Program Committee

Valery Kozlov (Steklov Mathematical Institute RAS)
Boris Bardin (Moscow Aviation Institute)
Sergey Bolotin (Steklov Mathematical Institute RAS)
Alexander Kilin (Udmurt State University)
Nikolai Lukoyanov (N.N.Krasovskii Institute of Mathematics and Mechanics UB RAS)
Ivan Mamaev (Kalashnikov Izhevsk State Technical University)
Dmitry Treschev (Steklov Mathematical Institute RAS)

Organizing Institutions

Ural Mathematical Center at UdSU
Udmurt State University
N. N. Krasovskii Institute of Mathematics and Mechanics UB RAS
Steklov Mathematical Institute RAS

Information Partners

Izhevsk Institute of Computer Science
International Journal “Regular and Chaotic Dynamics”
International Journal “Russian Journal of Nonlinear Dynamics’

Venue

V.A. Zhuravlev Educational and Scientific Library
4B Lomonosova Street, 5th Floor, Room 509

Conference Webpage

http://ics.org.ru/conference/11908-rcd2026/

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23 NOVEMBER, MONDAY

9:00–9:30	**REGISTRATION OF PARTICIPANTS**
9:30–9:40	Anna Ovchinnikova, Rector of Udmurt State University *Welcome speech*
9:40–9:50	Ivan Mamaev *Welcome speech*
9:50–10:00	Valery Kozlov (ONLINE) *Opening of the conference*
10:00–10:30	Valery Kozlov (ONLINE) *Earnshaw's theorem and levitation*
10:35–11:05	Sergey Bolotin *On the problem of stability of viscous shocks*
11:10–11:40	Božidar Jovanović *C^0 and C^1 gluing of integrable systems*
11:45–12:15	Ivan Mamaev *Integrable systems with multivalued integrals*
12:20–14:00	**LUNCH**
14:00–14:30	Boris Bardin *On orbital stability of periodic motions near relative equilibrium positions in the planar restricted four-body problem*
14:35–15:05	Vladislav Sidorenko *Deterministic and probabilistic transitions in the dynamics of Earth co-orbitals*
15:10–15:40	Alexey Ivanyukhin *Low-energy capture trajectories near the libration points*
15:45–16:15	**COFFEE-BREAK**
16:15–16:45	Elena Kudryavtseva *Bifurcations through a non-semisimple hyperbolic 1:1 resonance, with examples in rigid body dynamics*
16:50–17:20	Vladislav Kibkalo *TBA*
17:25–17:55	Yu. L. Karavaev *Specifics of using non-holonomic mechanics models in the design and control of mobile robots*

24 NOVEMBER, TUESDAY

9:30–10:00 Lev Lerman

Double Hamiltonian Hopf Bifurcation

10:05–10:35 Evgeny Zhuzhoma

Structurally stable systems with codimension one attractors

10:40–11:10 Sergey Gonchenko

New case of conservative 1:4 resonance

11:15–11:45 Waddah Ali

Energy-constrained variable-impedance control for state-synchronized robotic cutting

11:50–13:30 LUNCH

13:30–14:00 Borislav Gajić

Dynamics of the gyroscope in R^n

14:05–14:35 Alexander Kilin

Rolling of a system of coupled axisymmetric bodies on a plane

14:40–15:10 Ivan Bizyaev

The two-body problem in the post-Newtonian approximation with spins

15:15–15:45 COFFEE-BREAK

15:45–16:15 Alexander Gonchenko

On discrete Lorenz-like attractors in three- dimensional cubic maps with axial symmetry

16:20–16:50 Mikhail Sokolovsky

Regular and chaotic advection induced by stationary vortex structures in a two-layer rotating fluid

16:55–17:25 Evgeny Vetchanin

Control of a circular foil motion using an attached source

18: 00–23:00 FELLOWSHIP BANQUET

25 NOVEMBER, WEDNESDAY

Excursions to Kalashnikov Concern[1] and Izhmash Museum

26 NOVEMBER, THURSDAY

9:30–10:00 Anatoly Markeev
A new algorithm for calculating the normal form coefficients of an autonomous Hamiltonian system in the neighborhood of its periodic motion

