PROGRAM

of the 8th International conference

NONLINEAR ANALYSIS AND EXTREMAL PROBLEMS
(NLA-2024)

JUNE 24-28, 2024
IRKUTSK, RUSSIA

ORGANIZERS

Matrosov Institute for System Dynamics and Control Theory SB RAS

Sobolev Institute of Mathematics SB RAS

Krasovskii Institute of Mathematics and Mechanics UB RAS

Irkutsk State University

Mathematical Center in Akademgorodok

SCHEDULE

June 24, Monday		June 25, Tuesday		June 26, Wednesday		June 28, Friday	
9:00-9:45	Registration	9:00-9:50	**Lecture**	9:00-9:50	**Lecture**	9:00-9:50	Poster session
9:45-10:00	Opening ceremony	9:50-10:00	Coffee break	9:50-10:00	Coffee break	9:50-10:00	Coffee break
10:00-10:50	**Lecture**	10:00-10:50	**Lecture**	10:00-10:50	**Lecture**	10:00-12:00	**Sessions**
10:50-11:00	Coffee break	10:50-11:00	Coffee break	10:50-11:00	Coffee break		
11:00-11:50	**Lecture**	11:00-11:50	**Lecture**	11:00-11:50	**Lecture**		
12:00-13:00	Lunch	12:00-13:00	Lunch	12:00-13:00	Lunch	12:00-13:00	Lunch
13:00-15:40	**Sessions**	13:00-14:20	**Sessions**	13:00-14:40	**Sessions**	13:00-13:50	**Lecture**
		14:20-14:30	Coffee break			13:50-14:00	Coffee break
		14:30-15:20	**Lecture**	14:40-15:00	Coffee break	14:00-14:50	**Lecture**
		15:20-15:30	Coffee break	15:00-16:20	**Sessions**	15:00	Closing ceremony
15:40-16:00	Coffee break	15:30-16:20	**Lecture**				
16:00-16:50	**Lecture**	16:20-16:40	Coffee break	16:20-16:40	Coffee break		
16:50-17:00	Coffee break	16:40-20:40	**Sessions**	16:40-20:40	**Sessions**		
17:00-17:50	**Lecture**						
18:00-20:00	Welcome reception						

The School-Seminar takes place in ISDCT SB RAS 134, Lermontov st., Irkutsk, Russia.

Website of the School-Seminar: https://conference.icc.ru/event/7/

Lectures

June 24, Monday, 10:00 – 11:50   **ISDCT SB RAS, Room A**

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Chair: Alexander A. Tolstonogov
Secretaries: Anton S. Anikin, Svyatoslav V. Melkozerov

10:00 – 10:50   *Vladimir I. Bogachev*. Nonlinear Kantorovich problems of the optimal transportation (Lecture 1)

10:50 – 11:00   Coffee break

11:00 – 11:50   *Vladimir I. Bogachev*. Nonlinear Kantorovich problems of the optimal transportation (Lecture 2)

June 24, Monday, 16:00 – 17:50   **ISDCT SB RAS, Room A**

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Chair: Alexander S. Strekalovsky
Secretaries: Elena V. Chistyakova, Svyatoslav V. Melkozerov

16:00 – 16:50   *Zhenhai Liu*. Recent advances on partial differential variational inequalities

16:50 – 17:00   Coffee break

17:00 – 17:50   *Zhenhai Liu*. A differential system consisting of an evolution equation and a doubly nonlinear inclusion

June 25, Tuesday, 9:00 – 11:50   **ISDCT SB RAS, Room A**

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Chairs: Vladimir A. Dykhta, Alexander Yu. Gornov
Secretaries: Stepan P. Sorokin, Svyatoslav V. Melkozerov

9:00 – 9:50   ■ *Yuri S. Ledyaev*. Convexity of images of (non-) convex sets under nonlinear mappings

10:50 – 10:00   Coffee break

10:00 – 10:50   ■ *Yuri S. Ledyaev*. Harmonic analysis and optimal control

10:50 – 11:00   Coffee break

11:00 – 11:50   *Dmitrii V. Khlopin*. On limiting optimization problems (Lecture 1)

June 25, Tuesday, 14:30 – 16:20 **ISDCT SB RAS, Room A**

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Chair: Vladimir I. Bogachev
Secretaries: Maksim V. Staritsyn, Svyatoslav V. Melkozerov

14:30 – 15:20   📹 _Giovanni Colombo_. Recent advances on the optimal control of Moreau's sweeping process (Lecture 1)

15:20 – 15:30   Coffee break

15:30 – 16:20   📹 _Giovanni Colombo_. Recent advances on the optimal control of Moreau's sweeping process (Lecture 2)

