

Analytical Methods of Celestial Mechanics

September 26-29, Saint-Petersburg, Russia
Euler International Mathematical Institute

September 26

- 10.00—11.00 *Registration, coffee*
- 11.00—11.10 *Opening the conference*
- 11.10—11.55 *Kholshevnikov Konstantin, Sannikova Tatiana and Sudov Leonid* Convergence domain of Euler solution of the kinematical equation for near parabolic motion.
- 12.00—12.50 *Tupikova Irina* A new transformation technique for dynamical systems based on the Lie series method in extended phase space
- 13.00—15.00 *Lunch*
- 15.00—15.30 *Ceccaroni Marta, Biscani Francesco and James Biggs* Analytical method for perturbed frozen orbit around an Asteroid in highly inhomogeneous gravitational fields.
- 15.30—16.00 *Zlenko Alexander* The main effects of the tidal evolution of the Earth and Moon
- 16.00—16.30 *Coffee break*
- 16.30—17.00 *Mylläri Aleksandr, Orlov Victor* Caustics in Hamiltonian Systems with Two Degrees of Freedom
- 17.00—17.30 *Kudryavtsev Sergey* Expansion of long-term planetary ephemerides to analytical series
- 18.00 *WELCOME PARTY*

September 27

- 10.00—10.50 **Orlov Viktor, Martynova Alija** Periodic Orbits in Three-Body Problem
- 11.00—11.30 **Coffee break**
- 11.30—12.00 **Vashkov'yak Mikhail, Sophya Vashkov'yak and Nikolay Emelyanov** United presentation for secular part of perturbing function of mutual attraction of planetary satellites
- 12.05—12.40 **Saito Masaya** Analytical expression of the stability limit of hierarchical triple system based on numerical identification of KAM-tori
- 13.00—15.00 **Lunch**
- 15.00—15.30 **Petrovskaya Margarita and Vershkov Andrey** Construction of optimized expressions for the ellipsoidal harmonic series representing the earth gravitational potential and its derivatives
- 15.30—16.00 **Pitjeva Elena** EPM – high-precision planetary ephemerides of IAA RAS for scientific research
- 16.00—16.30 **Coffee break**
- 16.30—17.00 **Sokolov Leonid** Possible collisions of asteroids with the Earth
- 17.00—17.30 **Vinogradova Tamara** Secular perturbations and the asteroid families

September 28

10.00—10.50 *Shevchenko Ivan* Planetary dynamics in double stellar systems

11.00—11.20 *Coffee break*

11.20—11.50 *Ivanova Tamara* Constructing secular system in the analytical theory of the Moon.

11.50—12.20 *Sudov Leonid* Constructing the general solution of kinematic equation near the parabolic motion

12.20—14.00 *Lunch*

14.15 - Excursion (The bus will start from the Euler Institute)

19.00— Conference dinner (in the Euler Institute)

September 29

10.00—10.50 *Vasiliev Nikolay* Integrability and algorithmical complexity of Cauchy problem

10.55—11.25 *Coffee break*

11.25—11.50 *Sidorenko Vladislav* Quasi-satellite orbits: a perturbative treatment

11.50—12.30 *Titov Vladimir* Three Body Problem periodic orbits with vanishing angular momentum

12.30---13.00 *Free round table discussion, closing the conference*

13.00— 15.00 *Lunch*