



DVM'2016



TECHNICAL PROGRAMME The 3rd International Conference

Dynamics and Vibroacoustics of Machines

Samara, Samara University, 29 june-01 july 2016



noise
optimization acoustics
robotics control systems
pneumatics fluid power
hydraulics vehicles efficiency
transmissions mechatronics
pulsation automation vibration
CAD/CAE aerospace
modeling

Samara University

<http://dvm2016.ssau.ru>

Welcome Address



Dear participants and guests of the 3rd international conference
"Dynamics and Vibroacoustics of Machines"!

On behalf of organizers and members of program committee I have pleasure to welcome you and to wish you successful and fruitful work.

Conference is organized by the Samara national research university with support of the Government of the Samara region. More than 250 delegates from 10 countries take part in its work, 172 theses and 92 articles are submitted for publication in the conference proceedings. Your interest and active support turn the conference into convenient platform for an exchange of ideas and achievements in industrial implementations between scientists and specialists.

I hope that interesting discussions and constructive dialogues within conference and during cultural events will promote development of the scientific directions in the field of dynamics and vibroacoustics, will help to strengthening scientific communications and international cooperation.

I sincerely wish to all participants and guests of conference fascinating discussions and debates, new meetings and business contacts, new achievements, happiness and wellbeing!

Chair of the Program Committee
Rector of Samara University

Evgeniy Shakhmatov

Organizers

- The ministry of education and science of the Russian Federation
- Samara University
- Samara Space Centre TsSKB-Progress
- JSC «Kuznetsov»
- Samara Science Centre of RAS

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Zavershinsky, I. P.	Prof., Samara University (Samara)
Sinyakov, A.F.	Secretary of organizing committee, Samara University (Samara)

TECHNICAL PROGRAMME

29 June (Wednesday)			
9.00-10.00	REGISTRATION (Renaissance Samara Hotel)		
9.00-17.00	Exhibition of Equipment (Renaissance Samara Hotel)		
10.00-12.00	Opening Ceremony. Plenary Lecture (Room «Mir», 2 floor, Renaissance Samara Hotel)		
	Welcome Address, Rector of Samara university Evgeniy Shakhmatov Welcome Address, Yuri Martynenko, «MSC Software Rus»		
	Plenary Lecture <i>Prof. E.V. Shakhmatov, (Samara University, Russia)</i> Research in the area of dynamics and vibroacoustics in Samara university <i>Prof. T.M. Tomilina, IMASH RAS, Moscow, Russia</i> Acoustic metamaterials – new direction in vibroacoustics <i>Dr. Kosmodemyansky E. V., Cand. Tech.Sc., Deputy Chief Designer on Research, Space Center Progress, Samara, Russia</i> Problems of dynamics and vibroacoustics in the space technology <i>Prof. Takao Nishiumi (National Defense Academy of Japan)</i> Some Topics on Fluid Power System Dynamics in the National Defense Academy of Japan <i>Prof. Heikki Handroos (Lappeenranta University of Technology, Finland)</i> Design of Fluid Power driven machines by using real-time virtual prototypes		
12.00-13.30	LUNCH		
Technical sessions			
Room «Souz-1»	Room «Souz-2»	Room «Souz-3»	
13.45-15.00	SECTION № 1 Fundamental and applied problems of machine dynamics and vibroacoustics	SECTION № 2 Dynamics and vibroacoustics	SECTION № 4 Dynamics and vibration survival
15.00-15.15	Coffee		
	Technical sessions		
	SECTION № 1 Fundamental and applied problems of machine dynamics and vibroacoustics	SECTION № 2 Dynamics and vibroacoustics	SECTION № 4 Dynamics and vibration survival
17.00-21.00	Volga Cruise and Dinner		

30 June (Thursday)				
	Technical sessions			
	Room «Souz-1»	Room «Souz-2»	Room «Souz-3»	
9.00-10.45	SECTION 6 Control systems, mechatronics and robotics	SECTION № 2 Dynamics and vibroacoustics	SECTION № 4 Dynamics and vibration survival	
10.45-11.00	Coffee			
	Technical sessions			
	Room «Souz-1»	Room «Souz-2»	Room «Souz-3»	
11.00-13.00	SECTION 6 Control systems, mechatronics and robotics	SECTION № 2 Dynamics and vibroacoustics	SECTION № 4 Dynamics and vibration survival	
13.00-14.30	LUNCH			
	Technical sessions			
	Room «Souz-1»	Room «Souz-2»	Room «Souz-3»	
14.30-15.15	SECTION 6 Control systems, mechatronics and robotics	SECTION № 2 Dynamics and vibroacoustics	SECTION № 4 Dynamics and vibration survival	
15.15-16.00	SECTION № 3 Vibration, oscillations and noise control		SECTION 5 Experimental research and machine development	
16.00-16.15	Coffee			
	Technical sessions			
	Room «Souz-1»	Room «Souz-2»	Room «Souz-3»	
16.15-18.00	SECTION № 3 Vibration, oscillations and noise control	SECTION № 2 Dynamics and vibroacoustics	SECTION 5 Experimental research and machine development	
18.00-22.00	Closing Ceremony. Conference Banquet			