June 26, Wednesday, 9:00 – 9:50 **ISDCT SB RAS, Room A**

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Chairs: Alexander Yu. Gornov, Mikhail V. Bulatov
Secretaries: Anton S. Anikin, Liubov S. Solovarova,Svyatoslav V. Melkozerov

9:00 – 9:50   _Dmitrii V. Khlopin_. On limiting optimization problems (Lecture 2)

10:50 – 10:00   Coffee break

10:00 – 10:50   _Linh Vu Hoang_. Spectral theory and asymptotic behavior of solutions for differential-algebraic equations (Lecture 1)

10:50 – 11:00   Coffee break

11:00 – 11:50   _Linh Vu Hoang_. Spectral theory and asymptotic behavior of solutions for differential-algebraic equations (Lecture 2)

June 28, Friday, 13:00 – 14:50 **ISDCT SB RAS, Room A**

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Chair: Alexander A. Tolstonogov
Secretaries: Anton S. Anikin, Svyatoslav V. Melkozerov

13:00 – 13:50   📹 _Alberto Bressan_. Optimal control of traveling profiles and moving sets (Lecture 1)

13:50 – 14:00   Coffee break

14:00 – 14:50   📹 _Alberto Bressan_. Optimal control of traveling profiles and moving sets (Lecture 2)

Sessions

June 24, Monday, 13:00 – 15:40   **ISDCT SB RAS, Room A**

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Partial differential equations 1

Chairs: Alexander L. Kazakov, Anna A. Lempert
Secretary: Maksim L. Zharkov

13:00 – 13:20   *Sergey A. Siniukov*. Asymptotic Solutions of the Nonlocal Kinetic Equation of Ionization of an Active Medium with Cubic Nonlinearity

13:20 – 13:40   *Elena Yu. Grazhdantseva*. Mixed Problem for a System of First Order Differential Equations

13:40 – 14:00   *Margarita Zvereva, Mikhail Kamenskii*. On Boundary Value Problems with Nonsmooth Solutions and Nonlinear Boundary Conditions

14:00 – 14:20   *Maxim Korpusov, Alexandra Matveeva*. On Critical Exponents for Weak Solutions of the Cauchy Problem for One (2+1)-Dimensional Nonlinear Equation of Wave Theory in Semiconductors

14:20 – 14:40   *Margarita V. Artemeva, M.O. Korpusov*. On the Blow Up the Solution of the Cauchy Problem for a (3+1)-Dimensional Heat-Electric Model

14:40 – 15:00   *Julia Belyaeva*. On the Exact Solutions to the Vlasov-Poisson System in a Cylindrical Domains

15:00 – 15:20   *Lina N. Bondar, Sanjar B. Mingnarov*. The Cauchy Problem for One Pseudohyperbolic System

15:20 – 15:40   *Bakhtovar Kh. Barotov, A. I. Kozhanov*. Study of the Solvability of Quasi-Parabolic Degenerate Integro-Differential Equations of Volterra Type

June 24, Monday, 13:00 – 15:40   **ISDCT SB RAS, Room B**

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Dynamical systems 1

Chair: Gennadii V. Demidenko
Secretary: Pavel S. Petrenko

13:00 – 13:20   *Gennadii V. Demidenko, Vakhobbiddin S. Nurmakhmatov*. An Energy Estimate for One Pseudohyperbolic Equation

13:20 – 13:40   *Ivan D. Ilyinykh*. Asymptotic Behavior of Solutions to a Linear Delay Differential Equation

13:40 – 14:00	*Valentina V. Shemetova*. Boundary Value Problems for a Class of Pseudohyperbolic Equations
14:00 – 14:20	*Gennadii V. Demidenko*. Conditions for the Existence of Periodic Solutions to One Class of Systems of Nonlinear Differential Equations
14:20 – 14:40	*Inessa I. Matveeva*. On Estimates for Solutions to a Class of Nonautonomous Systems of Neutral Type with Concentrated and Distributed Delays
14:40 – 15:00	*Valeri Obukhovskii, Maria Soroka*. On Impulsive Fractional Differential Inclusions with a Nonconvex-Valued Right-Hand Side in Banach Spaces
15:00 – 15:20	*Valerii Obukhovskii, Sergey Kornev, Polina Korneva*. On the Existence of Bounded Solutions of Differential Inclusions
15:20 – 15:40	*Sergey Kornev, Polina Korneva*. On One Development of the Method of Guiding Functions

June 24, Monday, 13:00 – 15:40　　　　　　　　**ISDCT SB RAS, Room C**

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Nonlinear analysis and its applications 1

