
Monday, September 28

Opening Plenary Session 10:00–11:00

- *R.A. Suris*
Opening remarks
- INV *S. Kulik*
Quantum technologies: state of art and perspectives
- INV *A. Brash*
Quantum optics with solid-state emitters

Lasers and Optoelectronic Devices I 11:30–12:40

- INV *V. Ryzhii*
Graphene/black-AsP heterostructures for infrared and terahertz detectors and sources
- LOED.05 *V.I. Gavrilenko, S.V. Morozov, V.V. Rumyantsev, M.A. Fadeev, K.E. Kudryavtsev, V.V. Utochkin, N.S. Kulikov, A.A. Razova, A.A. Dubinov, V.Ya. Aleshkin, N.N. Mikhailov, S.A. Dvoretckiy, F. Teppe and C. Sirtori*
Towards far and mid IR lasers based on HgCdTe QW heterostructures
- LOED.10 *V.V. Dudelev, D.A. Mikhailov, A.V. Babichev, E.D. Cherotchenko, A.G. Gladyshev, S.N. Losev, I.I. Novikov, A.V. Lyutetskiy, S.O. Slipchenko, N.A. Pikhtin, L.Ya. Karachinsky, V.I. Kuchinskii, D.V. Denisov, A.Yu. Egorov and G.S. Sokolovskii*
10 W quantum-cascade lasers for the spectral range 4.6 μm
- LOED.04 *V.V. Dudelev, D.A. Mikhailov, E.D. Cherotchenko, A.V. Babichev, A.G. Gladyshev, S.N. Losev, I.I. Novikov, A.V. Lyutetskiy, S.O. Slipchenko, N.A. Pikhtin, L.Ya. Karachinsky, A. Yu. Egorov and G.S. Sokolovskii*
High power quantum-cascade lasers emitting at 8 μm wavelength

Nanostructure Characterization I 13:00–14:25

- INV *S. Lopatin*
Transmission electron microscope as an analytical tool for nanomaterials characterization
- NC.06 *A.S. Matsukovich, L.L. Trotsiuk, O.S. Kulakovich, E.V. Shabunya-Klyachkovskaya, I.A. Mamedova*
Au@Ag nanorods for multiplex analysis of molecules by SERS spectroscopy

- NC.13** *M.A. Visotin, I.A. Tarasov*
Approach for prediction of orientation relationships and interface structures and its application to α -, β -, γ -FeSi₂ and Si
- NC.12** *V.M. Mikoushkin, E.A. Makarevskaya, A.P. Solonitsyna and M. Brzhezinskaya*
The diagram of *p-n* junction formed on the *n*-GaAs surface by 1.25 keV Ar⁺ ion beam
- NC.02** *I.A. Eliseyev, V.Yu. Davydov, E.M. Roginskii, Yu.E. Kitaev, A.N. Smirnov, M.A. Yagovkina, D.V. Nechaev, V.N. Jmerik and M.B. Smirnov*
Structural and dynamic properties of short-period GaN/AlN superlattices: experiment and theory

Nanostructure Technology I

15:30–17:00

- INV** *O. Pchelyakov*
Prospects for epitaxy of GaAs/Si (001) structures for high-performance tandem solar cells
- NT.01** *A.D. Bolshakov, V.V. Fedorov and I.S. Mukhin*
Epitaxial phosphide nanowires as perspective platform for future optoelectronics
- NT.11** *A.G. Nastovjak, N.L. Shwartz, E.A. Emelyanov, M.O. Petrushkov, A.V. Vasev, M.A. Putyato and V.V. Preobrazenskii*
Reasons of crystallite formation during the GaAs nanowire self-catalyzed growth
- NT.14** *N.V. Sibirev, V.V. Fedorov, D.A. Kirilenko, E.V. Ubiyvovk, Y.S. Berdnikov, A.D. Bolshakov, and I.S. Mukhin*
Study of wurtzite crystal phase stabilization in heterostructured Ga(As,P) nanowires
- NT.02** *T. Borzenko, P. Shekhar, K. Martin, J. Baumann, J. Kleinlein, C. Gould, and L.W. Molenkamp*
Peculiarities of nanolithography for transport devices on sensitive substrates containing HgTe epilayers

Tuesday, September 29

Excitons in Nanostructures I

10:00–12:00

- INV** *M. Semina*
Interference effects and Purcell effect on excitons in Van der Waals heterostructures

- EN.05 *L.V. Kotova, A.V. Platonov, A.V. Poshakinskiy, and T.V. Shubina*
Polarization conversion in MoS₂ flakes
- EN.03 *E.S. Khrantsov, B.F. Gribakin, A.V. Trifonov, and I.V. Ignatiev*
Modeling of exciton exchange interaction in GaAs/AlGaAs quantum wells
- EN.06 *A.S. Kurdyubov, B.F. Gribakin, A.V. Trifonov, Yu.P. Efimov, S.A. Eliseev, V.A. Lovtcius, P.Yu. Shapochkin, and I.V. Ignatiev*
Band offsets in a shallow quantum well probed by exciton spectroscopy
- EN.04 *A.V. Korotchenkov*
Coupling of quantum well excitons to plasmons in one-dimensional metal nanocylinder gratings
- EN.08 *D.K. Loginov, P.A. Belov, I.Ya. Gerlovin, and I.V. Ignatiev*
Theoretical modeling of polariton interference in electric field

