V.G., GINDIN P.D., KARPOV V.V., KUZNETSOV S.A.  
*JSC «Moscow Plant «SAPHIR»*  
**Three-channel pulsed laser illuminator**
281. BALAN N.N.<sup>1,2</sup>, VASIN A.A.<sup>1,2</sup>, IVANOV V.V.<sup>1</sup>, PANKRATOV A.L.<sup>1</sup>  
<sup>1</sup>*Molecular Electronics Research Institute, Zelenograd*  
<sup>2</sup>*Moscow Institute of Physics and Technology (State University), Dolgoprudny*  
**The practical estimation of dose error components in projection photolithography**
282. KOTLIKOV E.N., LAVROVSKAYA N.P., TERESHCHENKO G.V.  
*Saint-Petersburg State University of Aerospace Instrumentation*  
**Interference filter for open flame sensors with compensation of parasitic highlights**
283. BRAZHNIKOV M.K., KHATYREV N.P.  
*All-Russian Scientific Research Institute of Physical-Technical and Radiotechnical Measurements, Mendeleevo, Moscow region*  
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284. BUT A.I., LYALIKOV A.M.  
*Yanka Kupala State University, Grodno, Belarus*  
**Feasibility of application of the combined interference-shadow method for investigating defects in laser media and optical elements**
285. TYUNIN A.N., ZHMUROVA D.B., VASETSKIY S.O., BELYAKOV V.V., ZHEGLOV M.A., SHTEK S.G.  
*State Research Institute of Instrument Making, Moscow*  
**Investigation of frequency splitting of the resonator wave solid-state gyroscope using a Michelson interferometer**
286. AVLASEVICH N.T., LYALIKOV A.M.  
*Yanka Kupala State University, Grodno, Belarus*  
**Influence of adjusting reference bands on the valuation of residual aberrations in restored interferograms**



287. EMELYANOV P.N., ZABELIN A.V., SOMOV A.A., TELESHEVSKI V.I.  
*Moscow State University of Technology (Stankin)*  
**Function for white light interferogram computer simulation**
288. BELASHOV A.V., ZHIKHOREVA A.A., BUTORIN P.S., SEMENOV A.A., BELTYUKOVA D.M., SEMENOVA I.V., VASUTINSKII O.S.  
*Ioffe Physical-Technical Institute of the RAS, Saint-Petersburg*  
**Comparative analysis of quantitative phase imaging of living cells using coherent and partially coherent radiation**
289. MAKSIMOVA L.A.<sup>1</sup>, RYABUKHO V.P.<sup>1,2</sup>  
<sup>1</sup>*Institute of Precision Mechanics and Control of the RAS, Saratov*  
<sup>2</sup>*National Research Saratov State University named after N.G. Chernyshevsky*  
**Transverse spatial coherence of a quasi-monochromatic wave field with a wide spatial spectrum: numerical simulation**
290. RADNATAROV D.A.<sup>1</sup>, KOZMINA P.V.<sup>1</sup>, GROMOV I.V.<sup>1</sup>, SEREBRENNIKOV K.V.<sup>1</sup>, KOKHANOVSKY A.Yu.<sup>1,2</sup>, KOBTSEV S.M.<sup>1</sup>  
<sup>1</sup>*Novosibirsk State University*  
<sup>2</sup>*ITMO University, Saint-Petersburg*  
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291. NEZHEVENKO S.S., EZHOVA K.V.  
*ITMO University, Saint-Petersburg*  
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292. KHARITONOV D.Yu., KUZNETSOV A.A.  
*Kazan National Research Technical University named after A.N. Tupolev – KAI*  
**Software tools for modeling the mach-zender modulator**
293. DYACHENKO A.A.<sup>1</sup>, RYABUKHO V.P.<sup>1,2</sup>  
<sup>1</sup>*National Research Saratov State University named after N.G. Chernyshevsky*  
