VII International Conference on Ultrafast Optical Science
«UltrafastLight-2023»

Conference program

October 2—4, 2023
P.N. Lebedev Physical Institute, Moscow

AVESTA
LASERS AND OPTICAL SYSTEMS

VII International Conference on Ultrafast Optical Science «UltrafastLight-2023», is the broad-scope, annual international symposium dedicated to the most important aspects of ultrafast phenomena in different fields of natural sciences and engineering.

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Chair Nikolay Kolachevsky (Lebedev Physical Institute)
Vice-chair Andrey Ionin (Lebedev Physical Institute)
Vice-chair Sergey Kudryashov (Lebedev Physical Institute)

Monday, October 2			
9:00	Registration		
Plenary session *(Column hall)*			
09:45	*Conference opening*		
10:00	*A. Dormidonov* «Mid infrared single-cycle light bullets»		
10:45	*E. Tolordava* «Bacterial biofilms and methods of combating them»		
11:30	Coffee break		
12:15	Section 1 «Extreme Light» *(Small hall)* page 7	Section 4 «Diamond photonics» *(Column hall)* page 10	Section 7 «Ultrafast laser technologies in biomedicine» *(Conference hall of QRPD)* page 12
14:30	Lunch		

16:00	Section 1 «Extreme Light» *(Small hall)* pages 8-9	Section 4 «Diamond photonics» *(Column hall)* page 11	Section 7 « Ultrafast laser technologies in biomedicine » *(Conference hall of QRPD)* page 13
Tuesday, October 3			
09:30	Registration		
Plenary session *(Column hall)*			
10:00	*S. Babin* «Advances in femtosecond laser direct writing of fiber Bragg gratings: technology, sensor and laser applications»		
10:45	*A. Soloviev* «Multitera Laser Facility: Concept, Scientific Case, and Perspectives»		
11:30	*Coffee break*		
12:15	Section 2 «Ultrafast phenomena in ionized gases, semiconductors and metals» *(Small hall)* page 14	Section 4 «Diamond photonics» *(Column hall)* page 16	Section 6 «Physics and technology of ultrafast lasers and ultrashort laser pulses» *(Conference hall of QRPD)* page 18
14:30	*Lunch*		

16:00	Section 2 «Ultrafast phenomena in ionized gases, semiconductors and metals» *(Small hall)* page 15	Section 4 «Diamond photonics» *(Column hall)* page 17	Section 6 «Physics and technology of ultrafast lasers and ultrashort laser pulses» *(Conference hall of QRPD*) page 19
Wednesday, October 4			
10:00	Registration		
10:15	Section 2 «Ultrafast phenomena in ionized gases, semiconductors and metals» *(Column hall)* page 20	Section 3 «Ultrafast laser technologies and structured light in micro-optics and nanophotonics» *(Small hall)* page 22	Section 6 «Physics and technology of ultrafast lasers and ultrashort laser pulses» *(Conference hall of QRPD)* page 23
13:00	*Lunch*		
14:00	Section 2 «Ultrafast phenomena in ionized gases, semiconductors and metals» *(Column hall)* page 21		Section 1 «Extreme Light» *(Conference hall of QRPD)* page 24

Plenary session *(Column hall)*	
15:45	*M.E. Darvin* «Non-invasive in vivo application of two-photon tomography in dermatology»
16:30	*S. Popruzhenko* «Radiation-dominated plasma dynamics in multi-petawatt laser beams»
17:20 — 19:00	Poster session + coffee break (2nd floor) pages 25—27

Section 1 «Extreme Light»

Monday, October 2 / (Small Hall)

Session 12:15—14:30**,** Chair: Valery Bychenkov

12:15—12:40

(invited) K. Ivanov «Peculiarities, principles and prospects of bunched electron generation in near-critical plasma with terawatt class high repetition rate lasers»

12:40—13:05

(invited) I. Tsymbalov «Laser generation of accelerated electron beams and neutrons in the plasma of a gas jet shaped by shock waves»