Plasmonics

12:20–13:50

- PLS.09 *D. Svintsov*
How electron collisions activate the two-dimensional plasmons
- PLS.01 *V.L. Berkovits, V.A. Kosobukin, V.P. Ulin, F.Yu. Soldatenkov, P.A. Alekseev, V.S. Levitskii*
Optical spectroscopy of Schottky nanostructures Au/GaAs: plasmon resonances and anisotropy
- PLS.04 *K.A. Ivanov, K.M. Morozov, G. Pozina, E.I. Girshova, and M.A. Kaliteevski*
Control of the surface plasmon dispersion and Purcell effect at the metamaterial-dielectric interface
- PLS.06 *O.S. Kulakovich, L.I. Gurinovich, Hui Li, A.A. Ramanenka, L.L. Trotsiuk, A. Muravitskaya, Jing Wei, Hongbo Li, N. Matveevskaya and S.V. Gaponenko*
InP quantum dots photostability enhancement by gold nanoparticles
- PLS.02 *A.A. Bloskin, A.I. Yakimov and A.V. Dvurechenskii*
Plasmonic field enhancement by metallic subwave gratings on Silicon in the near-infrared range
- PLS.03 *E.I. Girshova, A.P. Mikitchuk, K.A. Ivanov, K.M. Morozov, A.V. Belonovskii*
Prospects for the use of structures with the Tamm plasmon in optoacoustic transducers

Nanostructure Technology II

15:00–16:30

- NT.08** *M.V. Lebedev, Yu.M. Serov, T.V. Lvova, I.V. Sedova, R. Endo, T. Masuda*
Sulfide passivation of InP(100) surface
- NT.06** *E.A. Shustova, N.N. Tarasenko, A.A. Nevar, V.G. Kornev, A.V. Butsen and N.V. Tarasenko*
Laser assisted fabrication of surface nanostructures for photovoltaic applications
- NT.13** *Ya.L. Shabelnikova, S.I. Zaitsev*
Resist employing ion beam lithography: features and advantages
- NT.05** *V.K. Egorov, E.V. Egorov*
Angular divergence decreasing of X-ray fluxes
- NT.17** *E.A. Shustova, A.A. Nevar, N.N. Tarasenko, V.G. Kornev and N.V. Tarasenko*
Laser assisted fabrication of nanostructured ZnO thin films doped with cobalt
- NT.12** *E.M. Sgibnev, N.V. Nikonorov*
Tunable photoluminescence of silver molecular clusters in silicate glass for spectral converters and solid-state lighting applications

Wednesday, September 30

Nanostructures for Life Sciences

10:00–10:45

- NLS.04** *W.G. Pearl I, E. Perevedentseva, A.V. Karmenyan, N. Ali, V.A. Khana-deev, N.G. Khlebtsov, S. Vanio, M. Kinnunen, and C.-L. Cheng*
Plasmonic gold nanostars characterization for theranostic applications
- NLS.03** *A.V. Ankudinov, M.M. Khalisov, V.A. Penniyaynen, K.I. Timoshchuk, and B.V. Krylov*
Effect of colchicine on the cytoskeleton of living fibroblasts revealed by atomic force and confocal laser scanning microscopy
- NLS.02** *V.P. Egorova, H.V. Grushevskaya, A.S. Babenka, R.F. Chakukov, N.G. Krylova, I.V. Lipnevich and E.V. Vaskovtsev*
A single-molecule label-free identification of single-nucleotide colorectal-cancer-DNA polymorphism using impedance spectroscopy of self-redox-active decorated carbon nanotubes
- NLS.05** *M.A. Pyataev, M.N. Zharkov, D.E. Yakobson and N.A. Pyataev*
Precipitation of magnetically driven drug carriers in capillaries: theory and *in vitro* experiment

Spin Related Phenomena in Nanostructures I

11–12:25

- INV *A. Kalashnikova*
Ultrafast laser-induced spin dynamics in spin valves
- SRPN.10 *A.V. Poshakinskiy* and S.A. Tarasenko
Spin noise of color centers at electron paramagnetic resonance
- SRPN.09 *A.P. Nizovtsev, S.Ya. Kilin, A.L. Pushkarchuk, S.A. Kuten*
and F. Jelezko
Hyperfine interactions in diamond with paramagnetic color centers:
Quantum chemistry simulation versus experiment
- SRPN.05 *O.V. Kibis, M.V. Boev, V.M. Kovalev, R.E. Sinitzkiy* and I.A. Shelykh
Floquet engineering of structures based on gapless semiconductors
- SRPN.12 *A.V. Shestakov, I.V. Yatsyk, I.I. Fazlizhanov, M.I. Ibragimova,*
R.M. Eremina
Investigation of magnetic property of $Mn_{0.095}Hg_{0.905}Te$
by ESR method

