

International Conference

Days on Diffraction 2018

June 4 – 8, 2018

St. Petersburg

Program

8.30 Registration & Coffee

10.00 Opening (Main Hall)

	Localized waves (I) (Main Hall) Chair: Evgeny Abramochkin
10.10	Aleksei P. Kiselev, Alexandr B. Plachenov: Astigmatic Gaussian beam: exact solution of the Helmholtz equation
10.30	Sazonov S.V., Kalinovich A.A., Zakharova I.G., Komissarova M.V.: Light bullets in a planar waveguide with quadratic nonlinearity and normal group velocity dispersion
10.50	Evgeniya V. Razueva, Eugeny G. Abramochkin: Basic multiple-twisted spiral beams

11.10 Coffee break

	Localized waves (II) (Main Hall) Chair: Maria Perel	Waves in complex media (Hall 311) Chair: Alexander Belyaev
11.30	Dobrokhotov S. Yu., Sekerzh-Zenkovich S. Ya., Tolstova O.L., Vargas C.A.: The linear water waves in the basin with elastic base created by the localized underground source	Alexander K. Belyaev: Some approaches to harmonic wave propagation in elastic solids with random microstructure
11.50	Alexander S. Blagoveshchensky, Azat M. Tagirdzhanov, Aleksei P. Kiselev: Two classes of localized solutions of the wave equation	Polyanskiy V.A., Belyaev A.K., Tretyakov D.A., Yakovlev Yu.A., Polyanskiy A.M.: Averaged equations bi-continuum material in the long-wavelength approximation
12.10	Eugeny G. Abramochkin, Evgeniya V. Razueva: Light beams based on diffraction catastrophes	Grekova E.F.: Harmonic waves in simplest reduced Kelvin's and gyrostatic media under external body follower torque
12.30	Petrov P.S., Tyshchenko A.G., Ehrhardt M.: Numerical solution of iterative parabolic equations approximating the nonlinear Helmholtz equation	Starkov I.A., Starkov A.S.: The effect of curvature and torsion of inclusions on effective permittivity
12.50	Kislin D.A., Knyazev M.A., Shpolyanskiy Y.A., Kozlov S.A.: Self-focusing of non-paraxial single cycle optical pulses in nonlinear media	

13.10 Lunch at Madagascar restaurant

	Diffraction (I) (Main Hall) Chair: Mikhail Lyalinov	Waves in mechanics (Hall 311) Chair: Serge Gavrilov
15.20	Anna Kirpichnikova, Nataliya Kirpichnikova: Asymptotical and numerical investigation of the currents in a short-wave diffraction problem of a plane incident wave by smooth prolate bodies of revolution with Dirichlet and Neumann boundary conditions	
15.40	M.A. Lyalinov: Surface waves in a polygonal domain with Robin boundary conditions	Gavrilov S.N., Mochalova Yu.A., Shishkina E.V.: Evolution of a trapped mode of oscillation in a Bernoulli–Euler beam on the Winkler foundation with point inhomogeneity
16.00	Vladimir Petrov: Diffraction of high-frequency hadronic waves	Gusev V.A.: Surface acoustical waves at the boundary of bimodule medium

Monday, June 4, 2018

Mathematical Institute, Fontanka 27

16.20	Fialkovsky I.V., Perel M.V.: Interaction of modes near an eigenvalue crossing for the diagonalizable perturbed Hamiltonian	Bulygin A.N., Pavlov Yu.V.: Complex representation of general solution of equations for nonlinear model of plane deformation of crystal media with a complex lattice
16.40	Chehade S., Darmon M., Lebeau G.: The spectral functions method for elastic plane wave diffraction by a wedge	Ngoc Nguyen Vu, Rolf Lammering: Numerical simulation of nonlinear wave propagation in symmetric cross-ply laminates with hyperelastic material behavior

17.00 **Coffee break**

	<i>Acoustics (I)</i> (Main Hall) Chair: Boris Katsnelson
17.20	Petrov P.S., Burenin A.V., Golov A.A., Morgunov Yu.N.: Transformation of the modal structure of acoustical field in course of the sound propagation from continental shelf to the deep ocean
17.40	Boris Katsnelson: Variability of the phase and pulse fronts of the sound signal due to horizontal refraction in shallow water waveguide
18.00	Sergeev S.A., Tolchennikov A.A., Petrov P.S.: Maslov's canonical operator in the problem of acoustic pulse signal propagation in a shallow sea with penetrable bottom

	<i>Nonlinear dispersive waves models and methods (I)</i> (Main Hall) Chair: Irina Semenova
9.45	I.V. Semenova: Introduction to the memorial session
10.00	Matveev V.B.: Linear and nonlinear aspects of scattering on oscillating potentials
10.30	Jen-Hsu Chang: The Le-diagram for the resonance of modified KP equation
10.50	Budiasih L.K., Wiryanto L.H.: Boussinesq-type model to simulate the development of an undular bore on a small slope

11.10 **Coffee break**

	<i>Nonlinear dispersive waves models and methods (II)</i> (Main Hall) Chair: Vladimir Matveev	<i>Numerical methods</i> (Hall 311) Chair: Leonid Goray
11.30	M.D. Todorov: Nonlinear waves: theory, computer simulation, experiment	Kurseeva V.Yu.: Electromagnetic non-polarized symmetric hybrid wave propagation in nonlinear media with saturation
11.50		Dmitrieva L.A., Kuperin Yu.A.: Differentiation of brain waves patterns in different states by multifractal analysis
12.00	Slunyaev A.V.: Inverse scattering technique for deep water waves	Asadchikov, V.E., Goray, L.I., Rosshin, B.S., Tikhonov, A.M., Volkov, Yu.O.: Fluorescence analysis of X-ray whispering gallery waves propagating along liquid menisci
12.10		
12.30	Matias, D.V.: Propagation process of the coupled hyperbolic waves in gas thermoelastic medium	Stavtsev S.L.: Low-rank matrices with a hierarchical basis in an electromagnetic problem of diffraction
12.50	Kovaleva M., Manevitch L.I., Pilipchuk V.: Non-conventional phase attractors and repellers in weakly coupled autogenerators with hard excitation	Setukha A.V., Fetisov S.N.: Numerical method for solving the problem of electromagnetic wave scattering by a perfectly conducting object of small thickness

13.10 **Lunch at Madagascar restaurant**

	<i>Nonlinear dispersive waves models and methods (III)</i> (Main Hall) Chair: Alexey Slunyaev	<i>Heun functions and applications</i> (Hall 311) Chair: Alexander Kazakov
15.20	Porubov A.V.: Two dimensional nonlinear waves in crystalline media	Mikhail Babich, Sergey Slavyanov: Fuchsian Heun equation, equivalent Fuchsian linear systems and Painlevé P ^{VI} equation
15.40		A.M. Ishkhanyan: Appell hypergeometric expansions of the solutions of the general Heun equation
15.50	Beltukov Y.M., Belashov A.V., Garbuzov F.E., Semenov A.A., Semenova I.V.: Solitary strain waves in two-layered nanocomposites	T.A. Ishkhanyan, C. Leroy, A.M. Ishkhanyan: Generalized confluent hypergeometric solutions of the confluent Heun equation
16.00		
16.20	Garbuzov F.E., Khusnutdinova K.R.: Modelling longitudinal bulk strain waves in elastic waveguides with Boussinesq and Korteweg – de Vries type equations	Oleg V. Motygin: On evaluation of the confluent Heun functions

