The 8th International workshop

“Waves in inhomogeneous media and integrable system”

September 17-19, 2018
Kaliningrad, IKBFU

FunMagMa

5100

Immanuel Kant
Baltic Federal
University

17 September

9.30	**Opening of the conference**
9.45	**Heitler-Heisenberg multispin states via irredicible representations of the unitedpermutations and space symmetry group** **S. Leble** *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
10.20	**On the entropy of a spherical plasma shell** **M. Bordag** *Universität Leipzig, Leipzig, Germany*
10.55	**Ionospheric disturbances initiated by meteorological storms. Observations and modeling** **I.V. Karpov,** O.P. Borchevkina, P.A.Vasilyev, M.I.Karpov *West Department of Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, Kaliningrad, Russia* *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
11.25	**Coffee break**
12.00	**Nonlinear effects during high intensity focused ultrasound treatment of liver cancer** **M. Solovchuk** *National Health Research Institutes Taiwan, Miaoli County, Taiwan*
12.30	**Wave tomography problem with incomplete data** **L.N. Pestov** *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
13.00	**Lunch**
14.30	**Asymptotics of solutions of inhomogeneous stationary problems with localized right-hand sides and pairs of Lagrangian manifolds** **S.Yu. Dobrokhotov** *Ishlinsky Institute for Problems in Mechanics of Russian Academy of Sciences and Moscow Institute of Physics and Technology, Moscow, Russia*
15.00	**WKB method for the Helmholtz equation in a three-dimensional layer of variable thickness with a localized right-hand side.** **P.N.Petrov,** S.Yu. Dobrokhotov *Moscow Institute of Physics and Technology, Dolgoprudny, Russia*
15.20	**Mathematical models of X-ray focusing and their applications** **P. Wojda,** S. Kshevetskii *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
15.50	**Coffee break**
16.20	**Asymptotic exact estimates of the distortion for quasiconfor-**

malautomorphisms of the disk

V.I. Semenov, V.D. Kolesnikov
Immanuel Kant Baltic Federal University, Kaliningrad, Russia

16.40 **Magnetoacoustic heating in a quasi-isentropic magnetic gas**

A. Perelomova
Gdansk University of Technology, Gdansk, Poland

17.10 **Direct variational method for the point-to-point radio wave ray tracing.**

I. A. Nosikov, M. V. Klimenko, P. F. Bessarab
Immanuel Kant Baltic Federal University, Kaliningrad, Russia
West Department of Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, Kaliningrad, Russia

18.00 **Conference dinner**

18 September

10.00	**Evolutionary Hirota type (3+1)-dimensional equations: Lax pairs, recursion operators and bi-Hamiltonian representations** **M.B. Sheftel,** D. Yazıcı *Boğaziçi University, Istanbul, Turkey*
10.30	**Lie group analysis of nonlinear Black-Scholes Models.** **L.A. Bordag** *University of Applied Sciences Zittau, Zittau, Germany*
11.00	**Sclesinger transformation for the AKNS hierarchy** **A.V. Yurov**, A.A. Yurova, R. Chirikov *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
11.30	**Coffee break**
12.00	**Spin density waves and puzzling low energy modes in chromium.** **E. Clementyev** *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
12.30	**Level anti-crossing and change in the sign of ^{13}C spin polarization in diamond** **A.T. Halikov,** A.I. Ivanov *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
12.50	**Internal stress distribution in glass-coated amorphous ferromagnetic microwires** **M. Vereshchagin** *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
13.10	**Lunch**
14.40	**Kinetic approach for modeling conductivity of low-dimensional structures** **S. Botman,** S. Leble *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
15.00	**Frequency-selective excitation for NMR in magnetic materials** **I. Mershiev,** G. Kupriyanova *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
15.20	**Theoretical estimation of nucleation field in bistable amorphous ferromagnticmicrowires** **G. Kwiatkowski** *Immanuel Kant Baltic Federal University, Kaliningrad, Russia* *University of Iceland, Reykjavík, Iceland*
15.40	**Coffee break**
16.10	**FDTD simulations for determining optical properties of gold**

	nanoparticles **P. Syty,** J. E. Sienkiewicz *Gdańsk University of Technology, Gdańsk, Poland*
16.30	**Wave- and entropy modes diagnostics in 1D exponential atmosphere via measurements in a vicinity of a point** **S. Vereshchagin,** S. Leble *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
16.50	**Coffee break**
17.30	**Poster section**

