International Conference
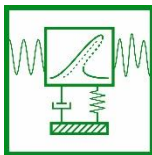
VIBROENGINEERING-2016: DYNAMICS OF STRONGLY NONLINEAR SYSTEMS

Moscow, Russia
October 4 – 7, 2016

PROGRAM

The International VIBROENGINEERING Conference will be held on October 4 – 7, 2016 in Moscow, Capital of Russia. The Conference organized by Mechanical Engineering Research Institute of the Russian Academy of Sciences and JVE International Ltd. The conference is held at Mechanical Engineering Research Institute of the Russian Academy of Sciences (IMASH RAN) – one of the world's leading centers in the vibro-technologies, vibro-impact systems and theory of mechanisms and machine science. Conference is supported by Russian Science Foundation and carried out under scientific patronage of the International Federation for the Promotion of Mechanism and Machine Science - IFToMM.

Scientists from different Countries (Algeria, China, Czech Republic, Denmark, Egypt, France, India, Japan, Kazakhstan, Latvia, Lithuania, Pakistan, Russia, Sweden, United Arab Emirates) will present their latest research results during the Conference. Its purpose is to provide a platform for scientists, engineers and practitioners throughout the world to exchange ideas and present their latest research results in the various areas of dynamics of vibration system, in order to further promote the Vibroengineering and its applications.

The main theme of the conference will be – but not limited to - dynamics of vibration system and applications of nonlinear vibration theory.

Conference Topics: nonlinear dynamics of machines and vibration processes & vibroimpact processes in mechanical systems & wave, vibration and ultrasonic technology and machines & wave processes in nonlinear distributed systems & nonlinear dynamic processes control & vibration and impact protection & random processes and stochastic motion in complex nonlinear system & high frequency vibration in strong nonlinear systems & experimental methods for vibration analysis

Internationally renowned invited speakers and contributing authors from all over the world will present the latest advances in the thriving area of Vibroengineering. This conference will feature a broad range of high-level technical papers from all over the world. Invited distinguished experts will present brilliant presentations for our technical sessions and discussions with a focus on the conference theme. The conference will provide you with an opportunity to communicate with other scientists and engineers about recent research advances, and exchange ideas in innovative science and technologies, meet old friends and make new business partners. All accepted short papers (4-6 pages length Proceedings format) intend to address the hottest issues in Vibroengineering of dynamical systems and

will be published in VIBROENGINEERING PROCEDIA is indexed in EI Compendex, Scopus, Inspec, Gale Cengage, Google Scholar и EBSCO.

The program of the Conference is arranged into Invited Speakers Session and Oral Sessions.

This Conference VIBROENGINEERING is dedicated to the 90th anniversary of Academician Kazimieras Ragulskis (born 15 October 1926), the leading specialist in the field of precision vibromechanics and vibroengineering, Honored Chair of Vibroengineering Conference and Editor in Chief of Vibroengineering PROCEDIA.

Academician Kazimieras Ragulskis graduated from Kaunas Polytechnic Institute (now Kaunas University of Technology - KTU) in 1951. From 1952 to 1954 Mr. Kazimieras Radulskis studied at IMASH RAN postgraduate school, where he successfully defended his Ph.D. thesis. Later he worked at the Lithuanian Academy of Sciences, and since 1963 at the Kaunas Polytechnic Institute. Working in the KTU, he established a laboratory "Vibrotechnics", which became a leading company in the USSR scientific and technical center for the development of means and methods of precision vibromechanics and vibrotechnics.

The Organizing Committee of Vibroengineering-2016 congratulates academician Kazimieras Ragulskis with a significant date and wish him good health and further success for the benefit of science and technology.

On behalf of the Organizing Committee, we would like to welcome the delegates to International Conference VIBROENGINEERING 2016.