01 July (Friday)	
10.00-14.30	Guided Tours
	Stalin's Bunker Galileo. Park of Miracles Park "History of Engineering" named after Sakharov Museum of Aviation and Cosmonautics named after Korolev
	Technical session (Samara University, "ASEU" Department, building 14, floor 3, room 325)
10.00-16.30	SECTION № 2 DYNAMICS AND VIBROACOUSTICS

**SECTION № 1 FUNDAMENTAL AND APPLIED PROBLEMS
OF MACHINE DYNAMICS AND VIBROACOUSTICS**

Chairman

Prof., Zavershinsky, I. P
Samara University

Renaissance Samara Hotel
Room «Souz-1»
29 June 13.45 to 16.30

Time	Paper Title	Author
13.45-14.00	Aviation acoustics and law «the negation of negation»	B.S. Zamtfort
14.00-14.15	Detection of Vibrodiagnostic Signs of Working Body Acoustic Vibrations in GPA-16P "Ufa" Gas Channel	I.A. Krivosheev, V.I. Akimov, D.G. Kozhinov
14.15-14.30	Experience of aircraft defects monitoring by vibration parameters	V.A. Berns, E.A. Lysenko, A.V. Dolgopolov, E.P. Zhukov
14.30-14.45	Characteristic times of acoustic and condensation modes instability in heat-releasing gas media	D.S. Ryashchikov, N.E. Molevich, D.I. Zavershinskii
14.45-15.00	Criteria of acoustic emission at approaching critical state of material under cyclic loading	I.A. Rastegaev, A.V. Danyuk, M.A. Afanasyev, D.L. Merson
15.00-15.15	Coffee	
15.15-15.30	Equivalent vibration test	I.N. Ovchinnikov, P.Y. Brancevich
15.30-15.45	Approaches to creation of generalized classification of multifunctional active and hybrid compensation of low frequency sound of energetic plants	A.V. Vasilev
15.45-16.00	Simulation of electromechanical actuator with ballscrew	L. Bilyaletdinova
16.00-16.15	Implementation of the additive technology to the design and manufacturing of vibroisolators with required selective filtering	A.V. Sotov1, V.G. Smelov1, A.V. Agapovichev, M.M. Laktionova, T.M. Tomilina
16.15-16.30	Application of additive technology to the design and manufacturing of the samples of acoustic metamaterials	R.A. Vdovin, M.M. Laktionova, V.G. Smelov, T.M. Tomilina

SECTION № 2 DYNAMICS AND VIBROACOUSTICS

SECTION № 2 1 VIBROACOUSTIC PROCESSES

Chairman
 Prof. Makar'yants, G. M.
 Samara University

Renaissance Samara Hotel
 Room «Souz-2»
 29 June 13.45 to 16.00

Time	Paper Title	Author
13.45-14.00	Comparison of Modal Behavior of Classic and Trapezoidal Violins	Bogumił Linde, Ewa Skrodzka
14.00-14.15	A Fluid Power System Made from Plastic Elements	Jarosław Stryczek, Michał Banaś, Justyna Krawczyk, Piotr Stryczek, Lubomir Marciniak
14.15-14.30	Calculation of vibration of pipeline bundle with damping support made of metal rubber material	A.M. Ulanov, S.A. Bezborodov
14.30-14.50	Development of competitive products with complex use of the MSC Software for the solution of acoustics and vibroacoustics problems	Zharkov A.V.
14.50-15.05	Simulation of the gear pump noise	L.V. Rodionov, S.A. Gafurov, A.V. Zharkov
15.05-15.15	Coffee	
15.15-15.30	The Influence of Process Factors on Piezoelectric Vibration Sensor Sensitivity	Y.S. Andreev, N.A. Demkovich, R.M. Isaev, A.A. Tselischev, S.D. Vasilkov
15.30-15.45	Analytical Calculation of Hydraulic Characteristics of Jet-Cavitation Fluid Mass Flow Stabilizer	S.Y. Konstantinov, D.V. Tselischev, V.A. Tselischev
15.45-16.00	Gas resonant oscillations considering gas relaxational properties	V.A. Kudinov, S.O. Nekrasova, A.V. Eremin, I.V. Kudinov
16.00-16.15	Calculation-experimental method of determining the propensity for warping non-rigid disks of hydraulic machine	G.A. Nesterenko, I.S. Nesterenko, I.M. Shikhov