13:05—13:20

M. Veysman «High-energy high-charge electron bunches under direct laser acceleration in a near critical density plasma»

13:20—13:35

V. Kulagin «Generation of attosecond pulses of incoherent X-ray and gamma radiation using a subpetawatt laser and plasma films»

13:35—13:50

E. Starodubtseva «Plasma channel parameters diagnostics by optical plasma radiation in electron acceleration experiment»

13:50—14:05

D. A. Gorlova TBA «Hybrid DLA-LWFA acceleration of electrons in near-critical density plasma»

14:05—14:30

(invited) N.G. Borisenko TBA

Session 16:00—18:45, Chair: Andrey Brantov

16:00—16:25

(invited) N. E. Andreev «High energy particles and gamma rays in relativistic laser-matter interaction»

16:25—16:40

V. Krainov «Acceleration of fast protons in nuclear reactions 11B(p,3a) and 11B(p,n)11C at the intensity of picosecond laser pulses up to 10^19 W/cm^2»

16:40—16:55

R. Arkhipov «Radiation of optical and terahertz unipolar pulses by solitary polarization pulse moving at the superluminal velocity and the velocity of light »

16:55—17:10

N. Bukharskii «Intense source of polarized terahertz radiation based on laser-driven discharge currents»

17:10—17:25

R. Feshchenko «Generation of high harmonics by dipole electromagnetic pulse evolving in vacuum»

17:25—17:40

M. Rakitina «Hydrodynamic simulation of target modifications due to pre-pulse»

17:40—17:50

Coffee break

17:50—18:45 Flash talks

D. Bulanov «Numerical simulation of coherent combining of laser beams in the presence of non-idealities in the dipole focusing system»

A. Castillo Ramirez «On electron acceleration governed by quasi-static fields in laser plasma channel produced by a short relativistically intense laser pulse»

D. Gorlova «Accurate calculation of laser and plasma fields contribution to electrons acceleration in PIC simulation»

A. Kotov «Optimization of a laser electron source due to the use foam targets of near-critical density»

S. Perevalov «Experimental demonstration of electron acceleration in laser peeler regime»

A. Sivko «The influence of high power femtosecond pulse parameters on the X-ray generation and hot electrons acceleration in plasma»

N. Shamaeva «X-Ray and particle images of region laser plasma interaction high intensity laser pulse with a solid target by the pinhole camera »

S. Shulyapov «Liquid target formation for electron beam generation in laser-plasma interactions»

E. Starodubtseva «Circular polarized high-intensity laser pulse obtained with lavsan film»

O. Sviridova «Influence of laser pulse polarization on the characteristics of accelerated electrons in the relativistic self-trapping regime»

I. Umarov « Laser source of gamma radiation and neutron beams based on DLA-accelerated electron bunches»

Section 4 «Diamond photonics»

Monday, October 2 / (Column hall)

Session 12:15—15:00**,** Chair: Yulia Gulina

12:15—12:40

(invited) A. Akimov « Double electron–electron Resonance for C-centers in diamond: optimization, coherent control and concentration measurements»

12:40—13:05

(invited) A. Shiryaev «Oxygen in diamond: spectroscopy and electron mictroscopy»

13:05—13:30

(invited) V. Popov «NV centers in (111) diamond nanostructures after Ga+ focused ion beam and chemical etching»

13:30—13:55

(invited) V. Vins «Transformation of atomic defects in type Ib diamond upon irradiation and annealing»

13:55—14:20

(invited) A. Eliseev «Nitrogen state in impact diamonds from the Popigai astrobleme according to electron irradiation and annealing experiments»

14:20—14:45

(invited) E. Vasilev «Luminescence of diamond in the range of 1-1.5 eV»

