Monday, June 26

Opening Plenary Session 10:00–11:10

■ ***Zh. Alferov***
Opening remarks

OPS.01i ***E. Kapon***
Integrated quantum photonics with ordered quantum dot and quantum wire systems

OPS.02i ***M.S. Skolnick***
On-chip quantum optics with III–V quantum dots in circuit geometries

Lasers and Optoelectronic Devices I 11:30–13:00

LOED.01i ***S. Breuer***
Timing stability control of quantum dot based semiconductor lasers

LOED.02o ***Y.S. Polubavkina***, N.V. Krizhanovskaya, E.I. Moiseev, A.A. Lipovsky, V.V. Zhurikhina, S.A. Scherbak, M.M. Kulagina, I.S. Mukhin, F.E. Komissarenko, Yu.M. Zadiranov, M.V. Maximov, A.E. Krasnok, A.A. Bogdanov, A.E. Zhukov
Highly-directional emission outcoupling from microdisk laser by Si nanospheres

LOED.03o ***V.V. Korenev***, A.V. Savelyev, M.V. Maximov, F.I. Zubov, Yu.M. Shernyakov, A.E. Zhukov
p-doping as a controlling factor of multi-state lasing in InAs/InGaAs quantum dot lasers for different cavity sizes

LOED.04o ***V.V. Rumyantsev***, S.V. Morozov, A.A. Dubinov, A.M. Kadykov, K.E. Kudryavtsev, M.A. Fadeev, N.N. Mikhailov, S.A. Dvoretckiy, V.I. Gavrilenko
Stimulated emission and photoluminescence from narrow gap HgCdTe based structures in the very long wavelength IR range

Plasmonics 13:10–14:10

PLS.01o ***A.A. Bogdanov***, O. Takayama, E. Shkondin, M.E. Aryaee Panah, K. Golenitskii, P. Dmitriev, T. Repan, R. Malureanu, F. Jensen and A.V. Lavrinenko
Dyakonov plasmons in mid-IR: theory and experiment

PLS.02o ***V.A. Kosobukin***
Plasmon-excitonic polaritons in metal-semiconductor nanostructures

PLS.03o ***A.A. Zabolotnykh***, V.A. Volkov
Edge plasmon-polaritons on a half-plane in magnetic field

2D Electron Gas 15:30–16:30

2DEG.01o ***D.B. Sultanov***, A.B. Vorob'ev, A.F. Buldygin and A.I. Toropov
Absolute negative resistance and polarization influence on microwave response in two-dimensional electron gas in magnetic field gradient

2DEG.02o V.M. Boev, V.M. Kovalev, ***I.G. Savenko***
Cyclotron resonance in hybrid Bose–Fermi systems

2DEG.03o C.A. Downing and ***M.E. Portnoi***
Magnetic confinement in two-dimensional systems

Nanostructure Devices 16:40–18:10

ND.01i F. Wang, H. Nong, V. Pistore, J. Mangeney, J. Tignon, and ***S. Dhillon***
Generating THz pulses from modelocked quantum cascade lasers

ND.02o ***F. Rossella***, J. David, V. Piazza, M. Rocci, D. Ercolani, L. Sorba, F. Beltram, M. Gemmi and S. Roddaro
Electroluminescence and crystal phases in hybrid metal-GaAs nanowire devices

ND.03o ***D. Barettin***, M. Auf der Maur, A. Pecchia, A.F. Tsatsulnikov, A.V. Sakharov, W.V. Lundin, A.E. Nikolaev, M. Korytov, N. Cherkashin, M.J. Hÿtch and S.Yu. Karpov
Carrier transport and emission efficiency in InGaN quantum-dot based LEDs

ND.04o ***V.A. Shutaev***, E.A. Grebenshchikova, A.N. Imenkov, 0.M. Ospennikov and Yu.P. Yakovlev
Photoelectrical hydrogen sensor based on Pd-Oxide-InP Schottky diode

Microcavity and Photonic Crystals 18:20–20:00

MPC.01o A.V. Larionov, S. Hoefling, C. Schneider and ***V.D. Kulakovskii***
Many-body localization–delocalization transition in disordered one-dimensional exciton-polariton system

MPC.02o ***S.S. Gavrilov***
Spatiotemporal spin chaos in cavity-polariton systems