Committees

Honorary Chairmen
Rivner Ganiev, academician (IMASH RAN, Russia)
Kazimieras Ragulskis, academician (Kaunas University of Technology, Lithuania)

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General information

VENUE locations
October 4-7, 2016 – Mechanical Engineering Research Institute of the Russian Academy of Sciences (IMASH RAN), Maliy Kharitonyevskiy per., 4, Moscow, Russia
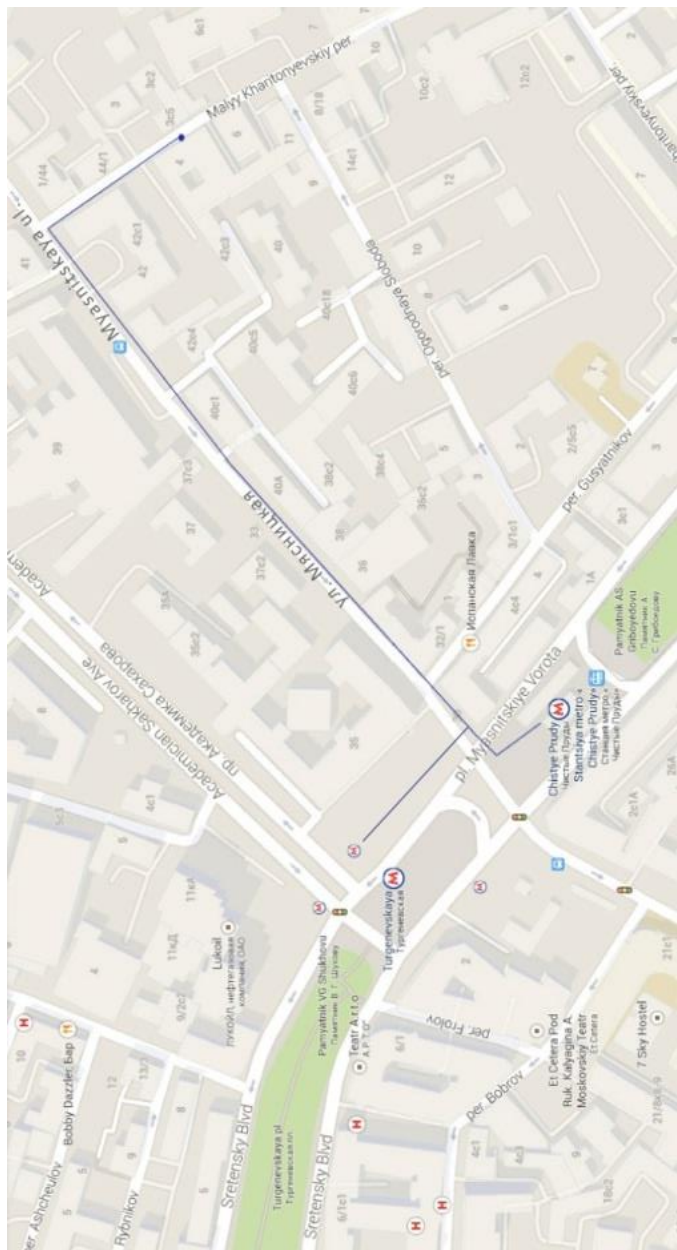
TRAVEL information
Mechanical Engineering Research Institute of the Russian Academy of Sciences (IMASH RAN):
Metro stations "Chistiye Prudy" (Чистые пруды), "Turgenevskaya" (Тургеневская), "Sretenskiy Bulvar" (Сретенский Бульвар) – the same exit, and 5 minutes for a walk (see the map).

SOCIAL program
October 5, 2016
14.30 – 18.40: Kremlin Tour
19.00: Conference Gala Dinner

Conference Program

Day 1: October 4 (Plenary morning session)
Location: Conference Hall of IMASH RAN