16.40 **Coffee break**

	<i>Water waves (I)</i> (Main Hall) Chair: Ikha Magdalena
17.00	I. Magdalena, Kevin: Numerical studies for resonant phenomena during wave run-up
17.20	I.J. Kristianto, I. Magdalena: Wave reduction on a shoaling phenomenon by a porous structure
17.40	R. Anastasia, I. Magdalena, H.Q. Rif'atin: Seiches and harbour oscillation in a semi-closed basin of various geometric shape with porous media

	<i>Spectral theory methods (I)</i> (Main Hall) Chair: Tatiana Suslina	<i>Acoustics (II)</i> (Hall 311) Chair: Pavel Petrov
9.10	Pastukhova S.E.: Operator estimates in homogenization of second-order divergence elliptic equation with coefficient matrix in BMO	
9.30	Dorodnyi M.A., Suslina T.A.: Homogenization of a nonstationary model equation of electrostatics	Doroshenko O.V.: Modelling of damaged interface dynamic behaviour via random and periodic distributions cracks
9.50	Saburova N.Yu.: Invariants and spectral estimates for Laplacians on periodic graphs	Golub M.V., Eremin A.A., Glushkov E.V., Glushkova N.V.: Theoretical and experimental study of resonance Lamb wave scattering by an impact-induced damage
10.10	Andrey Badanin: Third order operator for the good Boussinesq equation on the circle	Golub M.V., Shpak A.N., Fomenko S.I., Zhang Ch.: Semi-analytical hybrid approach for modelling wave motion excited by a piezoelectric transducer in periodic layered composite with a crack
10.30	Ryadovkin K.S.: Laplacians on periodic graphs with boundary	Telyatnikov I.S.: On the method of the block element in the problem of vibration of an elastic medium with a composite coating

10.50 **Coffee break**

	<i>Spectral theory methods (II)</i> (Main Hall) Chair: Michel Rouleux	<i>Acoustics (III)</i> (Hall 311) Chair: Mikhail Golub
11.10	Suleymanova A.: Spectral geometry of surfaces with curved conic singularities	Filippenko G.V., Wilde M.V.: Low-frequency backward waves in an elastic cylindrical shell filled with fluid: comparison of shell theories and 3D theory of elasticity
11.30	Borzov V.V., Damaskinsky E.V.: Generalized Chebychev polynomials connected with a point interaction for the discrete Schrödinger equation	D.D. Zakharov: Low frequency spectra of layered plates and their parametrical study
11.50	Vasilchuk V.: Distribution of the spectrum of symmetrically deformed unitary invariant random matrix ensemble	Gavrikov A.A.: Natural vibrations of some inhomogeneous rod-like systems
12.10	Korikov D.V., Plamenevskii B.A.: Asymptotics of solutions to non-stationary Maxwell systems in a domain with small cavities	Miakisheva O.A., Fomenko S.I.: Leaky wave asymptotics in the case of stationary point and complex pole approaching
12.30	Pavle Saksida: Nonlinear Fourier transform, nonlinear modes and nonlinear superposition	Zhuchkova M.G.: Ice-coupled surface water waves near a vertical barrier

12.50 **Lunch at Madagascar restaurant**

	<i>Spectral theory methods (III)</i> (Main Hall) Chair: Svetlana Pastukhova	<i>Diffraction (II)</i> (Hall 311) Chair: Andrey Shanin
15.00	Suslina T.A.: On spectral approach to homogenization of elliptic operators in a perforated space	Popov M.M.: On Morse index calculations for geodesic lines on smooth surfaces imbedded in \mathbb{R}^3
15.20	Nikita N. Senik: On homogenization for strongly elliptic operators with "Hölder continuous" locally periodic coefficients	Shanin A.V., Korolkov A.I.: Method of parabolic equation in diffraction theory. When it is applicable?
15.40	Melikhova A.S., Popov I.Y.: Spectral problem for Dirac operator for Y-type splitted chain of nanospheres	A.Ya. Kazakov: "Separation of variables" in the model problems of the diffraction theory

16.00	Pérez E.: Asymptotics for the spectrum in boundary value problems with strongly alternating boundary conditions	Ekaterina A. Zlobina, Aleksei P. Kiselev: High-frequency diffraction by a contour with a jump of curvature
16.20	Gómez D.: High frequencies for some spectral problems in thin structures	V. Zalipaev, S. Kosulnikov, S. Glybovski: Electromagnetic resonance structures made of thin metallic wires

16.40 **Coffee break**

	<i>Asymptotic methods (I)</i> (Main Hall) Chair: Sergei Nazarov	
17.00	A.E. Kovtanyuk, A.Yu. Chebotarev, A.A. Dekalchuk, N.D. Botkin, R. Lampe: Analysis of a mathematical model of oxygen transport in brain	
17.20	Sergei A. Nazarov: Spectral problems for long and infinite Kirchhoff plates	
17.40	Vladimir Kozlov, Sergei Nazarov, German Zavorokhin: On effective lengths of blood vessels	
18.00	Bakharev F.L., Matveenko S.G.: Localization effect for eigenfunctions in narrow Kirchhoff plates with clamped edges	
18.20	Bakharev F.L., Nazarov S.A.: Some spectral problems for thin Kirchhoff plates	

20.00 **Boat trip**

	<i>Asymptotic methods (II)</i> (Main Hall) Chair: Sergei Dobrokhotov	<i>Inverse problems (I)</i> (Hall 311) Chair: Maxim Demchenko
9.10	Minenkov D.S.: On analytical modeling of cold field electron emission from nanotube films in irregular and aperiodic cases	
9.30	Brezhnev Yu.V., Dobrokhotov S.Yu., Tsvetkova A.V.: Integrable in elliptic functions equations for the fronts of linear water waves generated by a localized source	Sushchenko A.A., Kovalenko E.O., Kan V.A.: Focusing of the seabottom images
9.50	Anikin A.Yu., Dobrokhotov S.Yu., Nazaikinskii V.E.: Efficient asymptotic formulas for waves generated by a localized source with finite duration	Popov A.V., Edemsky F.D., Prokopovich I.V.: GPR image deconvolution from antenna current waveform
10.10	Fedotov A., Klopp F.: Difference equations, uniform quasiclassical asymptotics and Airy functions	A.S. Mikhaylov, V.S. Mikhaylov: Dynamic inverse problem for canonical system with smooth positive Hamiltonian
10.30	Fedotov A., Shchetka E.: Monodromy matrices for Harper equation	M.I. Belishev, S.A. Simonov: Isometric model of metric spaces and the wave model of symmetric operators

10.50 **Coffee break**

	<i>Asymptotic methods (III)</i> (Main Hall) Chair: Vladimir Nazaikinskii	<i>Inverse problems (II)</i> (Hall 311) Chair: Alexei Popov
11.10	Ivanov A.V.: Transversal connecting orbits of Lagrangian systems with turning points: Newton–Kantorovich method	Pestov L.N., Danilin A.N.: Various options for migration in elastic environments based on the method of Reverse Time Migration
11.30	Buslov V.A.: Different asymptotic limits of average evolution of quantum particle under small random perturbations	Pestov L.N., Filatova V.M., Nosikova V.V., Rudnitskii A.G.: Sound speed determining in weak inclusions degraded by noise in the ultrasound tomography problem
11.50	Vedenyapin V.V.: Hamilton–Jacobi method in non-Hamiltonian situation and Boltzmann extremals	Knyazkov D.: Inverse problem of tomography of thick layer
12.10	Anatoly Anikin, Sergey Dobrokhotov, Vladimir Nazaikinskii, Michel Rouleux: Semi-classical Green functions	M.N. Demchenko: Reconstruction of solution to the wave equation from Cauchy data on the boundary
12.30	Petrov P.N., Dobrokhotov S.Yu.: Asymptotic solution of the Helmholtz equation in a three-dimensional layer of variable thickness with a localized right-hand side	

