

50th anniversary

International Conference

Days on Diffraction 2017

June 19 – 23, 2017

St. Petersburg

Program

8.30 Registration & Coffee**10.00 Opening (Main Hall)**

	<i>Acoustics (I)</i> (Main Hall) Chair: Aleksei Kiselev	<i>Heun functions and applications</i> (Hall 311) Chair: Alexander Kazakov
10.10	Katsnelson B.G., Petrov P.S.: Whispering gallery acoustic waves propagating in a shallow sea along the circular coastline	T.A. Ishkhanyan, A.M. Ishkhanyan: Solutions of the bi-confluent Heun equation in terms of the Hermite functions
10.30	Sergeev S.A., Tolchennikov A.A., Petrov P.S.: Simulation of propagation for acoustics signals in the deep ocean with Maslov's canonical operator	S.Yu. Slavyanov, D.A. Satco, A.M. Ishkhanyan: Generation and removal of apparent singularities in linear ordinary differential equations with polynomial coefficients
10.50	Filippenko G.V.: Asymptotic analysis of the waves with the negative group velocity in cylindrical shell	A.Ya. Kazakov: Integral symmetries of the Heun equations with added apparent singularities

11.10 Coffee break

	<i>Localized waves</i> (Main Hall) Chair: Nikolay Rosanov	<i>Numerical methods (I)</i> (Hall 311) Chair: Leonid Goray
11.30	Alexander S. Blagoveshchensky, Azat M. Tagirdzhanov, Aleksei P. Kiselev: Hörmander's solution singular at a running point and the Bateman solution	Matias, D.V.: Thermoelastic waves propagation in gas media considering heat relaxation
11.50	Alexandr B. Plachenov, Irina A. So: Shifted and tilted Bessel–Gauss and Helmholtz–Gauss beams	Lobachev A.M., Modestov V.S., Pivkov A.V.: Finite element modeling of ultrasonic waves propagation in the material with considering different mechanical properties in the thin surface layer
12.10	Alexander B. Plachenov, Irina A. So, Aleksei P. Kiselev: Paraxial Gaussian modes with simple astigmatic phases and nonpolynomial amplitudes	Kalganov D.A., Bychkov I.V., Butko L.N.: Model of the GTEM-cell for EMC testing
12.30	R.M. Arkhipov, M.V. Arkhipov, A.V. Pakhomov, I. Babushkin, Yu.A. Tolmachev, N.N. Rosanov: Generation and control of unipolar light pulses in nonlinear media excited by ultra-short pulses	Gavrikov A.A.: Numerical solution of eigenproblems for linear Hamiltonian systems and their application to non-uniform rod-like systems
12.50	Babanin E.A., Suhareva N.A., Vokhnik O.M., Kapranov V.V., Matsak I.S., Tugaenko V.J.: Positional characteristics of generalized decentered elliptical Gaussian beams on extended atmospheric paths	Anil Kumar Pandey: Beamforming network using waveguides for 5G FD-MIMO

13.10 Lunch at Madagascar restaurant

	<i>Diffraction (I)</i> (Main Hall) Chair: Mikhail Lyalinov	<i>Numerical methods (II)</i> (Hall 311) Chair: Yakov Bogomolov
15.00	Alexander Plakhov: A bundle-to-bundle mapping problem in geometric optics	
15.20	Popov M.M., Semtchenok N.M.: Scattering amplitudes in the direction of limit rays	Goray L.I., Asadchikov V.E., Rosshin B.S.: Numerical analysis of propagation of x-ray whispering gallery waves along liquid meniscus

15.40	Shanin A.V., Knyazeva K.S.: Transient phenomena in a three-layer waveguide	A.D. Yunakovsky, Ya.L. Bogomolov: On hyperbolized nonlinear Schrödinger type equations
16.00	Kirpichnikova Anna, Kirpichnikova Natalya: Fock–Leontovich parabolic equation method on prolonged bodies with Neumann boundary conditions	Marchenko S.V., Kozar A.V., Shestakov P.Yu.: Focusing and defocusing of reflected light beams from chirped dielectric layered structure
16.20	Vavilov S.A., Lytaev M.S.: Diffraction on thin dielectric bodies	Belyayev Yu.N.: On the calculation of matrix exponential of a large order