9.00 – 10.30	**Registration (at the Conference Registration Desk)**
10.30 – 11.00	**OPENING CEREMONY** Welcome Message from the IMASH RAN **OPENING SPEECH** **Prof. Vladimir Astashev** (IMASH RAN) **Prof. Minvydas Ragulskis** (Kaunas University of Technology, Lithuania)
11.00 – 13.30	**INVITED KEY-NOTE SPEAKERS SESSION** **Session Chairs: Prof Minvydas Ragulskis** (Lithuania) **Prof. Grigory Panovko** (Russia)
11.00 – 11.30	**Academician Rivner Ganiev** (*IMASH RAN, Russia*). About the modern mechanical engineering problems at realization of high technologies
11.30 – 12.00	**Academician Kazimieras Ragulskis, Darius Pauliukaitis, Edmundas Kibirkštis** (*Kaunas University of Technology, Lithuania*). Problems of precise vibromechanics and vibroengineering
12.00 – 12.15	**Coffee Break**
12.15 – 12.45	**Prof. Vladimir Astashev, Dr. Nikolay Andrianov, Prof. Vitaly Krupenin** (*IMASH RAN, Russia*). Vibration of string lattice
12.45 – 13.10	**Prof. Victor Glazunov** (*IMASH RAN, Russia*). Dynamics of robotic mechanisms of parallel structure
13.10 – 13.30	**Aleksandr Smirnov, Evgeniy Narubin** (*Vibration Research, Russia*). Presentation of "VIBRATION RESEARCH"
13.30 – 14.40	**Lunch**

Day 1: October 4 (evening session)
Section A. Location: Conference Hall of IMASH RAN

14.40 – 18.00	**SESSION A.1** **Session Chair: Prof. Chuanri LI** (China), **Prof. Vitaly Krupenin** (Russia)
14.40 – 15.00	**Nelly A. Sedova, Viktor A. Sedov, Sergey V. Glushkov** (*Vladivostok, Russia*)**.** The fuzzy model of the emergency level assessment at sea
15.00 – 15.20	**Ludmila Banakh** (*Moscow, Russia*). Contact problems in rotor systems
15.20 – 15.40	**Janis Viba, Vitaly Beresnevich, Stanislavs Noskovs, Martins Irbe** (*Riga, Latvia*). Investigations of rotating blade for energy extraction from fluid flow
15.40 – 16.00	**Grigory Panovko, Alexander Shokhin, Sergey Eremeykin** (*Moscow, Russia*). Simulation of control system for resonant vibrating machines with two unbalanced exciters
16.00 – 16.20	**Konstantin Krestnikovskiy, Grigoriy Panovko, Alexander Shokhin** (*Moscow Russia*). Developing system of automatic control resonant mode of a vibrating machine
16.20 – 16.40	**Coffee Break**
16.40 – 17.00	**Guntis Strautmanis, Mareks Mezitis, Valentina Strautmane** (*Riga, Latvia*). Model of a vertical rotor with a ball-type automatic balancer
17.00 – 17.20	**L. Igumnov, Vladimir Metrikin, Irina Nikiforova** (*Nizhny Novgorod, Russia*). Dynamics rammers with two pairs of shock generators
17.20 – 17.40	**Vladimir Radin, Yury Samogin, Victor Chirkov** (*Moscow, Russia*). The study of oscillations of a rotor at the collision with a stator based on the quasidiagonalistic method
17.40 – 18.00	**Anatoly Pykhalov, Mikhail Dudaev, Mikhail Kolotnikov, Pau Makarov** (*Irkutsk, Russia*). Dynamics of assembled structures of rotor systems of aviation gas turbine engines of type two-rotor.

