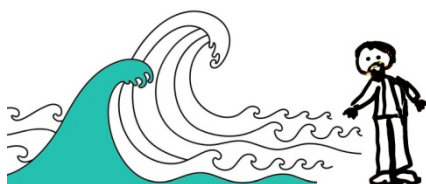


International conference Extreme Waves in Physics and Geophysics

October 16-17, 2025



A.V. Gaponov-Grekhov Institute of Applied Physics of the RAS
46 Ul'yanov Street, Nizhny Novgorod, Russia

In honor of the anniversary of Prof. Efim N. Pelinovsky

Programme

October 16, 2025, Conference Hall of the Institute of Applied Physics

The working languages are English (ENG) and Russian (RUS)

Admission to the institute is only for Russian passport holders with an accompanying person. Please send your full name and the passport number to the address slunyaev@ipfran.ru no later than 13.10.2025.

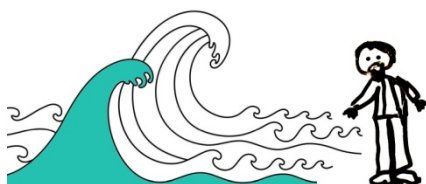
Link to online translation: <https://telemost.yandex.ru/j/00337157421802?lang=en>

09:45-10:00	Opening the conference	
10:00-10:20	Efim N. Pelinovsky <i>A.V. Gaponov-Grekhov Institute of Applied Physics RAS, Nizhny Novgorod, Russia</i> A physicist's view on the Korteweg-de Vries type equations	RUS
10:20-10:40	Sergey N. Gurbatov <i>Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russia</i> Rays, waves, particles. Statistical problems	RUS
10:40-11:00	Yuliya I. Troitskaya, O.A. Druzhinin, D.A. Sergeev, O.S. Ermakova <i>A.V. Gaponov-Grekhov Institute of Applied Physics RAS, Nizhny Novgorod, Russia</i> Quasi-linear approximation for description of turbulent boundary layer and wind wave growth rate	ENG
11:00-11:20	V.Z. Grines, E.V. Zhuzhoma, Olga V. Pochinka <i>Higher School of Economics, Nizhny Novgorod, Russia</i> On heteroclinic separators of magnetic fields in electrically conducting fluids	ENG
11:20-11:40	Coffee break	
11:40-12:00	Vladimir I. Erofeev and I.S. Pavlov <i>Institute for Problems in Mechanical Engineering RAS, Nizhny Novgorod, Russia</i> Study of the propagation characteristics of elastic waves using mathematical models of the mechanics of a deformable solid body with internal degrees of freedom	RUS
12:00-12:20	Irina V. Zotova and N.S. Ginzburg <i>A.V. Gaponov-Grekhov Institute of Applied Physics RAS, Nizhny Novgorod, Russia</i> Solitons and rogue waves in microwave electronics	ENG