14:45—15:00

K. Boldyrev «X-Ray diamond photonics: new way to control color centers charge state»

Session 16:00—18:15, Chair: Sergey Kudryashov

16:00—16:25

(invited) A. Inyushkin «Thermal conductivity of HPHT diamonds irradiated with electrons»

16:25—16:50

(invited) R. Khmelnitsky «Portraits of the impurity composition of diamonds from different deposits of Yakutia»

16:50—17:15

(invited) I. Kupriyanov «Spectroscopic study of synthetic diamond co-doped with boron and nitrogen»

17:15—17:30

D. Genin «NV-centers laser generation: main properties and peculiarities»

17:30—17:45

A. Dormidonov «Inertialess luminescence of an NV center excited by a femtosecond pulse»

17:45—18:00

V. Vins «Girl’s best friends?»

18:00—18:15

D. Pasternak «Bicolor single photon emitters based on HPHT diamond nanoparticle»

Section 7 «Ultrafast laser technologies in biomedicine»

Monday, October 2 / (Conference hall of QRPD)

Session 12:15 – 14:30, Chair: Sergey Gonchukov

12:15—12:40

(invited) A.B. Fedotov «Multimodal in vivo nonlinear optical functional bioimaging by means of new types redox biosensors»

12:40—13:05

(invited) O.S. Vasyutinskii «Picosecond anisotropic relaxation in biomolecules studied by polarization-modulation pump-and-probe spectroscopy»

13:05—13:30

(invited) V.I. Shcheslavskiy «Ultrafast fluorescence in biological samples: a simple way to measure it»

13:30—13:45

N.V. Minaev «Laser engineering microbial systems: a new tool for microbiology»

13:45—14:00

P.K. Nurgalieva «Ultrafast fluorescence spectroscopy of blood plasma for detection of pathological processes»

14:00—14:15

S.E. Minaev «Study of the possibility of using nanosecond laser radiation with λ = 1.9μm in sialolithotripsy»

14:15—14:30

D.S. Sitnikov «Dissection of zona pellucida of mouse embryos in cryopreservation protocols by femtosecond laser pulses»

Session 16:00 – 17:50 Chair: Eteri Tolordava

16:00—16:25

(invited) B.P. Yakimov «Femtosecond fluorescence spectroscopy of disordered carbon-like structures in living systems»

16:25—16:50

(invited) S.V. Zabotnov «Laser-ablated Si and Si/Ag nanoparticles: bioimaging, photohyperthermia, and biocompatibility»

16:50—17:05

E.N. Rimskaya «Confocal Raman scattering microspectrocopy for diagnostic skin tumors»

17:05—17:20

E.D. Minaeva «Laser-induced fabrication of tissue-engineering constructions with polymer materials and cell spheroids»

17:20—17:35

I.O. Dzhun «Production of magnetic nanoparticles water colloids by pulsed laser ablation of thin Co films»

17:35—17:50

M.S. Grigoryeva «Investigation of laser melting and ablation thresholds of porous silicon»

Section 2. «Ultrafast phenomena in ionized gases, semiconductors and metals»

Tuesday, October 3 / (Small Hall)

Session 12:15—14:20, Chair: Igor Smetanin

12:15—12:40

*(invited) V. Antonov "*Petahertz-bandwidth amplified spontaneous emission from an optically dressed neon-like plasma-based X-ray laser*"*

12:40—13:05

(invited) I. Khairulin "Role of multiphoton ionization in the resonant generation of near-threshold harmonics of a strong laser field in helium"

13:05—13:30

(invited) T. Sarantseva "High-Order Harmonic Generation in Orthogonal IR and XUV Pulses: XUV-Initiated Channel Separation and Polarization Control"

13:30—13:55

(invited) T. Apostolova "Non-linear response and polarization-resolved high harmonic generation in bulk ZnO irradiated by mid-infrared ultra-short laser pulses"

13:55—14:20

(invited) A. Romanov "Numerical simulation of high-order harmonics generation by Ba and Cs atoms"