Day 1: October 4 (evening session)
Section B. Location: Library of IMASH RAN

14.40 – 18.00	**SESSION B.1** **Session Chair: Prof. Shigeki Toyama (Japan),** **Prof. Alexander Gouskov (Russia)**
14.40 – 15.00	**Taro Oohashi, Uichi Nishizawa, Shigeki Toyama** (*Chiba, Japan*). Development of spherical ultrasonic motor for space. Evaluations of durability under low temperature environment and temperature cycle
15.00 – 15.20	**Viktor Sedov,** Nelly **Sedova, Sergey Glushkov** (*Vladivostok, Russia*). The fuzzy model of ships collision risk rating in a heavy traffic zone
15.20 – 15.40	**Alla Romanova, Pavel Rymkevich** (*St.Petersburg, Russia*). Nonlinear Dynamic effects in synthetic fibres from semi- and rigid chain polymers
15.40 – 16.00	**Yongxiang Wang, A. H. El-Sinawi, Sami Ainane** (*Abu Dhabi, United Arab Emirates*). Improving a pipeline hybrid dynamic model using 2DOF PID
16.00 – 16.20	**Valeriy Yenivatov, Konstantin Fedorovsky** (*Kerch, Russia*). Increasing efficiency and environmental safety of cooling systems in a floating nuclear power plant
16.20 – 16.40	**Coffee Break**
16.40 – 17.00	**Sergey Majorov, Leonid Savin, Alexey Kornaev** (*Orel, Russia*). Hydrodynamic effects influence on lateral vibrations of rigid symmetric rotor with fluid-film bearings
17.00 – 17.20	**Nadezda Afanaseva, Vitali Dudnik, Vladimir Gaponov** (*Rostov-on-Don, Russia*). The influence of resonance characteristics of free-yaw small wind turbines on the performance
17.20 – 17.40	**Yaroslav Kalinin, Eugene Briskin** (*Volgograd, Russia*). Effect of gait on the energy consumption of walking robots
17.40 – 18.00	**Alexandra Ivanovskaya, Vladimir Popov** (*Kerch, Russia*). Investigation of longitudinal oscillations warp in the process of changing parameters system

Day 2: October 5 (Morning session)
Section A. Location: Conference Hall of IMASH RAN

10.00 – 13.40	**SESSION A.2** **Session Chair: Academician Janis Viba (Latvia),** **Prof. Vladimir Astashev (Russia)**
10.00 - 10.20	**Vitaly Krupenin** (*Moscow, Russia*). Qualitative analysis of resonant modes in multidimensional nonlinear systems
10.20 – 10.40	**Sergey Jatsun, Lyudmila Vorochaeva, Sergey Efimov** (*Kursk, Russia*). Study of the motion of a mechanical system due to the oscillatory motion of the side links
10.40 – 11.00	**Sergey Jatsun, Peter Bezmen, Andrey Yatsun** (*Kursk, Russia*). Study of the motion of an electromechanical system in the presence of an elastic link and delay in the negative feedback loop of a servo drive
11.00 – 11.20	**Sergey Jatsun, Courage Sabau, Sergey Efimov** (*Kursk, Russia*). Study of the oscillation of a wing mounted on an elastic suspension
11.20 – 11.40	**Andrei Malchikov, Sergey Jatsun, Andrei Yatsun** (*Kursk, Russia*). Investigation of the oscillatory motion of a mechatronic system with discrete feedback and PD-control
11.40 – 12.00	**Coffee Break**
12.00 – 12.20	**Tatiana Kolosovskaya** (*Moscow, Russia*). Nonlinear filtering and identification algorithms for correlation-extremum dynamic systems with random structure
12.20 – 12.40	**Sergey Voronov, Veidong Ma** (*Moscow, Russia*). Simulation of chip-formation by a single grain of pyramid shape
12.40 – 13.00	**V. Radin, A. Shchugorev, V. Shchugorev** (*Moscow, Russia*). Stability and post critical behavior of supported panel in supersonic gas jet
13.00 – 13.20	**V. Kappatos, G. Georgoulas, N. Avdelidis, K. Salonitis** (*Southern, Denmark*). Tidal stream generators, current state and potential opportunities for condition monitoring
13.20 – 13.40	**Anton Zhilenkov** (*Saint Petersburg, Russia*).The study of the process of the development of marine robotics
13.40 – 14.30	**Lunch**
14.30 – 18.40	**Kremlin Tour**
19.00	**GALA DINNER**