Chair: Dmitrii V. Khlopin
Secretary: Maksim V. Staritsyn

13:00 – 13:20	*Sergey Buterin*. On Damping a Control System of Arbitrary Order with Global Aftereffect on a Temporal Tree
13:20 – 13:40	*Garik Petrosyan*. On a Feedback Control System Described by a Fractional Differential Inclusion and a Sweeping Process
13:40 – 14:00	*Elena Makhrova*. On Limit Sets of Monotone Maps on One-Dimensional Ramified Continua
14:00 – 14:20	*Yuri Sachkov*. Flat Sub-Lorentzian Problems on the Martinet Distribution
14:20 – 14:40	*Valentin V. Gorokhovik*. Abstract Convexity and Subdifferentiability of Functions with Respect to Lipschitz Concave Functions
14:40 – 15:00	*Alexander Kotyukov, Natalya Pavlova*. Equilibrium as a Coincidence Point of Two Mappings

15:00 – 15:20   ◼ *Alexey Podobryaev*. Existence of the Longest Paths for Sub-Lorentzian Problems

15:20 – 15:40   ◼ *Alizhon Naimov, Alexander Korovin*. On Calculating the Mapping Degree of the Gradient of a Smooth Positively Homogeneous Function

June 25, Tuesday, 13:00 – 14:20   **ISDCT SB RAS, Room A**

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Nonlinear analysis and its applications 2

Chair: Inessa I. Matveeva
Secretary: Pavel S. Petrenko

13:00 – 13:20   *Tatyana Sabatulina*. On Estimates of Solutions for Systems of Linear Autonomous Differential Equations with Aftereffect

13:20 – 13:40   *Vera Malygina*. On Sharp Two-Sided Estimates for Stable Solutions to Differential Equations with Delay

13:40 – 14:00   *Anton Balandin*. On the Positivity of the Cauchy Function and the Fundamental Solution of a Linear Autonomous Differential Equation of Neutral Type

14:00 – 14:20   *Kirill Chudinov*. Sufficient Stability Conditions for Solutions to Linear Differential Equations with Aftereffect

June 25, Tuesday, 13:00 – 14:20   **ISDCT SB RAS, Room B**

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Optimization 1

Chair: Alexander Yu. Gornov
Secretary: Pavel S. Sorokovikov

13:00 – 13:20   *Ilya Minarchenko*. An Optimization Approach to Search of Nash Equilibrium in Nonmonotone Quadratic Games

13:20 – 13:40   *Tatiana Levanova, Ivan Khmara*. Applying a Tabu Search to Solving the Robust P-Median Problem

13:40 – 14:00   *Boris Melnikov, Elena Melnikova*. Optimization of the Solutions of the Pseudogeometric Version of the Traveling Salesman Problem

14:00 – 14:20   ◼ *Alexandr Barinov*. One Problem of Achieving an Incompletely Known Target Set

June 25, Tuesday, 13:00 – 14:20 ISDCT SB RAS, Room C

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Dynamical systems 2

Chair: Ivan A. Finogenko
Secretary: Stepan P. Sorokin

13:00 – 13:20 *Ekaterina Getmanova*. Geometric Methods of Analysis in the Study of Some Problems in the Theory of Differential Inclusions

13:20 – 13:40 *Ivan A. Finogenko*. Method of Equivalent Control for Discontinuous Systems with Delay

13:40 – 14:00 *Andrei Svinin*. On the Properties of Solutions to Some System of Discrete Equations

14:00 – 14:20 *Alexey N. Rogalev*. Numerical-Symbolic Estimates of Geometric Characteristics of Reachable Sets and Functional Differential Equations

June 25, Tuesday, 16:40 – 20:40 ISDCT SB RAS, Room A

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Partial differential equations 2

Chair: Alexander L. Kazakov
Secretary: Pavel A. Kuznetsov

16:40 – 17:00 *Pavel Kuznetsov*. On Exact Solutions with Zero Fronts to the Parabolic Predator-Prey System

17:00 – 17:20 *Abu Bakarr Kamanda Bongay, Vladimir Vasilyev*. On Discrete Equations in a Multidimensional Space

17:20 – 17:40 *Hadish F. Gebreslasie, Vladimir Vasilyev*. On Some Pseudo-Differential Equation in a Certain Conical Domain

17:40 – 18:00 *Viktor Pavlenko*. Construction of Solutions of Analogues of the Schrodinger Non-Stationary Equations Corresponding to Some Hamiltonian Systems of the Kimura-Kawamuko List

18:00 – 18:20 ◼ *Nikolai Krutov*. On the Possibility of Constructing an Explicit Formula of the Fundamental Solution for the Density of the Generalized Ornstein-Uhlenbeck Process