Session 16:00—18:20, Chair: Alexander Popov

16:00—16:25

(invited) I. Oladyshkin “Modelling of nonlinear scattering and inhomogeneous absorption of femtosecond laser pulses in metal”

16:25—16:40

E. Danilov “Laser generation of terahertz sound in metal”

16:40—16:55

P. Kartsev “Efficient calculation of anisotropic relaxation times and kinetic coefficients in metal”

16:55—17:10

I. Kuznetsov “Relaxation in superconductor excited with fs pulse, simulated with high energy resolution”

17:10—17:25

A. Frolov “Excitation of high-intensity terahertz surface modes at interaction p-polarized two-frequency laser radiation with plasma slab”

17:25—17:50

(invited) A. Bogatskaya “Formation of plasma periodic structures in the process of laser writing in the volume of solid dielectrics”

17:50—18:05

P. Nikiforova “Peculiarities of bolometric detection of THz signals by a resonant structure for inclined incidence of radiation”

18:05—18:20

A. Popov “On the electric area of short electromagnetic pulses”

Section 4. «Diamond photonics»

Tuesday, October 3 / (Column hall)

Session 12:15—14:55, Chair: Victor Vins

12:15—12:40

(invited) T. Kononenko «Variation of optical breakdown threshold in diamond irradiated by IR femtosecond pulses»

12:40—13:05

(invited) S. Kudryashov «Quantum and atomistic events during ultrashort-pulse laser inscription in diamonds and other dielectrics»

13:05—13:30

(invited) A. Gorevoy «Inscription of photoluminescent microbits in dielectric crystals by ultrashort laser pulses for archival optical storage»

13:30—13:55

(invited) S. Vyatkin «EPR studies of laser-induced defects in diamonds»

13:55—14:10

P. Danilov «Productivity of concentration-dependent conversion of substitutional nitrogen atoms into nitrogen-vacancy quantum emitters in synthetic diamond by ultrashort laser pulses»

14:10—14:25

Yu. Gulina «Numerical aperture dependent formation of plasma channels induced by ultrashort laser pulses in bulk of synthetic diamond»

14:25—14:40

N. Smirnov «Impact of ultrashort mid-IR laser pulses on diamonds»

14:40—14:55

E. Kuzmin «Photoluminescence microspectroscopy of plastic deformations in natural pink diamonds»

Session 16:00—17:20 Chair: Alexey Gorevoy

16:00—16:15

G. Krasin «Polarization-sensitive nonlinear optical interaction of femtosecond laser pulses with diamond»

16:15—16:30

J. Chen «Optical properties and structure changes of doped nitrogen centers in diamond under laser modification»

16:30—16:45

D. Pomazkin «Natural diamond graphitization research»

16:45—17:00

E. Mareev «Exploring the dynamics of laser-induced phase transitions in dielectrics and semiconductors through phonon spectroscopy»

17:00—17:20 Flash talks

K. Ashikkalieva «Visualization of structural inhomogeneities in diamond crystals by laser irradiation»

K. Buga «*Frequency characteristics of a diamond pin-diode on a Nitrogen-doped n-type substrate*»

A. Kirichenko «Confocal Raman scattering in the study of the impurity-defect structure of CVD diamond films»

P. Pakholchuk «Impact of ultrashort near-UV laser pulses on diamonds»

Section 6. «Physics and technology of ultrafast lasers and ultrashort laser pulses»

Tuesday, October 3 / (Conference hall of QRPD)

Session 12:15—14:25, Chair: Igor Kinyaevskiy

12:15—12:40

(invited) F. Potemkin «Multi-band powerful femtosecond laser driver: generation and applications»

