

Science and Technology City Hall
KRASNOYARSK, RUSSIA



MIP: Engineering
Advanced Technologies in Material Science,
Mechanical and Automation Engineering

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II International Conference

MIP: Engineering-2020:
Modernization, Innovations, Progress:
Advanced Technologies in Material
Science, Mechanical and Automation
Engineering

April 16, 2020 | Krasnoyarsk, Russia

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Programme Book

<http://conf.domnit.ru/ru/conferences/mip-engineering-2020/>



MIP: Engineering-2020

Modernization, Innovations, Progress:
Advanced Technologies in Material Science,
Mechanical and Automation Engineering

Science and Technology City Hall
KRASNOYARSK, RUSSIA



RUSSIAN AND
INTERNATIONAL UNION
OF SCIENTIFIC AND
ENGINEERING ASSOCIATIONS



IOP Conference Series

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Conference Programme

II International Conference

**“MIP: Engineering-2020: Modernization,
Innovations, Progress: Advanced Technologies in
Material Science, Mechanical and Automation
Engineering”**

(Krasnoyarsk, Russia, April 16-18, 2020)



MIP: Engineering-2020
Modernization, Innovations, Progress:
Advanced Technologies in Material Science,
Mechanical and Automation Engineering

II International Scientific Conference

MIP: Engineering-2020: Modernization, Innovations,
Progress: Advanced Technologies in Material
Science, Mechanical and Automation Engineering

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About the Conference

International and Russian Union of Scientific and Engineering Associations, Krasnoyarsk Regional Union of Scientific and Engineering Associations, Krasnoyarsk Science and Technology City Hall are organizing II International Scientific Conference «MIP: Engineering-2020: Modernization, Innovations, Progress: Advanced Technologies in Material Science, Mechanical and Automation Engineering». The Conference will take place in Krasnoyarsk in April 16-18, 2020.

We invite scientists, specialists and research teams as well as representatives of the enterprises working in the spheres of materials science, automation and mechanical engineering to participate in the Conference.

The purpose of the Conference is to share the results and prospects of the achievements in using advanced scientific, innovative and information technologies in materials science, mechanical engineering and automation.

The work of the Conference is planned in the following directions:

- Material Science and Aerospace Technology;
- Mechanical and Automation Engineering for Industry 4.0;
- Cybernetics, Economics and Organization of Mechanical Engineering Production;
- Information Reliability and Data Protection in Automation Systems;
- Chemical, Ecological and Power Engineering.

The Conference will take place in April 16-18, 2020 in Krasnoyarsk Science and Technology City Hall of the Russian Union of Scientific and Engineering Associations.

Proceedings of the Conference

The Proceedings of the Conference in the form of full papers in the English language will be published in IOP Conference Series: Materials Science and Engineering (MSE), indexed by Web of Science and Scopus. The papers should meet the requirements of the Journal (the requirements and the template can be found on the Conference web-site <http://conf.domnit.ru/en/conferences/mip-engineering-2020-en/>).

The official languages of the Conference are Russian and English. The Organizers will provide professional interpretation if required.

Conference Venue

The Conference will take place in Krasnoyarsk Science and Technology City Hall: 61 Uritskogo Street, Krasnoyarsk, Russia.

Registration Fee

Participation in the Conference is free. The registration fee for the publication is 200 EURO. The fee is paid after the notice about acceptance of the paper but not later than April 16, 2020.

Contact Details

Please forward all the questions concerning the participation and the programme to the executive secretary:

Anna Voroshilova Tel. +7 391 227 84 84

E-mail: krasnio@bk.ru

Krasnoyarsk Science and Technology City Hall of the Russian Union of Scientific and Engineering Associations, 61, Uritskogo street, Krasnoyarsk, 660049, Russia

The detailed information is also available at: <http://conf.domnit.ru/en/conferences/mip-engineering-2020-en/>.