Day 2: October 5 (Morning session)
Section B. Location: Library of IMASH RAN

	SESSION B.2
10.00 – 13.40	**Session Chair: Dr. Ameen El-Sinawi (Unit. Arab Emirates), Prof. Vladimir Erofeev (Russia)**
10.00 - 10.20	**O. Repetckii, I. Ryzhikov, Tien Quyet Nguyen** (*Irkutsk, Russia*). Dynamics of gas turbine engines rotors taking into account non-linear effects
10.20 – 10.40	**Sergey Evsyukov, Sergey Nebogov, Igor Fedotov** (*Moscow, Russia*). Pipe thread wear-resistant ultrasonic hardening unit
10.40 – 11.00	**A. Nabhan** (*Minia, Egypt*). Vibration analysis of adding contaminants particles and carbon nanotubes to lithium grease of ball bearing
11.00 – 11.20	**Yulia Bogdanova, Alexandre Guskov, Mikhail Guskov** (*Moscow, Russia*). Synergetic approach to control of axial left ventricular assist device rotor supported by magnetic bearings
11.20 – 11.40	**Elena Kornaeva, Alexey Kornaev, Leonid Savin, Alex Galichev, Alex Babin** (*Orel, Russia*). Theoretical premises of a vibro-inertial method of viscosity measurement
11.40 – 12.00	**Coffee Break**
12.00 – 12.20	**Roman Polyakov, Maxim Bondarenko, Denis Shutin, Leonid Savin** (*Orel, Russia*). The approach to building the algorithm for controlling rotor motion in a hybrid mechatronic bearing
12.20 – 12.40	**Anatoliy Nyrkov, Anton Zhilenkov, Sergei Sokolov, Sergei Chernyi** (*St. Petersburg, Russia*). The use of fuzzy control methods for evaluation of complex systems on the example of maritime fleet equipment
12.40 – 13.00	**Alexander Bordyug** (*Kerch, Russia*). The increase of ship gas-diesel engines' reliability by means of specialized software and hardware systems use
13.00 – 13.20	**Saira Safdar, Ghazala Safdar, Ali Raza, Chengbao Jiang** (*Taxila, Pakistan*). Experimental study of spring back of different sheet alloys by pre-load laser bending.
13.20 – 13.40	**Munir Yarullin, Fanil Khabibullin, Ilnur Isyanov** (*Kazan, Russia*). Nonlinear crushing dynamics in two-degree of freedom disintegrator based on the Bennett's linkage
13.40 – 14.30	**Lunch**
14.30 – 18.40	**Kremlin Tour**
19.00	**GALA DINNER**

Day 3: October 6 (morning session)
Section A. Location: Conference Hall of IMASH RAN

10.00 – 13.00	**SESSION A.3** **Session Chair: Prof. Vitaly Beresnevich (Latvia),** **Prof. Sergey Voronov (Russia)**
10.00 - 10.20	**Taizoon Chunawala, Maryam Ghandchi-Tehrani, Jize Yan** (*Pilani, India*). An optimum design of a double pendulum in autoparametric resonance for energy harvesting applications
10.20 – 10.40	**Jaroslav Zapoměl, Petr Ferfecki, Jan Kozánek** (*Prague, Czech Republic*). Minimizing the vibration amplitude of rotating machinery running through the resonance area by application of magnetorheological squeeze film dampers
10.40 – 11.00	**L. Igumnov, Vladimir Metrikin, Mikhail Zaytzev** (*Nizhny Novgorod, Russia*). The dynamics of a nonautonomous oscillator with friction memory
11.00 – 11.20	**Toshitake Araie, Tomozumi Ikeda, Uichi Nishizawa, Akira Kakimoto, Shigeki Toyama** (*Tokyo, Japan*). Mechanism evaluation of agricultural power assist suit under development
11.20 – 11.40	**Coffee Break**
11.40 – 12.00	**Mikhail Zakrzhevsky, Vitaly Beresnevich, Vladislav Yevstignejev** (*Riga, Latvia*). Testing of products on vibration strength and durability in the regime of chaotic oscillations
12.00 – 12.20	**Boris Roev, Aleksey Vinokur** (*Moscow, Russia*). On the analysis of forced oscillations of systems with two random sources of parametric effects
12.20 – 12.40	**Mariyam Sattar**, **Cheng Wei, Awais Jalali** (*Beijing, China*). Influence of electromagnetic stiffness on coupled micro vibrations generated by solar array drive assembly
12.40 – 13.00	**Oleg Pas, Nikolay Serkov** (*Moscow, Russia*). Influence of the gap and the friction on trajectory reproduction accuracy in a multiaxis machine with CNC
13.00 – 14.00	**Lunch**