MPC.03o A.R. Gubaydullin, C. Symonds, J. Bellessa, K.A. Ivanov, E.D. Kolykhalova, M.E. Sasin, A. Lemaitre, P. Senellart and ***M.A. Kaliteevski***
Purcell effect in Tamm plasmon structures with QD emitter

MPC.04o ***V.V. Chaldyshev***, E.V. Kundelev, A.N. Poddubny, A.P. Vasilev, M.A. Yagovkina, Y. Chen, N. Maharjan, Z. Liu, M.L. Nakarmi and N.M. Shakya
Optical properties of AlGaAs/GaAs resonant Bragg structure at the second quantum state

MPC.05o ***T.A. Ukleev***, A.V. Sel'kin, D.I. Iurasova, N.N. Shevchenko
Cross-polarized reflection of light from crystals of cubic symmetry: multiple Bragg diffraction and spatial dispersion

Tuesday, June 27

Transport in Nanostructures 09:00–11:00

TN.01o ***M.V. Yakunin***, S.S. Krishtopenko, S.M. Podgornykh, M.R. Popov, V.N. Neverov, F. Teppe, B. Jouault, W. Desrat, S.A. Dvoretsky and N.N. Mikhailov
Anomalies of quantum magnetotransport in the HgTe/CdHgTe double quantum well with the spectrum of bilayer graphene

TN.02o ***S. Roddaro***, J. Mastomäki, M. Rocci, V. Zannier, D. Ercolani, L. Sorba, I.J. Maasilta, N. Ligato, A. Fornieri, E. Strambini, F. Giazotto
InAs nanowire superconducting tunnel junctions: quasi-particle spectroscopy, thermometry and nanorefrigeration

TN.03o ***N.P. Stepina*** and A.V. Dvurechenskii
Observation of the Hall effect in 2D Ge/Si quantum dot hopping system

TN.04o ***A. Andreev***, T.-Y. Yang, M.F. Gonzalez-Zalba, Y. Yamaoka, T. Ferrus, S. Oda, T. Kodera and D.A. Williams
Transport through Si QDs in Coulomb blockade regime: theory and experiment

TN.05o ***A.N. Afanasiev***, A.A. Greshnov and G.G. Zegrya
Analytical theory of the impact ionization rate in direct-gap semiconductor materials

TN.06o I.V. Altukhov, S.E. Dizhur, ***M.S. Kagan***, N.A. Khvalkovskiy, S.K. Paprotskiy, I.S. Vasil'evskii and A.N. Vinichenko
Transport in short-period GaAs/AlAs superlattices with electric domains

Wide Band Gap Nanostructures 11:20–12:40

WBGN.01i T.H. Ngo, N. Chery, P. Valvin, A. Courville, P. de Mierry, B. Damilano, P. Ruterana and ***B. Gil***
Internal quantum efficiency in InGaN-GaN heterostructures emitting from blue to red

WBGN.02i ***G. Cassabois***
Hexagonal boron nitride: an indirect bandgap semiconductor with unique opto-electronic properties

WBGN.03o ***V.N. Jmerik***, T.V. Shubina, D.V. Nechaev, A.N. Semenov, D.A. Kirilenko, V.Yu. Davydov, A.N. Smirnov, I.A. Eliseyev, G. Posina, and S.V. Ivanov
Site-controlled growth of GaN nanorods with inserted InGaN quantum wells on μ-cone patterned sapphire substrates by plasma-assisted MBE

Wednesday, June 28

Spin Related Phenomena in Nanostructures I 09:00–10:50

SRPN.01i ***D. Weiss***
Electric spin injection, detection and manipulation in two-dimensional electron systems

SRPN.02o C. Castelnovo, M.I. Dykman, V.N. Smelyanskiy, R. Moessner, ***L.P. Pryadko***
Quantum dynamics of a domain wall in the presence of dephasing

SRPN.03o ***V. Sverdlov***, J. Weinbub and S. Selberherr
Enhansed shot noise as a signature of trap-assisted tunneling in magnetic tunnel junctions: a Monte Carlo approach

SRPN.04o L.S. Braginsky, ***M.V. Entin***
Edge capacitance of a 2D topological insulator

