

Programme

Fourth International Conference “Geometry, Dynamics, Integrable Systems – GDIS 2013”

10–15 June 2013, Udmurt State University (UdSU), Izhevsk, Russia

Date, Time	Actions	Locations
June 10 (Monday)		
	Arrival of participants	Hotel “IzhHotel” ¹
June 11 (Tuesday)		
09.30	Registration of participants	State Puppet Theater ¹
10.30	Opening ceremony	
11.00-13.00 <i>Lecture session 1</i> (Chair: Dmitry Treschev)		
11.00	<u>Vladimir Dragovic</u> , Borislav Gajic The Kowalevski-Painleve analysis of the Kirchhoff equations	
11.40	<u>Alexey V. Borisov</u> , <u>Ivan S.Mamaev</u> , Ivan A.Bizyaev The hierarchy of dynamics of a rigid body rolling without slipping and spinning on a plane and a sphere	
12.20	<u>Alain Albouy</u> Two quadratic conserved quantities	
13.00	Lunch	Cafes or cafeterias ¹
14.30-17.10 <i>Lecture session 2</i> (Chair: Vladimir Dragovic)		
14.30	<u>Andrzej J. Maciejewski</u> , Maria Przybylska Necessary conditions for integrability of algebraic Hamiltonian systems	State Puppet Theater ¹
15.10	<u>Alexey V.Bolsinov</u> Topological monodromy as an obstruction to Hamiltonization of nonholonomic systems: pro or contra?	
15.50	<u>Sergey P. Kuznetsov</u> , Alexey Yu. Jalnine, Igor R. Sataev and Julia V. Sedova Dynamical phenomena occurring due to phase volume compression in nonholonomic mechanics of the rattleback	
16.30	<u>Sergey Gonchenko</u> Richness of dynamics in a nonholonomic model of celtic stone	
17.10	Coffee break	

18.00	Concert “Accordeon mystery”	
19.30	Welcome dinner	Cafe of the State Puppet Theater (first floor)
21.30	Departure to IzhHotel	
June 12 (Wednesday)²		
11.00-13.00 <i>Lecture session 3</i> (Chair: Andrzej J. Maciejewski)		
11.00	<u>Sergey V. Bolotin</u> The problem of optimal control of a Chaplygin ball by internal rotors	UdSU, building 4, room 524
11.40	Alexey V. Borisov, <u>Alexander A. Kilin</u> and Ivan S. Mamaev Dynamics and Control of Chaplygin Ball	
12.20	Yuri Fedorov, Luis C. Garcia Naranjo and Juan Carlos Marrero Unimodularity and Preservation of Volumes in Nonholonomic Mechanics	
13.00	Lunch	Cafes or cafeterias ¹
14.00-15.40 <i>Lecture session 4</i> (Chair: Alain Albouy)		
14.00	<u>Laurent Niederman</u> Generic super-exponential stability of elliptic fixed points for symplectic vector fields	UdSU, building 4, room 524
14.40	<u>Abed Bounemoura</u> Persistence of invariant tori in Hamiltonian systems via simultaneous approximation	
15.20	<u>Thierry Combot</u> Non-integrability of a self-gravitating Riemann liquid ellipsoid	
16.00	Coffee break	UdSU, building 4, room 523
16.30-18.00 <i>Poster session</i> (Chair: Andrey V. Tsiganov)		
16.30	Poster session <u>Nadezhda Erdakova</u> , Ivan Mamaev and Yuri Karavaev Dynamics of a rigid body with a flat base on a horizontal rough plane <u>Tatiana Ivanova</u> , Alexander P. Ivanov, Ivan S. Mamaev The dynamics of a body whose sharp edge is in contact with a rough surface Alexey V. Borisov, Ivan S. Mamaev,	