SECTION № 2 DYNAMICS AND VIBROACOUSTICS

SECTION № 2 1 VIBROACOUSTIC PROCESSES

Chairman
 Prof. Makar'yants, G. M.
 Samara University

Renaissance Samara Hotel
 Room «Souz-2»
 29 June 13.45 to 16.00

Time	Paper Title	Author
9.00-9.15	Hydrostatic transmission with axial flow divider for highly mobile vehicles	D.L. Karelkin, A.M. Belousov, V.L. Mulyukin
9.15-9.30	The model and the methods for numerical simulation of wave action of real working fluids in pipelines	R.D. Enikeev, G.A. Nozdrin, A.A. Chernousov
9.30-9.45	Analysis of flexible metal hoses frequency characteristics	A.I. Belousov, A.N. Murzin
9.45-10.00	The investigation of the work-fluid characteristics of precision hydraulic active vibration control module	A.M. Bazinenkov, M.S. Mosina, V.P. Mikhailov
10.00-10.15	Noise Calculation Method for Industrial Premises with Bulky Equipment at Mirror-Diffuse Sound Reflection	I. Tsukernikov, A. Antonov, V. Ledenev, I. Shubin, T. Nevenchannaya
10.15-10.30	Simulation of the pressure oscillations downstream of the power plantcombustor burner	M.Yu. Orlov, I.A. Zubrilin, R.A. Zubrilin
10.30-10.45	Advanced dynamic model development of mechanical gas face seal	R.R. Badykov, S.V. Falaleev
10.45-11.00	Coffee	

SECTION № 2 DYNAMICS AND VIBROACOUSTICS

SECTION № 2 1 DYNAMIC PROCESSES

Co-Chairmen

Prof. Bystrov, N.D.,

Prof. Gimadiev, A.G,

Samara University

Renaissance Samara Hotel

Room «Souz-2»

30 June 11.00 to 18.00

Time	Paper Title	Author
11.00-11.15	Research of the influence of several constants of the quadratic turbulence model on the results of pulsated separated flow simulation	A.V. Boldyrev, S.V. Boldyrev, S.I. Kharchuk
11.15-11.30	Steady and Unsteady Mathematical Models of Steam Jets	V.B. Tupov, A.A. Taratorin
11.30-11.45	The Choice of Turbulence Model for Steam Jets	V.B. Tupov, A.A. Taratorin
11.45-12.00	The method of controlling the cutting tool wear based on signal analysis of acoustic emission for milling	A.I. Khaimovich, V.A. Pechenin, A.I. Kondratiev, M.A. Bolotov
12.15-12.30	Aplication of modelling of dynamic processes during creation and introduction of the automated systems	A.A. Cherepashkov, P.A. Samoylov
12.30-12.45	Air flow control around the cylindrical rotating model by means of rotating electric arc in an external magnetic field	D. Munhoz, I.P. Zavershinskii, A.I. Klimov, N.E. Molevich, I.A. Moralev, L.A. Polyakov, D.P. Porfiriev, S.S. Sugak
13.00-14.30	Lunch	
14.30-14.45	Numerical Estimation of Precision Equipment Vibration Isolation System	V. Smirnov
14.45-15.00	To the Question of Vibration Levels Prediction Inside Residential Buildings Caused by Underground Traffic	I. Tsukernikov, V. Smirnov
15.00-15.15	Identify cation Method for Nonlinear Dynamic Models of Gas Turbine Engines on Acceleration Mode	O.D. Lyantsev, A.V. Kazantsev, A.I. Abdulnagimov
15.15-15.30	Italian and Russian Experience of Noise Estimation of Different Objects of Urban Territories	A.V. Vasilyev, S. Luzzi
15.30-15.45	The Spline-Method for Numerical Calculation of the Natural-Vibration Frequency of a Rod with Variable Cross-Section	V. S. Zhernakov V. P. Pavlov, V. M. Kudoyarova
15.45-16.00	Curcuit-design solutions for feed water flow rate control	E. G. Berestovitsky,