12.50 **Lunch at Madagascar restaurant**

	<i>Water waves (I)</i> (Main Hall) Chair: Nikolay Kuznetsov	<i>Electromagnetics</i> (Hall 311) Chair: Tatiana Zaboronkova
15.00	V. Kozlov: A comparison theorem for super- and subsolutions of $\nabla^2 u + f(u) = 0$ and its application to water waves with vorticity	
15.20	Dobrokhotov S.Yu.: The problem of the wave overturning for the Burgers equation with an imaginary dispersive second derivative	

15.40	E. Dinvay, H. Kalisch, D. Dutykh, J.D. Carter: Bidirectional fully dispersive models for water waves over a rough bottom	Grigoreva A.A., Tyukhtin A.V., Vorobev V.V., Galyamin S.N.: Electromagnetic field structure of a charge flying out from a vacuum area to bilayer one in a circular waveguide
16.00	Nikolay Kuznetsov: An indefinite integral equation without irregular frequencies for the floating-body problem	Kudrin A.V., Zaboronkova T.M., Zaitseva A.S., Krafft C.: Current distribution and input impedance of a circular loop antenna located on the surface of a gyromagnetic cylinder
16.20	A.Yu. Anikin, S.Yu. Dobrokhotov, V.E. Nazaikinskii: Simple asymptotics for a generalized wave equation with degenerating velocity and their applications to the linearized long wave run-up problem	Shirokov E.A.: Scattering of quasi-electrostatic waves on the conducting bodies of revolution in media with dielectric anisotropy

16.40 **Coffee break**

	<i>Water waves (II)</i> chair Vladimir Kozlov	(Main Hall)
17.00	Danilov V.G., Gaydukov R.K.: Equations for velocity oscillations in problems of a fluid flow along a plate with small periodic irregularities on the surface for large Reynolds numbers	
17.20	Bulatov V.V., Vladimirov Yu.V.: Unstable regimes of surface gravity waves generation	
17.40	Khimya Amlani: Approximate solution of MHD boundary layer flow of a non-Newtonian power-law fluids over a continuous moving surface using B-spline collocation	

8.00 **Departure of the buses from St.Petersburg (Fontanka 21) to Petrodvorets**

9.00 **Posters**

Plenary talks — Chair: Alexander Poddubny

10.00 Mohammad Hafezi: *Quantum directions in topological photonics*

10.40 Franco Nori: *Parity-Time-Symmetric optics, extraordinary momentum and spin in evanescent waves, and the quantum spin Hall effect of light*

11.20 **Coffee break & Posters**

1. E.L. Alekseeva, A.A. Alkhimenko, A.I. Grishchenko, A.S. Semenov, D.A. Tretyakov, A.K. Belyaev, V.A. Polyanskiy, Yu.A. Yakovlev: Propagation of acoustic waves during the control of hydrogen-induced destruction of metals by the acoustoelastic effect.
2. M.V. Altaisky, N.E. Kaputkina, V.A. Krylov: Simulation of 3 quantum dot network dynamics.
3. I.V. Baibulov, A.M. Budylin, S.B. Levin: The asymptotics of the solution of three one-dimensional quantum particles scattering problem. The case of finite repulsive pair potentials.
4. A.G. Belolipetskaia, I.Y. Popov: On the spectrum discreteness for quantum graph in a magnetic field.
5. A.S. Berestennikov, E.Y. Tiguntseva, I.V. Iorsh, S.V. Makarov: Optical properties of spatially dispersive Mie-resonant halide perovskite nanoparticles.
6. E.D. Chubchev, A.V. Dorofeenko, A.P. Vinogradov: Transmission properties of a chain of plasmonic nanoparticles beyond the point dipole approximation.
7. N.N. Dadoenkova, Yu.S. Dadoenkova, I.S. Panyaev, D.G. Sannikov, I.L. Lyubchanskii: Multi-periodic one-dimensional photonic crystals.
8. V.I. Demidchik, R.V. Kornev: Antenna approach for calculating dynamic polarizability of carbon nanotubes.
9. A.A. Dmitriev, M.V. Rybin: Coupling regimes of high-index dimer.
10. P.V. Dolganov, N.S. Shuravin, V.K. Dolganov: Structures and optical properties of smectic liquid crystals with multilayer periodicity.
11. I.V. Doronin, E.S. Andrianov, A.A. Zyablovsky, A.P. Vinogradov, A.A. Lisyansky: Second-order autocorrelation function for amplified spontaneous emission.
12. A.A. Drozdov, M.A. Knyazev, S.A. Kozlov, R.W. Boyd: Disappearance of self-focusing phenomena for few-cycle pulses.
13. N.A. Dugin, G.R. Belyaev, V.G. Lobastov, T.M. Zaboronkova: Polarization characteristics of graphene-containing composite L-band antenna.
14. V.G. Farafonov, V.I. Ustimov, A.P. Tulegenov, M.V. Sokolovskaya, V.B. Il'in: A spheroidal model for axisymmetric scatterers based on the quasistatic approach.
15. A.E. Fedyanin, Ia.A. Mogunov, A.V. Scherbakov, S. Lysenko, A.V. Akimov, A.M. Kalashnikova: Picosecond photo-elastic effect in a VO₂ thin film in insulating and metallic phases.
16. A.D. Furasova, A.A. Zakhidov, A. Di Carlo, S.V. Makarov: Silicon nanoantennas in perovskite photovoltaics.
17. M. Jalali, D. Erni, H. Nadgaran: Semi-periodic nanostructures: an apt solution to broadband optical applications.
18. A.D. Kiselev, S.V. Pasechnik, D.V. Shmeliiova, A.V. Dubtsov: Waveguide modes of biaxially anisotropic fiber and electro-optics of porous films filled with nematic liquid crystals.