16.40 **Coffee break**

	Wavelets (Main Hall) Chair: Maria Perel	
17.00	Altaisky M.V.: Wavelets, exact renormalization group, fixed points	
17.20	Evgeny A. Gorodnitskiy, Maria V. Perel: Relativistic wavelets for seismics and their connection to the Gaussian beams	
17.40	Postnikov E.B.: Fast methods for numerical evaluation of the continuous wavelet transform	
18.00	Roberto Alicandro, Antonio Corbo Esposito: A Gamma-convergence result for variational problems with respect to non equicoercive measures	

	<i>Spectral theory methods (I)</i> (Main Hall) Chair: Vladimir Nazaikinskii
9.30	Vasilchuk V.: Fluctuations of the spectrum of commutator of unitary invariant random matrix ensembles
9.50	M.N. Demchenko: Reconstruction of acoustic wave field from boundary measurements
10.10	M.I. Belishev, S.A. Simonov: Wave models of Sturm–Liouville operators
10.30	Chugainova A.P.: Special discontinuities in nonlinear elastic media
10.50	Ana Moura Santos: Boundary value problems on gratings

11.10 **Coffee break**

	<i>Spectral theory methods (II)</i> (Main Hall) Chair: Michel Rouleux	<i>Multiscale analysis of problems of mechanics and biology (I)</i> (Hall 311) Chair: Grigory Panasenko
11.30	Bakharev F.L., Nazarov S.A.: Criteria for the absence of bounded solutions at the threshold frequency in a junction of quantum waveguides	Chebotarev A.Yu., Grenkin G.V., Kovtanyuk A.E., Pestretsova V.V., Chudnovskii V.M.: Analysis of equations of complex heat transfer with moving source in context of endovenous laser ablation
11.50	Borzov V.V., Damaskinsky E.V.: The criterion of absence of bound states in two-dimensional perturbation of the discrete Schrödinger equation	Kovtanyuk A.E., Chebotarev A.Yu., Grenkin G.V., Botkin N.D., Hoffmann K.-H.: Analysis of thermal processes in a multilayer biotissue exposed to optical radiation
12.10	Nazaikinskii V.E.: On the spectral flow of a 2D discrete Dirac type operator and creation of electron–hole pairs in graphene	Alexander V. Panfilov: Multiple mechanisms of cardiac arrhythmias studied using anatomically accurate modeling
12.30	Andrey V. Badanin, Evgeny L. Korotyaev: Resonances of 4th order differential operators	Pravdin S.F., Nezlobinsky T.V., Panfilov A.V.: Modelling low-voltage defibrillation in 2D medium
12.50	Saburova N.Yu., Korotyaev E.L.: Laplacians on periodic graphs with guides	Sergey Tikhomirov: Travelling waves in quasiperiodic media

13.10 **Lunch at Madagascar restaurant**

	<i>Diffraction (II)</i> (Main Hall) Chair: Andrey Shanin	<i>Multiscale analysis of problems of mechanics and biology (II)</i> (Hall 311) Chair: Tatiana Shaposhnikova
15.00	Shanin A.V., Korolkov A.I.: Diffraction problem with rotational symmetry in parabolic approximation	Svetlana Pastukhova: Large-time asymptotics of the fundamental solution to the diffusion equation in a periodic medium and its applications
15.20	Galyamin S.N., Tyukhtin A.V., Vorobev V.V., Altmark A.A.: Radiation of a charged particle bunch exiting an open-ended circular waveguide within regular vacuum waveguide	Sergei A. Nazarov, Fedor L. Bakharev: Localized waves traveling along open waveguides in double-periodic junctions
15.40	Baskin L.M., Kabardov M.M., Sharkova N.M.: Electron scattering in a resonator system with finite work function	Meshkova Yu.M.: Homogenization of nonstationary periodic systems in a bounded domain: L_2 -operator error estimates
16.00	M.A. Lyalinov: Scattering of acoustic waves by an impedance sector	Slutskij A.S., Nazarov S.A.: On a homogenization of a thin corrugated beam
16.20	Raphaël C. Assier, Clarice Poon, Nigel Peake: Spectral study of the Laplace–Beltrami operator arising in the problem of wave scattering by a quarter-plane	Cardone G.: Gaps in the spectrum of Neumann problems in domains with strongly corrugated boundary

