

Schedule

Thursday, October 19

Faculty of Sciences (3 Maja st. 54), 3d floor, Lecture Hall "Aula 303"

09:00 – 10:15 Registration
10:15 – 10:40 Opening
10:40 – 11:00 Coffee Break

Session Chair: Alexander Prokopenya

11:00 – 11:45 **Robert Kragler**
Branch cuts and branch points for a selection of algebraic and
transcendental functions
11:45 – 12:20 **Valeriu Gutu**
The Pythagoras tree and other similar fractals constructed
using CAS Mathematica
12:20 – 12:45 **Valery Taranchuk**
The integrated program complex of the composer of geological
models. The concept, solutions
12:45 – 13:00 **Valery Taranchuk, V. Taranchuk**
The integrated program complex of the composer of geological
models. Examples of results

13:00 – 14:30 Lunch

Session Chair: Robert Kragler

14:30 – 15:10 **Setsuo Takato, J.A. Vallejo**
Interfacing free computer algebra systems and C with KETCindy
15:10 – 15:40 **Hideyo Makishita**
Geometric construction by dynamic geometry software and its script
for application of mathematics to mathematics
15:40 – 16:00 **Alexander Chichurin, G. Filipuk**
On exact solutions for two linear differential equations
of the third order defining multiple Hermite and Laguerre
orthogonal polynomials
16:00 – 16:20 **Alexander Chichurin, A. Shvychkina**
On the solutions of the chemostat model that contains
one microorganism and two complimentary or supplementary
nutrients
16:20 – 16:40 Coffee Break

Session Chair: Vasile Glavan

- 16:40 – 17:00 **Agnieszka Gil**, R. Modzelewska, P. Szmitkowski, P. Swiderski,
A. Wawrzynczak, S. Zakrzewska
Possible interrelations between the security of Polish critical
infrastructure and space weather studied using CAS
- 17:00 – 17:20 **P. Swiderski**
CAS on the brightest Republic of Poland's secret service
- 17:20 – 17:40 **Nikolas Olenev**
Identification of a Russian economy model
with two kinds of capital
- 17:40 – 18:00 **Z. Rzeszotko**
The chaotic behavior of a simple exchange rate model
- 18:00 – 18:20 **Alexey Tret'yakov**, A. Prusińska
New method of numerical analysis
- 18:20 – 18:40 **Sergey Novikov**
A parallel minimizer for a system of partial Boolean
functions
- 18:40 – 19:00 **Valerii Samoilenko**, Yuliia Samoilenko
Asymptotic analysis of soliton like solutions to the singularly
perturbed Korteweg-de Vries equation
- 19:00 – 19:20 **Vasile Glavan**
Mixing and specification in weakly contracting relations

Friday, October 20

3 Maja st. 54, Faculty of Sciences, 3d floor, Lecture Hall "Aula 303"

**Mini-Symposium on Computational Aspects of Classical
and Celestial Mechanics**

Session Chair: Pavel S. Krasil'nikov

- 09:00 – 09:45 **Katica R. Hedrih**
Generalized rolling pendulum along curvilinear trace: phase
portrait, singular points and total mechanical energy surface
- 09:45 – 10:15 **Bogusław Radziszewski**, A. Szadkowski
Dynamics of a bouncing ball over a simple limiter
in a viscous medium
- 10:15 – 10:45 **Alexander N. Prokopenya**
Atwood's machine with two oscillating bodies:
simulation with Mathematica
- 10:45 – 11:15 Coffee Break

Session Chair: Katica R. Hedrih

- 11:15 – 11:45 **Pavel S. Krasil'nikov**
On explicit estimates of the accuracy in the averaging method
- 11:45 – 12:05 **Agnieszka Siluszyk**
On linear stability of relative equilibria in the planar
 $3n$ -body problem
- 12:05 – 12:25 **Mukhtar Zh. Minglibayev**, A. Prokopenya, G. Mayemerova,
S. Shomshekova
Expansion of the perturbing functions in two-planetary tree-body
problem with masses varying non-isotropically at different rates
- 12:25 – 12:50 **Victor F. Edneral**
On study of degenerate system

13:00 – 14:30 Lunch

Session Chair: Krzysztof Iskra

- 14:30 – 14:50 **S. Miernicki**, K. Iskra, M. Siluszyk, M. Alania, W. Wozniak
Study of the rigidity spectrum of the long-term variations of galactic
ray intensity in relations with turbulence of the interplanetary
magnetic field: 1968 – 2012
- 14:50 – 15:10 **Marek Siluszyk**
Theoretical investigation of galactic cosmic rays flux based on
the experimental data in odd solar cycles
- 15:10 – 15:30 **Anna Wawrzynczak**, R. Modzelewska, A. Gil
Method for the forward in time solution of the Fokker-Planck
equation in two dimensional space
- 15:30 – 15:50 **W. Wozniak**, K. Iskra, R. Modzelewska, M. Siluszyk, M. Alania,
P. Wolinski
The asymptotic directions and the magnetic rigidity cut-off of
cosmic ray particles for Siedlce (Poland) using different models
of the International Geomagnetic Reference Field for 1965 – 2015
- 15:50 – 16:10 **Eleanna Asvestari**
Using computer algebra systems to develop an empirical
model of the Galactic Cosmic Ray modulation
- 16:10 – 16:30 Coffee Break

Session Chair: Agnieszka Gil

- 16:30 – 16:50 V. Patiuc, **Galina Ribacova**
Finite-differences for transmission line equations
- 16:50 – 17:15 D. Pylak, **P. Wojcik**
Approximate solution of a singular integral equation
with conjugation
- 17:15 – 17:40 **V. Dikusar**, N. Petrova, M. Wojtowicz
Methods of parametrization for the solution of optimal control
problem about minimum of a maximal heating

19:30 – 24:00 Conference Dinner

Saturday, October 21

09:30 – 19:00 Excursion and sightseeing