

June 28, Monday

ISDCT SB RAS, conference hall

PLENARY LECTURES

Chairman – A.A. Tolstonogov

Secretary – N.I. Pogodaev, S.P. Sorokin

9.30-10.00 **OPENING OF THE CONFERENCE**

10.00-11.00 *Alberto Bressan*. Dynamic blocking problems. Part 1.

11.00-11.15 **Coffee break**

11.15-12.15 *Nobuyuki Kemmochi*. The theory of nonlinear evolution equations with non-local constraints. Part 1.

12.15-12.30 **Coffee break**

12.30-13.30 *Alberto Bressan*. Dynamic blocking problems. Part 2.

13.30-15.00 **Lunch**

ISDCT SB RAS, conference hall

PLENARY LECTURES

Chairman – V.A. Dykhata

Secretary – M.V. Yanulevich, V.A. Voronov

15.00-16.00 *V.M. Tikhomirov*. Applications of the theory of extremum in nonlinear analysis. Part 1.

16.00-17.00 *Nobuyuki Kemmochi*. The theory of nonlinear evolution equations with non-local constraints. Part 2.

17.00-17.15 **Coffee break**

SECTIONAL TALKS. SECTION 1.

Chairman – R.I. Kozlov

Secretary – V.I. Novitski, V.A. Voronov

17.15-17.30 *I.V. Astashova*. On some approaches to the study of asymptotic properties of nonlinear differential equations.

17.30-17.45 *Ju.E. Linke*. Extension of linear and sublinear operators.

- 17.45-18.00 *V.V. Evstafieva*. Nonlinear analysis and modeling of epidemic processes.
- 18.00-18.15 *A.O. Egorshin*. On a nonlinear dynamic problem of tracking the parameters of the extremum.
- 18.15-18.30 *S.S. Ezhak*. Estimates of the minimal eigenvalue of a Sturm-Liouville problem with an integral condition on the potential.
- 18.30-18.45 *O.N. Samsonuk, A.N. Sesekin*. Estimates and properties of integral funnels of trajectories of nonlinear impulse systems.
- 19.00 **Banquet**

June 29, Tuesday

ISDCT SB RAS, conference hall

PLENARY LECTURES

Chairman – V.A. Dykhata

Secretary – M.V. Yanulevich, A.B. Stolbov

- 9.00-10.00 *V.M. Tikhomirov*. Applications of the theory of extremum in nonlinear analysis. Part 2.
- 10.00-11.00 *A.D. Ioffe*. Algebro-geometric methods in nonlinear analysis and optimization theory. Part 1.
- 11.00-11.15 **Coffee break**
- 11.15-12.15 *V.M. Tikhomirov*. Applications of the theory of extremum in nonlinear analysis. Part 3.
- 12.15-12.30 **Coffee break**
- 12.30-13.30 *A.D. Ioffe*. Algebro-geometric methods in nonlinear analysis and optimization theory. Part 2.
- 13.30-15.00 **Lunch**

Chairman – A.A. Scheglova

Secretary – O.R. Kozlova, S.P. Sorokin

- 15.00-16.00 *I.V. Melnikova*. Resolution of evolution systems with regard for random perturbation. Methods of the semigroup and stochastic analysis. Part 1.

- 16.00-17.00 *I.V. Melnikova*. Resolution of evolution systems with regard for random perturbation. Methods of the semigroup and stochastic analysis. Part 2.
- 17.00-17.15 **Coffee break**

ISDCT SB RAS, room 407

SECTIONAL TALKS. SECTION 2. SECTION 4.

Chairman – A.S. Strekalovski

Secretary – N.S. Maltugueva, A.V. Malyshev

- 17.15-17.30 *R.Z. Abdullin*. On the cycles of a difference equation with switching in the class of monotone and convex functions.
- 17.30-17.45 *V.P. Varin*. Degenerate limit cycles in polynomial systems of ODEs.
- 17.45-18.00 *A.A. Lomov*. Terms of uniqueness in the inverse problems for disjunctive dynamical systems.
- 18.00-18.15 *A.S. Strekalovski*. On the resolution of nonconvex optimization problems
- 18.15-18.30 *V.F. Chistyakov*. On a nonlocal solvability of quasilinear differential-algebraic equations with delay.
- 18.30-18.45 *G.V. Shevchenko*. Numerical resolution of a nonlinear problem of optimal speed of response.
- 18.45-19.00 *D.V. Khlopin*. A speed of response problem on an infinite interval.

