Lasers and Optoelectronic Devices

LOED.09p ***S.A. Scherbak***, Yu.S. Polubavkina, E.I. Moiseev, N.V. Kryzhanovskaya, F.I. Zubov, V.V. Zhurikhina, M.M. Kulagina, S.I. Troshkov, Yu.M. Zadiranov, M.V. Maximov, A.A. Lipovskii and A.E. Zhukov
Investigation of the mode structure of ring and race-track optical microresonators

LOED.10p ***N.N. Vasilyev***, B.V. Novikov, I.Kh. Akopyan and M.E. Labzovskaya
Random lasing in ZnO nanoparticles produced by laser induced breakdown

2D Electron Gas

2DEG.04p ***A.V. Germanenko***, G.M. Minkov, A.A. Sherstobitov, O.E. Rut, S.A. Dvoretski and N.N. Mikhailov
Zeeman splitting of electron spectrum in HgTe quantum wells near the Dirac point

Nanostructure Devices

ND.05p ***P.A. Alekseev***, V.A. Sharov, M.S. Dunaevskiy, I.P. Soshnikov, P. Geydt, R.R. Reznik, V.V. Lysak, E. Lähderanta and G.E. Cirlin
GaAs wurtzite nanowires for hybrid piezoelectric solar cells

ND.06p ***G.G. Kareva***
Electro-physical self-organization of an Al/TiO_2/p^+Si resonant-tunneling diode, extending its properties and functions

ND.07p ***A.V. Lubenchenko***, A.A. Batrakov, D.A. Ivanov, A.B. Pavolotsky, O.I. Lubenchenko, I. Lashkov, B. Schleicher, N. Albert
Air-oxidation of Nb nano-films

ND.09p ***V.A. Gergel'***, N.M. Gorshkova, A.P. Zeleny, V.A. Minkin
Transitive formation of negative differential resistance of multibarrier heterostructures and dynamic peculiarities of their functioning in switching type power supply mode

Microcavity and Photonic Crystals

MPC.06p A.R. Gubaydullin, K.A. Ivanov, V.V. Nikolaev and ***M.A. Kaliteevski***
Purcell effect in one-dimensional disordered photonic crystals

MPC.07p ***V.N. Mantsevich*** and S.A. Tarasenko
Optical force driven fluid dynamics of colloidal quantum dots

Transport in Nanostructures

TN.07p ***Yu.M. Baikov***, B.T. Melekh, V.M. Egorov
Protonic transport in self-organized nanostructured electrolytes on the base of solid hydroxide eutectics at 250–400 K

TN.08p L.S. Braginsky, ***M.V. Entin***
Exact solution for interacting electron gas in the 2D topological insulator edge states and its consequences for electron transport

TN.09p ***A.V. Frolov***, A.P. Orlov, A.A. Sinchenko, V.A. Volkov
Focused ion beam as an instrument of graphene nanostructuring

TN.10p ***L.E. Golub***, I.V. Gornyi and V.Yu. Kachorovskii
Weak localization induced corrections to Hall resistance in multisubband heterostructures

TN.11p M.V. Entin, ***L.I. Magarill***
Photogalvanic effect caused by the transitions between edge and 2D states in a 2D topological insulator

TN.12p S.V. Gudina, E.V. Ilchenko, ***V.N. Neverov***, E.G. Novik, S.M. Podgornykh, N.G. Shelushinina, M.V. Yakunin, N.N. Mikhailov and S.A. Dvoretsky
Activation transport under quantum Hall regime in HgTe-based heterostructure

TN.13p ***A.B. Odobescu***, A.A. Maizlakh and S.V. Zaitsev-Zotov
Dynamical Coulomb blockade in tunnelling experiments on low-conductive two-dimensional structures at semiconductor surface

TN.14p K.R. Vlasov, ***M.A. Pyataev***, A.V. Shorokhov
Partial electron localization in a finite-size superlattice placed in an electric field