16.40 **Coffee break**

	<i>Spectral theory methods (III)</i> (Main Hall) Chair: Raphaël Assier	<i>Multiscale analysis of problems of mechanics and biology (III)</i> (Hall 311) Chair: Svetlana Pastukhova
17.00	Trifanov A.I.: Quantum dynamics of polarization states in linear electro-optic effect	T.A. Shaposhnikova: Homogenization problems with nonlinear boundary conditions
17.20	Boitsev A.A., Popov I.Yu.: Boundary triplets for point-like perturbation of Rashba Hamiltonian	Grigory Panasenko, Konstantin Pileckas: Asymptotic analysis of the periodic in time non-steady Navier–Stokes equations in thin structures
17.40	Alexander S. Mikhaylov, Victor S. Mikhaylov: Inverse data for the acoustical and quantum scattering problems for the Schrödinger operator on the half line	Nikita N. Senik: On homogenization for locally periodic strongly elliptic operators
18.00	Vladimir Rabinovich: Essential spectrum of Schrödinger operators on graphs	Melikhov I.F.: Asymptotic analysis of viscous plate model

20.00 **Boat trip**

	<i>Metamaterials</i> (Main Hall) Chair: Mikhail Limonov	<i>Numerical methods (III)</i> (Hall 311) Chair: Yuriy Belyaev
9.10	Popov A.K., Tkachenko V.A., Slabko V.V., Myslivets S.A., Nefedov I.S.: Frequency mixing of guided electromagnetic waves in hyperbolic metamaterials	
9.30	Alexander A. Zharov, Jr., Ilya V. Shadrivov, Nina A. Zharova, Alexander A. Zharov: All-dielectric liquid metacrystals	Ya.L. Bogomolov, M.A. Borodov, A.D. Yunakovsky, V.Yu. Zaslavsky: Numerical simulation of wave scattering in a plane channel with sharp corners
9.50	Alexander A. Zharov, Nina A. Zharova, Alexander A. Zharov, Jr.: Peculiarities of electromagnetic waves propagation in hybrid liquid metamaterials	Trofimova O.N., Kuruntyaeva K.A., Kovtanyuk A.E., Prokhorov I.V.: Numerical method for solving the nonstationary radiation transfer equation in a layered medium
10.10	Dolganov P.V.: Density of photonic states and dispersion of light in one-dimensional liquid-crystalline photonic crystals	Knyazkov D.U.: Simulating diffraction of plane wave on periodic layer with the use of the method of projections
10.30	Li S.V., Rybin M.V.: Silicon-based metamaterials: phase transitions in periodic structures	Kim A., Prokhorov I.V.: Branching Monte Carlo methods for the Cauchy problem of the radiative transfer equation

10.50 **Coffee break**

	<i>Photonic crystals</i> (Main Hall) Chair: Alexander Zharov	<i>Acoustics (II)</i> (Hall 311) Chair: Pavel Petrov
11.10	A.V. Nikulin, D.S. Filonov, K.B. Samusev, M.V. Rybin, Y.S. Kivshar, M.F. Limonov: Optical phase transitions of multi-band periodic photonic structures	Sergey Pasechnik, Dina Shmeliova, Gennady Maksimochkin, Alexander Dubtsov, Vladimir Filippov: Acoustical and dynamic light scattering investigations of polymer porous films filled with a liquid crystal
11.30	Dadoenkova N.N., Dadoenkova Yu.S., Panyaev I.S., Sannikov D.G., Lyubchanskii I.L.: Transmission spectra of one-dimensional bi-periodic photonic crystals	Makarov D.V.: Modeling of sound propagation in the ocean by means of random matrices
11.50	Dadoenkova Yu.S., Bentivegna F.F.L., Svetukhin V.V., Tatarenko A.S., Petrov R.V., Bichurin M.I.: Voltage-tunable vapour detector using optical beam shifts in a magneto-electric multilayered structure	Glushkov E.V., Glushkova N.V., Miakisheva O.A.: Backward leaky wave phenomena and energy fluxes in the coupled system: ultrasound transducer – acoustic fluid – immersed plate
12.10	A.D. Sinelnik, M.V. Rybin, S.Y. Lukashenko, Y.S. Kivshar, M.F. Limonov, K.B. Samusev: Optical diffraction from ‘photonic graphene’ structures fabricated by two-photon polymerization	Golub M.V.: Resonance and regular elastic wave diffraction by planar delaminations in multilayered structures
12.30	Bulgakov E.N., Maksimov D.N.: Bound states in the continuum and light localization in dielectric arrays	Wilde M.V., Surova M.Yu.: Three-dimensional investigation of transient edge waves on an elastic semi-infinite plate subject to tangential edge loads
12.50	Posters: Alexandrov A.A., Golub M.V., Fomenko S.I.: Thermoeffect influence on band-gaps and pass-bands in layered phononic crystals.	