	<p>Alexander A. Kilin, <u>Yuri Karavaev</u> Experimental investigation of a rolling disk</p> <p><u>Alexey Kazakov</u>, Alexey V. Borisov Strange attractors and mixed chaotic dynamics in the rubber rock'n'roller on a plane problem</p> <p>Alexander Gonchenko Lorenz-like strange attractors in nonholonomic rattleback model</p> <p><u>Ivan A. Bizyaev</u>, Alexey V. Borisov and Ivan S. Mamaev The dynamics of a spherical shell on a plane with a nonholonomic hinge inside.</p> <p>Alexey Yu. Jalnine Dimensions and Lyapunov analysis of strange attractors in rattleback dynamics</p> <p>Ivan K. Kozlov Local properties of bi-Hamiltonian systems</p> <p><u>Elena Pivovarova</u>, Tatiana Ivanova Free and controlled motion of a ball with a spherical pendulum</p> <p><u>Julia V. Sedova</u> and Igor R.Sataev Method of Charts of Dynamical Regimes for the Rattleback Model</p> <p><u>Eugeniy V. Vetchanin</u> , Alexander A. Kilin , Valentin A. Tenenev, Alexander S. Shaura Numerical simulation of motion in the viscous fluid of a three-axial ellipsoid controlled by three rotors</p> <p>Sergey V.Sokolov Motion of a heavy circular cylinder interacting dynamically with N point vortices</p>	UdSU, building 4, room 524
18.00	Round table of the editorial board of the Journal «Regular and Chaotic Dynamics»	
June 13 (Thursday)		
10.00-12.00 <i>Lecture session 5</i> (Chair: Lev M. Lerman)		
10.00	<p><u>Scott D. Kelly</u> Constrained Mechanics and Idealized Models for Aquatic Locomotion via Vortex Shedding</p>	UdSU, building 4, room 524
10.40	<p><u>Dmitry V. Treschev</u> KAM-tori near resonances</p>	

11.20	<u>Andrey V. Tsiganov</u> Trivial deformations of the canonical Poisson bracket and integrable systems	
12.00	Coffee break	UdSU, building 4, room 523
12.30-18.30	Excursion to the memorial-architectural complex "Tchaikovsky Museum Estate" (place of birth of the great Russian composer P.I.Tchaikovsky) ³	Departure from UdSU, building 4
June 14 (Friday)		
10.00-12.00 <i>Lecture session 6</i> (Chair: Bozidar Jovanovic)		
10.00	<u>Andrzej J. Maciejewski, Maria Przybylska, Wojciech Szuminski</u> Non-integrability of compound pendula	UdSU, building 4, room 524
10.40	<u>Alexander A. Kilin, Eugeny V. Vetchanin, Valentin A. Tenenev, Alexander S. Shaura</u> Control of the spatial locomotion of the mobile device	
11.20	<u>Lev M. Lerman</u> 3D integrable Hamiltonian systems: the structure and bifurcations	
12.00	Lunch	Cafes or cafeterias ¹
13.00-15.00 <i>Lecture session 7</i> (Chair: Yuri Fedorov)		
13.00	<u>Bozidar Jovanovic</u> Separable systems on symmetric ellipsoids: the Lax representations and billiards	UdSU, building 4, room 524
13.40	<u>Rafael Ramirez-Ros</u> On Cayley conditions for ellipsoidal billiards	
14.20	Coffee break, Closing ceremony	
15.00	Excursions to the Kalashnikov Museum and Exhibition Complex ⁴	Departure from UdSU, building 4
June 15 (Saturday)		
	Departure of participants	

¹ Location of Udmurt State University, IzHotel, State Puppet Theater, Cafes, Cafeterias and other useful objects is denoted on a map in the programme.

² The 12th of June is a holiday: the Day of Russia and the Day of the City of Izhevsk. Festivities take place on the Izhevsk central square all day. In the evening (about 21:00) a salute is fired from the water area of the Izhevsk Pond.

³ The memorial-architectural complex "P.I.Tchaikovsky Museum Estate" is situated on the bank of a picturesque pond and consists of the old Gospodskaya street with government-owned houses of officials of the Votkinsk Ironworks and the adjoining utility structures. In the center of the street the estate of the head of a mining department is situated. A log hut, a carriage shed, a stable, a greenhouse and a park with summerhouses and lime trees can be seen in the depth of the estate. In 1837 the family of lieutenant colonel I.P.Tchaikovsky, a new head of the factory moved into the large and comfortable house with an attic storey. On May 7, 1840, a son was born to Ilya Petrovich and Alexandra Andreyevna – Pyotr Tchaikovsky. In this "cosy" place of Russia the great composer spent his childhood. In the Votkinsk house Pyotr familiarized himself with the enchanting world of music, which captivated him and became the sense of his whole life.

⁴ The Kalashnikov Museum and Exhibition Complex of Small Arms appeared on the map of the Russian culture in 2004. From the very moment of its foundation the museum became a remarkable place of interest of Izhevsk, the capital of the Udmurt Republic, whose 200-year history is closely related to the arms industry. The museum presents hi-tech and interactive expositions. The main hero of museum narration is Mikhail Timofeevich Kalashnikov, he is like the original "starting point" when we are talking about Izhevsk as one of the most important centers of Russian arms trade. The museum contains a demonstration hall, including a modern shooting gallery presenting various models of historical and contemporary arms as well as a pneumatic shooting gallery that is equipped with multimedia programs. The widest audience of people is interested in the museum. Its visitors are residents of the Udmurt Republic and other parts of Russia and foreigners.

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