TN.15p ***N.I. Rul'***, N.T. Bagraev, L.E. Klyachkin, V.S. Khromov, A.M. Malyarenko, V.A. Mashkov, T.V. Matveev, V.V. Romanov and K.B. Taranets
High temperature quantum kinetic effects in silicon nanosandwiches

Quantum Wells and Quantum Dots

QWQD.05p ***A.A. Bloshkin***, A.I. Yakimov, V.A. Timofeev, A.R. Tuktamyshev, A.I. Nikiforov, V.V. Murashov
Band lineups in SiGeSn/Si alloys with different Sn and Ge content

QWQD.06p ***L.V. Danilov***, M.P. Mikhailova, R.V. Levin, G.G. Konovalov, E.V. Ivanov, I.V. Andreev, B.V. Pushnyi, G.G. Zegrya
Enhancement of the photoconductivity by carrier screening effect in n-GaSb/InAs/p-GaSb heterostructure with a single deep quantum well

QWQD.07p ***D.V. Lebedev***, N.A. Kalyuzhnyy, S.A. Mintairov, K.G. Belyaev, M. Rakhlin, A.A. Toropov, P. Brunkov, A.S. Vlasov, J. Merz, S. Rouvimov, S. Oktyabrsky, M. Yakimov, I.V. Mukhin, A. Shelaev, V.A. Bykov, A.Yu. Romanova, P.A. Buryak and A.M. Mintairov
Density control of InP/GaInP quantum dots grown by metal-organic vapor-phase epitaxy

QWQD.08p ***I.S. Makhov***, V.Yu. Panevin, M.Ya. Vinnichenko, A.N. Sofronov, L.E. Vorobjev, D.A. Firsov, A.P. Vasil'ev and N.A. Maleev
Impurity related far- and near-infrared emission in GaAs/AlGaAs quantum wells

QWQD.09p ***M.S. Mironova***, V.I. Zubkov, A.L. Dudin and G.F. Glinskii
Self-consistent simulation of GaAs/InGaAs/AlGaAs heterostructures photoluminescence spectra and its application to pHEMT structures diagnostics

QWQD.10p ***A.V. Nenashev***, A.V. Dvurechenskii
Elastic strain field due to an inclusion of a polyhedral shape with a non-uniform lattice misfit

QWQD.11p ***M.V. Rakhlin***, K.G. Belyaev, G.V. Klimko, I.S. Mukhin, S.V. Ivanov and A.A. Toropov
Red single-photon emission from InAs/AlGaAs quantum dots

QWQD.12p ***I.V. Shtrom***, V.F. Agekyan, A.Yu. Serov, N.G. Filosofov, R.R. Akhmadullin and G. Karczewski
Luminescence of ZnMnTe/ZnMgTe heterostructures with monolayer manganese inclusions in ZnTe quantum wells and its behavior in a magnetic field

QWQD.13p A.M. Smirnov, ***V.N. Mantsevich***, M.V. Kozlova, J.V. Stebakova, A.D. Golinskaya, V.S. Dneprovskii
CdSe/ZnS quantum dot's optical nonlinearities induced by stationary excitation of the basic exciton transition with frequency detuning

QWQD.14p ***A.N. Sofronov***, L.E. Vorobjev, D.A. Firsov, I.S. Makhov, V.Yu. Panevin, M.Ya. Vinnichenko and A.P. Vasil'ev
Terahertz luminescence of the acceptor centers in semiconductor quantum wells

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Spin Related Phenomena in Nanostructures

SRPN.11p ***A.N. Anisimov***, V.A. Soltamov and P.G. Baranov
Application of optical scanning probe with spin centers in SiC for nanoscale quantum sensing of magnetic fields and temperature

SRPN.12p ***Ia.A. Babenko***, I.A. Yugova, S.V. Poltavtsev, M. Salewski, I.A. Akimov, C. Schneider, M. Kamp, S. Höfling, D.R. Yakovlev and M. Bayer
Spontaneous photon echo from an ensemble of (In,Ga)As quantum dots

SRPN.13p ***I.A. Kokurin***
Electronic states and persistent currents in nanowire quantum ring

