

14th Saint-Petersburg Conference *in* Spectral Theory and Mathematical Physics, dedicated to M. S. Birman

Euler Institute, St. Petersburg, Russia

June 19–23, 2023

CONFERENCE PROGRAM

MONDAY, JUNE 19

9:30–09:55: REGISTRATION

9:55–10:00: OPENING

10:00–10:45: Andrei Shkalikov (MSU). *Dissipative pencils and operator differential equations in Hilbert space.*

10:50–11:35: Mark Malamud (RUDN University). *Birman's problem for symmetric Schrödinger operators.*

COFFEE BREAK

12:00–12:45: Konstantin Makarov (UM). *Exponential decay and continuous monitoring.*

12:50–13:15: Grigoriy Agafonkin (MSU). *String equation with singular weight: Asymptotic properties of eigenvalues.*

LUNCH

15:00–15:45: Alexander Motovilov (JINR). *The a priori $\tan \Theta$ theorem and other estimates in the perturbation theory for spectral subspaces.*

15:50–16:35: Grigori Rozenblum (Chalmers University & SPSU & EIMI). *Weyl asymptotics for Poincaré–Steklov eigenvalues in a domain with Lipschitz boundary. (online)*

COFFEE BREAK

17:00–17:45: Dmitri Yafaev (IRMAR-UMR CNRS 6625 & SPSU). *Spectral theory of Jacobi operators with increasing coefficients. (online)*

17:50–18:15: Alexey Kosarev (MSU). *Spectral asymptotics for $n \times n$ systems of ordinary differential equations and applications.*

18:30:

WELCOME PARTY

TUESDAY, JUNE 20

09:40–10:25: Andrey Piatnitski (UIT The Arctic university of Norway & IITP RAS). *Einstein relation in homogenization theory.*

10:30–11:15: Sergei Nazarov (IPMASH RAS). *Asymptotic structure of spectra of Dirichlet thin tee beams.*

COFFEE BREAK

11:40–12:25: Elena Zhizhina (IITP RAS & UIT The Arctic university of Norway). *Homogenization of non-local parabolic problems with non-symmetric kernels in stationary ergodic media.*

12:30–12:55: Arseniy Mishulovich (SPSU). *Homogenization of a one-dimensional periodic elliptic operator at the edge of a spectral gap: Operator estimates in the energy norm.*

LUNCH

14:30–15:15: Vladimir Sloushch (SPSU). *Homogenization of a non-self-adjoint non-local convolution type operator.*

15:20–15:45: Albina Mukhametrakhimova (M. Aknulla BGPU). *Uniform convergence for problems with perforation along a manifold and nonlinear Robin boundary condition on boundaries of cavities.*

15:50–16:15: Aleksandr Arakcheev (MSU). *Dynamics of eigenvalues under changing gyroscopic forces in mechanical systems. (online)*

COFFEE BREAK

16:30: EXCURSION AND WALKING TOUR*

* An excursion to Kamenny Island Palace and a walking tour

WEDNESDAY, JUNE 21

10:00–10:45: Iskander Taimanov (Sobolev Institute of Mathematics). *Geometry of surfaces and a formation of singularities of 2D soliton equations represented by L , A , B -triples.*

10:50–11:35: Andrei Shafarevich (MSU). *Short-wave asymptotic solutions for hyperbolic systems with rapidly varying coefficients.*

COFFEE BREAK

12:00–12:45: Sergey Dobrokhotov (IPMECH RAS). *Operator pencils and the linear problem of generation of long waves on the surface of a liquid layer by localized sources in an elastic base.*

12:50–13:15: Anna Tsvetkova (IPMECH RAS). *Asymptotics of multiple orthogonal Hermite polynomials. Approach based on recurrence relations.*

LUNCH

15:00–15:45: Anton Savin (RUDN University). *η -invariants of boundary value problems.*

15:50–16:35: Vladimir Nazaikinskii (IPMECH RAS). *Uniformization of degenerate equations and semiclassical asymptotics.*

COFFEE BREAK

17:00–17:25: Anton Tolchennikov (IPMECH RAS). *Asymptotic of solution of the Helmholtz equation with a linear refractive index, in which the conical Arnold's singularity of rays family appears.*

17:30–18:15: Percy Deift (NYU Courant). *Toda without Hamiltonian structure. The work of R. Leite, N. Saldanha, D. Torres and C. Tomei. (online)*

THURSDAY, JUNE 22

09:40–10:25: Chang-Shou Lin (National Taiwan University). *Curvature equation and isomonodromy deformation.* (online)

10:30–11:15: Adolf Mirotin (Francisk Skorina Gomel State University). *On the spectra of discrete Hausdorff operators.*

COFFEE BREAK

11:40–12:25: Denis Borisov (Institute of Mathematics UFRC RAS). *On perturbations of internal thresholds in essential spectrum and violation of preserving total multiplicity.*

14:00:

BUS TRIP[†]

[†] The Peterhof Road: Holy Trinity St. Sergius seaside desert, Manor “Znamenka”, Alexandria park, Belvedere, Church of Alexandria of Rome and a picnic on the shores of Shinkarskiy Pond

FRIDAY, JUNE 23

10:00–10:45: Andrey Badanin (SPBU). *Inverse problem for 3rd-order operators with small coefficients under 3-point Dirichlet conditions.*

10:50–11:35: Jani Virtanen (University of Reading). *Asymptotics of block Toeplitz determinants with piecewise continuous symbols.* (online)

COFFEE BREAK

12:00–12:45: Martin Guest (Waseda University). *Global solutions of the tt^* -Toda equations of A_n type.* (online)

12:50–13:15: Alexander Klevin (IPMECH RAS). *Asymptotics of solutions of the Helmholtz equation in a two-layer medium with a localized right-hand side.*

LUNCH

15:00–15:45: Karol Kozłowski (CNRS & ENS de Lyon). *Universality in structures related to the XXZ spin-1/2 chain at low-temperature.* (online)

15:50–16:15: Vasily Sergeev (SPBU, Chebyshev Laboratory). *Adiabatic evolution generated by a Schrödinger operator: Behaviour of a previously localized quantum particle after the disappearance of the bound state.*

16:20–16:45: Valeriia Kobenko (MSU). *Boundary value problems with boundary conditions linearly depending on the spectral parameter.*

COFFEE & CLOSING