12:20-12:40	<u>Denis V. Makarov</u>, N.V. Kuznetsova, A.D. Alliluev, N.A. Asriyan, A.A. Elistratov, A.I. Anisitch <i>V.I. Il'ichev Pacific Oceanological Institute FEB RAS, Vladivostok, Russia; Dukhov Automatics Research Institute, Moscow, Russia; Far Eastern Federal University, Vladivostok, Russia</i> Description of the dynamics of an exciton-polariton condensate using the non-Markovian stochastic Gross-Pitaevskii equation	RUS
12:40-13:00	Anatoly A. Abrashkin <i>Higher School of Economics, Nizhny Novgorod, Russia; A.V. Gaponov-Grekhov Institute of Applied Physics RAS, Nizhny Novgorod, Russia</i> Vortex waves on water: unsteady dynamics, breaking, rogue waves	RUS
13:00-14:00	Break for lunch	
14:00-14:20	Eugeny A. Kuznetsov <i>Lebedev Physical Institute, Moscow, Russia; Skolkovo Institute of Science and Technology, Moscow, Russia</i> Dislocations of soliton lattices: experiment and theory	ENG
14:20-14:40	Eugeny G. Morozov <i>Shirshov Institute of Oceanology RAS, Moscow, Russia</i> Internal tides of high amplitude	ENG
14:40-15:00	Sergey Yu. Dobrokhoto <i>Ishlinsky Institute for Problems in Mechanics RAS, Moscow, Russia</i> Constructive asymptotics for long waves on water in basins with gentle banks generated by spatially localized sources	RUS
15:00-15:20	<u>Ioann E. Melnikov</u> and M.V. Flamarion <i>Higher School of Economics, Nizhny Novgorod, Russia A.V. Gaponov-Grekhov Institute of Applied Physics RAS, Nizhny Novgorod, Russia; Pontifical Catholic University of Peru, Lima, Peru</i> Bifurcation analysis of soliton dynamics in the forced modified KdV equation with induced-damped terms	ENG
15:20-15:40	Coffee break	
15:40-16:00	<u>Izmail G. Kantarzhi</u>, A.S. Anshakov, A.G. Gogin <i>Moscow State University of Civil Engineering, Moscow, Russia; Istok Engineering and Construction JSC, Ozersk</i> High waves in determining loads on coastal hydroengineering structures	RUS
16:00-16:20	Mikhail A. Nosov and D.N. Valeeva <i>Lomonosov Moscow State University, Moscow, Russia</i> Seismogenic seiches	RUS
16:20-16:40	Andrey S. Kozelkov <i>All-Russian Scientific Research Institute of Experimental Physics, Sarov, Russia; Nizhny Novgorod State Technical University n.a. R.E. Alekseev, N. Novgorod, Russia</i> Tsunami modeling: From shallow water to Navier-Stokes equation	RUS
16:40-17:00	<u>Andrey I. Zaytsev</u>, E.N. Pelinovsky, G.I. Dolgikh, A. Yalciner, S.G. Dolgikh <i>Special Res. Bureau for Automation of Marine Res. FEB RAS, Yu.-Sakhalinsk, Russia; A.V. Gaponov-Grekhov Institute of Applied Physics RAS, Nizhny Novgorod, Russia; V.I. Il'ichev Pacific Oceanological Institute FEB RAS, Vladivostok, Russia; Middle East Technical University, Ankara, Turkey</i> Technical and software solutions for tsunami research	ENG
17:30-20:00	Buffet Dinner	

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Extreme Waves in Physics and Geophysics

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October 17, 2025, Remote session. Time zone: **GMT+3** (Moscow)

The working languages are English (**ENG**) and Russian (**RUS**)

Link to the Zoom meeting:

<https://uio.zoom.us/j/69644877365?pwd=sGNE8ulmzdYfsbx7isvWYvUajZ2bOd.1>

Meeting ID: 696 4487 7365 Passcode: 427852

09:15-09:20 (GMT+3)	Opening the second day Chair: Ira I. Didenkulova	
09:20-09:40	Elena N. Troshina <i>University of Alaska Fairbanks, Fairbanks, USA</i> Tsunami hazard mitigation in coastal Alaska	ENG
09:40-10:00	Ahmet Cevdet Yalciner, G.G. Dogan, E.N. Pelinovsky, B. Yalciner, A.I. Zaytsev <i>Middle East Technical University, Ankara, Turkey;</i> <i>Delft University of Technology, Delft, Netherlands;</i> <i>A.V. Gaponov-Grekhov Institute of Applied Physics RAS, Nizhny Novgorod, Russia;</i> <i>Special Res. Bureau for Automation of Marine Res. FEB RAS, Yu.-Sakhalinsk, Russia</i> Intuitions, Insights, Assessment, Awareness, Resilience and coastal disasters	ENG
10:00-10:20	Alexander V. Babanin <i>The University of Melbourne, Melbourne, Australia</i> Ocean Waves, old problem – new challenges, waves and turbulence	ENG
10:20-10:40	R. Fariello, M.S. Soares, Yury A. Stepanyants <i>State University of Montes Claros, Montes Claros, Brazil;</i> <i>University of Southern Queensland, Toowoomba, Australia;</i> <i>Nizhny Novgorod State Technical University n.a. R.E. Alekseev, N. Novgorod, Russia</i> Soliton dynamics in the Ostrovsky equation with positive dispersion	ENG
10:40-11:00	Amin Chabchoub <i>Okinawa Institute of Science and Technology, Okinawa, Japan;</i> <i>The University of Melbourne, Melbourne, Australia</i> Hydrodynamics of Manakov-type solitons and breathers	ENG
11:00-11:20	Break	

