Program of CASC'00

Samarkand, Oct 5 – 9, 2000

Thursday – Oct 05, 2000		
Symbolic-Numeric Computations		
Chair: E.V. Vorozhtsov		
09:00	09:30	Computer Algebra for Automated Performance Modeling of Fortran Programs Hermann Mierendorff and Helmut Schwamborn
09:40	10:10	A Parallel Symbolic-Numerical Approach to Algebraic Curve Plotting Christian Mittermaier, Wolfgang Schreiner and Franz Winkler
10:10	10:50	Coffee break
11:00	11:15	Opening ceremony Prof. E.W. Mayr, Prof. A. Soleev
11:20	12:20	Condition Analysis of Overdetermined Algebraic Problems Hans J. Stetter
13:00	14:00	Lunch
Computer Algebra and Software		
Chair: E.W. Mayr		
14:30	15:00	Deciding Linear-Transcendental Problems Volker Weispfenning
15:10	15:40	Effective Computation of Algebra of Derivations of Lie Algebras L.M. Camacho, J.R. Gómez, R.M. Navarro and I. Rodríguez
15:40	16:00	Coffee break
16:00	16:30	Computing "Small" 1–Homological Models for Commutative Differential Graded Algebras CHATA group of Seville
16:40	17:10	CADECOM: Computer Algebra software for functional DECOMposition Jaime Gutierrez and Rosario Rubio
17:30	18:00	Plotting Functions and Singularities with Maple and Java on a Component-based Web Architecture Dieter Bühler, Corinne Chauvin and Wolfgang Küchlin

Friday – Oct 06, 2000		
Problem Solving in Scientific Computing		
Chair: V. Gerdt		
09:00	09:30	Lessons Learned from Using CORBA for Components in Scientific Computing Andreas Weber, Gabor Simon, Wolfgang Küchlin and Jörg Hoss
09:40	10:10	An Assessment of the Efficiency of Computer Algebra Systems in the Solution of Scientific Computing Problems Victor G. Ganzha, Evgenii V. Vorozhtsov and Michael Wester
10:20	10:50	Group Classification of the Navier-Stokes Equations for Compressible Viscous Heat-Conducting Gas Vasiliy V. Bublik
11:00	11:20	Coffee break
11:30	12:00	Computing the Frobenius Normal Form of a Sparse Matrix Gilles Villard
12:10	12:40	Complexity of Derivatives Generated by Symbolic Differentiation Herbert Fischer and Hubert Warsitz
13:00	14:00	Lunch
Polynomial Bases and ODEs		
Chair: V. Weispfenning		
14:30	15:00	On the Relation Between Pommaret and Janet Bases Vladimir P. Gerdt
15:10	15:40	Three Remarks on Comprehensive Gröbner and SAGBI Bases Manfred Göbel and Patrick Maier
15:40	16:00	Coffee break
16:00	16:30	An Integration and Reduction for Ordinary Non Linear Differential Equations Library J. Della Dora and F. Richard-Jung
16:40	17:10	Newton Polyhedra and the Reversible System of Ordinary Differential Equations A. Soleev and I. Yarmukhamedov

Saturday – Oct 07, 2000		
Applications of CAS		
Chair: R. Kragler		
09:00	09:30	Computer Algebra Approach to Solving Singularly Perturbed Initial Value Problems Raya Khanin
09:40	10:10	Application of Computer Algebra Methods to Some Problems of Theoretical and Applied Celestial Mechanics Akmal Vakhidov
10:20	10:50	Parametric Analysis for a Nonlinear System M.A.Novickov
11:00	11:20	Coffee break
11:30	12:00	An Algebraic Approach to Offsetting and Blending of Solids Thomas Sturm
12:10	12:40	Heat Invariant E_2 for Nonminimal Operator on Manifolds with Torsion Vladimir V. Kornyak
13:00	14:00	Lunch
14:30	18:00	Sightseeing tour in Samarkand

Sunday – Oct 08, 2000		
Computer Algebra Algorithms and Software		
Chair: A. Soleev		
09:00	09:30	Fast Matrix Computation of Subresultant Polynomial Remainder Sequences Alkiviadis G. Akritas and Gennadi I. Malaschonok
09:40	10:10	About Simultaneous Representation of Two Natural Numbers by Sum of Three Primes I.A. Allakov and M.I. Israilov
10:20	10:50	On a Description of Irreducible Component in the Set of Nilpotent Leibniz Algebras, Containing the Algebra of Maximal Nilindex, and Classification of Graded Filiform Leibniz Algebra Sh.A.Ayupov and B.A.Omirov
11:00	11:20	Coffee break
11:30	12:00	Data-structures and Algorithms for Timed Polyhedra Olivier Bournez, Moez Mahfoudh and Oded Maler
12:10	12:40	Computing the Cylindrical Algebraic Decomposition Adapted to a Set of Equalities Neila González-Campos and Laureano González-Vega
13:00	14:00	Lunch
Applications of CAS		
Chair: F. Winkler		
14:30	15:00	On Controller Synthesis for Hybrid Systems Eugene Asarin, Olivier Bournez, Thao Dang, Oded Maler and Amir Pnueli
15:10	15:40	Application of Computer Algebra in Problems on Stabilization of Gyroscopic Systems Banshchikov Andrej and Bourlakova Larissa
16:00	16:20	Coffee break
16:30	17:10	Stable Self-Oscillatory Regims in Volterra Models of Three Populations T.E.Buriev and V.E.Ergashev
17:20	17:50	Symbolic Algorithms of Algebraic Perturbation Theory for a Hydrogen Atom: the Stark Effect Alexander Gusev, Valentin Samoilov, Vitaly Rostovtsev and Sergue Vinitsky

Monday – Oct 09, 2000		
Applications, Short Talks		
Chair: A. Weber		
09:00	09:30	Computeralgebra and the Systematic Construction of Finite Unlabeled Structures Adalbert Kerber
09:35	09:50	Several Educational Projects Are Going to Establish Virtual Universities in Germany Ralf Steinbrüggen
09:55	10:05	A Method of Optimal Damping in Terminal Control Problem I. Israilov
10:10	10:20	On the Subgroup of the Group $GL(2, \mathbf{Z}/p^n\mathbf{Z})$ Ulugbek Narzullaev
10:25	10:35	Method of Inverse Operators for Solving ODEs of Type X(D)[y(x)]=g(x) Implemented in Mathematica Robert Kragler
10:40	10:50	The estimate of the accuracy of difference schemes for singularly - perturbed 2^{nd} order hyperbolic equation in the class $W_2^2(Q)$ I.N.Djuraev
10:55	11:05	Investigation of method Rote for boundary inverse problems of oscillation string in class $W_2^2(Q)$. I.N.Djuraev and N.N.Nizamova
11:10	11:20	Regularization of a Solution to the Cauchy Problem for the System of Elasticity I.E. Niyozov
11:25	11:35	Construction of Approximate Solution to the Cauchy Problem for the System of Thermoelasticity O.I. Makhmudov
11:45	12:30	Lunch
13:00		Departure to Bukhara

Tuesday – Oct 10, 2000		
Problem Solving Environments for Differential Equations		
Chair: Stanly Steinberg		
09:00	10:00	SciNapse: A Problem Solving Environment Stanly Steinberg
10:10	10:40	Tutorial on Symbolic Solutions of Differential Equations with Mathematica V4 Robert Kragler
11:40	12:40	t.b.a N.N.