18:20 – 18:40 ◼ *Anton Kulagin, Alexander Shapovalov*. Semiclassical Solutions to the Nonlocal Nonlinear Schrodinger Equation with an Anti-Hermitian Term Associated with the Dynamics of Quasiparticles

18:40 – 19:00	◼ *Viktor Korzyuk, Jan Rudzko*. Solutions of Problems for the Semilinear Wave Equation with a Dirac Potential
19:00 – 19:20	◼ *Sergey Shorokhov*. Solving Boundary Value Problems for Wave Pde with Quasi-Classical Variational Formulation and Neural Network
19:20 – 19:40	◼ *Sirozhiddin Z. Dzhamalov, B.K. Sipatdinova*. Linear Inverse Problem for Second Kind Mixed Type with Semi-Nonlocal Boundary Condition in a Primatic Unbounded Domain
19:40 – 20:00	◼ *Quvonchbek Asadov, Karimjon Sabirov*. Transmissionless Propagation of the Kink Soliton for the Nonlinear Klein-Gordon Equation on Branched Structures
20:00 – 20:20	◼ *Yuri Rykov*. Variational Formulation for One-Dimensional Systems of Conservation Laws
20:20 – 20:40	◼ *Tamara G. Sukacheva, Aleksey O. Kondyukov*. The Avalos-Triggiani Problem for the Linear Oskolkov System of Non-Zero Order and a System of Wave Equations

June 25, Tuesday, 16:40 – 20:40 **ISDCT SB RAS, Room B**

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Optimization 2

Chair: Andrey V. Orlov
Secretary: Maria V. Barkova

16:40 – 17:00	◼ *Akmal Mamatov*. A Dual Method for Solving a Game Problem with Arbitrary Situations
17:00 – 17:20	◼ *Rashid Yarullin, Igor Zabotin*. A Minimization Method with Sequential Use of Constraint Functions When Constructing Embedding Sets
17:20 – 17:40	◼ *Pavel Simakov, Konstantin Kudryavtsev*. About One Method of Decision-Making with Inaccurate Information About the Importance of Criteria
17:40 – 18:00	◼ *Nadezhda V. Dresvyanskaya*. Application of Piece-Wise Linear Support Functions in Linear Bilevel Programming Problems
18:00 – 18:20	◼ *Sofia Shperling*. Bin-By-Bin Strategy for the Two-Dimensional Irregular Bin Packing Problem
18:20 – 18:40	◼ *Dmitri G. Terzi*. On One Optimality Criterion for Solving the Traveling Salesman Problem
18:40 – 19:00	◼ *Alexey V. Ratushnyi, A. A. Panin, E. A. Brazhnikov*. Template-Based Approach to Dynamic Bin Packing with Placement Groups

19:00 – 19:20	▰ *Igor Prudnikov*. The Star Sets and Solution of Dc Problem
19:20 – 19:40	▰ *Vassili N. Malozemov, Grigoriy Sh. Tamasyan*. Comparative Analysis of Kozinets, Mdm and Smo Algorithms for Solving the Hard Svm-Separation Problem
19:40 – 20:00	▰ *Anastasiya Andrianova*. Reduction of Computational Complexity for Solving the Non-Guillotine Placement Problem on an Exact Model
20:00 – 20:20	▰ *Sergei Gladyshev*. Comparison Optimization Models for an Identical Parallel Machine Scheduling Problem with Uncertain Job Durations
20:20 – 20:40	*Tatiana Gruzdeva, Igor Semakin*. On Center-Based Clustering by Mahalanobis Distance

June 25, Tuesday, 16:40 – 20:40 **ISDCT SB RAS, Room C**

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Dynamical systems 3

Chair: Alla A. Shcheglova
Secretary: Olga N. Samsonyuk

16:40 – 17:00	*Alla Shcheglova*. Controllability of Time-Varying Discrete Descriptor Systems
17:00 – 17:20	*Svetlana V. Solodusha*. Iterative Approach to Solving Polynomial Volterra Integral Equations of the First Kind
17:20 – 17:40	▰ *Levon Beklaryan, Armen Beklaryan*. Dualism of Theories of Solitonic Solutions of Infinite-Dimensional Dynamic Systems and Functional- Differential Equations of Pointwise Type
17:40 – 18:00	▰ *Valery Gaiko*. Global Limit Cycle Bifurcations in Predator-Prey Models of Ecological and Biomedical Systems
18:00 – 18:20	▰ *Igor Burkin, Oksana Kuznetsova*. Hidden Stability Boundaries of One System with Monotonic Nonlinearity in the Hurwitz Sector
18:20 – 18:40	▰ *Maxim V. Shamolin*. Invariants of Dynamical Systems with Dissipation
18:40 – 19:00	▰ *Andrei Vasin*. On Identity for Dyadic Coverings of Closed Sets with Zero Measure
19:00 – 19:20	▰ *Azamat Shavlukov*. On the Elliptic Umbilical Singularity of Solutions to Nonlinear Geometrical Optics System
19:20 – 19:40	▰ *Andrei Lomov*. On the Stability of Solutions to the Variational Prony Problem