Conference Organizers



Krasnoyarsk Science and Technology
City Hall of the Russian Union of
Scientific and Engineering Public
Associations



Russian Union of Scientific and
Engineering Public Associations
(Moscow, Russia)



The International Union of Scientific
and Engineering Public Associations
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Section 1. Material Science and Aerospace Technology

MIP-1001	Design and technology reliability analysis: fork	A G Artyushenko and Yu P Pokhabov	JSC "NPO PM Small Design Bureau", Zheleznogorsk, Krasnoyarsk region, Russian Federation
MIP-1002	The effect of processing in a SHF electromagnetic field on the moisture absorption of cured polymer composite materials	I V Zlobina, N V Bekrenev, I S Katsuba	Yuri Gagarin State Technical University of Saratov
MIP-1003	Laser airborne reflection method for remote sensing forest species composition	M L Belov, A M Belov, V A Gorodnichev and S V Alkov	Bauman Moscow State Technical University, Moscow, Russia
MIP-1004	Environmental monitoring and its methods and technical means of environmental protection in the area of technical responsibility of oil and gas industries.	A G Topchiev	Gubkin Russian State University of Oil and Gas., Moscow, Russia
MIP-1005	Fuzzy-set analysis of models of temperature deformation of thin-walled elements with elliptic boundaries in industrial and aerospace structures	Sergey V. Storozhev, Valeriy I. Storozhev, Vitaly E. Bolnokin, Duong Minh Hai, Denis I. Mutin	Donbass National Academy of Civil Engineering and Architecture, Donetsk National University, Mechanical Engineering Research Institute of the Russian Academy of Sciences, Vietnam Naval Technical Institute
MIP-1006	Accounting of data uncertainty in advanced technological models of design calculations of acoustoelectronic components from piezoelectric materials	Sergey V Storozhev, Valeriy I Storozhev, Vitaly E Bolnokin, Denis I Mutin, Elena I Mutina	Donbass National Academy of Civil Engineering and Architecture, Donetsk National University, Mechanical Engineering Research Institute of the Russian Academy of Sciences, Moscow State University of Technology "STANKIN"
MIP-1007	Identification of the causes of non-uniformity of the condensate collector metal of the main gas pipeline	O A Nasibullina and A S Tyusenkov	Ufa State Petroleum Technological University, Ufa, Russian Federation
MIP-1008	High- temperature tribological tests of composite materials	M. N. Roshchin	Mechanical Engineering Research Institute, Russian Academy of Sciences
MIP-1009	Increasing wear resistance of the hinge guide compressor in aircraft engine	V V Alisin	Blagonravov Mechanical Engineering Research Institute of the Russian Academy of Sciences, Moscow

MIP-1010	Dislocation structure of dicotyledonous bimetal under external harmonic influence: molecular dynamics modeling	P V Zakharov, A M Eremin, S A Safronova, A V Markidonov and M D Starostenkov	Shukshin Altai State University for Humanities and Pedagogy, Biysk; Novokuznetsk Branch-Institute of Kemerovo State University, Novokuznetsk; Polzunov Altai State Technical University, Barnaul, Russia
MIP-1011	Vibration studies of a magnetoelastic material	A Ja Minaev and Ju V Korovkin	Federal budget - funded research Institute of Machines Science named after A.A.Blagonravov of the Russian Academy of Sciences, 4 Maly Kharitonyevsky Pereulok Moscow 101000, Russian Federation
MIP-1012	The friction surface destruction mechanism in a magnetic field	G B Burdo and A N Bolotov	Tver State Technical University
MIP-1013	Training specialists in material sciences and aerospace engineering using the interactive educational environment	Tatyana V Dubovitskaya, Elena P Tatyana, Tatyana L Turaeva, Olga S Habarova and Olga Yu Zaslavskaya	Voronezh State Technical University, Moscow City University
MIP-1014	Influence of the composition of the metal-ceramic coating on wear resistance	M N Roshchin	Mechanical Engineering Research Institute, Russian Academy of Sciences
MIP-1015	Information search subsystem for intellectual system of improvement of pressure processing processes	Sergey V Byvaltsev	Ural Federal University named after the First President of Russia B. N. Yeltsin; Institute of Engineering Science, Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russia
MIP-1016	Basic laws of filled polyaluminosilicate polycondensation used in printed circuit boards of power electronic spacecraft devices	A A Ivanov	Tomsk State University of Control Systems and Radioelectronics, Tomsk
MIP-1017	Compressor disc structural optimization for gas turbine engine	Hoang Nhat Minh, Chu Duy Lanh, Nguyen Phi Minh, Nguyen Tien Quyet	Viettel aerospace institute
MIP-1018	Electrochemical technology for the formation of heterogeneous metal structures with increased corrosion resistance	S.Yu. Kireev, S.N. Kireeva, M.V. Glebov	Penza State University
MIP-1019	Remote diagnostic capability of aircraft special equipment	A. Abdukayumov, I.S. Maturazov	Tashkent State Technical University named after I.Karimov