June 30, Wednesday

TRIP TO THE LAKE BAIKAL

July 1, Thursday

ISDCT SB RAS, conference hall

PLENARY LECTURES

Chairman – A.A. Tolstonogov

Secretary – N.I. Pogodaev, D.V. Ponomarev

- 9.00-10.00 *Alberto Bressan*. Dynamic blocking problems. Part 3.
- 10.00-11.00 *Nobuyuki Kemmochi*. The theory of nonlinear evolution equations with non-local constraints. Part 3.

11.00-11.15 **Coffee break**

11.15-12.15 *A.D. Ioffe*. Algebro-geometric methods in nonlinear analysis and optimization theory. Part 3.

12.15-12.30 **Coffee break**

12.30-13.30 *I.V. Melnikova*. Resolution of evolution systems with regard for random perturbation. Methods of the semigroup and stochastic analysis. Part 3.

13.30-15.00 **Lunch**

Chairman – A.V. Sinitsyn

Secretary – O.R. Kozlova, M.V. Yanulevich

15.00-16.00 *B.T. Polyak*. Robustness in control systems. Part 1.

16.00-17.00 *Gershon Wolansky*. Optimal mass transportation: A dynamic approach. Part 1.

17.00-17.15 **Coffee break**

ISDCT SB RAS, room 407

SECTIONAL TALKS. SECTION 3.

Chairman – I.A. Finogenko

Secretary – M.V. Staritsyn, E.V. Chistyakova

17.15-17.30 *G.V. Demidenko*. Equations with delay and partial differential equations in problems of multistep synthesis.

17.30-17.45 *A.L. Kazakov*. Application of multiple characteristic series for the construction of solutions of the initial-boundary value problems for nonlinear partial differential equations.

17.45-18.00 *N.A. Lar'kin, A.V. Faminsky*. On the decay of solutions of the mixed problem for a generalized Korteweg-de Vries equation at large times.

18.00-18.15 *A.A. Chesnokov*. Cauchy problem for nonlinear integro-differential equations.

18.15-18.30 *I.I. Matveeva*. Asymptotic stability of solutions of quasilinear differential equations with delay.

18.30-18.45 *Vorotnikov Dmitry*. On a two-phase minimization problem.

18.45-19.00 *E.A. Lapshina, N.A. Chumakova, G.A. Chumakov* Chaotic dynamics of a kinetic model of heterogeneous catalytic reaction.

July 2, Friday

ISDCT SB RAS, conference hall

PLENARY LECTURES

Chairman – A.V. Sinitsyn

Secretary – O.R. Kozlova, D.V. Ponomarev

9.00-10.00 *Gershon Wolansky*. Optimal mass transportation: A dynamic approach. Part 2.

10.00-11.00 *B.T. Polyak*. Robustness in control systems. Part 2.

11.00-11.15 **Coffee break**

11.15-12.15 *Gershon Wolansky*. Optimal mass transportation: A dynamic approach. Part 3.

12.15-12.30 **Coffee break**

12.30-13.30 *B.T. Polyak*. Robustness in control systems. Part 3.

13.30-15.00 **Lunch**

Chairman – V.A. Dykhta

Secretary – S.P. Sorokin, S.A. Anishuk

15.00-16.00 *A.N. Seseikin*. Generalized traveling salesman problem and its applications to some problems of nuclear power.

16.00-17.00 *A.N. Seseikin*. Discontinuous solutions of dynamical systems with a generalized action in the right-hand side.

17.00 **City Tour**

July 3, Saturday

ISDCT SB RAS, room 407

SECTIONAL TALKS. SECTION 1.

Chairman – A.V. Faminski

Secretary – V.I. Novitski, V.A. Voronov

- 9.00-9.15 *S.A. Anishuk.* Existence of a solution to the equation on «effective» potential in a problem of magnetic insulation.
- 9.15-9.30 *E.S. Karulina.* Some estimates of the minimal eigenvalue of a Sturm-Liouville problem with an integral condition on the potential and boundary conditions of the third type.
- 9.30-9.45 *R.Ju. Leontiev.* On small solutions of nonlinear equations in sectorial neighborhoods.
- 9.45-10.00 *D.S. Medvezhonkov.* Nonlinear network model for the study of viability of the systems of gas and oil supply in emergency cases.
- 10.00-10.15 *S.P. Sorokin.* Strongly and weakly monotone functions of Lyapunov-type in the hybrid systems control problems.
- 10.15-10.30 **Coffee break**

SECTIONAL TALKS. SECTION 4.