SRPN.05o ***A.F. Zinovieva***, N.S. Stepina, A.V. Dvurechenskii, S. Noda, Md.Z. Molla, S. Samukawa
ESR study of electron states in Si nanoclusters embedded in free-standing SiGe nanocolumns

Graphene I 11:10–12:10

GRN.01i ***P. Hawrylak***, I. Ozfidan, P. Potasz, A.D. Guclu, O. Voznyy, M. Korkusinski, M. Grabowski, A. Delgado Gran, L. Najera, L. Szulakowska, M. Bieniek
Carbononics: photonics, electronics and spintronics with graphene quantum dots

GRN.02i ***V. Ryzhii***
Graphene-based heterostructures: device concepts and prospects

Graphene II 12:20–13:40

GRN.03o A. Nachawaty, W. Desrat, S. Nanot, M. Yang, W. Escoffier, F. Schopfer, W. Poirier and ***B. Jouault***
Ambipolar quantum hall effect in graphene on SiC

GRN.04o ***L. Huder***, T.Le Quang, F. Lipp Bregolin, A. Artaud, H. Okuno, S. Pouget, N. Mollard, G. Lapertot, A.G.M. Jansen, F. Lefloch, E.F.C. Driessen, C. Chapelier and V.T. Renard
Single-step growth of graphene and electrical contacts on SiC

GRN.05o M.V. Entin, ***M.M. Mahmoodian*** and L.I. Magarill
Is edge states energy spectrum of 2D topological insulator linear?

GRN.06o ***O.V. Kibis***, K. Dini, I.V. Iorsh and I.A. Shelykh
Floquet engineering of gapped 2D materials

Infrared and Microwave Phenomena in Nanostructures 15:00–16:50

IRMW.01i Y.M. Beltukov and ***M.I. Dyakonov***
Microwave-induced resistance oscillations as a classical memory effect

IRMW.02o ***V.I. Gavrilenko***, L.S. Bovkun, A.V. Ikonnikov, V.Ya. Aleshkin, S.S. Krishtopenko, M. Orlita, B.A. Piot, M. Potemski, N.N. Mikhailov, S.A. Dvoretsky
Magnetospectroscopy of single and double HgTe/CdHgTe quantum wells: effects of reduced symmetry

IRMW.03o ***K.-M. Dantscher***, D.A. Kozlov, G.V. Budkin, S.A. Tarasenko, V.V. Bel'kov, Z.D. Kvon, N.N. Mikhailov, S.A. Dvoretsky, D. Weiss and S.D. Ganichev
THz induced photocurrents in the surface states of a 3D topological insulator based on HgTe films under cyclotron resonance condition

IRMW.04o ***S. Gebert***, K.-M. Dantscher, D.A. Kozlov, M.T. Scherr, J. Bärenfänger, M.V. Durnev, S.A. Tarasenko, V.V. Bel'kov, N.N. Mikhailov, S.A. Dvoretsky, Z.D. Kvon, D. Weiss and S.D. Ganichev
Photogalvanic probing of helical edge channels in 2D HgTe TIs

IRMW.05o ***G.V. Budkin***, L.E. Golub, E.L. Ivchenko and S.D. Ganichev
Photocurrents in magnetic ratchet nanostructures

Excitons in Nanostructures I 17:00–18:40

EN.01i L.V. Kulik, A.V. Gorbunov, A.S. Zhuravlev, S.M. Dickmann, ***V.B. Timofeev***, and I.V. Kukushkin
Long-lived magnetoexcitons and two-dimensional magnetofermionic condensate in GaAs/AlGaAs heterostructure

EN.02i ***M.M. Glazov***, M.A. Semina, J. Heckötter, M. Aßmann, D. Fröhlich, M. Bayer
Fine structure and scaling of Rydberg excitons in cuprous oxide

EN.03o V.P. Kochereshko, V.N. Kats, ***A.V. Platonov***, D. Wolverson
Effect of magnetic field induced spatial dispersion of optical axes in quantum well structures

EN.04o ***A.V. Rodina***, A.A. Golovatenko, E.V. Shornikova, D.R. Yakovlev and Al.L. Efros
Dangling bond spins controlling recombination dynamics of excitons in colloidal nanocrystals and nanoplatelets