Lasers and Optoelectronic Devices II

12:40–13:50

- INV *F. Grillot*
Nonlinear optical properties of epitaxial quantum dot semiconductor
lasers on silicon
- LOED.07 *V.G. Popov, V.G. Krishtop* and S.A. Tarelkin
Inelastic scattering of carriers by LO-phonons in pumped
semiconductors lasers
- LOED.03 *A.S. Dashkov* and L.I. Goray
QCL design engineering: automatization vs classical approaches
- LOED.09 *A.A. Serin, A.S. Payusov, M.M. Kulagina, M.I. Mitrofanov,*
G.V. Voznyuk, M.V. Maximov and N.Yu. Gordeev
Lateral mode tuning in coupled ridge waveguides using focused ion
beam

Quantum Wells and Quantum Dots I

15:00–16:40

- QWQD.01 *A.M. Smirnov, A.D. Golinskaya, M.V. Kozlova, E.V. Zharkova,*
B.M. Saidzhonov, R.B. Vasiliev and V.S. Dneprovskii
Nonlinear optical response of the colloidal CdSe nanoplatelets under
one-photon stationary excitation of excitons
- SGBN.04 *Zh.V. Smagina, V.A. Zinovyev, S.A. Rudin, E.E. Rodyakina,*
P.L. Novikov, A.V. Nenashev, V.A. Armbrister, A.V. Dvurechenskii
Self-organization of Ge(Si) nanoisland groups on pit-patterned Si(001)
substrates

- SGBN.03** *P. Gaiduk*
Strain-induced formation of nano-voids and self-assembling of dots inside
- SGBN.02** *D.O. Filatov, M.E. Shenina, V.G. Shengurov, S.A. Denisov, V.Yu. Chalkov, A.V. Kruglov, V.A. Vorontsov, D.A. Pavlov and O.N. Gorshkov*
Resistive switching in memristors based on Ge/Si(001) epitaxial layers
- QWQD.02** *I.A. Kokurin*
Electronic states in nanowires with hexagonal cross-section
- MPC.03** *K.M. Morozov, P. Pander, L.G. Franç, N. Selenin, S. Mikhrin, A.P. Monkman and M.A. Kaliteevski*
Polariton emission and polarization splitting in the ultrastrongly coupled Tamm plasmon-organic exciton system

Thursday, October 1 • Poster Day

Friday, October 2

Nanostructure Characterization II 10:00–11:10

- INV** *W. Streck*
Interaction of laser light with graphene — white light emission
- ND.04** *V.A. Shutaev, E.A. Grebenshchikova, V.G. Sidorov, M.E. Kompan and Yu.P. Yakovlev*
Influence of hydrogen on the impedance of Pd/oxide/InP structures
- GRN.06** *Yu.B. Vasilyev*
On the origin of photocurrents in pristine graphene
- NC.04** *S.N. Kurilkina, N.S. Petrov, W.N. Belyi and A.B. Zimin*
Features of reflection from the layer of hyperbolic metamateria

Spin Related Phenomena in Nanostructures II 11:30–13:00

- INV** *M. Greenaway*
Magnetophonon resonance oscillations in graphene: a spectroscopic probe of Dirac fermion-phonon interactions
- SRPN.01** *V.V. Belykh, M.V. Kochiev, D.N. Sob'yanin, D.R. Yakovlev, M. Bayer*
Longitudinal spin dynamics of high-mobility two-dimensional electron gas
- SRPN.14** *V. Sverdlov, A.-M. El-Sayed, H. Kosina, and S. Selberherr*
Ballistic conductance in a topological 1T' MoS₂ nanoribbon

- SRPN.06 H.V. Grushevskaya and G.G. Krylov
Non-abelian properties of charge carriers in a quasirelativistic graphene model
- SRPN.04 M. Madami, G. Gubbiotti, Y.V Khivintsev, G.M. Dudko, V.K. Sakharov, A.V. Kozhevnikov, Y.A. Filimonov, and A.G. Khitun
Spin waves interference under excitations by focusing transducers

Transport in Nanostructures 13:15–14:00

- TN.01 G.V. Budkin, S. Hubmann, M. Otteneder, D. But, D. Sacré, I. Yahniuk, K. Diendorfer, V.V. Belkov, D.A. Kozlov, N.N. Mikhailov, S.A. Dvoretzky, V.S. Varavin, V.G. Remesnik, S.A. Tarasenko, W. Knap, and S.D. Ganichev
Strained induced circular photogalvanic effect in zinc-blende-structure semiconductors
- TN.04 M.M. Mahmoodian, M.V. Entin
Percolation transport of two-dimensional topological insulator of critical width
- TN.03 Z.Ya. Kosakovskaya, Yu.V. Gulyaev, A.M. Smolovich, G.G. Kosakovskii
Superlattice in carbon nanotubes

Closing Plenary Session 15:00–16:00

- INV A. Toropov
Single photon sources for extended spectral range: from 500 nm to 1.3 μm
- INV G. Klimeck
A single atom transistor & nanoHUB: validation for atomistic device models and global impact on the Nano Community
- R.A. Suris
Closing remarks