19. M.A. Knyazev, S.A. Kozlov: Noncollinear interaction features of optical waves with wide spectrum in nonlinear dielectric medium.
20. S.A. Kolodny, D.I. Yudin, I.V. Iorsh: Resonant excitation of TMOKE-based spin waves in hybrid nanostructures via frequency comb.
21. V.K. Kozin: Quantum rings in the regime of strong light-matter coupling. Topological insulators.
22. S.B. Kozitskiy: Dynamic patterns in double-diffusive convection.
23. A.O. Larin, Y. Sun, R.S. Savelev, D.A. Zuev: Numerical design of Au/Si core-shell nanoparticles.
24. S. Lepeshov, A. Krasnok, O. Kotov, A. Alu: Strong coupling between silicon spherical nanoparticle and monolayer WS₂.
25. S.V. Li, A.E. Krasnok: Dielectric Yagi–Uda nanoantennas for unidirectional excitation of plasmons.
26. M.D. Lyubarov, A.N. Poddubny: Exceptional points in energy spectrum of nonlinear cavity arrays.
27. E.E. Maslova, M.V. Rybin: All-dielectric metamaterials with Mie-driven resonant electric response.
28. E. Mikheeva, J. Lumeau, S. Enoch, J. Wenger, A. Moreau, F. Lemarchand, I. Voznuk, R. Abdeddaim: Development of hyperbolic metamaterials for the control of biological molecules fluorescence.
29. K.M. Morozov, A.R. Gubaydullin, K.A. Ivanov, G.P. Pozina, M.A. Kaliteevski: Purcell effect in a disordered photonic crystals.
30. N. Nandan, M.V. Rybin: Study of high-index dielectric nanoparticles by means of virtual surface currents method.
31. A. Nikulin, A. Ourir, J. de Rosny: Metacage for controllable field distribution in MRI.
32. A.V. Pavlova, S.E. Rubtsov, I.S. Telyatnikov: Steady-state oscillations of the volume of liquid on an elastic layer.
33. V. Petranovskii, Y. Kotolevich, S. Miridonov, P. Sánchez-Lopez, F. Chávez-Rivas, R. Machorro, S. Fuentes: Self-assembling of ordered domains of silver nanoparticles into the mordenite channel system.
34. L.Yu. Pogorelskaya, A.A. Bogdanov, K.B. Samusev, A.D. Sinelnik: Bound state in the continuum supported by a low refractive index contrast waveguide in a woodpile structure.
35. E.V. Prozorova: Mathematical theory of continuum mechanics with angular momentum.
36. A.O. Schadko, K.I. Zaytsev, N.V. Chernomyrdin, P.A. Nosov: Simulation of the optical components surface quality influence on the propagation of high-power laser radiation.
37. H.K. Shamkhi, K.V. Baryshnikova, A.S. Shalin: Simultaneous forward-backward scattering suppression through nonresonant multipole excitation.
38. A.V. Shanin, A.I. Korolkov, A.A. Belous: Experimental study of diffraction by a thin cone.
39. E. Smolkin, M. Snegur: Numerical study of the electromagnetic wave propagation problem in an anisotropic waveguide.
40. A.A. Stepanenko, M.A. Gorlach: Interaction-induced two-photon topological states.
41. I.O. Sukharevsky, M. Lebental, B. Dietz, C. Lafargue, S. Bittner: Supercar model for dielectric equilateral triangle microresonators validated by the integral equation method.
42. E.Y. Tiguntseva, A.A. Zakhidov, Yu.S. Kivshar, S.V. Makarov: Halide perovskite nanoparticles with enhanced photoluminescence.
43. S.V. Tikhov, D.V. Valovik: Propagation of electromagnetic waves in a shielded dielectric layer with cubic nonlinearity.
44. I.V. Timofeev, P.S. Pankin, S.Ya. Vetrov, V.G. Arkhipkin, W. Lee, V.Ya. Zyryanov: Chiral optical Tamm states: method of images.
45. R.M. Turtos, S. Gundacker, E. Auffray, P. Lecoq, B. Mahler, C. Dujardin: CdSe nanoplatelets as a new generation of ultrafast ionizing radiation detectors.

46. I.I. Volkovskaya, D.A. Smirnova: Second-harmonic generation in Mie-resonant dielectric nanoparticles made of noncentrosymmetric materials.
47. P.M. Voroshilov, D.S. Saranin, C.R. Simovski, A.A. Zakhidov: Multi-walled carbon nanotube sheet transparent electrode mediated ionic doping in organic photovoltaics.
48. M.V. Wilde, N.V. Sergeeva: Analysis of longitudinal impact waves in a thin viscoelastic rod on the basis of 3D equations for a Rabotnov's hereditary elastic body.
49. Yu.A. Yakovlev, A.K. Belyaev, V.A. Polyanskiy, D.A. Tretyakov, D.G. Arseniev: Gradient method for detecting sites of local hydrogen embrittlement of metals.
50. N.F. Yashina, T.M. Zaboronkova, C. Krafft: Interaction of nonsymmetric electromagnetic waves guided by cylindrical duct with enhanced density in magnetoactive plasma.
51. A.S. Zalogina, D.A. Zuev: Metal-dielectric nanoantenna for NV-center emission control.

Plenary talk — Chair: Aleksei Kiselev

12.50 Sergei A. Nazarov: *“Blinking and wandering” eigenvalues: Blunted elastic cusps and rounded plasmonic singularities*

13.30

Lunch

15.00

Excursion

18.00

Picnic party at Peterhof forest

Symposium on Nanophotonics and Metamaterials

Monday, June 4, 2018

Holiday Inn Hotel, Moskovsky pr. 97A

9.00 Registration

	<i>Plenary Session</i>
11.00	(Plenary talk) Y. Arakawa “Progress in quantum dots for lasers and single photon sources”
11.50	(Plenary talk) R. Feidenhans'l “European XFEL – New opportunities for X-ray science”
12.40	(Plenary talk) M. Segev “Topological photonics and topological insulator lasers”

13.30 Lunch

	<i>Applications of metamaterials</i> Chair: Stanislav Glybovski
15.00	(Invited talk) R. Abdeddaim, S. Enoch “M-Cube project: objectives and some results”
15.25	(Invited talk) M. Beruete “The role of leaky waves in extraordinary transmission hole arrays and corrugated antennas”
15.50	(Oral talk) P. del Hougne, M.F. Imani, M. Fink, D.R. Smith, G. Lerosey “Precise localization of multiple non-cooperative objects in a disordered cavity by wavefront shaping”
16.05	(Oral talk) D. Filonov, P. Ginzburg “Metamaterial-based super-scatterers”

16.20 Coffee break

	<i>Topologically protected structures (I)</i> Chair: Daniel Leykam
16.40	(Invited talk) O. Bleu, G. Malpuech, D. D. Solnyshkov “Topological polaritonics”
17.05	(Invited talk) M. Di Liberto “Two-body physics in topological models”
17.30	(Oral talk) M. A. Gorlach, R. S. Savelev, A. N. Poddubny “Topological transition due to spontaneous symmetry breaking”
17.45	(Invited talk) S. Lannebère, M. G. Silveirinha “Photonic analogues of the Haldane and Kane-Mele Models”
18.10	(Oral talk) D. V. Zhirihin, M. A. Gorlach, A. P. Slobozhanyuk, P. A. Belov, X. Ni, D. A. Smirnova, D. Korobkin, A. Alù, A. B. Khanikaev “Leaky topological states: from near- to far-field investigation”

	Meta-optics (Main Hall) Chair: Alexander Khanikaev
09.00	(Keynote talk) Yu. S. Kivshar “Meta-optics and Mie-resonant nanophotonics”
09.35	(Invited talk) A. A. Fedyanin “Magnetophotonics with all-dielectric nanostructures”
10.00	(Oral talk) E. Y. Tiguntseva, A. P. Pushkarev, <u>S. V. Makarov</u> , A. A. Zakhidov, Yu. S. Kivshar “Tunable resonant coupling of excitonic states with Mie modes in halide perovskite nanoparticles”
10.15	(Oral talk) A. D. Sinelnik, M. V. Rybin, S. Y. Lukashenko, K. B. Samusev, <u>M. F. Limonov</u> “Glassy metasurfaces: structural and optical studies”