<sup>2</sup>*Institute of Precision Mechanics and Control of the RAS, Saratov*  
**Formation of the frequency spectrum of the interference field of layered microobjects in optical microscopy**
294. ZHIKHOREVA A.A., BELASHOV M.V.<sup>1</sup>, BUTORIN P.S., BELASHOV A.V., SEMENOVA I.V., VASUTINSKII O.S.  
*Ioffe Physical-Technical Institute of the RAS, Saint-Petersburg*  
<sup>1</sup>*ITMO University, Saint-Petersburg*  
**Investigation of the optical properties of polystyrene-based fluorescent microspheres using optical spectroscopy and digital holography**
295. EZERSKII A.S.<sup>1</sup>, CHERNYKH A.V.<sup>1</sup>, PETROV N.V.<sup>1,2</sup>  
<sup>1</sup>*ITMO University, Saint-Petersburg*  
<sup>2</sup>*Harbin Engineering University, Qingdao, China*  
**Elimination of radial defects in axial holograms obtained in a digital holographic microscope based on a geometric phase lens**
296. NAUNYKA V.N., BLOTSKAYA D.S., KULAK G.V., SHANDAROV S.M.<sup>1</sup>  
*Mozyr State Pedagogical University named after I.P. Shamyakin, Belarus*  
<sup>1</sup>*Tomsk State University of Control Systems and Radioelectronics*  
**Modulation of dielectric permittivity of InP:Fe crystal by holographic recording**
297. RASTRYGIN D.S., SHARANGOVICH S.N.  
*Tomsk State University of Control Systems and Radioelectronics*  
**Multiplexed holographic PPM-LC diffraction structures with various period**
298. KULAK G.V., NAUNYKA V.N., NIKOLAENKO T.V.  
*Mozyr State Pedagogical University named after I.P. Shamyakin, Belarus*  
**Polarization features of anisotropic bragg diffraction of light by transmission holographic phase gratings**
299. KULAK G.V., NAUNYKA V.N., NIKOLAENKO T.V.  
*Mozyr State Pedagogical University named after I.P. Shamyakin, Belarus*  
**Polarization features of bragg diffraction of light by reflection holographic phase gratings**
300. GANZHERLI N.M.  
*Ioffe Physical-Technical Institute of the RAS, Saint-Petersburg*  
**Effect of interference in thin films on diffraction efficiency of holograms**
301. AVLASEVICH N.T., LYALIKOV A.M.  
*Yanka Kupala State University, Grodno, Belarus*  
**Restoration of the interference pattern when using holograms of periodic structures recorded in incoherent light**
302. DOLGIREV V.O., SHARANGOVICH S.N.  
*Tomsk State University of Control Systems and Radioelectronics*  
**Transformation of polarization characteristics of light beams by electrically controlled multiplexed chirped PPM-LC diffraction structures**
303. DZHAMANKYZOV N.K., ISMANOV Yu.H.  
*Institute of Physics of NAS KR, Bishkek, Kyrgyz republic*  
**Heating of photothermal materials in a laser field**
304. MAHILNY U.V.<sup>1</sup>, KHRAMTSOV E.A.<sup>1,2</sup>, SHKADAREVICH A.P.<sup>2</sup>  
<sup>1</sup>*Belarusian State University, Minsk*  
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305. ISMANOV Yu.H., DZHAMANKYZOV N.K., ALYMKULOV S.A.  
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306. SHISHOVA M.V., SOLOMASHENKO A.B., AFANASEVA O.L., MARKIN V.V., LUSHNIKOV D.S.  
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307. TYNYSHOVA T.D., ISMANOV Yu.H.<sup>1</sup>  
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308. PAVLOV A.V., SOLOVEOV N.A.  
*ITMO University, Saint-Petersburg*  
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309. EFREMTSEV V.G.,<sup>1</sup> EFREMTSEV N.G.,<sup>1</sup> TETERIN P.E.,<sup>2</sup> TETERIN E.P.,<sup>3</sup> BONDARENKO A.A.,<sup>4</sup> BAZAVLUK E.S.,<sup>5</sup> MOROZIKHIN A.N.,<sup>2</sup> SKOROBOGACH I.M.<sup>6</sup>  
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**Changes in sensitivity and specificity metrics for lung cancer classification with changes in the number of computed tomograms with Luna16 dataset**
310. KIRIY S.A., RYMOV D.A., RODIN V.G., CHERYOMKHIN P.A., STARIKOV R.S.  
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**Volume scene reconstruction from hologram via generative adversarial neural network**
311. DROZDOV M.K., RYMOV D.A., SVISTUNOV A.S., SHIFRINA A.V., CHEREMKHIN P.A., STARIKOV R.S.  
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**Reconstruction of binary digital data containers from holograms using convolutional neural network**
312. KUZMIN N.A., ARAPOV Yu.D.  
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**The method for reducing the noise component on reconstructed digital holograms using the neural network**
313. VOLKOV A.A., KAZAKOV D.S., MELESHKO A.D., MINIKHANOV T.Z., SVISTUNOV A.S., SHIFRINA A.V., PETROVA E.K., ZLOKAZOV E.Yu.  
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**Measurement of the phase modulation dynamics of the liquid crystal spatial light modulator**
314. NIKITIN N.V., KOZLOV A.V., CHEREMKHIN P.A., RODIN V.G.  
*National Research Nuclear University MEPhI (Moscow Engineering Physics Institute)*  
**Image quality improvement by camera dark noise compensation in Fourier ptychography**