12:40—12:55

D. Suleimanova «High-efficient mid-infrared optical parametric amplifier with 1.24 μm pumping»

12:55—13:10

V. Alibaeva «Synchronously pumped ultrafast Cr:Forsterite oscillator»

13:10—13:25

A. Pakhomov «Ultrafast train of half-cycle pulses generated by a nested quantum-well structure »

13:25—13:40

E. Stepanov «Broadband two-dimensional spectroscopy in the mid-infrared with chirped-pulse up-conversion detection »

13:40—13:55

*A. Garmatina «*Self-induced second harmonic used as diagnostic of microfocus X-ray source size produced by tightly focused femtosecond fiber laser beam at copper target »

13:55—14:10

*M. Marisova «*Thermo-optical nonlinearity in a system of two coupled WGM microresonators »

14:10—14:25

E. Lobushkin «Control of spectral properties of near-IR multi-GW femtosecond laser radiation under nonlinear propagation in atomic and molecular gases»

Session 16:00—18:15, Chair: Fedor Potemkin

16:00—16:25
(invited) V. Chvykov «Post-Compression of High-Energy Laser Pulses Due to Multipass Cells »

16:25—16:40
I. Kinyaevskiy «Long-wave infrared picosecond laser system based on $SrMoO_4$ Raman shifter and $LiGaS_2$ DFG converter»

16:40—16:55
B. Rumiantsev «High-order harmonics generation under nonlinear propagation of femtosecond laser radiation of Cr:Fortserite laser system with wavelength of 1.24 μm in the dense argon jet »

16:55—17:10
A. Bulygin «Investigation of laser postfilaments formation in turbulent air based on a method of effective lenses »

16:10—17:25
M. Puchikin «Induced fluorescence of NO fragments by a femtosecond laser pulse »

17:25—17:40
A. Koribut «Self-focusing and self-phase modulation of focused laser beam around critical power»

17:40—17:55
O. Minina «Numerical simulation of high-power femtosecond laser pulse propagation under conditions of amplitude modulation by mesh-wire masks»

17:55—18:15 Flash talks

A. Mazov «Light-induced superconductivity in the pseudogapstate of copper oxides»
A. Rupasov «Direct laser writing in the volume of transparent dielectrics »
N. Semin «Sum frequency mixing of femtosecond Ti:sapphire and nanosecond Nd:YAG laser pulses in KDP crystal»
R. Zemskov «Experimental study of terahertz radiation generation in the interaction of high-power laser pulse with gas targets»

Section 2 «Ultrafast phenomena in ionized gases, semiconductors and metals»

Wednesday, October 4 / (Column hall)

Session 10:15 – 12:35, Chair: Vasily Kostin

10:15—10:40

(invited) A. Silaev “Low-order harmonics generation of intense laser pulses in atomic and molecular gases in the presence of a static electric field”

10:40—11:05

(invited)I. Laryushin “Analysis of the secondary radiation generated by multicolor ionizing pulses”

11:05—11:20

V. Kostin “Spectrum of terahertz radiation generated by ionizing two-color femtosecond laser pulses”

11:20—11:45

(invited) M. Frolov “Channel separation of secondary generated radiation induced by orthogonal XUV and IR pulses”

11:45—12:10

(invited) A.Flegel “XUV rectification effect in the IR-dressed atomic system”

12:10—12:35

(invited) A. Fedotov “Sub-cycle pulse generation and carrier-envelope phase control of soliton self-compression in waveguide regime”

Session 14:00 – 15:40, Chair: Sergey Uryupin

14:00—14:25

(invited) R. Ikhsanov “Directionality patterns of electron photoemission from plasmonic nanoparticles”

14:25—14:40

D. Marasanov “Effect of irradiation wavelength on the photocatalytic properties of hybrid metal-semiconductor Ag-AgBr nanoparticles synthesized in ion-exchange layers of silicate glass”

14:40—14:55

A. Kolchin “Femtosecond laser structuring of selenium-based thin films”

14:55—15:10

D. Shuleiko “Femtosecond laser-induced surface relief formation in the thin amorphous films of chalcogenide vitreous semiconductors”

15:10—15:25

I. Yermolenko “The relaxation characteristics of solvents from time-resolve fluorescence spectra: the role of the gating pulse duration”