	systems devices development meeting the current and future requirements of noise and vibration levels	Y.A. Gladilin, N.V. Pyalov, M.V. Soloviev
16.00-16.15	Coffee	
16.15-16.30	Studying of manufacturing tolerance influence on the performance of gte rotor elastic rings	D.S. Diligensky, D.K. Novikov
16.30-16.45	Study on dynamic processes in hydraulic drive with switched inertance device	A.V. Bakhvalov, P.I. Greshnyakov, A.G. Gimadiev
16.45-17.00	Dinamics of flow rate control system with low-noise regulatory device	E.G. Berestovitskiy, P.I. Kizilov, N.V. Pialov
17.15-17.30	Choice of structural parameters of rotary seal made from mr material	A.M. Zhizhkin, V.A. Zrelov, V.V. Zrelov, A.Yu. Ardagov, A.A. Osipov
17.30-17.45	Dynamics of gas bearings of turbomachines	A.V. Kosmynin, A.S. Khvostikov, A.V. Smirnov, V.S. Schetinin, N.A. Ivanova
17.45-18.00	Programmable work of the piston compressor's valves	A.P. Bolshtyansky, E.A. Lysenko, P.A. Bolshtyansky, E.A. Rzhepkovskaya

**SECTION № 3 VIBRATION, OSCILLATIONS
AND NOISE CONTROL**

Co-Chairmen

Prof. Kryuchkov, A.N.,
Samara University
Prof. Yeliseyev, Yu.S., SSTU (Samara)

Renaissance Samara Hotel

Room «Souz-1»

30 June 15.15 to 18.15

Time	Paper Title	Author
15.15-15.30	Study of Cu-Zn Alloy Objects Vibration Characteristics During the Laser-Induced Nanopores Formation	S.P. Murzin, A.B. Prokofiev, A.I. Safin
15.30-15.45	Method of calculation of static characteristics of a ring vibroinsulator with adjustable change of radius of curvature and the angle of coverage	Bezborodov S.A.
15.45-16.00	Calculation of rotors' dynamics in LMS Samcef Rotors	Anishchenko G.A.
16.00-16.15	Coffee	
16.15-16.30	The application of Passive Vibration Isolation Systems Having Force Characteristics with Hysteresis Loops of Rectangular Shape for the Main Pumping Units	A. Tokarev, A. Zotov, A. Valeev
16.30-16.45	Study of Application of Vibration Isolators with Quasi-Zero Stiffness to Reduce Dynamics Loads on the Foundation	A. Valeev, A. Zotov, A. Tokarev
16.45-17.00	Some Engineering Ideas of Ecodesign Resource Conservation Developments of Effective Sound-Absorbing Substances and Noise-Reducing Constructions	M.I. Fesina, A.V. Krasnov, L.N. Gorina
17.15-17.30	The Efficacy of Low-Frequency Acoustic Resonances Suppression with Breathable Sound-Absorbing Structures of Multifunctional Interior Upholsteries Used for the Car Body	A.V. Krasnov, M.I. Fesina, L.N. Gorina
17.30-17.45	Experimental study of a miniature vibration isolators for vibration protection of blocks of memory on-board automated systems transport	O.B. Simakov , I. K. Mikhalkin , Yu.K. Ponomarev
17.45-18.00	Experimental study of cable vibration isolators resource	I.K. Mikhalkin, Yu.K. Ponomarev, O.B. Simakov
18.00-18.15	Active Vibration Damping in Hydraulic Construction Machinery	Addison Alexander, Andrea Vacca, Davide Cristofori

SECTION № 3 DYNAMICS AND VIBRATION SURVIVAL

Co-Chairmen
 Prof. Pavlov, V.F.
 Prof. Falaleev, S.V.,
 Samara University

Renaissance Samara Hotel
 Room «Souz-3»
 29 June 13.45 to 16.00
 30 June 9.00 to 15.15