---

Poster Session 19:00–21:00

Thursday, June 29

Spin Related Phenomena in Nanostructures II 09:00–10:40

SRPN.06o ***D.R. Yakovlev***, D.H. Feng, V.V. Pavlov, A.V. Rodina, E.V. Shornikova, J. Mund and M. Bayer
Photocharging dynamics in colloidal CdS quantum dots visualized by electron spin coherence

SRPN.07o ***A.V. Poshakinskiy***, I. Stepanov, M. Ersfeld, M. Lepsa, E.L. Ivchenko, S.A. Tarasenko, B. Beschoten
Electron Zitterbewegung in semiconductors structures

SRPN.08o N.I. Fedotov, A.A. Mayzlakh, N.D. Semenov and ***S.V. Zaitsev-Zotov***
Influence of extended defects on helical surface states in topological insulators $Bi_2Te_xSe_{3-x}$ $(x = 0, 2, 3)$

SRPN.09o ***L.V. Kotova***, A.V. Platonov, V.P. Kochereshko, S.V. Sorokin, S.V. Ivanov and L.E. Golub
Optical polarization conversion in quantum wells enhanced by the interference

SRPN.10o ***V.N. Mantsevich***, N.S. Maslova and P.I. Arseyev
Non-stationary spin-polarized tunneling currents switching by means of applied bias changing

---

Quantum Wells and Quantum Dots 11:00–12:30

QWQD.01i ***A.Yu. Silov***
Magnetic moments in zero-dimensional systems: quantum dots and discrete dopants

QWQD.02o ***A.M. Mintairov***, J.L. Merz, A.S. Vlasov and S.A. Blundell
Wigner localization and whispering gallery modes of electrons in quantum dots

QWQD.03o ***V.A. Zinovyev***, A.F. Zinovieva, P.A. Kuchinskaya, V.A. Armbrister, Zh.V. Smagina, A.V. Dvurechenskii, O.M. Borodavchenko, V.D. Zhivulko, A.V. Mudryi
Strain effects in photoluminescence from the groups of laterally ordered SiGe quantum dots

QWQD.04o ***A.S. Bolshakov***, V.V. Chaldyshev, E.E. Zavarin, A.V. Sakharov, W.V. Lundin and A.F. Tsatsulnikov
Absorption suppression in InGaN/GaN resonant Bragg structures

---

Nanostructure Characterization 12:40–13:50

NC.01i ***A. Efros***
Electronic and optical properties of lead halide Perovskite nanocrystals

NC.02o ***S.M. Suturin***, A.M. Korovin, V.V. Fedorov, S.V. Gastev, V.P. Volkov, Yu.Yu. Petrova, M. Tabuchi, N.S. Sokolov
Correlation between crystal and magnetic structure in epitaxial films of exotic ε-Fe_2O_3 iron oxide polymorph

NC.03o ***D.O. Filatov***, V.G. Shengurov, S.A. Denisov, V.Yu. Chalkov, D.V. Guseinov and V.P. Mishkin
Ballistic hole emission spectroscopy of self-assembled GeSi/Si(001) nanoislands

Excitons in Nanostructures II 15:10–17:00

EN.05i ***T. Amand***, G. Wang, C. Robert, F. Cadiz, E. Courtade, M. Manca, H. Carrere, D. Lagarde, Y. Shen, H. Cai, S. Tongay, T. Taniguchi, K. Watanabe, P. Renucci, X. Marie and B. Urbaszek
Valley coherence in transition metal dichalcogenide monolayers

EN.06o ***L.E. Golub***, M.M. Glazov, G. Wang, X. Marie, T. Amand and B. Urbaszek
Nonlinear optical properties of excitons in transition metal dichalcogenide monolayers

EN.07o ***M.A. Semina***, M.M. Glazov, E.L. Ivchenko, E. Courtade, M. Manca, C. Robert, X. Marie, T. Amand and B. Urbaszek
Trion binding energies in two-dimensional transition metal dichalcogenides

EN.08o ***D.R. Kazanov***, A.V. Poshakinskiy, T.V. Shubina and S.A. Tarasenko
Optical activity of chiral van der Waals stacks