Chairman – A.Yu. Gornov

Secretary – S.A. Anishuk, A.V. Malyshev

- 10.45-11.00 *V.I. Zorkaltsev, S.M. Perzhabinski.* Algorithm of the interior points with quadratic approximations.
- 11.00-11.15 *G.S. Kambarbaeva, O.S. Rozanova.* On some problems of risk-sensitive portfolio management for models with continuous time.
- 11.15-11.30 *A.V. Orlov.* On the resolution of two-level problems with the matrix and bimatrix game on the lower level.
- 11.30-11.45 *I.S. Guseva.* Trunk solutions of higher order.
- 11.45-12.00 *A.Ju. Gornov, T.S. Zarodnuk.* Algorithm of random coverings for solutions of nonconvex optimal control problems
- 12.00-12.15 *V.A. Baturin, N.S. Maltugueva.* Problems of optimal control of logical-dynamic systems and methods of successive improving of their resolution.
- 12.15-12.30 **Coffee break**
- 12.30-12.45 *M.V. Yanulevich.* Iterative algorithm for resolution of a nonconvex optimal control problem.

- 12.45-13.00 *A.V. Malyshev*. Search algorithm for a guaranteed solution of a hierarchical optimization problem.
- 13.00-13.15 *E.V. Goncharova, M.V. Staritsyn*. Method of discontinuous time-change in problems of optimal control of hybrid systems.
- 13.15-13.30 *O.V. Morzhin*. Nonlocal improvement of controls in nonlinear discrete systems.
- 14.15 **CLOSING OF THE CONFERENCE (Conference hall)**

July 3, Saturday

ISDCT SB RAS, conference hall

SECTIONAL TALKS. SECTION 2.

Chairman – A.A. Kosov

Secretary – A.B. Stolbov, N.S. Maltugueva

- 9.00-9.15 *V.P. Golubyatnikov, I.V. Golubyatnikov*. On cycles in some nonlinear dynamical systems.
- 9.15-9.30 *O.R. Kozlova*. Exponential stability and estimates of monotone differential-difference systems.
- 9.30-9.45 *N.I. Zhelonkina*. Necessary condition of optimality for the impulse control for a class of mechanical systems.
- 9.45-10.00 *D.K. Potapov*. Elliptic type equations of higher-order with a spectral parameter and a discontinuous nonlinearity.
- 10.00-10.15 *Ju.F. Dolgii, E.V. Koshkin*. Optimal stabilization of systems of nonlinear differential equations with piecewise constant arguments.
- 10.15-10.30 **Coffee break**
- 10.45-11.00 *V.I. Zorkaltsev, I.V. Mokryi*. Dynamic processes of spatially distributed market approval.
- 11.00-11.15 *M.V. Bulatov, V.F. Chistyakov*. Properties of the critical points of finite-dimensional and some infinite-dimensional functionals.
- 11.15-11.30 *S.A. Ulyanov*. Parametric synthesis of precision control systems with uncertainties using a genetic approach.
- 11.30-11.45 *S.V. Chaikin*. One-parameter nonlinear analysis of the set of relative equilibria of a gyrostat satellite.

SECTIONAL TALKS. SECTION 3.

Chairman – A.A. Kosov

Secretary – M.V. Staritsyn, E.V. Chistyakova

- 11.45-12.00 *S.V. Gaidomak.* On existence of solutions of a mixed problem for a linear degenerate hyperbolic system with a simple structure of the beam of matrix-functions.
- 12.00-12.15 *A.K. Svinin.* The study of algebraic relations compatible with integrable differential-difference evolution equations.
- 12.15-12.30 **Coffee break**
- 12.30-12.45 *P.S. Petrov.* Application of the method of parabolic equation with radiation boundary condition to computation of sound attenuation rate in the waveguide perturbed by internal waves.
- 12.45-13.00 *A.A. Korobov.* Effective conditions of pointwise completeness for some linear systems of order 12.
- 13.00-13.15 *E.V. Chistyakova.* On a nonlocal solvability of general degenerate integro-differential equations.
- 13.15-13.30 *A.S. Larionov, Ju.A. Zagorulko.* Conditions of solvability for the Cauchy problem for a quasilinear functional differential equations.
- 13.30-13.45 *P.G. Surkov.* Ill-posed problem for an evolution system of differential equations with delay.
- 13.45-14.00 *V.I. Novitski.* On the set of solutions of differential inclusions with one-sided Lipschitz conditions.
- 14.00-14.15 *D.V. Ponomarev.* On discontinuous trajectories of differential inclusions.
- 14.15 **CLOSING OF THE CONFERENCE**