29 June (Wednesday)

Time	Paper Title	Author
13.45-14.00	The evaluation of hardening influence on the multicyclic fatigue resistance of parts under stresses concentration conditions	V.F. Pavlov, V.S. Vakulyuk, A.S. Bukatyi, A.P. Filatov, A.A. Popkov
14.00-14.15	Three-Dimensional Modeling of Deep Hole Vibratory Drilling Dynamics	I.A. Kiselev, N.A. Zhukov, A.N. Selivanov, D.V. Barysheva, S.A. Voronov, A.M. Gouskov
14.15-14.30	Time-Domain Nonlinear System Identification of Milling Cutter Clamped in the CNC Machine	S.M. Nikolaev, V.A. Kuts, S.A. Voronov
14.30-14.45	The Procedure for Subspace Identification Optimal Parameters Selection in Application to the Turbine Blade Modal Analysis	V.A. Kuts, S.M. Nikolaev, S.A. Voronov
14.45-15.00	Cutter's Flank Face Interaction in Modeling of Plain Milling Process	N.A. Zhukov, I.A. Kiselev, I.I. Ivanov, S.A. Voronov, A.M. Gouskov
15.00-15.15	Coffee	
15.15-15.30	The prediction of the crankshaft endurance limit increase by residual stresses	V.A. Kirpichev, V.E. Kostichev, V.V. Sazanov, A.V. Nagiev, E.A. Deniskina
15.30-15.45	The influence of dynamic processes on the strength of gas turbine engine housing parts	E.E. Kocherova, R.R. Kyarimov, E.Ju. Isaev
15.45-16.00	Modeling of residual stresses in cylindrical parts by the finite elements method taking into account the plasticity	A.S. Zlobin, E.E. Kocherova, K.V. Runova

30 June

Time	Paper Title	Author
9.00-9.15	Influence of method of a functional surface treatment of a piezoelectric vibration sensor on its sensitivity	Isaev R.M.
9.15-9.30	Ensuring Geometric Accuracy of the Shafts after the Shot Peening of Seating Surfaces	A.S. Bukatyi
9.30-9.45	Construction diagnostics of the aircraft parts on the basis of the energy method and the stress-state stiffness criterion	A.S. Bukatyi, S.A. Bukatyi, A.A. Okrugin
9.45-10.00	The endurance limit of parts with stresses concentrators prediction	V.S. Vakulyuk, V.V. Alyoshkin, L.V. Denisov, D.V. Anohin, K.F. Matveeva
10.00-10.15	Investigation of the dynamics of gear systems with consideration of pinions supports flexibility	M.I. Kurushin, V.B. Balyakin, V. Ossiala
10.15-10.30	Software Development for Finite-Element Model Updating Based on Experimental Modal Analysis	S.M. Nikolaev, V.A. Zhulev, I.A. Kiselev, P.S. Voronov
10.30-10.45	Dynamics of formation residual stresses in the surface layer parts of the steel fec0.15cr12ni2 by diamond burnishing	A.N. Shvetcov, D.L. Skuratov
10.45-11.00	Coffee	
11.00-11.15	Dynamics of the rotor on hybrid bearings, functioning on the speed division principle	R.N. Polyakov, L.A. Savin
11.15-11.30	Mathematical model of “working gap – pad – elastic support” system for rotor support tilting-pad journal bearing	E.F. Parovay, S.V. Falaleev
11.30-11.45	The appointment of more optimal regimes of parts threading by the residual stresses distribution in the thread cavities	V.F. Pavlov, V.K. Shadrin, A.S. Zlobin, S.A. Mihalkina, P.E. Kiselyov
11.45-12.00	The evaluation of the surface hardening influence on the parts of a rectangular section endurance limit	V.P. Sazanov, V.K. Shadrin, V.V. Lunin, S.A. Kolychev, A.V. Pismarov
12.00-12.15	The investigation of residual stresses distribution through the thickness of corset specimens hardened layer	V.P. Sazanov, O.Ju. Semyonova, N.A. Surgutanov, P.A. Shlyapnikov, N.N. Mikushev
12.15-12.30	Dynamic modeling applying for residual stresses investigation under hardening by diamond burnishing	V.A. Kirpichev, V.E. Kostichev, O.Ju. Semyonova, A.V. Nagiev,

		O.V. Karanaeva
12.30-12.45	Ball bearing dynamics at the interference fit on balls	I.S. Barmanov, M.N. Ortqov
12.45-13.00	Probability method of calculating rolling bearing life with consideration of its dynamic conditions and strength of its textolite cage rivets	C. Pilla, M.I. Kurushin, E.P. Zhilnikov
13.00-14.30	Lunch	
14.30-14.45	Study of loading in point-involute gears	A.V. Suslin, C. Pilla
14.45-15.00	The appointment of more optimal regimes of parts threading by the residual stresses distribution in the thread cavities	V.F. Pavlov, V.K. Shadrin, A.S. Zlobin, S.A. Mihalkina, P.E. Kiselyov
15.00-15.15	Damage dynamics of aircraft engine high-speed rolling-element bearings tested in low-viscosity model mediums	B.M. Silaev, D.G. Fedorov, P.A. Danilenko

SECTION № 5 EXPERIMENTAL RESEARCH AND MACHINE DEVELOPMENT

Co-Chairmen

Prof. Balykin, V.B., Samara University

Prof., Berestovizkii, E.G., Concern Avrora
(St. Petersburg)