15:25—15:40

T. Mikhailova “Verification of the second excited state during charge transfer by stationary spectra fitting in acridine-dione derivative compounds”

Section 3 «Ultrafast laser technologies and structured light in micro-optics and nanophotonics»

Wednesday, October 4 / (Small hall)

Session 10:15—12:35 Chair: Sergey Fedotov

10:15—10:40
(*invited) D. Ponomarev* «Efficient light confinement in plasmonic-enhanced THz emitters»
10:40—11:05
(invited) N. Inogamov «Two-temperature hydrodynamics, expansion of heated matter, and generation of shock wave»
11:05—11:20
S. Gorelov «Nonlinear terahertz Kerr effect in quasi-2D $MnPS_3$»
11:20—11:35
O. Sokolovskaya «Elastic scattering on submicron particles enhances Raman scattering efficiency»
11:35—11:50
Yu. Mikhailov «Advanced optical data storage based on ultrafast laser writing in silver-doped nanoporous glass»
11:50—12:05
E. Barmina «Capillary-wave approach to describe the mechanism of periodic structures formation on solids by laser ablation»

12:05—12:35 Flash talks

N. Busleev «Structure of darkening tracks in soda-lime glass exposed to femtosecond laser radiation»

D. Kuzovkov «Interface effect on the LIPSS formation at femtosecond laser illumination of $Ge_2Sb_2Te_5$»
I. Matyaev «Filamentation of ultrashort infrared laser pulses in distilled water»
A. Nastulyavichus «LIFT method for high-performance non-contact additive laser printing of micro-macro-scale conductive elements»
R. Suslov «Investigation of the anticorrosion properties of the surface of AISI 430 steel treated with laser radiation with a low power density»
V. Gresko «Femtosecond laser modification of ZnO:Ag thin films opto-electronic properties»

Section 6 «Physics and technology of ultrafast lasers and ultrashort laser pulses»

Wednesday, October 4 / (Conference hall of QRPD)

Session 10:15 – 12:25, Chair: Igor Kinyaevskiy

10:15—10:40

(invited) V. Zvorykin «KrF laser pulse compression via SBS and SRS in pressurized SF_6 and CH_4 gases»

10:40—10:55

P. Veliev. «Waveguide properties of ceramic capillaries for KrF laser radiation »

10:55—11:10

I. Zyatikov «Lasing from molecular nitrogen ions at 391 nm»

11:10—11:25

K. Lvov «Low-order harmonic generation in an argon gas jet: numerical solution»

11:25—11:40

S. Bodrov «Terahertz generation by tilted-pulse-front laser pulses in the Cherenkov regime»

11:40—11:55

*N. Abramovsky «*Cherenkov terahertz emission from a DKDP crystal»

11:55—12:10

N. Zhidovtsev «Highly-efficient tunable few-cycle THz generation in DAST with Cr:Forsterite laser pump»

12:10—12:25

V. Bulgakova «Optical pump-THz probe spectroscopy as a non-destructive technique to study of semiconductors ultrafast carrier dynamics»

Section 1 « Extreme Light»

Wednesday, October 4 / (Conference hall of QRPD)

Session 14:00 – 15:40, Chair: Andrey Brantov

14:00—14:25

(invited) A. Andreev «Super-strong magnetic fields generation in laser nanostructure plasma »

14:25—14:40

D. Sidorov-Biryukov «High order harmonics driven by mid and near IR laser pulses near the solid target»

14:40—14:55

A. Mitrofanov «Terahertz and microwave generation from solid surfaces irradiated by intense near- and mid-infrared laser pulses»

14:55—15:10

M. Sedov «Optimization of the parameters of a cluster X-ray source »

15:10—15:25

D. Gozhev «End-to-end modeling of droplet target heating and neutron generation under irradiation by an ultrashort laser pulse at relativistic intensities»