MIP-1020	Diagram of plastic material transition into brittle state under hydrogen saturation	V I Mironov, I G Emel'yanov and O A Lukashuk	Ural Federal University, 2Institute of Engineering Science, Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russia
MIP-1021	Modeling of the thermal stresses in the welded rails of the continuous welded track in the permafrost zone	Z Fazilova, A Loktev, V Shapran and I Chizhikov	Russian University of Transport (MIIT) Moscow, Russia; Vorkuta permanent way division of the Northern Infrastructure Directorate of JSC «RZD», Vorkuta, Russia; JSC «GSH Group», Moscow, Russia
MIP-1022	The life cycle assessment of the used rails according to the results of cyclic high-frequency tests	A Loktev, Z Fazilova, and E Gridasova	Russian University of Transport (MIIT), Moscow, Russia; Engineering School of the Far Eastern Federal University, Vladivostok, the Primorye Territory, Russia
MIP-1023	Assessment of road surface durability taking into account the variability of transport load parameters	Nikolay A Ermoshin, Dmitry C Bukatov, Dmitry A Filippov, Aleksey C Tsyba and Aleksandr V Stroganov	Peter the Great St.Petersburg Polytechnic University, St. Petersburg; Military Academy of logistics named by General A. V. Khrulev, St. Petersburg; Main personnel Department of the Ministry of Defense of the Russian Federation, Moscow
MIP-1024	The construction of linear soil structures with the use of geosynthetic materials in the severe hydro geological conditions	Z Fazilova, I Chizhikov and P Slepnev	Russian University of Transport (MIIT) Moscow, Russia; JSC «GSH Group», Moscow, Russia; Moscow State University of Civil Engineering (MSUCE), Moscow, Russia
MIP-1025	Remaining lifetime forecasting based on the dynamic simulation of used continuously welded rails	A Loktev and Z Fazilova	Russian University of Transport (MIIT), Moscow, Russia
MIP-1026	Development of the construction of overalls for oil workers with improved hygienic properties	M M Chorjeva, Z S Vafaeva, M N Azimova, N N Gaybullaeva	Bukhara Engineering Technological Institute, Bukhara, Uzbekistan
MIP-1029	Impact of damping on decay time of free oscillations in metal structures	V I Mironov, D A Ogorelkov and O A Lukashuk	Ural Federal University, Institute of Engineering Science, Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russia
MIP-1030	Narrow-band optical filter for a spectral-selective control device of physical and physicochemical processes	Mikhail A Vaganov and Yuliana A Novikova	St. Petersburg State Univ. of Aerospace Instrumentation, St. Petersburg, Russia
MIP-1031	Resistance law for turbulent Couette-Taylor flow and the Lambert W function	Alexander Balonishnikov, Julia Kruchkova, and Olga Opalikhina	Saint-Petersburg University for Aerospace Instrumentation; University of the Ministry of Internal Affairs of St.Petersburg, Saint-Petersburg, Russia