19:40 – 20:00   ◼ *Mikhail Bekhovskiy*. Realization of Additional Variables Method in Problems of Dynamics

20:00 – 20:20   ◼ *Oksana Germider, Vasilii Popov*. A Collocation Method Based on Roots of Chebyshev Polynomial for Solving Integral Equations

June 26, Wednesday, 13:00 – 14:40   **ISDCT SB RAS, Room A**

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Nonlinear analysis and its applications 3

Chair: Alla A. Shcheglova
Secretary: Svetlana V. Svinina

13:00 – 13:20   *Viktor A. Denisiuk*. Asymptotic Properties of Solutions to a System of Nonlinear Ordinary Differential Equations

13:20 – 13:40   *Timur Iskakov*. On Estimates of Solutions to Delay Differential Equations

13:40 – 14:00   *Irina Postanogova*. On Invertibility of the Operator for Derivative in a Neutral Type Differential Equation

14:00 – 14:20   *Vladislav S. Prokhorov*. On One Generalized Lyapunov Matrix Equation

14:20 – 14:40   *Ilya Aksenenko*. On Stability of a Linear Difference Equation with Complex Coefficients

June 26, Wednesday, 13:00 – 14:40   **ISDCT SB RAS, Room B**

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Calculus of variations and control theory 1

Chairs: Vladimir A. Dykhta, Vladimir A. Srochko
Secretary: Stepan P. Sorokin

13:00 – 13:20   *Yulia Danik, Mikhail Dmitriev, Dmitry Makarov*. A Penalty Functions Method for Feedback Control Design in Terminal Weakly Nonlinear Optimal Control Problems

13:20 – 13:40   ◼ *Yurii F. Dolgii, Alexander N. Sesekin*. Construction of Approximations of Optimal Impulse Stabilizing Control for a Delayed System

13:40 – 14:00   ◼ *Alexander Miller, Boris Miller, Alexey Popov, Karen Stepanyan*. Control of Autonomous Vehicles on the Basis of the Observation of Surrounding Landscape

14:00 – 14:20	*Mikhail I. Gusev*. Extremal Properties of the Reachable Set Boundary and the Lagrange Principle
14:20 – 14:40	*Vladimir A. Srochko, Alexander V. Arguchintsev*. Parametric Regularization of the Functional in a Linear-Quadratic Optimal Control Problem

June 26, Wednesday, 13:00 – 14:40　　　　　**ISDCT SB RAS, Room C**

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Numerical methods

Chair: Alexander Yu. Gornov
Secretary: Pavel S. Sorokovikov

13:00 – 13:20	*Pavel Sorokovikov*. Hybrid Non-Local Optimization Algorithms Based on Biogeography, Grey Wolf, Flower Pollination and L-Bfgs Methods
13:20 – 13:40	*Alexander Gornov, Tatiana Zarodnyuk, Anton Anikin, Pavel Sorokovikov, Alexander Tyatyushkin*. Practical Optimization in Non-Convex Optimal Control Problems
13:40 – 14:00	*Bilal S. Shevchenko, Natalia B. Zakharova*. Algorithms for Processing Remote Sensing Data in Problems of Variational Data Assimilation
14:00 – 14:20	*Alexander Arguchintsev, Daniil Kopylov*. Numerical Solution of the Optimal Control Problem Describing Separation Processes in a Distillation Column
14:20 – 14:40	*Olga Budnikova, Mikhail Bulatov*. On the Construction of Two-Stage Multistep Methods for the Numerical Solution of Integral Algebraic Equations

June 26, Wednesday, 15:00 – 16:20　　　　　**ISDCT SB RAS, Room A**

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Nonlinear analysis and its applications 4

Chair: Gennadii V. Demidenko
Secretary: Maksim L. Zharkov

15:00 – 15:20	*Shuguang Li, Longjie Lv, Xiaoyi Ma*. Homogenization Modeling of Effective Permeability for Generalized Newtonian Flow in Porous Media
15:20 – 15:40	*Wenqiang Dong*. Stabilization of Discrete-Time Generalized Quasi-One-Sided Lipschitz Nonlinear Systems with Multiple Delays