Day 3: October 6 (morning session)
Section B. Location: Library of IMASH RAN

10.00 – 13.00	**SESSION B.3** **Session Chair: Prof. Guntis Strautmanis (Latvia),** **Corresponding Member of the RAS,** **Prof. Dmitriy Indeitsev (Russia)**
10.00 - 10.20	**Alexander Munitsyn, Maria Munitsyna** (*Moscow, Russia*). Oscillations of a Rigid Block on Supported Base
10.20 – 10.40	**Lubov Mironova, Leonid Kondratenko, Viktor Terekhov** (*Moscow, Russia*). The aspects of roll-forming process dynamics
10.40 – 11.00	**Leonid Maslov, Jean-Baptiste Etheve, Nikolay Sabaneev** (*Ivanovo, Russia*). Finite-element study of vibration effect to fracture healing of a human tibia
11.00 – 11.20	**Olga Kazakova, Igor Smolin, Iosif Bezmozgiy** (*Tomsk, Russia*). Nonlinear damping in vibration of CFRP plates
11.20 – 11.40	**Coffee Break**
11.40 – 12.00	**Alexander Prikhodko, Anatoly Smelyagin** (*Krasnodar, Russia*). Development and research of vibromixing reactor with rotationally reciprocating motion of impeller
12.00 – 12.20	**Ivan Nesmiyanov, Victor Zhoga, Natalia Vorobieva, Victor Dyashkin-Titov** (*Volgograd, Russia*). Dynamics of tripod drive with elastic self-sustaining transmission
12.20 – 12.40	**Alexsandr Baykov, Boris Gordeev** (*Nizhny Novgorod, Russia*). Mathematical model of electromechanical system with variable dissipativity
12.40 – 13.00	**A. Gorobtzov, E. Ryzhov, Anna Polyanina** (*Volgograd, Russia*). About formation of the stable modes of the movement of multilink mechanical systems
13.00 – 14.00	**Lunch**

Day 3: October 6 (evening session)
Section A. Location: Conference Hall of IMASH RAN

14.00 – 18.00	**SESSION A.4** **Session Chair: Prof. Jaroslav Zapoměl (Czech Republic),** **Prof. Sergey Yatsun (Russia)**
14.00 – 14.20	**Lev Mogilevich, Victor Popov, Anna Popova, Aleftina Christoforova** (*Saratov, Russia*). Mathematical modeling of hydroelastic walls oscillations of the channel on Winkler foundation under vibrations
14.20 – 14.40	**Oļegs Jakovļevs, V. Kondratjev, V. Gostilo, A. Owens, Janis Viba** (*Riga, Latvia*). Vibration characteristics of miniature stirling electric coolers
14.40 – 15.00	**Wei Yuan, Lei Wang, Xiao-Fei Sun, Wen-Wen Pan, Jia-Guo Lv** (*Shandong, China*). Cross-lingual part-of-speech tagging using word embedding
15.00 – 15.20	**L. Igumnov, Vladimir Metrikin, A. Grezina, Adolf Panasenko** (*Nizhny Novgorod, Russia*). The effect of dry friction forces on the process of dielectric wafer grinding
15.20 – 15.40	**F. Sorokin, Zhou Su** (*Moscow, Russia*). Numerical simulation of the coil spring and investigation the impact of tension and compression to the spring natural frequencies
15.40 – 16.00	**Coffee Break**
16.00 – 16.20	**Zhongge Zhao, Chuanri Li, Kjell Ahlin, Huan Du** (*Beijing, China*). Nonlinear system identification with the use of describing functions – a case study
16.20 – 16.40	**Dmitry Kondratov, Anna Kalinina, Lev Mogilevich, Anna Popova, Yulia Kondratova** (*Moscow, Russia*). Mathematical model of elastic ribbed shell dynamics interaction with viscous liquid under vibration
16.40 – 17.00	**Xinjie Shao, Shijian Zhu, Lijun Cao** (*Wuhan, China*). Research on intelligent bore peek and measurement system based on machine vision technology for gun barrel
17.00 – 17.20	**Hengchao Chen** (Guizhou, China). The performance of semi-rigid steel frame structure in progressive collapse
17.20 – 17.40	**Albert Korolev, Andrei Balaev, Timur Baltaev, Boris Iznairov** (*Saratov, Russia*). Experimental study of ultrasonic relaxation of residual stresses in the elastic plates
17.40 – 18.00	**Chernyshev, L. Savin, O. Fominova** (*Orel, Russia*). The influence of gyroscopic effects and control on the trajectories of the rotor