SRPN.14p ***I.I. Lyapilin***, M.S. Okorokov
Magnon-magnon drag in hybrid structures Pt/YIG/Pt (the model of three flow)

SRPN.15p ***N.M. Ushakov***, I.D. Kosobudskii
Impact of UF pulsed laser radiation and of the electron flow on dielectric states of polymer composite nanomaterial based on LDPE matrix

Graphene

GRN.07p ***V.Yu. Davydov***, D.Yu. Usachov, S.P. Lebedev, A.N. Smirnov, V.S. Levitskii, I.A. Eliseyev, P.A. Alekseev, M.S. Dunaevskiy, O.Yu. Vilkov, A.G. Rybkin and A.A. Lebedev
Preparation and investigation of graphene films on $6H$-SiC (0001)

GRN.08p ***S.V. Koniakhin***, O.I. Utesov, I.N. Terterov, A.V. Nalitov
Influence of amorphous substrate on heat transport in graphene

GRN.09p ***S.V. Koniakhin***, O.I. Utesov, I.N. Terterov, A.V. Nalitov
Contribution to thermopower in graphene from substrate surface phonon drag

Infrared and Microwave Phenomena in Nanostructures

IRMW.06p ***V.A. Margulis***, V.V. Karpunin
Resonant absorption of the electromagnetic radiation in a quantum wire, due to the electron-impurity interaction

IRMW.07p ***A.M. Mozharov***, A.D. Bolshakov, F.E. Komissarenko, V.V. Fedorov, G.A. Sapunov, G.E. Cirlin, I.S. Mukhin
Single nitride nanowire negative differential resistance semiconductor devices: properties calculation

Excitons in Nanostructures

EN.10p ***P.A. Belov***
Excited states of excitons in square quantum wells

EN.11p ***A.A. Golovatenko***, M.A. Semina, A.V. Rodina and T.V. Shubina
Biexciton binding energy in spherical QDs with Γ_8 valence band

EN.12p ***I. Filikhin*** and B. Vlahovic
Excitons in binary InAs/GaAs quantum complexes

EN.13p ***V.M. Kovalev***, W.-K. Tse
Damping of two-level system rabi oscillation due to interaction with excitonic bath

EN.14p ***M.S. Kuznetsova***, R.V. Cherbunin, V.M. Litvyak, E.V. Kolobkova
Spectroscopy of PbS and PbSe quantum dots in fluorine phosphate glasses

EN.15p ***D.K. Loginov***
Effect of transverse electric field on polariton reflectance spectra of wide quantum wells

EN.16p ***B.V. Tischenko***, T.M. Burbaev, N.T. Levashova
Dipolar and spatially direct excitons in type-II Si/SiGe heterostructures. Wave functions and binding energies in the self-consistent potential model

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Nanostructure Characterization

NC.04p ***N.A. Zulina***, J.E. Burunkova and U.S. Achor
Influence of polymer matrix composition on optical and nonlinear optical properties of nanocomposites based on laser generated Ag and Au nanoparticles

NC.05p ***E.N. Bodunov*** and A.L. Simões Gamboa
Luminescence decay of colloidal quantum dots and stretched exponential (Kohlrausch) relaxation function

NC.06p ***A.K. Kaveev***, N.S. Sokolov, S.M. Suturin and O.E. Tereshchenko
Ferromagnetic on topological insulators: crystalline structure of $Co_{40}Fe_{40}B_{20}$ grown on Bi_2Te_3 and Bi_2Se_3

NC.07p ***A.I. Komonov***, V.Ya. Prinz, V.A. Seleznev, K.A. Kokh and V.N. Shlegel
Atomic scale calibration measures based on perfect layered crystals

NC.08p I.P. Soshnikov, ***K.P. Kotlyar***, N.A. Bert, D. Kirilenko, A.D. Bouravleuv, G.E. Cirlin
Specifics contrast in scanning electron microscopy images of III–V nanowires

NC.09p ***B.B. Krichevtsov***, S.V. Gastev, A.M. Korovin, S.M. Suturin, M. Sawada, N.S. Sokolov
Interlayer magnetic coupling in Co/GGG/YIG nanostructures grown by laser molecular beam epitaxy

