Program
of the 4th international conference "Computer algebra".

Two conference sections (I and II) work in parallel. The plenary talks are marked
by *, they are included in section I.
Moscow time (UTC +3) on Zoom.
The corresponding connection Zoom link will be e-mailed later to the participants.

Monday, June 28

12:00 – 12:15 Opening: the conference chair I.A. Sokolov.

Morning session, section I. Chair: Prokopenya A.N.

12:15 – 12:40 Chen Sh. Symbolic integration of differential forms

12:45 – 13:10 Malaschonok G., Tchaikovsky I. About big matrix inversion

13:15 – 13:40 Galatenko A.V., Pankratiev A.E., Staroverov V.M. Deciding cryptographically important properties of finite quasigroups

13:45 – 14:10 Klimov And.V. On semantics of names in formulas and references in object-oriented languages

Morning session, section II. Chair: Kornyak V.V.

12:15 – 12:40 Edneral V.F. The integrability condition in the normal form method

12:45 – 13:10 Youssef M., Pulch R. Machine learning for Bratu's problem: solution and parameter estimation

13:15 – 13:40 Khmelnov D.E., Ryabenko A.A., Abramov S.A. Automatic confirmation of exhaustive use of information on a given equation

13:45 – 14:10 Alauddin F., Bychkov A., Pogudin G. Quadratization of ODE systems

14:15 – 15:00 Break

Afternoon session, section I. Chair: Batkhin A.B.

15:00 – 15:45 * Gerhard J. What's new in Maple 2021

16:00 – 16:25 Bogdanov D.V., Sadykov T.M. Amoebas of multivariate hypergeometric polynomials

16:30 – 16:55 Anoshin V.I., Beketova A.D., Parusnikova A.V. Asymptotic expansions of solutions to the hierarchy of the fourth Painlevé equation

17:00 – 17:25 Prokopenya A.N. Symbolic computation in studying the stability of periodic motion of the swinging Atwood machine

Afternoon session, section II. Chair: Zima E.V.

16:00 – 16:25 Gevorkyan M.N., Kulyabov D.S., Korolkova A.V., Demidova A.V., Velieva T.R. Symbolic implementation of multivector algebra in Julia language

16:30 – 16:55 Meshveliani S.D. On a machine-checked proof for an optimized method to multiply polynomials

17:00 – 17:25 Malykh M.D., Malyshev K.Yu. Solving the hyperbolic equation in elementary functions

Tuesday, June 29

Morning session, section I. Chair: Sadykov T.M.

12:00 – 12:25 Kornyak V.V. Subsystems in finite quantum mechanics

12:30 – 12:55 Gutnik S.A., Sarychev V.A. Application of symbolic computations for investigation of the equilibria of the system of connected bodies moving on a circular orbit

13:00 – 13:25 Hamdouni A., Salnikov V. Revisiting geometric integrators in mechanics

Morning session, section II. Chair: Gutnik S.A.

12:00 – 12:25 Wu M. High accuracy trigonometric approximations of the real Bessel functions of the first kind

12:30 – 12:55 Batkhin A.B., Bruno A.D. Algorithms for solving a polynomial equation in one or two variables

13:00 – 13:25 Cuyt A., Lee W.-s. From Prony's exponential fitting to sub-Nyquist signal processing using computer algebra techniques

13:30 – 13:55 Chuluunbaatar G., Gusev A.A., Derbov V.L., Vinitsky S.I., Chuluunbaatar O. A Maple implementation of the finite element method for solving metastable state problems for systems of second-order ordinary differential equations

14:00 – 15:00 Break

Afternoon session, section I. Chair: Salnikov V.

15:00 – 15:45 * Bruno A.D., Batkhin A.B. Level lines of a polynomial in the plane

16:00 – 16:25 Bessonov M., Ilmer I., Konstantinova T., Ovchinnikov A., Pogudin G. Role of monomial orderings in efficient Gröbner basis computation in parameter identifiability problem

16:30 – 16:55 Abramov S.A., Barkatou M.A., Petkovšek M. On infinite sequences and difference operators

17:00 – 17:25 Teguia Tabuguia B., Koepf W. Hypergeometric type power series

Afternoon session, section II. Chair: Kulyabov D.S.

16:00 – 16:25 Zima E.V. On the structure of polynomial solutions of Gosper's key equation

16:30 – 16:55 Seliverstov A.V. A plain note on binary solutions to large systems of linear equations

17:00 – 17:25 Reznichenko I.O., Krutitskii P.A. Quadrature formula for the double layer potential

17:30 Closing