Day 3: October 6 (evening session)
Section B. Location: Library of IMASH RAN

14.00 – 18.00	**SESSION B.4** **Session Chairs: Prof. Hengchao Chen** (China)**,** **Prof. Liudmila Banakh (Russia)**
14.00 – 14.20	**Algazy Zhauyt, Gulnar Mamatova, Kuanysh Alipov, Aizhan Sakenova, Raushan Abdirova** (*Almaty, Kazakhstan*). The kinematic analysis of flat lever mechanisms with application of vector calculation
14.20 – 14.40	**Yerlik Nurymov, Mina Bukayeva, Algazy Zhauyt, Vitaly Povetkin, Yerlan Askarov** (*Almaty, Kazakhstan*). Study of thermal stonecutting tools
14.40 – 15.00	**Zhastalap Abilkaiyr, Janat Musayev, Talgat Kaiym, Azamat Alpeisov, Assylkhan Alimbetov, Algazy Zhauyt** (*Almaty, Kazakhstan*). The interaction of the freight car and way taking into account deformation of assembled rails and sleepers
15.00 – 15.20	**Janat Musayev, Algazy Zhauyt, Yerlik Nurymov, Gulnar Mamatova, Yerzhan Adilkhanov, Almas Alizhan, Timur Chigambaev** (*Almaty, Kazakhstan*). The influence of operational factors on the contact-fatigue effect of couple of wheel-rail friction in curves of small radius
15.20 – 15.40	**Janat Musayev, Algazy Zhauyt, Manap Sagatbek, Nurali Matikhan, Yerbol Kaliyev, Batyr Naurushev** (*Almaty, Kazakhstan*). Seismic resistance of horizontal underground openings in anisotropic rocks
15.40 – 16.00	**Coffee Break**
16.00 – 16.20	**K. Sidelnikov, A. Gubanov, V.Tenenev, M. Sharonov** (*Izhevsk, Russia*). Solving optimization problems of optimal control of operational parameters of oil reservoir
16.20 – 16.40	**N. Sivtsev, N. Mityukov, O. Malina, P. Ushakov** (*Izhevsk, Russia*). Use of finite element model structures in reconstruction of buildings, located in built-up area with complex hydrogeological and landscape territorial state
16.40 – 17.00	**K. Sidelnikov, A. Gubanov, V. Lyalin, M. Sharonov** (*Izhevsk, Russia*)**.** Solutions of seepage equations in curvilinear coordinates
17.00 – 17.20	**A. Nistyuk, M. Danilov, N. Sivtsev, S. Kugultinov** (*Izhevsk, Russia*). Method for direct identification of optimum modal values of dynamical systems
17.20 – 17.40	**V. Lyalin, N. Mityukov, O. Malina, Y. Mikhailov** (*Izhevsk, Russia*). Numerical realization of spatial model of system building-base-ground
17.40 – 18.00	**A. Nistyuk, V. Lyalin, M. Danilov, Y. Mikhailov** (*Izhevsk, Russia*)**.** Diacoptical analysis algorithms of topological site models of information backup and storage carrier

Day 4: October 7 (morning session)
Section A. Location: Conference Hall of IMASH RAN