10.30 **Coffee break**

	Advanced nanomaterials (Main Hall) Chair: Sergey Makarov		Artificial materials for MRI (I) (Room 1220) Chair: Anna Andreychenko
10.40	(Keynote talk) <u>R. H. Baughman</u> , A. G. MacDiarmid “Stronger, faster, and more powerful artificial muscle yarns and fibers”	10.40	(Invited talk) <u>A. Vignaud</u> , Z. Raolison, M. Dubois, L. Leroi, A. L. Neves, F. Mauconduit, S. Enoch, N. Malléjac, P. Sabouroux, A.-L. Adenot-Engelvin, R. Abdeddaim “Ultra-high field MRI radiofrequency excitation inhomogeneities mitigation in the head: optimization of dielectric pad mixture and locations”
11.15	(Invited talk) A. A. Zakhidov “Tunable color bright LED tandems with nanostructured perovskite-polymer composites”	11.05	(Oral talk) <u>E. I. Kretov</u> , A. V. Shchelokova, A. P. Slobozhanyuk “Wire metasurface eigenmode impact on receive sensitivity enhancement of 1.5 T MRI machine”
11.40	(Invited talk) A. Di Carlo “2D materials for mesoscopic perovskite photovoltaics”	11.20	(Oral talk) <u>E. A. Brui</u> , A. V. Shchelokova, M. A. Zubkov, I. V. Melchakova, S. B. Glybovski, A. E. Andreychenko, A. P. Slobozhanyuk “Adjustable metasurface-based resonator for in vivo MRI”
12.05	(Invited talk) <u>C. R. Simovski</u> , P. M. Voroshilov, A. Papadimitratos, A. A. Zakhidov “Light-trapping in organic solar cells by silver nanoantennas”	11.35	(Oral talk) <u>G. A. Solomakha</u> , S. B. Glybovski “Metamaterial inspired structures for enchantment performance of RF-coils for MRI”
12.30	(Oral talk) <u>D. S. Gets</u> , A.R. Ishteev, T. G. Liashenko, D. S. Saranin, S. V. Makarov, A. A. Zakhidov “Switchable light emitting perovskite solar cells”	11.50	(Keynote talk) <u>C. M. Collins</u> , G. Carluccio, G. Haemer “Potential to improve performance of state-of-the-art receive arrays with high-permittivity materials”

12.40 **Lunch at Madagascar restaurant**

	Topologically protected structures (II) (Main Hall) Chair: Miguel Bandres		Artificial materials for MRI (II) (Room 1220) Chair: Christopher Collins
14.30	(Keynote talk) A. B. Khanikaev “All-dielectric topological photonics”	14.30	(Invited Talk) <u>A. Rennings</u> , Z. Chen, B. Sievert, J. T. Svejda, D. Erni “Metamaterial based enhancements of RF-coils for ultra high-field magnetic resonance imaging”

15.05	(Invited talk) <u>S. Yves</u> , F. Lemoult, M. Fink, G. Lerosey, R. Fleury, T. Berthelot “Crystalline metamaterials for topological properties at the subwavelength scale”	14.55	(Invited Talk) J. de Rosny, R. Abdeddaim, C. Jouvaud, B. Larrat, A. Nikulin, A. Ourir “Hybridized magnetic enhancer and metacage as new volume antenna for high field MRI”
15.30	(Invited Talk) L. Zhang “Manipulation of robust valley edge transport in ultrathin substrate-integrated photonic crystals”	15.20	(Oral talk) <u>M. Dubois</u> , R. Abdeddaim, S. Enoch, L. Leroi, Z. Raolison, A. Vignaud “Shaping electromagnetic fields with meta atom for ultra-high field MRI”
15.55	(Invited talk) J.-W. Dong “All-dielectric valley photonic crystals: Paving the way to topological nanophotonics”	15.35	(Oral Talk) <u>A. Nikulin</u> , A. Ourir, J. de Rosny, G. Lerosey, B. Larrat, F. Kober, R. Abdeddaim, S. Glybovski “Double-tuned birdcage-like coil based on metasurfaces”
16.20	(Oral talk) <u>A. A. Gorlach</u> , D. V. Zhirihin, A. P. Slobozhanyuk, M. A. Gorlach, A. B. Khanikaev “Valley Zak topological states in all-dielectric structures”		

16.35 **Coffee break**

	<i>Topologically protected structures</i> (Main Hall) Chair: Jianwen Dong
16.50	(Invited talk) H. Buljan “Engineering Weyl semimetals and anyons”
17.15	(Invited talk) E. L. Ivchenko “Photogalvanic effects in gyrotropic Weyl semimetals”
17.40	(Invited talk) <u>D. Leykam</u> , S. Mittal, M. Hafezi, Y. D. Chong “Topologically-protected transport in next-nearest-neighbour coupled ring resonator lattices”
18.05	(Invited talk) V. V. Klimov “Breaking of bulk-surface correspondence in topological photonics”
18.30	(Invited talk) <u>M. A. Bandres</u> , M. Segev “Embedded photonic topological insulators”

	Experimental nanophotonics (Main Hall) Chair: Anton Samusev		Nonlinear waves in complex nanostructured media (I) (Room 1220) Chair: Torsten Meier
09.00	(Invited Talk) <u>A. V. Lavrinenko</u> , E. Shkondin, O. Takayama, T. Repän, M.E.A. Panah “Lamellas metamaterials: fabrication, characterization and applications”	09.00	(Keynote talk) S.V. Fedorov, <u>N.N. Rosanov</u> , N.A. Veretenov “3D-topological – vortex, knotted, and tangled – dissipative optical solitons”
09.25	(Invited Talk) <u>M.V. Gorkunov</u> , A.V. Kondratov, O.Y. Rogov, V.V. Artemov, R.V. Gainutdinov, A.A. Ezhov “Visible guided-mode resonances of FIB-nanopatterned mono-c-Si chiral metasurface”	09.35	(Invited talk) T. Marest, C. Mas Arabi, M. Conforti, A. Mussot, <u>A. Kudlinski</u> , C. Milian, D.V. Skryabin “Dispersive wave emission from dark solitons and their collision in optical fibers”
09.50	(Oral Talk) <u>D. Pidgayko</u> , I. Sinev, D. Permyakov, A. Samusev, S. Sychev, A. Bogdanov, A. Lavrinenko, V. Rutckaia, J. Schilling “Visualization of elliptic and hyperbolic dispersion regimes of guided optical modes in all-dielectric metasurface”	10.00	(Invited talk) <u>A. V. Slunyaev</u> , E. N. Pelinovsky, E. G. Shurgalina “Extreme states and statistics in the gas of solitons”
10.05	(Keynote talk) <u>W. J. Padilla</u> , A. Cardin, K. Fan “All-dielectric metasurfaces for unconventional scattering”	10.25	(Oral talk) <u>A. V. Yulin</u> , I. Iorsh, I. Shelykh “Dynamics of solitons and slow light in optical systems with strong light-matter interactions”

10.40 **Coffee break**

	Photonic metamaterials (Main Hall) Chair: Leonid Doskolovich		Nonlinear waves in complex nanostructured media (II) (Room 1220) Chair: Alexey Yulin
10.55	(Invited Talk) S. G. Tikhodeev “Chiral photonic crystal slabs and metasurfaces for emitters of circularly polarized light”	10.55	(Invited talk) <u>A. Husakou</u> , M. Alharbi, M. Chafer, B. Debord, F. Gerome, F. Benabid “Coupled wave propagation and nanotrap lattice in hollow fiber filled with Raman-active gas”
11.20	(Invited Talk) M. Kafesaki, I. Katsantonis, E. N. Economou, <u>S. Droulias</u> , C. M. Soukoulis “Combining chirality and Parity-Time symmetry in metamaterials”	11.20	(Invited talk) <u>M. Conforti</u> , G. Xu, C. Mas Arabi, T. Marest, A. Bendahmane, A. Kudlinski, A. Mussot, S. Trillo “Dispersive shock waves in optical fibers”
11.45	(Invited talk) M. Lapine “Sorting resonances and non-resonant enhancements: a kaleidoscope of recent highlights”	11.45	(Invited talk) <u>A. Mussot</u> , P. Szriftgiser, C. Naveau, M. Conforti, A. Kudlinski, F. Copie, S. Trillo “Full characterisation in phase and amplitude of the Fermi–Pasta–Ulam recurrence process in optical fibers”
12.10	(Oral Talk) <u>M. G. Barsukova</u> , A. S. Shorokhov, A. I. Musorin, B. S. Luk’yanchuk, A. A. Fedyanin “Enhanced Faraday effect in hybrid metasurfaces”	12.10	(Invited Talk) <u>R. Driben</u> , V.V. Konotop, A.V. Yulin, T. Meier “Bloch oscillations and related phenomena in multidimensional nonlinear settings”
12.25	(Oral Talk) <u>I. Yu. Chestnov</u> , E. S. Sedov, A. V. Kavokin “One-dimensional optical Tamm plasmons”		