19 September

10.00	**Cosmological models on the brane: acceleration with negative cosmological constant** **A.V.Astashenok,** A.V. Yurov, V.A. Yurov *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
10.30	**Neutron stars in the R-square gravity and equivalent Brance-Dicke theory in Einstein frame** **A.S. Baigashov,** A.V. Astashenok *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
10.50	**Analytic description of pulse frequency self-shift in nonlinear photoniccrystal fibers** **V.A. Khalyapin** *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
11.10	**Coffee break**
11.40	**Tides and planetary waves in thermosphere in January 2009 in the whole atmosphere model** **P.A.Vasilev,** F.S. Bessarab, I.V.Karpov, T.V.Sukhodolov, E.V.Rozanov *West Department of Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, Kaliningrad, Russia*
12.00	**Ionospheric response to the Baltic sea meteorological storm in December, 2010** **M. Karpov,** O. Borchevkina *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
12.20	**Numerical simulation of wave propagation from atmospheric pressure variations registered with the microbarographs** **Y. Kurdyaeva,** S.Kshevetskii *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
12.40	**Coffee break**
13.10	**Propagation of the boundary regime of acoustic wave launched by tsunami wave at heights of ionosphere** **E. Smirnova,** S. Leble *Immanuel Kant Baltic Federal University, Kaliningrad, Russia*
13.30	**Autocorrelation and Fourier-analysis of solar flux index values and ionospheric F2 layer maximum critic frequency on Kaliningrad station** **N.V. Chirik,** A.V. Radievsky, F.S. Bessarab, M.V. Klimenko *Immanuel Kant Baltic Federal University, Kaliningrad, Russia* *West Department of Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, Kaliningrad, Russia*
13.50	**Storm-time and after-storm ionospheric disturbances**

	M.V. Klimenko, V.V. Klimenko, K.G. Ratovsky, N.V. Chirik, I.E. Zakharenkova, A.M. Vesnin, R.V. Vasilyev , D.S. Kotova *Immanuel Kant Baltic Federal University, Kaliningrad, Russia* *West Department of Pushkov Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, Kaliningrad, Russia*
14.10	**Closing of the conference**
15.00	**City tour (For those wishing)**

Poster session

1. Analysis of results obtained using the correction method for ionosphere empirical model assimilation by the data of the ground based gnss receivers

A. A. Gusakov, D. S. Kotova, V. B. Ovodenko, Yu. V. Yasyukevich, A. A. Mylnikova, M. V. Klimenko, E.S. Andreeva, A. E. Kozlovsky

West Department of Institute of Terrestrial Magnetism, Ionosphere, and Radiowave Propagation, Russian Academy of Sciences, Kaliningrad, Russia

2. Application of the ionospheric ray tracing for reproduction of tid trace in vertical and oblique ionograms

E. R. Somina, I. A. Nosikov, M. V. Klimenko, K. G. Ratovsky, V. A. Ivanova, A. V. Podlesnyi, G. A. Zhbankov, A.V. Oinats

Immanuel Kant Baltic Federal University, Kaliningrad, Russia

3. Evolution equation for two-time derivative Lorentz metamaterial: Projecting operators method

D. Ampilogov, S. Leble

Immanuel Kant Baltic Federal University, Kaliningrad, Russia

4. About the possibility of automatic detection of events in the reflectometry of the optical fiber for the account of using wavelet transformations

G.S. Rudnev, A.A. Shpilevoy, V.I. Burmistrov

Immanuel Kant Baltic Federal University, Kaliningrad, Russia

5. To the problem of estimating accuracy of atmosphere perturbations diagnostics to measuring at a limited number of points

I. Vereshchagina, S. Leble

Immanuel Kant Baltic Federal University, Kaliningrad, Russia