NC.10p ***V.M. Mikoushkin***, V.V. Bryzgalov, S.Yu. Nikonov, A.P. Solonitsyna, D.E. Marchenko
Composition and band structure of the native oxide nanolayer on the surface of the GaAs wafer

NC.12p ***N.Y. Senkevich***, I.I. Vrubel, R.G. Polozkov and I.A. Shelykh
Geometry optimization and charge density distribution of single layer of Zn-based metal-organic framework

NC.13p ***M.D. Sharkov***, M.E. Boiko, L.B. Karlina, A.M. Boiko and S.G. Konnikov
Superstructure properties in high doped porous InP

NC.14p ***I.V. Shtrom***, N.G. Filosofov, V.F. Agekian, M.B. Smirnov, A.Yu. Serov, Yu.B. Samsonenko, R.R. Reznik, G.E. Cirlin
Optical properties of GaN nanowires grown by MBE on SiC/Si(111) hybrid substrate

NC.15p ***D.A. Tsukanov***, M.V. Ryzhkova, M.V. Ivanchenko, E.A. Borisenko, L.V. Bondarenko, D.V. Gruznev, A.V. Zotov and A.A. Saranin
Surface conductance enhancement by surface state doping

NC.16p ***I.I. Vrubel***, R.G. Polozkov and I.A. Shelykh
Effect of the Ga-doping on the electronic structure of yttrium aluminum garnet

NC.17p ***N.I. Fedotov***, S.V. Zaitsev-Zotov
Dirac point of topological insulators in scanning tunneling spectroscopy

Nanostructure Technology

NT.05p ***Y. Berdnikov***, V.G. Dubrovskii
Modelling the irreversible growth of surface 2D clusters and nanowires

NT.06p ***V.K. Egorov***, E.V. Egorov
X-ray nanophotonics development in light of planar waveguide-resonator modification

NT.07p ***G.B. Galiev***, E.A. Klimov, S.S. Pushkarev, A.N. Klochkov, P.P. Maltsev
Electronic and structural properties of superlattices LT-GaAs/GaAs:Si on GaAs (100) and (111) substrates

NT.08p ***G.B. Galiev***, E.A. Klimov, A.N. Klochkov, I.N. Trunkin, A.L. Vasiliev, S.S. Pushkarev, P.P. Maltsev
Epitaxial low-temperature-grown films $In_{0.5}Ga_{0.5}As$ on GaAs (100) and (111)A substrates using metamorphic buffer

NT.09p ***N.N. Gerasimenko***, O.A. Zaporozhan, D.I. Smirnov and A.D. Volokhovskiy
Controllable radiation-induced transformations in silicon nanostructures

NT.10p ***E.B. Gorokhov***, K.N. Astankova, I.A. Azarov, V.A. Volodin, and A.V. Latyshev
New method of porous Ge layer fabrication: structure and optical properties

NT.11p ***A.N. Kamalieva***, N.A. Toropov and T.A. Vartanyan
Fabrication of silicon nanostructures for applications in photonics

NT.12p ***A.A. Koryakin***, N.V. Sibirev, V.G. Dubrovskii
Influence of the droplet content on the chemical composition of ternary III–V nanowires

NT.13p ***A.V. Lukyanenko***, A.S. Tarasov, M.V. Rautskii, I.A. Bondarev, T.E. Smolyarova, S.G. Ovchinnikov and N.V. Volkov
Alternative technology for creating nanostructures using Dip Pen nanolithography

NT.14p ***P. Mazarov***, L. Bruchhaus, S. Bauerdick, R. Jede
FIB for advanced nanofabrication employing light and heavy ions

NT.15p ***A.G. Nastovjak***, I.G. Neizvestny, M.A. Vasilenko and N.L. Shwartz
Examination of concentric GaAs nanorings growth by Monte Carlo simulation

NT.16p ***V.V. Privezentsev***, A.V. Makunin, A.A. Batrakov, and S.V. Ksenich
Nanoparticle formation in Zn^+ and O^+ ion sequentially implanted SiO_2 film