13.00 Lunch at *Madagascar* restaurant

	<i>Advanced phenomena</i> (Main Hall) Chair: Willie Padilla		<i>Nonlinear waves in complex nanostructured media (III)</i> (Room 1220) Chair: Rodislav Driben
14.30	(Invited Talk) <u>K. Y. Bliokh</u> , A. Y. Bekshaev, F. Nori “Optical momentum and angular momentum in complex media”	14.30	(Invited talk) <u>D. Kartashov</u> , R. Sollapur, M. Zürich, M. Chemnitz, M. Schmidt, C. Spielmann “Nonlinear wave dynamics in anti-resonant hollow-core fibers”
14.55	(Invited talk) A. N Poddubny “Routing emission of plasmons by a magnetic field”	14.55	(Invited talk) <u>A. G. Balanov</u> , A. Apostolakis, K. N. Alekseev, F. V. Kusmartsev, F. Wang, C. L. Poyser, A. V. Akimov, A. J. Kent, M. T. Greenaway, T. M Fromhold “Charge transport in a semiconductor multilayer heterostructures driven by a high-frequency acoustic wave”
15.20	(Invited Talk) J. J. Sáenz “Light induced collective dynamics and Mock-Gravity interactions between plasmonic nanoparticles”	15.20	(Invited talk) <u>O. A. Egorov</u> , D. V. Skryabin “Frequency comb generation in a exciton-polariton microring resonator”
15.45	(Invited Talk) H. Barhom, A. Machnev, <u>I. I. Shishkin</u> , R. Noskov, P. Ginzburg “Optomechanical manipulation and optical properties of vaterites”	15.45	(Invited talk) <u>A. G. Vladimirov</u> , A. Pimenov “Time-delay modeling of short pulse generation in lasers”
16.10	(Oral Talk) <u>M. A. Kaliteevski</u> , K. A. Ivanov, A. R. Gubaydullin “Purcell factor in periodic metal-dielectric structures”	16.10	(Oral talk) <u>A. A. Zyablovsky</u> , E. S. Andrianov, N. E. Nefedkin, I. A. Nechepurenko, A. V. Dorofeenko, A. A. Pukhov, A. P. Vinogradov “Multimode theory of plasmonic distributed feedback laser”

16.25 Coffee break

	<i>Advanced optical materials</i> (Main Hall) Chair: Anvar Zakhidov		<i>Nonlinear nanostructured media and liquid crystals</i> (Room 1220) Chair: Daniil Kartashov
16.40	(Invited talk) D. Krizhanovskii “Polaritons in photonic structures with (In)GaAs and transition metal dichalcogenides as an active media”	16.40	(Invited talk) <u>A. A. Zharov</u> , N. A. Zharova, A. A. Zharov, Jr. “Light-assisted spontaneous birefringence and magnetic domains formation in suspension of gyrotropic nanoparticles”
17.05	(Invited talk) D. Panna, N. Landau, L. Rybak, S. Tsesses, G. Adler, S. Brodbeck, C. Schneider, S. Hofling, <u>A. Hayat</u> “Reversible light-by-light control through a giant ac Stark effect in a strongly coupled light-matter system”	17.05	(Invited talk) D. M. Tsvetkov, V. A. Bushuev, <u>B. I. Mantsyzov</u> , V. V. Konotop “Short pulse propagation in PT-symmetric photonic crystals with material dispersion”
17.30	(Invited talk) M. O. Nestoklon “Optical orientation of excitons in nanocrystals of inorganic perovskites”	17.30	(Oral talk) <u>E. Poutrina</u> , A. M. Urbas “Inherently nonreciprocal:nonlinear nanomaterials”

17.55	(Oral talk) <u>A. P. Pushkarev</u> , V. I. Korolev, D. I. Markina, F. E. Komissarenko, D. A. Sannikov, A. V. Zasedatelev, P. G. Lagoudakis, A. A. Zakhidov, S. V. Makarov “Synthesis of high-quality CsPbBr ₃ nanolasers at ambient conditions”	17.45	(Oral talk) <u>A. A. Zharov, Jr.</u> , N. A. Zharova, A. A. Zharov “Self-focusing of electromagnetic surface waves in gyrotropic liquid metacrystals”
18.10	(Invited talk) T. Shegai “Modified excited states dynamics in the localized plasmon – molecular exciton hybrids”	18.00	(Oral talk) P. V. Dolganov “Peculiarities of the photonic density of states in liquid-crystalline photonic crystals”
18.35	(Oral Talk) <u>F. A. Benimetskiy</u> , P. A. Alekseev, I. S. Sinev, I. S. Mukhin, A. K. Samusev “Strain engineering in MoSe ₂ monolayers”	18.15	

20.00 *Boat trip*

	Active nanophotonics (Main Hall) Chair: Andrey Sukhorukov
09.00	(Keynote talk) G. Shvets “Active nanophotonics: from graphene-integrated plasmonic metasurfaces and metagates to photon-accelerating semiconductor nanostructures”
09.35	(Oral talk) <u>A. Yu. Petrov</u> , D. Jalas, K. M. Schulz, M. Eich “Emission enhancement in dielectric nanocomposites”
09.50	(Invited talk) A. K. Sarychev “Tunable metasurface composed of periodic metal-dielectric resonators”
10.15	(Oral talk) <u>K. I. Okhlopkov</u> , A. A. Ezhov, P. A. Shafirin, N. A. Orlikovsky, M. R. Shcherbakov, A. A. Fedyanin “Optical coupling between dielectric Mie-resonant nanodisks and waveguides probed by third harmonic generation microscopy”
10.30	(Oral talk) K. S. Frizyuk, <u>G. P. Zograf</u> , M. G. Tarasov, S. V. Makarov, R. Grange, M. I. Petrov “Polarization effects in second-harmonic generation from inorganic BaTiO ₃ perovskite resonant nanoparticles”

10.45 **Coffee break**

	Nontrivial excitations (Main Hall) Chair: Gennady Shvets
10.55	(Invited talk) <u>L. L. Doskolovich</u> , E. A. Bezus, D. A. Bykov “High-Q resonances and bound states in the continuum in photonic elements integrated into a slab waveguide”
11.20	(Oral talk) <u>A. A. Bogdanov</u> , M. V. Rybin, K. L. Koshelev, Z. F. Sadrieva, K. B. Samusev, M.F. Limonov, Yu.S. Kivshar “High-Q Modes in subwavelength dielectric resonators”
11.35	(Invited talk) S. V. Dyakov, <u>N. A. Gippius</u> “Engineering of resonances in modulated structures”
12.00	(Invited talk) A. García-Etxarri “Optical vortices and polarization Möbius strips on all-dielectric optical antennas”
12.25	(Oral talk) <u>D. G. Baranov</u> , R. Verre, P. Karpinski, M. Käll “Enhanced Raman emission by non-scattering anapole state of a silicon nanodisk”