<p>D.A. Andronikova, V.I. Belotitskii, Y.A. Kumzerov, A.E. Kalmykov, A.V. Myasoedov, L.M. Sorokin, A.A. Sysoeva: Structural and optical properties of chrysotile with gold nanoparticles in channels.</p> <p>Angeleene S. Ang, Sergey V. Sukhov, Aristide Dogariu, Alexander S. Shalin: Electromagnetic forces in negatively refracting photonic crystals.</p> <p>Anton Anzulevich, Leonid Butko, Dmitry Kalganov, Dmitrii Pavlov, Olga Kharitonova: Modeling of influence of microwave sintering geometric effects on the effective electrodynamic parameters of powdered metals.</p> <p>Dadoenkova Yu.S., Moiseev S.G., A.S. Abramov, A.S. Kadochkin, A.A. Fotiadi, Zolotovskii I.O.: Electric current induced amplification of slow surface plasmon polaritons in semiconductor-graphene-dielectric structure.</p> <p>Denisultanov A.Kh., Kovrov A.E., Veniaminov A.V., Mukhin I.S., Shalin A.S.: Investigation of asymmetrical metasurface based on photonic nanojet.</p> <p>Dolganov P.V., Dolganov V.K.: Long-period polar structures in smectic liquid crystals.</p> <p>Dubtsov A.V., Semerenko D.A., Tsalikova S.A., Shmeliova D.V., Pasechnik S.V.: Optical properties of nematic liquid crystals confined to nano(micro)pores of polymer films.</p> <p>Gurvitz E.A., Shalin A.S.: Simulation of circular dichroism enhancement in gold nanocubes array filled by chiral medium for optical frequency range.</p> <p>N.A. Kostina, M.I. Petrov, A.N. Ivinskaya, A.A. Bogdanov, A.S. Shalin, P.B. Ginzburg: Optical binding of two nanoparticles near interface.</p> <p>Lepeshov S.I., Krasnok A.E., Mukhin I.S., Zuev D.A., Gudovskikh A.S., Milichko V.A., Belov P.A., Miroshnichenko A.E.: Experimental demonstration of reconfigurable magnetic Fano resonance in hybrid oligomers.</p> <p>Li S.V., Krasnok A.E.: Dielectric chain driven by electron-hole plasma photoexcitation.</p> <p>Makarov S.V., Ushakova E.V., Tiguntseva E.Y., Zakhidov A.A.: Hybrid perovskite nanoparticles.</p> <p>Moiseenko I.M., Morozov M.Yu., Popov V.V.: Amplification of THz plasmons in graphene pumped by optical plasmons.</p> <p>M.G. Tarasov, M.I. Petrov, R. Grange, Yu.S. Kivshar: Modeling of second-harmonic generation in all-dielectric nanodimers.</p> <p>Zakomirnyi V.I., Ershov A.E., Gerasimov V.S., Karpov S.V.: Thermal effects in optical plasmonic structures.</p>
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13.10 **Lunch at *Dom Kino* restaurant**

	<i>Plasmonics</i> (Main Hall) Chair: Alexander Popov	<i>Waves in mechanics</i> (Hall 311) Chair: Alexander Belyaev
15.00	Melentiev P., Kalmykov A., Gritchenko A., Afanasiev A., Balykin V., Nechepurenko I., Dorofenko A., Vinogradov A., Baburin A., Ryzhova E., Ryzhikov I., Filippov I., Rodionov I., Pavlov A., Zabkov I., Klimov V.: Plasmonic nanolaser based on a hybrid mode of plasmonic crystal	Alexander K. Belyaev, Chien-Ching Ma, Nikita F. Morozov, Peter E. Tovstik, Tatiana P. Tovstik, Anatoly O. Shurpatov: Benchmark of approaches to dynamics of axially impacted rod
15.20	Mashinsky K.V., Fateev D.V., Popov V.V.: Terahertz rectification by hybrid plasmon modes in periodic graphene structure	Shchelik G.S.: Application of normal modes approximation for acoustic logging inversion in boreholes with non-circular cross section
15.40	Venugopal Nakkala, V.S. Gerasimov, S.P. Polyutov, A.E. Ershov, S.V. Karpov: Plasmonic aluminium nanoparticles for enhancing the light absorption in silicon solar cells	Polyanskiy V.A., Belyaev A.K., Mansyrev D.E., Yakovlev Yu.A., Polyanskiy A.M.: Surface effect of the waves of plastic deformation and hydrogen distribution in metals

