



Theory and numerical methods for solving inverse and ill-posed problems

September 30 - October 2, 2024

Conference program

Novosibirsk time: GMT+7



Zoom:



Zoom:

<https://us02web.zoom.us/j/82680294606?pwd=MzNZRVVvK2YwZGZhZThBUmlxM3BrUT09>

Conference ID: 826 8029 4606

Access code: 191624

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GMT + 7	September 30, Monday	<i>Institute of Mathematics named after S.L. Sobolev SB RAS</i>
		305 audience
9:00-9:30	Klibanov Michael University of North Carolina at Charlotte, USA	Convexification method for inverse problems
9:35-10:05	Ye Zhang Beijing Institute of Technology & Shenzhen MSU-BIT University, China	Generalized asymptotic regularization methods for inverse and ill-posed problems
10:10-10:40	Krivorotko Olga Igorevna, Kabanikhin S.I., Zyatkov N. Yu., Kaminsky G.D., Petrakova V.S. Institute of Mathematics named after S.L. Sobolev SB RAS	Mathematical models of interrelated epidemiological and economic processes and inverse problems
10:45-11:10	Coffee break	
11:10-11:30	Kadenova Zuurakan Azhimamatovna, Asanov A. Institute of Mathematics of the National Academy of Sciences of the Kyrgyz Republic, Bishkek, Kyrgyzstan	Stability and uniqueness of solutions to linear Voltaire integral equations of the third kind on the semi-axis

11:30-11:50	Zvonareva Tatiana Aleksandrovna, Krivorotko OI Institute of Mathematics named after S.L. Sobolev SB RAS	Mean field model for describing information dissemination in online social networks
11:50-12:10	Grenkin Gleb Vladimirovich Vladivostok State University, Vladivostok	Unambiguous identification of heat sources in a complex heat transfer model
12:10-12:30	Kuznetsov Kirill Sergeevich, Amosova E.V. Far Eastern Federal University, Institute of Applied Mathematics, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok	Numerical solution of the inverse problem of complex heat transfer on the restoration of the initial state and coefficients on the boundary from observations using the PINN method
12:30-12:50	Potapkov Alexey Alexandrovich Ugra State University, Khanty-Mansiysk	Correct formulation of the inverse problem of determining the heat transfer coefficient at the boundary using the thermal conductivity model
12:50-13:10	Garashchenko Alexander Alekseevich Irkutsk National Research Technical University, Irkutsk	Application of data fusion and computer vision methods to recognize the outer boundary of the auroral oval
13:10-14:30	<i>Dinner</i>	
14:30-15:00	Roman Novikov, Isaev M., Sabinin G., Zaytsev R. CNRS, Ecole Polytechnique & IEPT RAS, Paris, France	Super-resolution reconstruction from band-limited Fourier transform
15:05-15:35	Mikhailov Victor Sergeevich, Mikhailov A.S. St. Petersburg branch of the Mathematical Institute named after. V. A. Steklova RAS, St. Petersburg	Inverse dynamic problem for a one-dimensional transport system
15:40-16:10	Nikolay Trusov, Egorov L.V. FITZ IU RAS, Moscow	The group behaviour analysis of the high-frequency traders based on Mean Field Games approach
16:15-16:40	<i>Coffee break</i>	
16:40-17:00	Andrey Sergeevich Stankevich Moscow Institute of Physics and Technology, Dolgoprudny	Acoustic inversion using deep learning diffusion models
17:00-17:20	Khamikova Marina Aleksandrovna, Ostanin P.A. Moscow Institute of Physics and Technology, Moscow	Neural network approach to assimilation of total electron content data in the INM-IM ionospheric model

17:20-17:40	Ablabekov Baktybay Saparbekovich, Kurmanbaeva AK Kyrgyz National University named after J. Balasagin, Bishkek, Kyrgyzstan	Inverse problems for the Benjamin-Bon-Mahoney-Burgers equation
17:40-18:00	Kusainova Ainur Toleubekovna, Sagindykov K.M. Eurasian National University named after. L.N. Gumilyov, Astana, Kazakhstan	Storage and processing of georadar measurement data for road pavement diagnostics

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GMT + 7	October 1, Tuesday	<i>Institute of Mathematics named after S.L. Sobolev SB RAS</i>
		<i>305 audience</i>
9:00-9:40	Plamen D. Stefanov Purdue University, USA	Lorentzian Scattering Rigidity
9:40-11:00	<i>Coffee break</i>	
11:00-11:20	Glukhov Anton Iosifovich Institute of Mathematics named after S.L. Sobolev SB RAS	Dynamics of social protests: mean field game theory and inverse problems
11:20-11:40	Egoshin Ivan Aleksandrovich, Pasyukov DV, Kolchev AA Mari State University, Yoshkar-Ola	Method for classifying formations on ultrasound images using statistical characteristics
11:40-12:00	Glubokikh Alina Vitalievna Novosibirsk State University	On the stability of nonlocal oscillations in the molecular repressilator model
12:00-12:20	Zotov Leonid Valentinovich SAI MSU	Changes in the Chandler oscillation and its excitation
12:20-14:00	<i>Dinner</i>	
14:00-14:40	Vladimir Vasilievich Vasin Institute of Mathematics and Mechanics named after N.N. Krasovsky Ural Branch RAS	Scientific heritage of Valentin Konstantinovich Ivanov
14:45-15:25	Svetlana Vladimirovna Fortova Institute of Design Automation RAS, Moscow	Academician Andrei Nikolaevich Tikhonov: "The diagnosis is made by the computer"