12.40 **Lunch at Madagascar restaurant**

	Quantum metamaterials (Main Hall) Chair: Mohammad Hafezi
14.30	(Invited talk) I. Kaminer “Ultrastrong coupling of electrons and 2D polaritons”
14.55	(Invited talk) A. A. Sukhorukov “Quantum photonics with dielectric metasurfaces”
15.20	(Invited talk) T. Meier “Quantum optics with LiNbO ₃ integrated waveguide circuits: Generation and manipulation of two-photon interference and progress towards the integration of superconducting detectors”
15.45	(Invited talk) K. V. Shulga, M. V. Fistul, I. Besedin, <u>A. V. Ustinov</u> “Microwave transparency of a superconducting quantum metamaterial”
16.10	(Oral talk) N. E. Nefedkin, <u>E. S. Andrianov</u> , A. A. Pukhov, A. P. Vinogradov, A. A. Lisyansky “Control of second order correlation function of plasmonic resonator excited by NV-center”

16.25 **Coffee break**

	<i>Novel phenomena</i> (Main Hall) Chair: Mikhail Petrov
16.40	(Invited talk) X.-C. Wang, A. Díaz-Rubio, V. S. Asadchy, <u>S. A. Tretyakov</u> “Flat asymmetric absorbers”
17.05	(Oral talk) Iu. Medvedev, H. Ferreira, <u>S. Maslovski</u> “Modeling of metamaterial superabsorbers in two dimensions”
17.20	(Oral talk) <u>D.G. Baranov</u> , S. Li, A. Generalov, A. Krasnok, A. Alù “Coherent control of light for virtual absorption and wireless power transfer”
17.35	(Invited talk) <u>P. Velez</u> , J. Mata-Contreras, F. Martin, K. Grenier, D. Dubuc “Sensing strategies for dielectric characterization and solute concentration measurement in liquids based on metamaterials-inspired resonators in microstrip technology”
18.00	(Oral talk) I. Nefedov “Directive thermal emission from natural hyperbolic materials”
18.15	(Oral talk) <u>O. Yermakov</u> , A. Hurshkainen, D. Dobrykh, P. Kapitanova, I. Iorsh, S. Glybovski, A. Bogdanov “Surface waves of mixed TE-TM polarization at Jerusalem-cross-based anisotropic metasurface in microwaves”

8.00 **Departure of the buses from St.Petersburg (Fontanka 21) to Petrodvorets**

9.00 **Posters**

Plenary talks — Chair: Alexander Poddubny

10.00 Mohammad Hafezi: *Quantum directions in topological photonics*

10.40 Franco Nori: *Parity-Time-Symmetric optics, extraordinary momentum and spin in evanescent waves, and the quantum spin Hall effect of light*

11.20 **Coffee break & Posters**

1. E.L. Alekseeva, A.A. Alkhimenko, A.I. Grishchenko, A.S. Semenov, D.A. Tretyakov, A.K. Belyaev, V.A. Polyanskiy, Yu.A. Yakovlev: Propagation of acoustic waves during the control of hydrogen-induced destruction of metals by the acoustoelastic effect.
2. M.V. Altaisky, N.E. Kaputkina, V.A. Krylov: Simulation of 3 quantum dot network dynamics.
3. I.V. Baibulov, A.M. Budylin, S.B. Levin: The asymptotics of the solution of three one-dimensional quantum particles scattering problem. The case of finite repulsive pair potentials.
4. A.G. Belolipetskaia, I.Y. Popov: On the spectrum discreteness for quantum graph in a magnetic field.
5. A.S. Berestennikov, E.Y. Tiguntseva, I.V. Iorsh, S.V. Makarov: Optical properties of spatially dispersive Mie-resonant halide perovskite nanoparticles.
6. E.D. Chubchev, A.V. Dorofeenko, A.P. Vinogradov: Transmission properties of a chain of plasmonic nanoparticles beyond the point dipole approximation.
7. N.N. Dadoenkova, Yu.S. Dadoenkova, I.S. Panyaev, D.G. Sannikov, I.L. Lyubchanskii: Multi-periodic one-dimensional photonic crystals.
8. V.I. Demidchik, R.V. Kornev: Antenna approach for calculating dynamic polarizability of carbon nanotubes.
9. A.A. Dmitriev, M.V. Rybin: Coupling regimes of high-index dimer.
10. P.V. Dolganov, N.S. Shuravin, V.K. Dolganov: Structures and optical properties of smectic liquid crystals with multilayer periodicity.
11. I.V. Doronin, E.S. Andrianov, A.A. Zyablovsky, A.P. Vinogradov, A.A. Lisyansky: Second-order autocorrelation function for amplified spontaneous emission.
12. A.A. Drozdov, M.A. Knyazev, S.A. Kozlov, R.W. Boyd: Disappearance of self-focusing phenomena for few-cycle pulses.
13. N.A. Dugin, G.R. Belyaev, V.G. Lobastov, T.M. Zaboronkova: Polarization characteristics of graphene-containing composite L-band antenna.
14. V.G. Farafonov, V.I. Ustimov, A.P. Tulegenov, M.V. Sokolovskaya, V.B. Il'in: A spheroidal model for axisymmetric scatterers based on the quasistatic approach.
15. A.E. Fedyanin, Ia.A. Mogunov, A.V. Scherbakov, S. Lysenko, A.V. Akimov, A.M. Kalashnikova: Picosecond photo-elastic effect in a VO₂ thin film in insulating and metallic phases.
16. A.D. Furasova, A.A. Zakhidov, A. Di Carlo, S.V. Makarov: Silicon nanoantennas in perovskite photovoltaics.
17. M. Jalali, D. Erni, H. Nadgaran: Semi-periodic nanostructures: an apt solution to broadband optical applications.
18. A.D. Kiselev, S.V. Pasechnik, D.V. Shmeliyova, A.V. Dubtsov: Waveguide modes of biaxially anisotropic fiber and electro-optics of porous films filled with nematic liquid crystals.