Renaissance Samara Hotel

Room «Souz-3»

30 June 15.15 to 18.00

Time	Paper Title	Author
15.15-15.30	Comparison of different methods of non-contact vibration measurement	D. Vergnano, D.S. Lezhin, S.V. Falaleev, A.I. Safin, A.M. Ulanov
15.30-15.45	About development of high-temperature experimental installation for frequency tests of gages pressure pulsation	D.V. Bratchinin, E.C. Dyagileva, A.G. Gimadiyev, N.D. Bystrov
15.45-16.00	Fluctuations technological installations as a criterion for evaluating the quality of the process low-temperature plasma hardening	B.M. Brzhozovskii, E.P. Zinina, V.V. Martynov, I.N. Yankin
16.00-16.15	Coffee	
16.15-16.30	Design and Experimental Study of a Piston Hybrid Power Machine with Gas Volume at Suction	V.E. Shcherba, V.V. Shalay, D.A. Kuzeeva, E.Y. Nosov, E.A. Pavlyuchenko, I.P. Zaloznov, A.M. Bazhenov
16.30-16.45	Formation of ZnO / CuO heterostructure caused by the laser-induced vibration action	Murzin S.P., Kryuchkov A.N., Afanasiev S.A., Blokhin M.V.
16.45-17.00	Design and development of the test bench for experimental study of a piston hybrid power machine of positive displacement	V.E. Shcherba, V.V. Shalay, E.A. Lysenko, G.A. Nesterenko, A.V. Grigoriev, A.M. Bazhenov
17.15-17.30	The laser beam with cross-section of the structure for measuring the distance and orientation of the robot manipulator	E.V. Burnaevskaia, V.N. Grishanov
17.30-17.45	Investigation of tribological properties of metallic materials with the use of the universal friction machine mtu-1	S.Yu. Perepelkina, P.P. Kovalenko, R.V. Pechenko
17.45-18.00	Application of Neural Network Technology and High-Performance Computing for Identification and Real-Time Hardware-in-the-Loop Simulation of Gas Turbine Engines	G.I. Pogorelov, A.I. Abdulnagimov, B.I. Badamshin

SECTION № 6 CONTROL SYSTEMS, MECHATRONICS AND ROBOTICS

Co-Chairmen

Prof. Matynin, S.A., Samara University

Prof. Heikki Handroos, LTU, Finland

Renaissance Samara Hotel

Room «Souz-1»

30 June 9.00 to 15.15

Time	Paper Title	Author
9.00-9.15	Research of Characteristics of Fiber Optic Sensors of Anthropomorphous Robots	S.A. Matyunin
9.15-9.30	Machine vision in robotics	N.A. Galkina, T.B. Mironova
9.30-9.45	Optimal Control of an Underwater Glider Vehicle	Renan da Silva Tchilian, E. Rafikova, S. Gafurov, M. Rafikov
9.45-10.00	Intelligent Mapping of Stresses in a Hydraulic Crane	Hamid Roozbahani, Appiah-Osei Agyemang, Farid Alijani, Heikki Handroos, Takao Nishiumi
10.00-10.15	Comparison Between dSPACE and NI System Based on Real-Time Intelligent Control of a Teleoperated Hydraulic Servo System	Hamid Roozbahani, Isaac Witherspone, Heikki Handroos
10.15-10.30	Orthosis supported human lower limb motion model	N. Krokhaleva, N. Turchinovich, S. Perepelkina, I. Penkov, G. Aryassov
10.30-10.45	Sliding mode control of pneumatic position systems	P.I. Greshniakov
10.45-11.00	Coffee	
11.00-11.15	The development of mechatronic sampling system for automatic monitoring of power plant chemistry	A.V. Utkin, M.A. Gimadiev
11.15-11.30	Theoretical analysis of coil heat exchanger as sampling system dynamical element	A.V. Utkin, M.A. Gimadiev
11.30-11.45	Energy calculation of manipulator electromechanical actuators	I.S. Barmanov, D.A. Bizyanova, O.D. Rimann
11.45-12.00	The modeling of Inverse Kinematics for 5 DOF manipulator	V.N. Iliukhin, K.B. Mitkovskii, D.A. Bizyanova, A.A. Akopyan
12.15-12.30	The Development of Motion Capture System Based on Kinect Sensor and Bluetooth-Gloves	V.N. Iliukhin, K.B. Mitkovskii, D.A. Bizyanova, A.A. Akopyan