MIP-1032	Radio links from low-orbit satellites	A G Samoylov, S A Samoylov, S A Nasir and I A Al Tahar	Vladimir State University named after Alexander and Nikolay Stoletovs, Vladimir, Russia
MIP-1033	Daily strength testing of the Portland cement mortars	E V Tararushkin and T N Shchelokova	Russian University of Transport (MIIT), Moscow, Russia; National Research Moscow State University of Civil Engineering, Moscow, Russia
MIP-1034	Resistance moment of a rotation surface of liquid rocket engines turbomachines elements	A A Zuev, V P Nazarov, D A Zhuikov, M I Tolstopyatov and M V Savelyeva	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russia
MIP-1035	Spectrum analysis of optical signals using sequential heterodyning	O D Moskaletz, M A Vaganov, E P Suedov	Saint Petersburg State University of Aerospace Instrumentation, St. Petersburg, Russia
MIP-1036	Hydraulic losses in the initial section of a flow parts of aggregates of liquid rocket engines	D A Zhuikov, A A Zuev, V P Nazarov, M I Tolstopyatov and E V Khodenkova	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russia
MIP-1037	Asymptotic method for predicting the resonance during the descent of an asymmetric probe in the Martian atmosphere	V V Lyubimov	Samara National Research University, Samara, Russia
MIP-1038	Influence of diffusion saturation to hard alloys of WC-TiC-Co and WC-Co with functional TiC coating by Ni-Cu	I D Storozhenko, E E Boblyyov	Kuban State Technological University, Krasnodar, Russia
MIP-1039	Analysis of frequency characteristics of a structure with single modal reservation before and after failure	A V Medvedev and Y S Zhechev	Scientific Research Laboratory of Safety and Electromagnetic Compatibility of Radioelectronic Facilities, Tomsk State University of Control Systems and Radioelectronics, Russian Federation
MIP-1040	A method of compensating distortion of radio signals with amplitude-phase modulation in a quadrature driver	S A Sherstukov, A N Buravtsova and S S Pechnikov	Voronezh Institute of the Russian Ministry of the Interior, Voronezh, Russian Federation
MIP-1041	Dry etching of silicon carbide in ICP with high anisotropy and etching rate	Artem A Osipov, Anastasiya B Speshilova, Ekaterina V Endiiarova, Armenak A Osipov and Sergey E Alexandrov	Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Institute of Mineralogy, Ural Branch, Russian Academy of Sciences, Miass, Russia

MIP-1042	Optimization of costs for production and transportation of heat carrier in the district heating system	S V Vologdin	Kalashnikov Izhevsk State Technical University, Izhevsk, Russia
MIP-1043	Theoretical simulation of quantum cascade lasers based on InGaAs/AlInAs and InGaAs/AlAsSb quantum wells	K A Romanova and Y G Galyametdinov	Kazan National Research Technological University
MIP-1044	Temperature influence on dynamic behavior of spacecraft waveguides	I. V. Kudryavtsev, M. V. Brungardt, S. I. Troshin, A. V. Kolotov and A. E. Mityaev	Siberian Federal University, Krasnoyarsk, Russia
MIP-1045	Assessment of cyclic crack resistance of surface hardened parts	G N Kravchenko and K G Kravchenko	Moscow Aviation Institute (National Research University)
MIP-1046	Conceptual functional design of hybrid energy source of unmanned convertiplane	R N Nabiyev, A T Hazarkhanov, G I Garayev and A A Abdullayev	National Aviation Academy of the Azerbaijan, Baku, Azerbaijan
MIP-1047	Control of spacecraft waveguide dynamic behavior by means of support arrangement	I V Kudryavtsev, M V Brungardt, S N Nikitina, A V Kolotov and O I Rabetskaya	Siberian Federal University, Krasnoyarsk, Russia
MIP-1048	Structure and properties of hot-deformed powder steels microalloyed by aluminium	V Y Dorofeyev, A N Sviridova, Y M Berezhnoy, E N Bessarabov, K S Kochkarova, V N Pustovoit and S V Sviridova	Platov South-Russian State Polytechnic University (NPI), Novocherkassk, Russia; North-Caucasian State Academy, Cherkessk, Russia; Don State Technical University, Rostov-on-Don, Russia; Derzhavin Tambov State University, Tambov, Russia
MIP-1049	Physical and mechanical properties of materials of life vests for people with disabilities	Z R Grigorieva, T S Solodushenkova and O N Budeeva	Federal State Budget Educational Institution of Higher Education "Ufa State Petroleum Technological University", Ufa, Russia
MIP-1050	Features of microscopic and macroscopic analysis of 35HGSL steel	M L Skryabin, S M Kuklin	Vyatka State Agricultural Academy, Kirov, Russia
MIP-1051	The study of magnetic resistance on thin single-crystal nickel films	KhO Urinov, AKamonov, FDj Makhmudov, ZKh Urinova and BN Shermatov	Samarkand branch of Tashkent University of information technologies named after Mukhammad al-Khwarizmi, Samarkand Uzbekistan