19. M.A. Knyazev, S.A. Kozlov: Noncollinear interaction features of optical waves with wide spectrum in nonlinear dielectric medium.
20. S.A. Kolodny, D.I. Yudin, I.V. Iorsh: Resonant excitation of TMOKE-based spin waves in hybrid nanostructures via frequency comb.
21. V.K. Kozin: Quantum rings in the regime of strong light-matter coupling. Topological insulators.
22. S.B. Kozitskiy: Dynamic patterns in double-diffusive convection.
23. A.O. Larin, Y. Sun, R.S. Savelev, D.A. Zuev: Numerical design of Au/Si core-shell nanoparticles.
24. S. Lepeshov, A. Krasnok, O. Kotov, A. Alu: Strong coupling between silicon spherical nanoparticle and monolayer WS₂.
25. S.V. Li, A.E. Krasnok: Dielectric Yagi–Uda nanoantennas for unidirectional excitation of plasmons.
26. M.D. Lyubarov, A.N. Poddubny: Exceptional points in energy spectrum of nonlinear cavity arrays.
27. E.E. Maslova, M.V. Rybin: All-dielectric metamaterials with Mie-driven resonant electric response.
28. E. Mikheeva, J. Lumeau, S. Enoch, J. Wenger, A. Moreau, F. Lemarchand, I. Voznuk, R. Abdeddaim: Development of hyperbolic metamaterials for the control of biological molecules fluorescence.
29. K.M. Morozov, A.R. Gubaydullin, K.A. Ivanov, G.P. Pozina, M.A. Kaliteevski: Purcell effect in a disordered photonic crystals.
30. N. Nandan, M.V. Rybin: Study of high-index dielectric nanoparticles by means of virtual surface currents method.
31. A. Nikulin, A. Ourir, J. de Rosny: Metacage for controllable field distribution in MRI.
32. A.V. Pavlova, S.E. Rubtsov, I.S. Telyatnikov: Steady-state oscillations of the volume of liquid on an elastic layer.
33. V. Petranovskii, Y. Kotolevich, S. Miridonov, P. Sánchez-Lopez, F. Chávez-Rivas, R. Machorro, S. Fuentes: Self-assembling of ordered domains of silver nanoparticles into the mordenite channel system.
34. L.Yu. Pogorelskaya, A.A. Bogdanov, K.B. Samusev, A.D. Sinelnik: Bound state in the continuum supported by a low refractive index contrast waveguide in a woodpile structure.
35. E.V. Prozorova: Mathematical theory of continuum mechanics with angular momentum.
36. A.O. Schadko, K.I. Zaytsev, N.V. Chernomyrdin, P.A. Nosov: Simulation of the optical components surface quality influence on the propagation of high-power laser radiation.
37. H.K. Shamkhi, K.V. Baryshnikova, A.S. Shalin: Simultaneous forward-backward scattering suppression through nonresonant multipole excitation.
38. A.V. Shanin, A.I. Korolkov, A.A. Belous: Experimental study of diffraction by a thin cone.
39. E. Smolkin, M. Snegur: Numerical study of the electromagnetic wave propagation problem in an anisotropic waveguide.
40. A.A. Stepanenko, M.A. Gorlach: Interaction-induced two-photon topological states.
41. I.O. Sukharevsky, M. Lebental, B. Dietz, C. Lafargue, S. Bittner: Supercar model for dielectric equilateral triangle microresonators validated by the integral equation method.
42. E.Y. Tiguntseva, A.A. Zakhidov, Yu.S. Kivshar, S.V. Makarov: Halide perovskite nanoparticles with enhanced photoluminescence.
43. S.V. Tikhov, D.V. Valovik: Propagation of electromagnetic waves in a shielded dielectric layer with cubic nonlinearity.
44. I.V. Timofeev, P.S. Pankin, S.Ya. Vetrov, V.G. Arkhipkin, W. Lee, V.Ya. Zyryanov: Chiral optical Tamm states: method of images.
45. R.M. Turtos, S. Gundacker, E. Auffray, P. Lecoq, B. Mahler, C. Dujardin: CdSe nanoplatelets as a new generation of ultrafast ionizing radiation detectors.

46. I.I. Volkovskaya, D.A. Smirnova: Second-harmonic generation in Mie-resonant dielectric nanoparticles made of noncentrosymmetric materials.
47. P.M. Voroshilov, D.S. Saranin, C.R. Simovski, A.A. Zakhidov: Multi-walled carbon nanotube sheet transparent electrode mediated ionic doping in organic photovoltaics.
48. M.V. Wilde, N.V. Sergeeva: Analysis of longitudinal impact waves in a thin viscoelastic rod on the basis of 3D equations for a Rabotnov's hereditary elastic body.
49. Yu.A. Yakovlev, A.K. Belyaev, V.A. Polyanskiy, D.A. Tretyakov, D.G. Arseniev: Gradient method for detecting sites of local hydrogen embrittlement of metals.
50. N.F. Yashina, T.M. Zaboronkova, C. Krafft: Interaction of nonsymmetric electromagnetic waves guided by cylindrical duct with enhanced density in magnetoactive plasma.
51. A.S. Zalogina, D.A. Zuev: Metal-dielectric nanoantenna for NV-center emission control.

Plenary talk — Chair: Aleksei Kiselev

12.50 Sergei A. Nazarov: *“Blinking and wandering” eigenvalues: Blunted elastic cusps and rounded plasmonic singularities*

13.30

Lunch

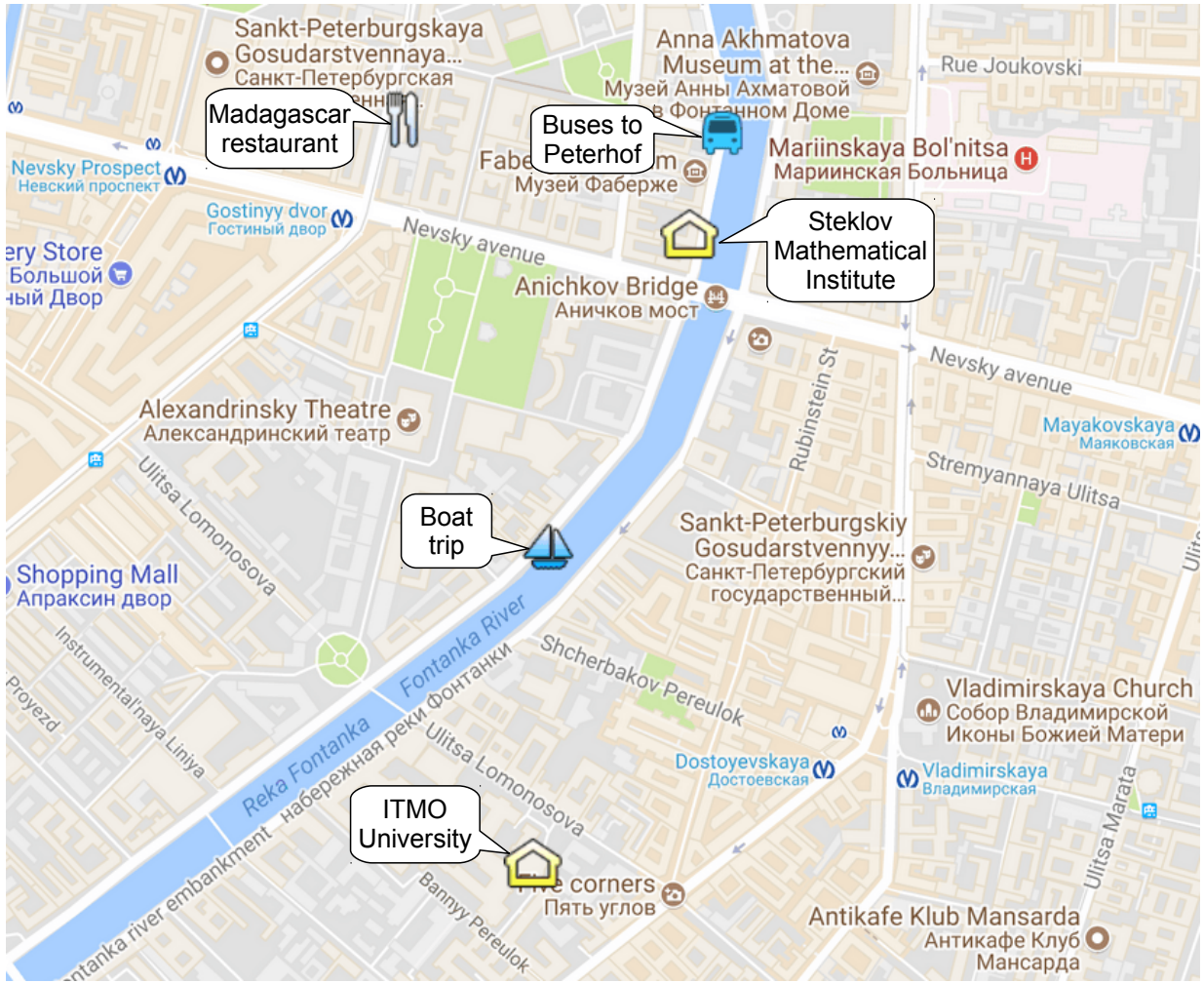
15.00

Excursion

18.00

Picnic party at Peterhof forest

PDMI & ITMO area map



Map of the picnic area