10.00 – 13.20	**SESSION A.5** **Session Chair: Prof. Vassilis Kappatos (Denmark),** **Prof. Vladimir Metrikin (Russia)**
10.00 - 10.20	**Mikhail Belichenko, Olga Kholostova** (*Moscow, Russia*). Investigation of influence of high-frequency vibrations on the stability of stationary rotations of Lagrange's top
10.20 – 10.40	**Sun Li, Chen Nan** (*Jiangsu, China*). Fatigue damage virtual simulation research on heavy vehicle
10.40 – 11.00	**Boris Bardin, Aleksandr Panev** (*Moscow, Russia*). On dynamics of a rigid body moving on a horizontal plane by means of motion of an internal particle
11.00 – 11.20	**V. Karmanov, Yu. Rodionov, D. Muromtsev, D. Nikitin, P. Galkin** (*Tambov, Russia*). Research into Dynamics of Amphibious Snowmobile-Glider with Elastic Damping Cab Suspension
11.20 – 11.40	**Coffee Break**
11.40 – 12.00	**L. Rybak, Y. Getman, I. Shipilov** (*Belgorod, Russia*). Research model robot-hexapod under static and dynamic loads
12.00 – 12.20	**Andrey Eliseev, Anatoly Artyunin, Sergey Eliseev** (*Irkutsk, Russia*). Generalized gap function in the dynamic interaction problems of elements of vibrational technological machines with «not holding» ties
12.20 – 12.40	**Artem Gerasimenko, Mikhail Guskov, Alexander Gouskov, Philippe Lorong, Grigory Panovko** (*Moscow-Paris, Russia-France*). Analytical approach of turning thin-walled tubular parts. Stability analysis of regenerative chatter
12.40 – 13.00	**Gerontiy Sakhvadze, Alexander Shokhin, Omar Kikvidze** (*Moscow, Russia*). Residual stress and microhardness increasing induced by two-sided laser shock processing
13.00 – 13.20	**Gerontiy Sakhvadze, Alexander Shokhin, Omar Kikvidze** (*Moscow, Russia*). Residual stresses distribution in Ti-6Al-4V titanium alloys during laser shock processing
13.20 – 13.40	**Coffee Break**

Day 4: October 7 (morning session)
Section B. Location: Library of IMASH RAN

10.00 – 13.20	**SESSION B.5** **Session Chair: Prof. Janat Musayev (Kazakhstan),** **Prof. Leonid Maslov (Russia)**
10.00 - 10.20	**Aleksandr Zhelezniak** (*Kerch, Russia*). Model of evaluation of the efficiency of the ship's diesel generator control system
10.20 – 10.40	**George Korendyasev** (*Moscow, Russia*). A thermomechanical model of self-oscillations actuation during metal machining
10.40 – 11.00	**Svetlana Polukoshko** (*Ventspils, Latvia*). Estimation of damping capacity of rubber vibration isolators under harmonic excitation
11.00 – 11.20	**Mikhail Zeytman, Olga Barmina** (*Moscow, Russia*). Nonlinear oscillations of flexible pendulum systems under action of periodical excitation
11.20 – 11.40	**Coffee Break**
11.40 – 12.00	**Albert Korolev, Andrei Balaev, Sergey Savran, Oleg Davidenko** (*Saratov, Russia*). Modelling of the process of vibro-mechanical correction in long-length parts
12.00 – 12.20	**Alexander Gorbenko** (*Kerch, Russia*). Analytical determination of the stability movement boundaries of the Jeffcott rotor with multi-bodies autobalancer
12.20 – 12.40	**Alexander Shokhin, Grigory Panovko, Konstantin Salamandra** (*Moscow, Russia*). On the choice of dynamic regimes for two-mass vibrating machine
12.40 – 13.00	**E. Ovsyannikova, A. Gouskov** (*Moscow, Russia*)**.** The analysis of the ventricle assist device controlled rotor dynamics
13.00 – 13.20	**A. Lukin, I. Popov, D. Skubov, L. Shtukin** (*Saint Petersburg, Russia*). Equilibrium forms branching of a system of nanolayers system
13.20 – 13.40	**Coffee Break**

Day 4: October 7
CLOSING SESSION
Location: Conference Hall of IMASH RAN

13.40	**Session Chairs:** **Prof. Vladimir Astashev (Russia),** **Prof. Kazimeras Ragulskis (Lithuania)**
	BEST PAPERS AWARDS
	CONCLUDING REMARKS – CLOSING SESSION

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