12.30-12.45	The study on fluid flow in the hydraulic pipeline with discrete control	V.K. Dorogov, V.N. Ilyukhin, A.F. Sinyakov
13.00-14.30	Lunch	
14.30-14.45	Simulation of Contactless Fiber-Optic System for Valve Status Monitoring	Orkhan Gadgibaba oglı Babaev, S.A. Matyunin, M.V. Stepanov
14.45-15.00	The elements of fiber-optic sensors in the control devices of acoustics and vibration diagnostics	A.V. Danilov, S.A. Matyunin, O.G. Babaev
15.00-15.15	Fiber optic displacement sensor with linear position characteristics for automated mechatronic systems	S.A. Matyunin, M.V. Stepanov, O.G. Babaev

SECTION 2 «DYNAMICS AND VIBROACOUSTICS»

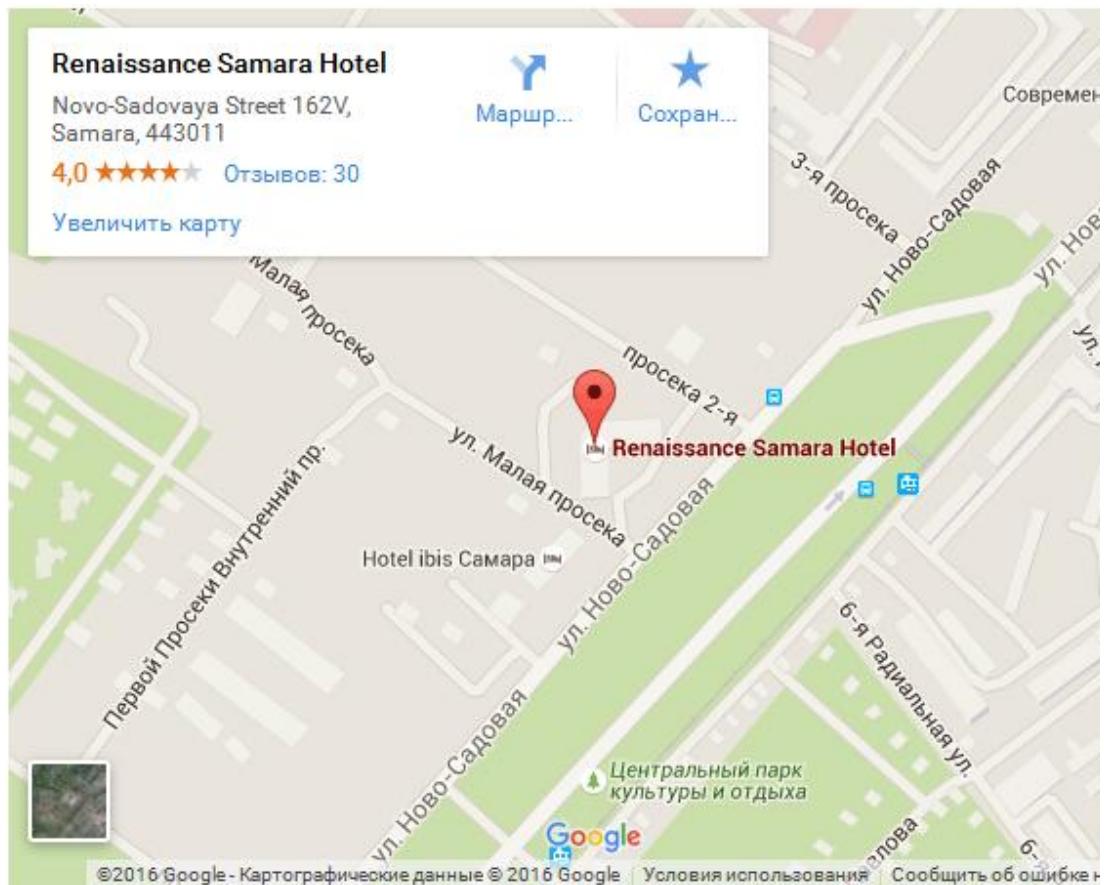
Chairman
 Associate Prof. Sverbilov, V.Ya.
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Samara University,
 Building 14, Room 325
 1 July 10.00 to 16.30