15:40 – 16:00   *Longjie Lv, Shuguang Li, Mingyue Wei.* The Effects of Viscous Dissipation on the Nanofluid Natural Convection in a Tilted Square Cavity

16:00 – 16:20   *Ma Xin*. The First Initial-Boundary Value Problem for a Pseudohyperbolic Equation

June 26, Wednesday, 15:00 – 16:20   ISDCT SB RAS, Room B

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Calculus of variations and control theory 2

Chair: Vladimir A. Dykhta
Secretary: Stepan P. Sorokin

15:00 – 15:20   *Dmitrii Novikov*. Numerical Solution of a Particular Control Problem with Phase Constraints

15:20 – 15:40   *Nina N. Subbotina, Evgenii Krupennikov*. On the Control Reconstruction for Trajectories of Differential Inclusions in Problems of Control Theory

15:40 – 16:00   *Alexander Chentsov, Dmitrii Serkov*. On the Question of an Alternative in a Differential Game for Systems with the Properties of Generalized Uniqueness and Uniform Boundedness

16:00 – 16:20   *Igor Lutoshkin, Maria Rybina*. Optimal Control of the Economic System in Conditions of Mass Disease with Vaccination

June 26, Wednesday, 15:00 – 16:20   ISDCT SB RAS, Room C

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Dynamical systems 4

Chair: Anatoly V. Lakeev
Secretary: Pavel S. Sorokovikov

15:00 – 15:20   *Andrey Perevaryukha*. Method for Modeling Infectious Processes with Chronization Using Equations Randomized Delay

15:20 – 15:40   *Vyacheslav D. Sedykh*. On Singularities of Caustics in Spaces of Low Dimension

15:40 – 16:00   *Andrey Osipov*. Operator Continued J- Fractions: Basic Facts and Possible Applications

16:00 – 16:20   *Elena V. Alves, Manuel J. Alves, Joao S.P. Munembe, Yury V. Nepomnyashchikh*. Urysohn Operator in Subspaces of the Space of Essentially Bounded Functions

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Nonlinear analysis and its applications 5

Chair: Ivan A. Finogenko
Secretary: Pavel S. Petrenko

16:40 – 17:00　　　📹 *Andrei Gorchakov, Vladimir Zubov.* Determination of Thermal Conductivity and Volumetric Heat Capacity by Heat Flow

17:00 – 17:20　　　📹 *Muzaffar Rahmatullaev, Olimxon Akhmedov.* P-Adic Quasi Gibbs Measures for the Four States P-Adic Sos Model on the Cayley Tree of Order Two

17:20 – 17:40　　　📹 *Zulfiya Gabidullina.* Analysis of Some Differential Properties of Nonconvex Functions

17:40 – 18:00　　　📹 *Regina R. Mutigullina, Regina D. Murtazina.* Decomposition of Webullah Function into an Orthogonal Row

18:00 – 18:20　　　📹 *Nailia T. Gabdrakhmanova.* Dynamic Models in Predictive Analytic with Examples of Problem Solving in Different Domains

18:20 – 18:40　　　📹 Nyurgun Lazarev, Djulustan Nikiforov, Natalya Romanova. Equilibrium Problem for a Timoshenko Plate Contacting by the Side Edge and the Bottom Boundary

18:40 – 19:00　　　📹 *Dzhamil Badardinov.* Existence and Uniqueness of Solutions to Polyharmonic Equations in Weighted Sobolev Spaces

19:00 – 19:20　　　📹 *E. R. Shaihiev, Marat D. Bitkulov, Nadir E. Murtazin.* Time Series of Percolation Sensor Currents Under Conditions of Potentiostatic Chronoamperometry of Liquid Media

19:20 – 19:40　　　📹 *Mohisanam Turgunboyeva, Bahrom Samatov.* The I-Capture Problem in a Differential Game with Conflict-Controlled Inertial Players

19:40 – 20:00　　　📹 *Dmitriy Tverdyi, Roman Parovik.* The Inverse Problem of Determining the Optimal Coefficients of Mathematical Models Based on a Nonlinear Fractional Equation with a Gerasimov-Caputo Operator of Variable Order

20:00 – 20:20　　　📹 *Oleg Khamisov, Nadezhda Ulianova.* Optimization of Heat and Power Sources System Operation Taking into Account Losses At Cross-Flows

20:20 – 20:40　　　*Pavel Petrenko.* About Solvability and Controllability of Differential-Algebraic Equations with Hysteresis Phenomena

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Calculus of variations and control theory 3