16.00	Zakomirnyi V.I., Gerasimov V.S., Ershov A.E., Karpov S.V.: Dispersion properties of plasmonic waveguides with core-shell nanoparticles	L.A. Alexeyeva: Generalized function method in boundary value problems of elastodynamics at supersonic transport loads
16.20	Nefedkin N.E., Andrianov E.S., Pukhov A.A., Vinogradov A.P.: Superradiant enhancement from states with nonzero dipole moment	Bekker A.B., Livk I.: Femtosecond photochemical and photomechanical activation of chemical reactions

16.40 **Coffee break**

	Nanoparticles (Main Hall) Chair: Pavel Melentiev	Waves in complex media (Hall 311) Chair: Serge Gavrilov
17.00	Zograf G.P., Petrov M.I., Zuev D.A., Milichko V.A., Makarov S.V.: Dielectric-based nanoscale heat source and thermometer	Zavorokhin G.L.: The wave field of a point source that acts on the impermeable stress free boundary of a Biot half-plane
17.20	Terekhov, P.D., Baryshnikova, K.V., Artemyev, Yu.A., Shalin, A.S., Karabchevsky, A., Evlyukhin, A.B.: Multipole optical response of silicon nanoparticles of different shape	Wilde M.V., Sergeeva N.V.: Analysis of dispersion relations for viscoelastic hollow circular cylinder in the case of Rabotnov's rheological model
17.40	Kiselev A.D., Plutenko D.O.: Photonic nanojets in near-field of metallic and metamaterial scatterers in Laguerre–Gaussian beams	Aero E.L., Bulygin A.N., Pavlov Yu.V.: The solutions of equations for nonlinear model of deformation of the crystal media allowing martensitic transformations
18.00	A. Ivinskaya, M.I. Petrov, A.A. Bogdanov, I. Shishkin, P. Ginzburg, A.S. Shalin: Optical antitrapping of nanoparticles in gaussian beam due to surface modes of a substrate	Grekova E.F.: Waves in the reduced elastic Cosserat medium with transversal anisotropy of the coupling between linear rotational and translational deformations or of the nonlinear prestressed state
18.20	Orlov S.: Selective excitation of nanoparticles with vector complex source vortex beams	Fomenko S.I., Golub M.V., Chen, A.L., Wang, Y.S., Zhang Ch.: Wave motion in functionally graded piezoelectric layered phononic crystals with electroded surfaces
18.40	Orlov S., Bričkus D.: Selective control of chiral response in clustered nanoparticles via material selection	

	<i>Asymptotic methods (I)</i> (Main Hall) Chair: Leonid Kalyakin	<i>Symbolic methods for chemical reaction networks (I)</i> (Hall 311) Chair: Dmitry Grigoriev
9.50	A.Yu. Anikin, S.Yu. Dobrokhotov, A.I. Klevin: Scalarization of semiclassical stationary problems for vector systems and application in plasma physics	
10.10	A. Anikin, S. Dobrokhotov, V. Nazaikinskii, M. Rouleux: Asymptotics of Green function for the linear waves equations in a domain with a non-uniform bottom	Abramian A.K., Vakulenko S.A.: Effect of variation of the ice density caused by chemical reaction on a nonlinear ice rod-structure vibrations
10.30	A.I. Allilueva, A.I. Shafarevich: Delta-type solutions for the non-Hermitian system of induction equations	Ovidiu Radulescu: Model order reduction and hybridization of biochemical networks by tropical geometry methods
10.50	Dobrokhotov S.Yu., Nazaikinskii V.E., Tolchenikov A.A.: Uniform asymptotics of boundary values of the solution of a linear problem on the run-up of waves on a shallow beach	Grigori Panasenko: Homogenization of a one-dimensional diffusion – discrete absorption equation