15:25—15:40

M. Tsventoukh «On laser plasma production from tungsten fuzz - surface nanostructure of helium-filled nanowires»

Poster session

Wednesday, October 4 / (2nd floor)

Section 1

P01 *S. Bochkarev* «A source of incoherent synchrotron radiation based on a submicron cluster medium irradiated by an ultrashort laser pulse»

P02 *D. Bulanov* «Numerical simulation of coherent combining of laser beams in the presence of non-idealities in the dipole focusing system»

P03 *A. Castillo Ramirez* «On electron acceleration governed by quasi-static fields in laser plasma channel produced by a short relativistically intense laser pulse»

P04 *D. Gorlova* «Accurate calculation of laser and plasma fields contribution to electrons acceleration in PIC simulation»

P05 *A. Kotov* «Optimization of a laser electron source due to the use foam targets of near-critical density»

P06 *S. Perevalov* «Experimental demonstration of electron acceleration in laser peeler regime»

P07 *A. Sivko* «The influence of high power femtosecond pulse parameters on the X-ray generation and hot electrons acceleration in plasma»

P08 *N. Shamaeva* «X-Ray and particle images of region laser plasma interaction high intensity laser pulse with a solid target by the pinhole camera»

P09 *S. Shulyapov* «Liquid target formation for electron beam generation in laser-plasma interactions»

P10 *E. Starodubtseva* «Circular polarized high-intensity laser pulse obtained with lavsan film»

P11 *O. Sviridova* «Influence of laser pulse polarization on the characteristics of accelerated electrons in the relativistic self-trapping regime»

P12 *I. Umarov* «Laser source of gamma radition and neutron beams based on DLA-accelerated electron bunches»

Section 3

P13 *N. Busleev* «Structure of darkening tracks in soda-lime glass exposed to femtosecond laser radiation»
P14 *V. Gresko* «Femtosecond laser modification of ZnO:Ag thin films opto-electronic properties»
P15 *D. Kuzovkov* «Interface effect on the LIPSS formation at femtosecond laser illumination of $Ge_2Sb_2Te_5$»

P16 *I. Matyaev* «Filamentation of ultrashort infrared laser pulses in distilled water»

P17 *A. Nastulyavichus* «LIFT method for high-performance non-contact additive laser printing of micro-macro-scale conductive elements»

P18 *R. Suslov* «Investigation of the anticorrosion properties of the surface of AISI 430 steel treated with laser radiation with a low power density»

Section 4

P19 *K. Ashikkalieva* «Visualization of structural inhomogeneities in diamond crystals by laser irradiation»
P20 *K. Buga* «*Frequency characteristics of a diamond pin-diode on a Nitrogen-doped n-type substrate*»

P21 *A. Kirichenko* «Confocal Raman scattering in the study of the impurity-defect structure of CVD diamond films»

P22 *P. Pakholchuk* «Impact of ultrashort near-UV laser pulses on diamonds»

Section 6

P23 *A. Mazov* «Light-induced superconductivity in the pseudogapstate of copper oxides»
P24 *A. Rupasov* «Direct laser writing in the volume of transparent dielectrics »
P25 *N. Semin* «Sum frequency mixing of femtosecond Ti:sapphire and nanosecond Nd:YAG laser pulses in KDP crystal»
P26 *R. Zemskov* «Experimental study of terahertz radiation generation in the interaction of high-power laser pulse with gas targets»

Section 7

P27 *V. Nesterov* «Structural and optical properties of composite silicon-silver nanoparticles produced by laser ablation technique and potentials for biophotonics »

P28 *I. Saraeva* «Locally enhanced electric field treatment of *E. coli*: TEM, FT-IR and Raman spectrometry study»

P29 *S. Shelygina* «FT-IR analysis of pathogenic bacteria inactivation by femtosecond IR laser pulses»

P30 *S. Shelygina* «Multispectral Raman and photoluminescence microanalysis of different malignant skin neoplasms»

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