Chair: Dmitry Yu. Karamzin
Secretary: Olga N. Samsonyuk

16:40 – 17:00	◼ *Igor V. Izmestev*. Control Problem for a Parabolic System with Uncertainties and Multiple Changes in Dynamics
17:00 – 17:20	◼ *Nikita Livanov, Igor Izmestev*. Problem of Control of Transportation of Elastic Beams by Carts Composition in the Presence of Uncertainty
17:20 – 17:40	*Dmitry Karamzin*. Pontryagin's Maximum Principle for an Optimal Control Problem with Irregular Mixed Constraints
17:40 – 18:00	*Nikita Kosyanov*. Epidemic Optimal Control Problem with Vaccination and Isolation Processes
18:00 – 18:20	*Elena Goncharova, Nikolay Pogodaev, Lev Dreglea Sidorov, Maksim Staritsyn*. Exact Increment Formulas in Optimal Control of Balance Equations
18:20 – 18:40	*Denis Sidorov, Maksim Staritsyn*. On Numerical Solution of Optimal Control Problems of the Mckean-Vlasov Type
18:40 – 19:00	◼ *Anar Huseyin, Nesir Huseyin, Khalik G. Guseinov*. On the Robustness of the Trajectories of Nonlinear Control Systems with Respect to the Remaining Control Resource
19:00 – 19:20	◼ *Nikolai Trusov, Lev Egorov*. The Group Behaviour Analysis of the High-Frequency Traders Based on Mean Field Games Approach
19:20 – 19:40	◼ *Ilya Chupin, Yurii Dolgii*. Using the Hamilton Principle in Finding Impulse Controls for Manipulation Robots
19:40 – 20:00	◼ *Kirill Ryabov*. Hysteresis Loop in Neural Networks with Simplices of Different Orders
20:00 – 20:20	*Vladimir A. Dykhta, Olga N. Samsonyuk, Stepan P. Sorokin, Maksim V. Staritsyn*. Optimality Conditions for Nonlinear Measure-Driven Processes
20:20 – 20:40	*Evgeny Cherkashin, Oksana Mazaeva*. Distributed Software System for Reservoir Shoreline Recognition Based on a Pre-Trained Neural Network

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Dynamical systems 5

Chair: Anatoly V. Lakeev
Secretary: Pavel A. Kuznetsov

16:40 – 17:00	🎥 *Olga Yufereva*. Interacting Particles in Continuous-Discrete Signal Estimation
17:00 – 17:20	🎥 *Valery Dryuma*. The $14D$ Ricci-Flat Metric in the Theory of Fluid Flows and the Equations of Rotation of a Top
17:20 – 17:40	🎥 *Volkan ALA*. Complex Wave Solutions to the M-Fractional Kuralay-Iia Equation Via Unified Solver Method
17:40 – 18:00	🎥 *Suman Kumar*. Controllability of Nonlinear Delay Differential Control Systems in Hilbert Spaces
18:00 – 18:20	🎥 *Levon K. Babadzanjanz, Irina Yu. Pototskaya, Yulia Yu. Pupysheva*. Integration of the Two-Body Problem Equations Using Polynomial Total Systems of Pdes
18:20 – 18:40	🎥 *Platon G. Surkov*. On the Dynamical Reconstruction Problem of a Continuous Disturbance in a Fractional Order System
18:40 – 19:00	🎥 *Jozil O. Takhirov, B.B. Anvarzhonov*. On the Free Boundary Problem for the Reaction-Diffusion-Advection Logistic Model
19:00 – 19:20	🎥 *Gennady Ivanov, Gennady Alferov, Vladimir Korolev*. On the Stability of Solutions of Differential Equations with a Holomorphic Right-Hand Side
19:20 – 19:40	🎥 *Anvar Hasanov, Hilola Yuldashova*. Solving the Cauchy Problem for a Fractional Parabolic Equation Using the Hankel Transform Method
19:40 – 20:00	🎥 *Jagan Mohan Jonnalagadda.* Positive Solutions of Discrete Fractional Boundary Value Problems
20:00 – 20:20	🎥 *Shaoxing Zhang, Jinxiu Wu, Jinlong Yuan*. Prediction of Nonlinear Dynamical Systems Based on Kooperman Operator in Two-Dimensional Motion Model of Four-Wheel Car
20:20 – 20:40	🎥 *Umida Baltaeva, Yulduz Babajanova, Boburjon Khasanov.* Solvability of a Problem with the Integral Gluing Condition for a Loaded Integro-Differential Equation

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Nonlinear analysis and its applications 6

Chair: Alexander L. Kazakov
Secretary: Maria V. Barkova

10:00 – 10:20   *Maksim I. Makarov, Igor L. Kuzmin*. Longitudinal-Transverse Bending of a Rod Under the Action of Nonlinear Distributed Loads