11:20-11:40	<u>Mikhail S. Ruderman</u>, N.S. Petrukhin, L.Y. Kataeva <i>The University of Sheffield, Sheffield, UK; Space Research Institute RAS, Moscow, Russia; Higher School of Economics, Moscow, Russia; Nizhny Novgorod State Technical University n.a. R.E. Alekseev, N. Novgorod, Russia</i> Nonlinear damped standing slow waves in cooling coronal magnetic loops	ENG
11:40-12:00	<u>Sergei I. Badulin</u>, V.G. Gnevyshev, Yu.A. Stepanyants <i>Shirshov Institute of Oceanology RAS, Moscow, Russia; Skolkovo Institute of Science and Technology, Moscow, Russia; Nizhny Novgorod State Technical University n.a. R.E. Alekseev, N. Novgorod, Russia; University of Southern Queensland, Toowoomba, Australia</i> Kelvin ship waves and wave wakes physics	ENG
12:00-12:20	O.I. Gusev, V.S. Skiba, G.S. Khakimsyanov, <u>Leonid B. Chubarov</u> <i>Federal Res. Center for Information and Comput. Technologies, Novosibirsk, Russia; Novosibirsk State University, Novosibirsk, Russia</i> An example of constructing engineering formulas for assessing the force impact of a solitary wave and bore on semi-submerged moored structures based on the results of extensive numerical calculations	RUS
12:20-12:40	Oleg V. Kaptsov <i>Federal Res. Center for Information and Comput. Technologies, Novosibirsk, Russia</i> Solutions of the Riemann-Euler equations and the system of equations of one-dimensional gas dynamics	RUS
12:40-13:00	<u>Vladimir A. Gordin</u> and D.P. Milyutin <i>Higher School of Economics, Moscow, Russia; Hydrometeorological Centre of Russia, Moscow, Russia; Moscow Institute of Physics and Technology, Moscow, Russia; Innopolis University, Innopolis, Russia</i> A compact finite-difference scheme for the Ostrovsky and BBM equations	RUS
13:00-14:00	Lunch Break	
14:00-14:20	Sergey L. Gavriluk <i>Aix-Marseille University, Marseilles, France</i> Hydraulic jumps and bores on shear flows	ENG
14:20-14:40	<u>Christian Kharif</u>, M. Abid, H.-C. Hsu, Y.-Y. Chen <i>Aix-Marseille Université, Institut de Recherche sur les Phénomènes Hors Equilibre, Marseilles, France; National Sun Yat-Sen University, Kaohsiung, Taiwan</i> A nonlinear Schrödinger equation for capillary waves on arbitrary depth with constant vorticity	ENG
14:40-15:00	Marc Francius <i>Université de Toulon, Toulon, France</i> Modulation instabilities of bimodal symmetric short-crested-waves: Is the most unstable mode the most dangerous one?	ENG
15:00-15:20	<u>Narcisse Zahibo</u>, G. Arnaud, Y. Krien <i>Université des Antilles, France; MetOcean Solutions, New Zealand; Université de Toulouse, France</i> Tsunamis in Guadeloupe archipelago. Insights into the consequences of climate change	ENG

15:20-15:40	Marcelo Flamarion <i>Pontifical Catholic University of Peru, Lima, Peru</i> Flow patterns beneath weakly nonlinear waves	ENG
15:40-16:00	Break	
16:00-16:20	Lev A. Ostrovsky <i>A.V. Gaponov-Grekhov Institute of Applied Physics RAS, Nizhny Novgorod, Russia; University of Colorado Boulder, Boulder, USA; University of North Carolina, Chapel Hill, USA</i> Dynamics of small particles and plankton in the field of internal solitary waves	ENG
16:20-16:40	S.Yu. Annenkov and <u>Victor I. Shrira</u> <i>Keele University, Keele, UK</i> Towards quantifying the probability of rogue waves in deep and intermediate depth water	ENG
16:40-17:00	Gennady K. Korotaev <i>Marine Hydrophysical Institute, Sevastopol, Russia</i> Hamiltonian formulation of the problem of the motion of an isolated vortex on the beta plane	ENG
17:00-17:20	Dmitry E. Pelinovsky <i>McMaster University, Hamilton, Canada</i> Rogue waves, algebraic solitons, and breathers on the varying wave background in integrable models	ENG
17:30-18:00	Free communication Closing the conference	