11.10 **Coffee break**

	<i>Asymptotic methods (II)</i> (Main Hall) Chair: Sergei Dobrokhotov	<i>Symbolic methods for chemical reaction networks (II)</i> (Hall 311) Chair: Ovidiu Radulescu
11.30	A. Fedotov: Quasiclassical asymptotics of solutions to difference equations with meromorphic coefficients	Vakulenko S.A.: Complex large time behaviour of reaction diffusion systems
11.50	Kalyakin L.A.: Resonance capture in nonlinear oscillators	Christoph Lüders, Satya Swarup Samal, Andreas Weber: Empiric investigations on bio-chemical networks of the growth of complexity parameters for the tropical equilibration problem
12.10	A. Fedotov, E. Shchetka: Berry phase for difference equations	Iouliia Chikina: Mobility of the charged clusters in polarized liquid
12.30	Minenkov D.S.: Some explicit asymptotic formulas for 2D run up problem	Nikolai Vasiliev: Around sandpile dynamics on de Buijn graphs
12.50	Mascarenhas, H., Silbermann, B.: Asymptotic behaviour of the singular values of variable Toeplitz matrices	Dima Grigoriev: Newton–Puiseux series for non-holonomic D-modules and factoring

13.10 **Lunch at Dom Kino restaurant**

	<i>Water waves (I)</i> (Main Hall) chair Nikolay Kuznetsov	<i>Electromagnetics</i> (Hall 311) Chair: Tatiana Zaboronkova
15.00	Dinvay E., Kalisch H., Moldabayev D., Dutykh D., Părău E.: The Whitham equation with capillarity	Kudrin A.V., Zaboronkova T.M., Zaitseva A.S., Krafft C.: Theory of a strip antenna located at the plane interface between isotropic and uniaxial anisotropic media
15.20	Vladimir Kozlov: Small-amplitude steady water waves with critical layers: non-symmetric waves	Trofimov A.V., Shestakov P.Yu., Zakharova I.G.: Competition between Anderson and nonlinear localization of chirped laser pulse in 1D disordered photonic crystal
15.40	Nikolay Kuznetsov: Babenko's equation for periodic gravity waves on water of finite depth	Trofimov V.A., Kalinovich A.A., Zakharova I.G.: Optical wave trapping by induced free-electron

		high concentration front at laser pulse propagation in semiconductor
16.00	Evgeniy Lokharu: Small-amplitude steady water waves with vorticity	Machikhin A.S.: Multi-spectral amplitude and phase measurement by means of acousto-optic diffraction in interference schemes
16.20	Nikolay Kuznetsov, Oleg Motygin: Trapping of time-harmonic waves by bodies in a two-layer fluid covered by brash ice	Andra Naresh Kumar Reddy, Mahdieh Hashemi, Sergey A. Fomchenkov, M. Martinez-Corral: Amplitude and phase modulation applied to the mask to achieve the superresolution

16.40 **Coffee break**

	<i>Water waves (II)</i> (Main Hall) chair Vladimir Kozlov	<i>Elastic waves</i> (Hall 311) Chair: Mikhail Golub
17.00	Bulatov V.V., Vladimirov Yu.V.: Uniform asymptotics of far internal gravity waves fields in stratified rotating medium	Znak P.E., Kashtan B.M.: Waves in elastic half-space caused by inclined center of rotation source
17.20	Zhuchkova M.G.: Reduction of wave-induced vibration by resonant periodic obstacles	Gavrilov S.N., Mochalova Yu.A., Shishkina E.V.: Evolution of a trapped mode of oscillation in a string on the Winkler foundation with point inhomogeneity
17.40	Blokhin A.M., Tkachev D.L.: Local well-posedness in the problem of flow about infinite plane wedge with inviscous non-heat-conducting gas	Belashov A.V., Garbuzov F.E., Gula I.A., Samsonov A.M., Semenov A.A., Semenova I.V.: Solitary strain waves in nanostructured rod
18.00	Olga Krivonosova, Dmitry Zhilenko: Wave structure identification by the method of instantaneous phases	Mozhaev V.G., Nedospasov I.A., Kuznetsova I.E.: Application of perturbation theory to the problem of existence of backward Lamb waves
18.20	Dmitry Zhilenko, Olga Krivonosova: Nonlinear interaction of waves at torsional oscillations in a liquid	Zakiryanova G.K.: Lacunas in anisotropic elastic media under the action of concentrated forces

8.15 Departure of the buses from Mathematical Institute (Fontanka 27) to Petrodvorets

9.00 Posters

Plenary talk — Chair: Pavel Belov

9.25 Mikhail Lapine: *Electromagnetic metamaterials: the new world of outstanding opportunities*

10.00 Veretenov N.N., Fedorov S.V., Rosanov N.N.: *Topological 3D-dissipative optical solitons*

10.35 Coffee break & Posters

Altaisky M.V., Kaputkina N.E., Krylov V.A.: Elements of quantum simulators in arrays of quantum dots with dipole-dipole interaction.