10:05–10:35 Ivan Polekhin
On Lyapunov stability and integrability of the Ziegler pendulum

10:40–11:10 Olga Kholostova
Study of pendulum-type motions in an approximate problem of the dynamics of a rigid body with a vibrating suspension

11:15–11:45 Pavel Ryabov
A new class of motions of the Kovalevskaya–Chaplygin–Goryachev–Yehia top: algebraic solution and reduction to elliptic quadratures

11:50–13:30 LUNCH

13:30–13:50 Sergey Ryzhkov
Vortex Flows with Particles and Droplets

13:55–14:25 Alexander Maloletov
Dynamics and motion planning of a hybrid cable-driven robot with movable carriages

14:30–15:00 Alexander Kuleshov
The Hess case in the problem of motion of a heavy body with a vertically vibrating suspension point

15:00–15:20 Alexander Tuzikov
Numerical modeling of three-dimensional motion of a spherical robot with electromagnetic drive

15:25–15:55 COFFEE-BREAK

15:55–17:30 POSTERS*

[1] For registered participants.

27 NOVEMBER, FRIDAY

9:30–10:00 Boris Adamov
A Study of the kinematics and dynamics of a spherical robot with an internal platform, taking into account the geometry of the mecanum wheels

10:05–10:35 Elena Pivovarova
Dynamics of a spherical robot with a pendulum-rotor mechanism

10:40–11:10 Andrey Ardentov
The time-minimizing problem on the group SE(2) *with control on a shifted ellipse*

11:15–11:45 Klim Safonov
Robust chaos in replicator systems with cyclic symmetry

11:50–13:30 LUNCH

13:30–14:00 Tatiana Ivanova
Integrability and bifurcation analysis of the problem of a spherical top rolling on a plane without spinning and with partial slipping

14:05–14:35 Yulia Plakhotina
Mathematical modelling of the polar motion of a viscoelastic planet

14:40–15:10 Evgeny Briskin
The motion control of mechanical systems based on the integral principle of least constraint

15:15–15:45 COFFEE-BREAK

15:45–16:15 Anna Nelyubova
Synthesis of software control forces for a hybrid manipulator for surface processing

16:20–16:50 Alexey Zotov
Flexible hinges with a given characteristic for a gravity compensator

16:55–17:15 Edgar Pogosyan
A robot motion planning algorithm based on solving a system of nonconvex inequalities

17:15–17:35 Aleksandra Uskova
On the first caustic of elliptical billiards

17:35–17:40 CLOSING OF THE CONFERENCE

*POSTERS

Alexander Bannikov

Experimental study of force and torque characteristics of a spherical robot aerodynamic propulsion system

Anna Berdnikova

Dynamics and stability of a timless wheel on an inclined plane

Andrey Bobrovsky

Numerical study of bifurcations and chaos in two different gyroscopically coupled duffing oscillators with dissipation

Pavel Deryushev

Visual localization of an unmanned aerial vehicle using onboard camera imagery

Mikhail Fedoseev

Extremal trajectories in the Markov problem with control on a triangle

Anna Gavrilova

Influence of an attached vortex on the motion of a solid body in a fluid

Danil Lagunov

Motion of two thin plates in an ideal fluid

George Maurakh

Searching for feasable periodic motions of an underactuated system with viscous friction by means of a hysteretic servo-constraint

Anton Nazarov

Investigation of the effect of tail fin stiffness on the speed of an aquatic robot

Kirill Ryabov

Synchronization on graphons with higher-order interactions: the spectrum of the coupling operator versus the structure of the coupling tensor

Vyacheslav Shestakov

Accounting for surface irregularities in the control of a highly maneuverable mobile robot

Dmitry Solodyankin

Dynamics and control of a spherical robot with a pendulum platform on a cylindrical joint

Oleg Sumenkov

Stabilization of underactuated mechanical systems with unknown build-in controllers

Roman Uvarov

Normal forms for an equilibrium with a triple-zero eigenvalue in Z_4-symmetric systems: bifurcations and attractors

Kirill Zaychikov

Invariant tori and the Smale-Williams attractor in a perturbed integrable Hamiltonian system with a saddle-focus skirt

Ivan Zvonarev

Motion planning for a spherical robot on uneven terrain using PPO