NT.17p ***R.R. Reznik***, K.P. Kotlyar, I.P. Soshnikov, S.A. Kukushkin, A.V. Osipov, E.V. Nikitina and G.E. Cirlin
MBE growth and optical properties of InAs and InGaAs nanowires with different mole fraction of In on Si and strongly mismatched SiC/Si(111) substrates

NT.18p ***V.A. Seleznev*** V.Ya. Prinz
3D-2D printing methods for hybrid nanostructures fabrication

NT.19p E.A. Evropeytsev, ***A.N. Semenov***, D.V. Nechaev, V.N. Jmerik, V.Kh. Kaibyshev, S.I. Troshkov, P.N. Brunkov, A.A. Usikova, S.V. Ivanov, A.A. Toropov
Metal-semiconductor nanoheterostructures with an AlGaN quantum well and in-situ formed surface Al nanoislands

NT.20p ***A.V. Shestakov***, I.I. Fazlizhanov, I.V. Yatsyk, M.I. Ibragimova, V.A. Shustov, R.M. Eremina
The oscillations in ESR spectra of $Hg_{0.76}Cd_{0.24}Te$:Ag in X and Q-bands

NT.21p ***N.V. Sibirev***, G.I. Krikun, V.N. Sibirev, V.G. Dubrovskii
Influence of dopant distribution on transport properties of nanowire

NT.22p ***S.N. Timoshnev***, A.M. Mizerov, M.S. Sobolev and E.V. Nikitina
Growth of GaN layers on Si(111) substrates by plasma-assisted molecular beam epitaxy

NT.23p ***T.V. Utas***, D.A. Olyanich, V.V. Mararov, O.A. Utas, A.V. Zotov and A.A. Saranin
Differences of behaviors of C_{70} and C_{60} fullerenes adsorbed onto the In- and Tl-modified Si(111)$\sqrt{3} \times \sqrt{3}$-Au

Metal Nanostructures

MN.01p O.N. Gorshkov, ***D.O. Filatov***, I.N. Antonov, D.Yu. Sinutkin, D.A. Liskin, A.P. Gorshkov, V.E. Kotomina, M.E. Shenina, S.V. Tikhov and I.S. Korotaeva
Plasmon resonance induced photoconductivity in the yttria stabilized zirconia films with embedded Au nanoclusters

MN.02p ***I.A. Gladskikh***, M.G. Gushchin, T.A. Vartanyan
AC and DC conductivity of thin metal films at the percolation threshold

MN.03p ***I.A. Gladskikh***, P.V. Gladskikh, M.N. Luttieva, T.A. Vartanyan
Optical properties of silver clusters in SiO_2 matrix

MN.04p ***N. Toropov***, I. Gladskikh, P. Gladskikh, T. Vartanyan, A. Kosarev, V. Chaldyshev, A. Kondikov, V. Preobrazhenskiy, M. Putyato, B. Semyagin, I. Akimov, M. Salewski, M. Bayer
Experimental investigation of plasmon–exciton coupling in MBE InAs quantum dots and silver nanoparticles

MN.05p ***V.I. Ushanov***, V.V. Chaldyshev, V.V. Preobrazhenskii, M.A. Putyato and B.R. Semyagin
Resonant optical reflection from AsSb-AlGaAs metamaterials and structures

Nanostructures and Life Sciences

NLS.01p M.A. Fomin, ***A.L. Chernev***, N.T. Bagraev, L.E. Klyachkin, A.K. Emelyanov and M.V. Dubina
Dielectric properties of oligonucleotides on the surface of Si nanosandwich structures

NLS.02p ***T.E. Smolyarova***, A.S. Tarasov, M.V. Rautskii, I.A. Bondarev, A.V. Lukyanenko, S.G. Ovchinnikov and N.V. Volkov
Dip-pen nanolithography method for fabrication of biofunctionalized magnetic microdiscs applied in medicine

NLS.03p ***D.D. Stupin***
Platinum nanoporous electrode covered by single cell as bio-electronic sensor of radiation hazard