Belous A.A., Korolkov A.I., Shanin A.V.: Experimental estimating frequency dependence of reflection coefficient for a flat layer under oblique incidence.

Blinova I.V., Faleeva M.P., Gerasimov D.A., Popov A.I., Popov I.Y.: Resonance states completeness for Schrödinger and Dirac quantum graphs.

Butko L.N., Anzulevich A.P., Pavlov D.A.: Effective permittivity and permeability of metamaterial from rectangular thin wires array.

Artem Cherenkov, M.L. Gorodetsky, V.E. Lobanov: Dissipative Kerr solitons and Cherenkov radiation in optical microresonators.

Vitalii N. Chukov: Violation of the classical Laue–Bragg–Wulff law of scattering due to amplitude form-factor of the periodical lattice of discontinuities.

V.I. Demidchik, R.V. Kornev: The method of integral equations to analyze carbon nanotubes of arbitrary geometry.

Domnin K.G., Velichko E.N., Aksenov E.T., Trubin P.K., Nepomnyashchaya E.K.: Optoelectronic system for fingerprint recognition.

Eremin A.A., Glushkov E.V., Glushkova N.V., Lammering R.: Interaction of elastic guided waves with localized three-dimensional thickness changes in plate-like metallic structures.

Farafonov V.G., Ustimov V.I., Barkanov S.V., Il'in V.B.: Analysis of generalized separation of variables method in electrostatics.

Gill V.V., Vozianova A.V., Khodzitsky M.K.: Radiation illusion at the arbitrary location.

Golub M.V., Doroshenko O.V.: Plane wave propagation in multilayered elastic structures with doubly periodic array of planar delaminations.

Grishchenko A.I., Tretyakov D.A., Shtukin L.V., Semenov A.S.: Association between the parameter of the acoustic anisotropy and measures of the stress-deformed condition for a sample with a stress concentrator.

Iskandarov P., Velichko E., Aksenov E.: Multichannel acousto-optic switch for fiber-optics telecommunication system.

Kalaganov, D.A., Fediy A.A., Pavlov D.A., Anzulevich A.P.: Microwave resonators filled with the dielectric and magnetoelectric materials.

Kan V.A., Prokhorov I.V., Sushchenko A.A.: Sea bottom topography using by model based on the radiative transfer equation.

Kovalenko E.O., Prokhorov I.V., Sushchenko A.A., Chernov S.S.: Reconstruction of the sea bottom reflection coefficient.

Liubina L.M., Sugak M.I.: Full-wave analysis of a periodic two-layer strip dipole array near-field energy.

Makin V.S., Makin R.S., Pestov Yu.I.: Kerr waveguide and microstructures formation under middle IR femtosecond laser irradiation of germanium.

Melikhova A.S.: Spectral problem for Dirac operator for a bent chain of nanospheres.

Nosov P.A.: Accounting of the influence of sphericity of real cavity mirrors on laser beam parameters.

Pankratova T.F.: 3 wells. An example of 2-dimensional tunneling.

Dmitrii Pavlov, Leonid Butko, Anton Anzulevich: Reflection of electromagnetic wave on a wired material prism.

Pleshchinskii N.B., Markina A.G., Tumakov D.N.: On generation of an electromagnetic field in waveguides with metal walls by a source cross-sectional orientation.

Poplavskiy M.V.: Modelling of modified Fabry–Perot cavities.

Prozorova E.V.: Effects of dispersion and delay in mathematical models of mechanics.

Puchkov A.M., Kovalenko V.N.: New representations for square-integrable spheroidal functions.

A.S. Rudnitsky, V.M. Serdyuk: An approximate analytical model for the refracted field at reflection of a Gaussian light beam.

Safronov K.R., Kokareva N.G., Abrashitova K.A., Gulkin D.N., Bessonov V.O., Fedyanin A.A.: Planar elements of photonics for controlling Bloch surface waves in one-dimensional photonic crystal.

Skaliukh A.S.: On the attenuation coefficients in polycrystalline ferroelectric materials obtained on the basis of hysteresis models of polarization.

Smolkina M.O., Popov I.Yu.: Persistent current in a chain of two Holstein–Hubbard rings in the presence of Rashba spin-orbit interaction.

