

Program of international conference “Computer algebra”

Wednesday, June 29, Dorodnicyn Computing Centre FRC CSC RAS

09:30 – 09:50 Registration

09:50 – 10:00 Opening

Morning session. Chair: Alexander Prokopenya

10:00 – 10:40 Y.G.Evtushenko, V.I.Zubov. On the Generalized Fast Automatic Differentiation Technique

10:45 – 11:10 D.Ştefănescu. Efficient Computation of Bounds of Polynomial Roots

11:15 – 11:45 Coffee break; discussions

11:45 – 12:10 A.I.Zobnin, M.I.Tikhonova. Gröbner Bases of Some Parametric Systems

12:15 – 12:40 D.V.Bogdanov, T.M.Sadykov. Computing Polynomial Solutions to Hypergeometric Systems

12:45 – 14:00 Lunch break

Afternoon session. Chair: Dmitry Kulyabov

14:00 – 14:40 A.D.Bruno. Convex Polyhedron in the Asymptotic Analysis

14:45 – 15:10 M.D.Malykh. Calculus from the Computer Algebra Viewpoint

15:15 – 15:40 V.V.Korniyak. Quantum Evolution Model Based on Symmetric Group

15:45 – 16:15 Coffee break; discussions

16:15 – 16:40 A.A.Panferov. On Determination of Satellite Unknowns in Linear Differential Systems

16:45 – 17:10 A.V.Gorbachev, L.A.Sevastianov. Calculation of Transition Probabilities for the Atoms and Ions with One Valence Electron in the Operational Model of Quantum Measurements Using Methods of Computer Algebra

17:15 – 17:40 T.A.Zhukov, T.A.Sadykov. Passare.ru: a Web-service for Automatic Text Synthesis in Russian

18:00 – 20:00 Dinner (restaurant of Computing centre)

Thursday, June 30, Peoples' Friendship University of Russia

Morning session. Chair: Vladimir Gerdt

10:00 – 10:40 D.S.Kulyabov, A.V.Korolkova, L.A.Sevastianov. The Features of Tensor Computer Algebra Systems

10:45 – 11:10 A.B.Batkhin. Resonance Set of Polynomial and its Applications

11:15 – 11:45 Coffee break; discussions

- 11:45 – 12:10 S.V.Paramonov. On Universal Denominator of Rational Function Solutions of Partial Differential and Difference Equations
- 12:15 – 12:40 A.A.Ryabenko. Construction of Resolving Sequences for Systems given by Ore Polynomials
- 12:45 – 14:00 Lunch break
- Afternoon session. Chair: Alexander Batkhin*
- 14:00 – 14:40 V.P.Gerdt. Description of two qubit entanglement space in terms of polynomial invariants: a challenge for computer algebra
- 14:45 – 15:10 A.A.Gusev, O.Chuluunbaatar, S.I.Vinitsky, L.L.Hai, V.L.Derbov. Symbolic-Numerical Algorithm for Solving the Sturm–Liouville Problem at Large Values of Parameter
- 15:15 – 15:45 Coffee break; discussions
- 15:45 – 16:10 E.G.Eferina, A.V.Korolkova, D.S.Kulyabov, L.A.Sevastianov. Application of Computer Algebra Systems for the Study of the Statistical Systems
- 16:15 – 16:40 G.A.Pogudin. Differential Analogue of the Primitive Element theorem
- 16:45 – Cultural program: visit to a theater
-

Friday, July 1, Dorodnicyn Computing Centre FRC CSC RAS

Morning session. Chair: Doru Ștefănescu

- 10:00 – 10:40 Z.Li, M.Wu. Transforming Linear Functional Systems into Fully Integrable Systems.
- 10:45 – 11:10 S.A.Gutnik, V.A.Sarychev. Application of Computer Algebra Methods for Investigation of the Aerodynamic Forces Influence on Stationary Motions of Satellite
- 11:15 – 11:45 Coffee break; discussions
- 11:45 – 12:10 R.R.Gontsov, I.V.Goryuchkina. The Maillet-Malgrange Type Theorem for Generalized Power Series
- 12:15 – 12:40 G.I.Malaschonok. Math Partner—Computer Algebra of New Generation
- 12:45 – 14:00 Lunch break
- 14:00 – Cultural program: tour of Moscow
-

Saturday, July 2, Peoples' Friendship University of Russia

Morning session. Chair: Leonid Sevastianov

- 10:00 – 10:40 A.N.Prokopenya. Computer Algebra Methods for Modeling in Celestial Mechanics.
- 10:45 – 11:10 S.A.Abramov, M.Petkovšek, H.Zakrajšek. Liouvillian Sequences and Convolution
- 11:15 – 11:45 Coffee break; discussions
- 11:45 – 12:10 A.I.Normov. The Analytic Complexity of Cluster Trees in Big Data Analysis

12:15 – 12:40 S.A.Khvorov. Parallel Algorithm for Matrix Inversion: Results of Experiments

12:45 – 14:00 Lunch break

Afternoon session. Chair: Marko Petkovšek

14:00 – 14:40 M.D.Malykh. On integration of ordinary differential equations

14:45 – 15:10 N.A.Malashonok. The Laplace Transform Method in an Algorithm of Solving Differential Equations with Delayed Argument

15:15 – 15:40 E.A.Ilchenko. About Parallelizing Recursive Block Algebraic Algorithms: Algorithms and Experiments

15:45 – 16:10 A.L.Sevastianov, L.A.Sevastianov, A.A.Tiutiunnik. Derivation of Equations for the Coefficient Functions of the Method of Cross-Sections for the Integrated Optical Waveguide Using the Maple Symbolic Computation Package

16:15 – 16:45 Coffee break; discussions

16:45 – 17:10 A.A.Gusev, O.Chuluunbaatar, S.I.Vinitsky, L.L.Hai, V.L.Derbov. Algorithms for Solving Boundary Value Problems for a System of Second-Order ODE with Piecewise Constant Potentials