

Program
of the 3rd international conference “Computer algebra”
(the plenary lectures are marked by *)

Monday, June 17, Dorodnicyn Computing Centre FRC CSC RAS

09:30 – 09:50 Registration

09:50 – 10:00 Opening

Morning session. Chair: V.P.Gerdt

10:00 – 10:40 * C.Schneider. The Difference Ring Approach for Symbolic Summation

10:45 – 11:25 * V.Salnikov. Geometric Integrators in Mechanics - the Need for Computer Algebra Tools

11:30 – 12:00 Coffee break; discussions

12:00 – 12:25 V.P.Varin. Non-local Singularities on Families of Periodic Solutions to ODEs

12:30 – 14:00 Lunch break

Afternoon session. Chair: M.Petkovšek

14:00 – 14:40 * A.D.Bruno. Normal Form of the Periodically Perturbed Hamiltonian System

14:45 – 15:25 * M.Heule, M.Kauers, M.Seidl. Making Many More Matrix Multiplication Methods

15:30 – 15:55 V.P.Gerdt. Algebraically Mimetic Finite Difference Approximations on Regular Orthogonal Grids Oriented to Solution of PDE

16:00 – 16:30 Coffee break; discussions

16:30 – 16:55 M.Barkatou, A.Jiménez-Pastor. Linearizing Differential Equations: Riccati Solutions as Dn-Finite Functions

17:00 – 17:25 A.V.Seliverstov. Symmetric Matrices Whose Entries Are Linear Functions

17:30 – 17:55 S.D.Meshveliani. On a Provable Program for Generic Arithmetic of Fractions

Tuesday, June 18, Dorodnicyn Computing Centre FRC CSC RAS

Morning session. Chair: A.Prokopenya

10:00 – 10:40 * A.Ph.Albu, Y.G.Evtushenko, V.I.Zubov. Experience in Using the Fast Automatic Differentiation to Solve Inverse Coefficient Problems

10:45 – 11:25 * M.Petkovšek. Inverse Zeilberger’s Problem

11:30 – 12:00 Coffee break; discussions

12:00 – 12:25 S.A.Abramov, D.E.Khmelnov, A.A.Ryabenko. Laurent Solutions of Linear Ordinary Differential Equations with Coefficients in the Form of Truncated Power Series

12:30 – Lunch

Wednesday, June 19, Dorodnicyn Computing Centre FRC CSC RAS

Morning session. Chair: Th.Cluzau

- 10:00 – 10:40 * R.Kozera, M.Wilkolazka. Interpolating Reduced Data Based on Piecewise-Cubic Splines
- 10:45 – 11:25 * R.La Scala, D.I.Piontkovskiy, S.Tiwari. Hilbert Series of Noncommutative Algebras and Context-free Languages
- 11:30 – 12:00 Coffee break; discussions
- 12:00 – 12:25 S.Shorokhov. On Symbolic Computation of the Solution to the Inverse Problem of the Calculus of Variations
- 12:30 – 14:00 Lunch break

Afternoon session. Chair: D.Ştefănescu

- 14:00 – 14:40 * S.Chen, J.Guo. An Additive Ore–Sato Theorem on Compatible Rational Functions
- 14:45 – 15:10 V.V.Korniyak. Computing Primitive Idempotents in Centralizer Ring of Permutation Representation of Wreath Product
- 15:15 – 15:40 S.A.Gutnik, V.A.Sarychev. Application of Computer Algebra Methods for Investigation of the Stationary Motions of the System of Two Connected Bodies Moving along a Circular Orbit
- 15:45 – 16:10 S.A.Abramov, M.Barkatou. An Operator Matrix Having a Given Space of Solutions
- 16:15 – 16:40 S.N.Perepechko. Close-Packed Dimers on a Cylinder Boundary. Derivation of Generating Functions in the Maple System
- 16:45 – 17:10 A.P.Kryukov, G.Shpiz. Canonical Representation of Monomials with Indices and Contractions
- 17:15 – 18:00 Discussions
- 18:00 – 20:00 Dinner (restaurant of Computing centre)

Thursday, June 20, Peoples' Friendship University of Russia

Morning session. Chair: D.S.Kulyabov

- 10:00 – 10:40 * M.Barkatou, Th.Cluzeau. An Efficient Algorithm for the Simultaneous Triangularization of a Finite Set of Matrices
- 10:45 – 11:25 * M.Wu. On Evaluation of Bessel Functions of the First Kind via Prony-like Methods
- 11:30 – 12:00 Coffee break; discussions
- 12:00 – 12:25 A.B.Batkhin. Bifurcations of Periodic Solutions to Hamiltonian System with Discrete Symmetries
- 12:30 – 14:00 Lunch break

Afternoon session. Chair: M.Barkatou

- 14:00 – 14:40 * D.Ştefănescu Computational Aspects of Irreducible Polynomials

- 14:45 – 15:10 N.N.Osipov, A.A.Kytmanov. An Algorithm for Solving a Family of Diophantine Equations of Degree Four which Satisfy Runge’s Condition
- 15:15 – 15:40 A.N.Prokopenya. Symbolic Computation in Studying the Dynamics of Generalized Atwood’s Machine
- 15:45 – 16:15 Coffee break; discussions
- 16:15 – 16:40 D.Lyakhov. Linearizability of Differential Equations: Theory and Algorithms
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Friday, June 21, Peoples’ Friendship University of Russia

Morning session. Chair: L.A.Sevastyanov

- 10:00 – 10:25 A.A.Gusev. Algorithm for Calculating Interpolation Hermite Polynomials in d -dimensional hypercube in the Analytical Form
- 10:30 – 10:55 M.N.Gevorkyan, A.V.Demidova, D.S.Kulyabov, A.V.Korolkova. CAS Pseudo-random Numbers Generators Statistical Test Suits
- 11:00 – 11:30 Coffee break; discussions
- 11:30 – 11:55 N.P.Tretyakov. Effective Schrödinger Equation for One-Dimensional Potential Box with Rapidly Oscillating Width
- 12:00 – 12:25 D.V.Divakov, A.A.Tiutiunnik, M.D.Malykh, L.A.Sevastianov. Symbolic-numeric Implementation of the Four Potential Method for Calculating Normal Modes: an Example of Square Electromagnetic Waveguide with Rectangular Insert
- 12:30 – 12:55 A.W.Zorin, N.P.Tretyakov, L.A.Sevastianov. MAPLE Program for Calculating Transition Probabilities of Hydrogen-like Atoms in Quantum Mechanics with Non-negative Distribution Function
- 13:00 – Lunch
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