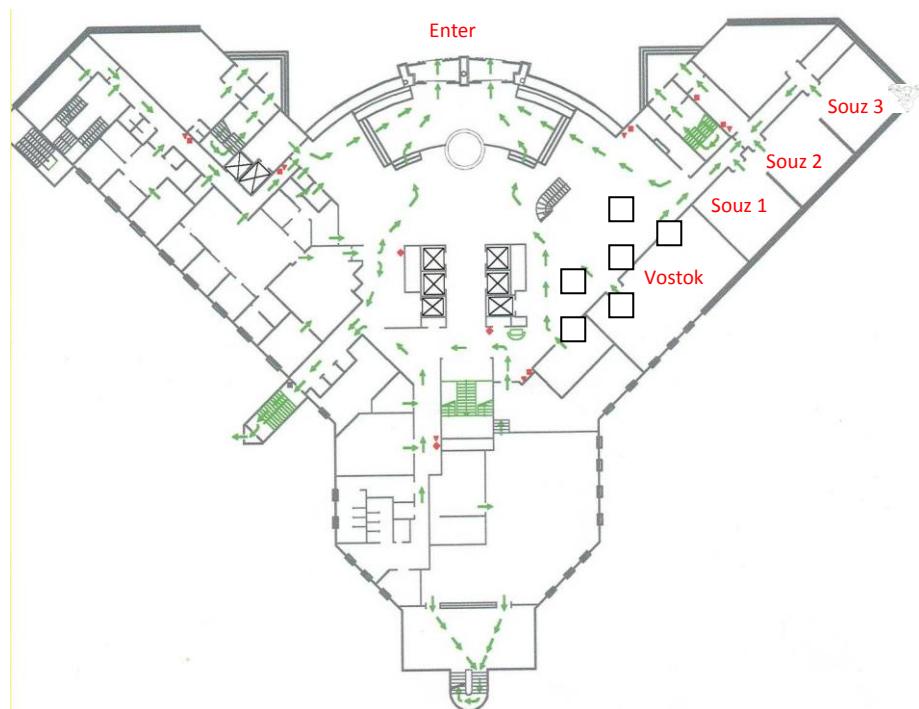
Time	Paper Title	Author
10.00-16.30	The finite element technique for modelling of pipe system vibroacoustical characteristics	T.B. Mironova, A.B. Prokofiev, E.V. Shakhmatov
	Experimental Vibroacoustic Research of the Gear Pump from Different Materials	L. Rodionov, P. Rekadze
	Stabilizing Pressure Control Circuits by Means of Compensation	D. Stadnik, V. Sverbilov
	Study on vibroacoustic characteristics of shunting locomotive cabin	A.A. Igolkin, A.N. Kryuchkov, G.V. Lazutkin
	The mathematical description of the processes occurring at high speed actuation of valves with pneumatic control	Y.I. Kondrashov, S.A. Gafurov, V.A. Salmina
	Measuring the level of liquid in the fuel tank of rocket	N.V. Klyuev, A.V. Mukhametzyanov
	Prevention of the occurrence of gas-dynamic conditions of self-oscillation in the output paths of control valves	M.V. Balyaba, M.A. Ermilov, A.N. Kryuchkov, K.U. Shabanov
	Development of effective pressure pulsation dampers for the gas control valves	M.V. Balyaba, M.A. Ermilov, A.N. Kryuchkov, K.U. Shabanov
	Features control in efficiency of pipelines and units internal surface cleaning	V.I. Sanchugov, B.M. Reshetov
	Experimental research of dynamic loading the sealing elements of the valve pair from moving parts pneumatic actuator	Yu.I. Kondrashov, S.A. Gafurov, V.A. Salmina
	Development of the noise silencer based on porous metals	Malyakin, M.P., Safin A.I.
	Effect of Muffler Performances on Pressure Reducer Dynamics	D. Stadnik, A. Igolkin, V. Sverbilov, K. Afanasev
Local non-equilibrium rod resonant oscillations		V.A. Kudinov, A.V. Eremin, I.V. Kudinov, A.I. Dovgyallo

	Improving of signal detection of acoustic emission for fatigue fracture monitoring	A.V. Danyuk, I.A. Rastegaev, M.L. Linderov, D.L. Merson
	Development of metal rubber dampers with unloading and shockproof devices	G.V. Lazutkin, K.V. Boyarov, D.P. Davydov, T.V. Volkova, L.A. Varzhitskiy
	Method for measuring phase-frequency characteristics of nonlinear vibration isolation systems and its research for the vibration signals with harmonic distortion	L.A. Varzhtckii, G.V. Lazutkin, D.P. Davydov, K.V. Boyarov, T.V. Volkova
	Development of metal-rubber elements for pipeline dampers	G.V. Lazutkin, D.P. Davydov, K.V. Boyarov, T.V. Volkova, O.S. Surkov
	Reducing vibration of valve under transient conditions	E.A. Kulichkova, V.I. Golovanov
	Impact of fan design features on tonal noise generation	Iurii Khaletskii, Vladimir Korznev, Yaroslav Pochkin

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