Jun Tang, Pavel S. Petrov, Shengchun Piao, Sergey B. Kozitskiy: On the image source method for sound propagation in a penetrable wedge: some corrections and appendices.

Tretyakov D.A., Belyaev A.K., Polyanskiy V.A., Shtukin L.V., Yakovlev Yu.A., Arseniev D.G.: Acoustic anisotropy and dissolved hydrogen as an indicators of waves of plastic deformation.

Valiev F.F.: Features of electromagnetic field generated by interaction of high energy electrons with solid medium.

Vasil'ev V.A., Chernov P.S.: Self-testing optical quantum random number generators.

Vavulin D.N., Sukhorukov A.A.: Generation of orbital-angular-momentum entangled biphotons in twisted nonlinear waveguides.

Michael Vesnik: Resonant properties of 3D electromagnetic diffraction by a flat polygon.

Z.A. Yanson: A boundary problem of modulated wave reflection from a stress-free surface of an anisotropic elastic body.

Yashina N.F., Zaboronkova T.M., Krafft C.: Interaction of electromagnetic waves guided by a plane channel with enhanced density in magnetoplasma.

Plenary talk — Chair: Aleksei Kiselev

12.25 S. Dobrokhotov: *Nonstandard characteristics in asymptotics of linear problems with localized initial data, and applications to crystal lattices and water waves*

13.00

Lunch

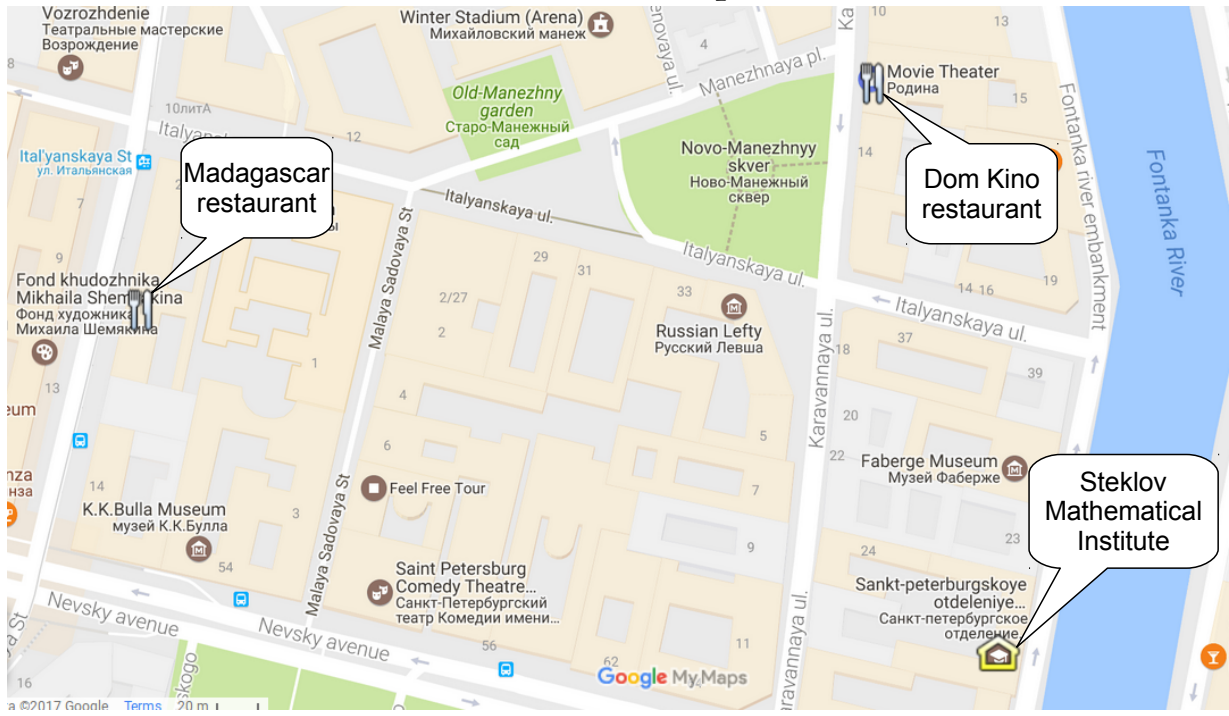
14.00

Excursion

18.00

Picnic party at Peterhof forest

PDMI area map



Map of the picnic area