15:30-15:50	Coffee break	
15:50-16:20	Mikhail Igorevich Belishev, Korikov D.V. POMI, St. Petersburg	Impedance tomography of Riemann surfaces
16:20-16:40	Sizikov Valery Sergeevich ITMO University, St. Petersburg	Determining the kernel of an integral equation
16:40-17:00	Lavrenkov Stepan Aleksandrovich, Vasyukov A.V. Moscow Institute of Physics and Technology, Moscow	Obtaining elastic moduli of multilayer thin composite plates from vibration testing data
17:00-17:20	Shorokhov Sergey Gennadievich Peoples' Friendship University of Russia, Moscow	On the inverse problem of dynamic management of a securities portfolio
17:20-17:40	Orman Indira Malikovna Manash Kozybayev North Kazakhstan university, Petropavlovsk, Kazakhstan	Determination of the calibration function for the dependence of dielectric constant on humidity
17:40-18:00	Evseev Fyodor Aleksandrovich Ugra State University, Khanty-Mansiysk	Solvability of the first initial-boundary value problem for a system of quasi-hydrodynamic equations in the linearized case

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Zoom:



GMT + 7	October 2, Wednesday	Institute of Mathematics named after S.L. Sobolev SB RAS 305 audience
9:00-9:30	Vasiliev Vasily Ivanovich, Kardashevsky A.M. North-Eastern Federal University. MK Ammosova, Yakutsk	Computational identification of the nonstationary coefficient of the convective term of the parabolic equation
9:35-10:05	Kazizat Takuadinovich Iskakov Eurasian National University named after. L.N. Gumilyov, Astana, Kazakhstan	Algorithms for interpreting radargrams
10:05-10:25	Popov Maxim Alekseevich, Kononenko R.V. Irkutsk National Research Technical University, Irkutsk	Forecasting the quality of the flotation process using regression analysis methods
10:25-10:45	Zorkaltsev Anton Valerievich, Davydova A.V. Novosibirsk State University	Consequences of replacing probabilities with frequencies when estimating entropy
10:45-11:10	Coffee break	
11:10-11:30	Besheev Daulet Maratovich, Kalmenov K. Eurasian National University named after. L.N. Gumilyov, Astana, Kazakhstan	Algorithm for solving the inverse problem of subsurface radar
11:30-11:50	Chistyakov Pavel Alexandrovich Institute of Mathematics and Mechanics, Ural Branch of the Russian Academy of Sciences, Ekaterinburg	Tikhonov's regularization method for solving SLAEs
11:50-12:10	Plokhonnikov Mikhail Alexandrovich Baikal State University, Irkutsk	Forecasting Demand from Insurance Rates: Models of Elasticity and Temporal Variability
12:10-12:30	Guber Alexey Vladimirovich Novosibirsk State University	Comparative analysis of numerical methods for determining the source of acoustic waves

12:30-12:50	Tatin Almaz Algazievich, Oralbekova Zh.O., Turarova M.K. Eurasian National University named after. L.N. Gumilyov, Astana, Kazakhstan	An intelligent method for solving the inverse problem of geoelectrics in the case of vertically inhomogeneous media
12:50-14:00	<i>Dinner</i>	
14:00-14:40	Mikhail Alexandrovich Guzev Institute of Applied Mathematics, Far Eastern Branch of the Russian Academy of Sciences, Vladivostok	Academician Viktor Pavlovich Maslov: “It was impossible to make a mistake”
14:45-15:15	Kozhanov Alexander Ivanovich Institute of Mathematics named after S.L. Sobolev SB RAS	Generalized Steklov-Samarsky-Ionkin problem and inverse coefficient problems for the heat equation
15:15-15:45	Gunther Uhlmann University of Washington, USA	On the nonlocal Calderon problem
15:45-16:00	<i>Coffee break</i>	
16:00-16:20	Pavel Sergeyevich Surnin Institute of Mathematics named after S.L. Sobolev SB RAS	Inverse coefficient problem for modeling HIV infection at an early stage of development
16:20-16:35	Zhu Dongqin MSU named after M.V. Lomonosova, Shenzhen, China	Application of the Newton-Kantorovich method for solving the inverse coefficient problem
16:35-16:50	Srilatha Chandragiri Institute of Mathematics named after S.L. Sobolev SB RAS	Numerical solution of the three-dimensional acoustic wave equation using the finite difference method
16:50-17:05	Liu Shuang Novosibirsk State University	Numerical algorithms for solving the nonlinear Schrödinger equation
17:05-17:20	Radko Ivan Alexandrovich Novosibirsk State University	Direct problem of wave tomography
17:20-17:35	Kutlimuratov Shokhzhakhon Komilzhan coils, Kazantsev S. Novosibirsk State University	Zernike polynomials and boundary value problems for a polyharmonic equation

17:35- 17:50	Makhmasoatov Sherbek Gairat coals, Kazantsev S. Novosibirsk State University	Radon transform and Helmholtz decomposition of vector fields
17:50- 18:05	Kasengaliev Dauren Kairatuly, Zhusupov T.A. Eurasian National University named after. L.N. Gumilyov, Astana, Kazakhstan	An intelligent method for solving the inverse problem of geoelectrics in a cylindrical coordinate system
	<i>Closing of the conference</i>	