EN.09o S. Lippert, L.M. Schneider, D. Renaud, K.N. Kang, O. Ajayi, J. Kuhnert, M.-U. Halbich, O.M. Abdulmunem, X. Lin, K. Hassoon, S. Edalati-Boostan, Y. D. Kim, W. Heimbrodt, E.-H. Yang, J.C. Hone and ***A. Rahimi-Iman***
Influence of the substrate material on the optical properties of tungsten diselenide monolayers

Quantum Photonics 17:20–19:10

QP.01i C. Schneider, Y.-M. He, J. Liu, X. Ding, S. Gerhardt, O. Iff, N. Lundt, ***S. Höfling***
Quantum dot single photon emitters in semiconductor GaAs-based micropillars and in monolayered WSe_2

QP.02i ***N. Akopian***
Quantum nanophotonics with nanowire quantum dots

QP.03i M. Müller, H. Vural, C. Schneider, S. Höfling, A. Rastelli, O.G. Schmidt and ***P. Michler***
Entanglement enhanced interferometry with deterministic single-photon sources

QP.04o ***G.E. Cirlin***, I.V. Shtrom, R.R. Reznik, Yu.B. Samsonenko, A.V. Khrebtov, T. Kasama and N. Akopian
Single photon sources based on GaAs/AlGaAs hybrid nanowire — quantum dot system

Friday, June 30

Nanostructure Technology 10:00–11:30

NT.01i ***V.L. Alperovich***, D.M. Kazantsev, I.O. Akhundov, A.S. Kozhukhov and A.V. Latyshev
Thermal smoothing and roughening of semiconductor surfaces: experiment on GaAs and Monte Carlo simulation

NT.02o ***S. Battiato***, D. Ercolani, U.P. Gomes, V. Zannier, E. Ubyivovk, V. Mikhailovskii, Y. Murata, S. Heun, F. Beltram and L. Sorba
Heterogenous nucleation of catalyst-free InAs nanowires on silicon

NT.03o ***I.A. Tarasov***, M.A. Visotin, L.A. Solovyov, M.N. Volochaev, M.V. Rautskii, V.S. Zhandun, I.V. Nemtsev, I.A. Yakovlev, S.N. Varnakov and S.G. Ovchinnikov
Tuning the preferable orientation of self-assembled α-$FeSi_2$ nanocrystals on Si(100): orientation relationship analysis and their physical properties

NT.04o ***A.V. Vasev***, M.A. Putyato, V.V. Preobrazhenskii, A.K. Bakarov and A.I. Toropov
Kinetics of structural changes on GaSb(001) singular and vicinal surfaces during the UHV annealing

Lasers and Optoelectronic Devices II 11:50–13:20

LOED.05i ***B. Schwarz***
QCL technology for future applications: from on-chip detection to frequency comb generation

LOED.06o ***F.I. Zubov***, A.V. Ikonnikov, K.V. Maremyanin, S.V. Morozov, V.I. Gavrilenko, A.Yu. Pavlov, N.V. Shchavruk, R.A. Khabibulin, R.R. Reznik, G.E. Cirlin, N.V. Kryzhanovskaya, A.E. Zhukov and Zh.I. Alferov
Development and study of terahertz quantum-cascade lasers with metallic waveguide

LOED.07o ***M.A. Royz***, A.N. Imenkov, A.N. Baranov, D.S. Burenina, A.A. Pivovarova, A.M. Monakhov, E.A. Grebenshchikova and Yu.P. Yakovlev
Collective modes in coupled semiconductor disk lasers on whispering gallery modes

LOED.08o ***A.A. Andronov***, A.V. Ikonnikov, K.V. Maremianin, V.I. Pozdnjakova, Y.N. Nozdrin, A.A. Marmalyuk, A.A. Padalitsa, M.A. Ladugin, V.A. Belyakov, I.V. Ladenkov and A.G. Fefelov
THz emission from simple superlattice in positive differential conductivity region

---

Closing Plenary Session 14:40–15:50

CPS.01i ***K.H. Ploog***
Molecular beam epitaxy of materials interfaces with atomic precision

CPS.02i ***V.M. Agranovich***
Hybrid resonant organic-inorganic nanostructures for optoelectronics

■ ***Zh. Alferov***
Closing Remarks

Young Scientist Award 15:50–16:00