10:20 – 10:40   *Irina Fankina*. On Junction Problem for Elastic Inclusions in an Elastic Body

10:40 – 11:00   *Natalia A. Nikolaeva*. The Method of Fictitious Domains for an Equilibrium Problem of a Kirchhoff-Love Plate with a Flat Rigid Inclusion

11:00 – 11:20   *Elena Gurevich*. On Embedding of Morse-Smale Diffeomorphisms in Topological Flows

11:20 – 11:40   *Yavdat Sh. Ilyasov*. Finding Bifurcations by Extended Nonlinear Rayleigh Quotient Method

11:40 – 12:00   *Valery Vasilev*. On the Core of Aubin Extension of the Almost Positive Game

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Optimization 3

Chair: Alla A. Shcheglova
Secretary: Elena V. Chistyakova

10:00 – 10:20   *Yong Xiu Feng, Ming Huang, Si Qi Zhang, Xiao Dan Chao*. A Proximal Bundle Algorithm for Solving the Equilibrium Problems with Inexact Data

10:20 – 10:40   *Si Qi Zhang, Ming Huang, Ping Ping Qiao, Yong Xiu Feng, Suo Suo Yang*. A Proximal Bundle Method to Solve Variational Inequalities with Inexact Information

10:40 – 11:00   *Tongtong Wang, Xiaotong Chen*. A Two-Phase Strategy for Elliptic Optimal Control Problems with L^1-Control Cost and Box Constraints

11:00 – 11:20   *Kamlesh Raghuwanshi*. On Controllability of Semi-Linear Control Delay Systems

11:20 – 11:40   ■ *Dongyao Yang, Jinlong Yuan*. Sparse Optimal Control Problem Governed by Cyber-Physical Systems Using Pqa Method

11:40 – 12:00   ■ *Nidhi Shukla*. Well-Posedness and Controllability of Semilinear Impulsive Stochastic Functional Evolution Equations

June 28, Friday, 10:00 – 12:00   **ISDCT SB RAS, Room C**

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Dynamical systems 6

Chair: Svetlana V. Svinina
Secretary: Liubov S. Solovarova

10:00 – 10:20   *Mikhail Bulatov, Liubov Solovarova*. On the Properties of the Collocation-Variational Approach for Solving Differential Algebraic Equations

10:20 – 10:40   *Viktor F. Chistyakov, Elena V. Chistyakova*. Singular Points of the Jacobi Equation and Their Influence on the Properties of the Singular Quadratic Functional

10:40 – 11:00   ■ *Maria A. Skvortsova*. Estimates for Solutions to Neutral Type Differential Equations: Applications to the Hopfield Neural Networks Model

11:00 – 11:20   ■ *Mukhutdinova Aygul Ayratovna*. The Problem of the Inflow of a Hot Thermoviscous Liquid into a Cooled Annular Channel

11:20 – 11:40   ■ *Ziliya Z. Mamaeva*. Analysis of Natural Vibrations of a Liquid Column in a Vertical Well

11:40 – 12:00   ■ *Svetlana V. Akmanova*. On the Issue of Optimal Control of Hybrid Dynamic Systems

June 28, Friday, 9:00 – 9:50   **ISDCT SB RAS, Room B**

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Poster session: Nonlinear analysis and extremal problems

Chair: Stepan P. Sorokin
Secretary: Pavel A. Kuznetsov, Pavel S. Sorokovikov

Aleksei Bogarev. An Asymptotic Behaviour for Increments of Sums of Independent Random Variables and Stochastic Processes

Darina I. Gurskaya. Analysis of a Model of Average and Median Nominal Wages Using the Example of the Russian Economy for 2017-2023

Matvey Kazantsev. Security Market Prediction Using Decision Tree

Daniil E. Gornakov, Nataliya A. Kolokolnikova. One Variant of Particle Random Placement

Vladislav Yakovlev. Algorithms for Rasterizing Two-Dimensional Objects and Gradients

Maria A. Skurygina, Petr Yu. Solodusha. Application of Graph Theory to Modeling the Semantic Text Structure

Vladimir D. Kistner, Vsevolod A. Voronov. Generalized Heilbronn Problem

Vladimir Podryadchikov, Varvara Zaharchenko. Optimization of the Algorithm for Creating Periodic Tasks in the Electronic Document Management System

Dariya Larionova. Problems of Control and Optimal Control by Laser Action on a Two-Layer Material

Vladislav O. Nesterov. Stabilization of Linear Three-Dimensional Stationary Discrete Systems