MIP-1052	The excitation spectrum in a weakly interacting bose gas	N A Taylanov, Z Kanokov and S Kh Urinov	Samarkand branch of Tashkent University of information technologies named after Mukhammad al-Khwarizmi, Samarkand, Uzbekistan
MIP-1053	Monitoring the technical and technological state of electric power complex facilities	A A Gibadullin, Yu V Erygin, A E Polyakov and S A Pobyvaev	State University of Management, Moscow, Russia; Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russia; Russian University of Transport (MIIT), Moscow, Russia; Financial University under the Government of the Russian Federation, Moscow, Russia
MIP-1054	Investigation of full arrangement of models on the mechanical properties of samples made from photopolymer material FullCure 720	A V Balyakin, R A Vdovin and R R Kyarimov	Samara University, Samara, Russia
MIP-1055	Features of cracking during rolling of new aluminum alloys of the Al-Mg-Li system	Agafonova Darya Viktorovna	Samara National Research University, 34, Moskovskoye shosse, Samara, 443086, Russia
MIP-1056	The analysis of the working surface of the abrasive tool for wood grinding	V V Sergeevichev, A V Sergeevichev, V D Kepko, E A Alekseeva and V A Sokolova	Saint-Petersburg State Forest Technical University
MIP-1057	The effect of femtosecond laser treatment on the tribological properties of titanium nitride	M Yu Gazizova, N A Smirnov, S I Kudryashov and V V Shugurov	Belgorod State National Research University, Belgorod, Russia; Lebedev Physical Institute, Russian Academy of Sciences, Moscow, Russia; Institute of High Current Electronics SB RAS, Tomsk, Russia
MIP-1058	Simulation of the multi-component gas transfer through porous adsorbent in the model of competing adsorption	I L Bataronov, V F Selivanov and M V Semnozhenkov	Voronezh State Technical University
MIP-1059	Structure and wear resistance of Fe-Cr-Mn-C-N coating obtained by electron beam overlay welding	N A Narkevich, V E Panin, V G Durakov and I A Shulepov	Institute of Strength Physics and Materials Science SB RAS, Tomsk; Research and production company «Kubanneftmash», Krasnodar region, Akhtyrsky, Russia
MIP-1060	Obtaining of tungsten nanopowders by high energy ball milling	A V Ozolin, E G Sokolov and D A Golius	Kuban State Technological University, Krasnodar, Russia
MIP-1061	Information and computing maintenance for the regional satellite operational monitoring system	O E Yakubailik, E A Pavlichenko and V Y Romas'ko	Institute of Computational Modelling SB RAS; Federal Research Center Krasnoyarsk Science Center of the SB RAS, Krasnoyarsk, Russia

MIP-1062	The influence of the chemical composition of the Fe-Cr-Al system coatings on the oxide films phase composition	V G Shmorgun, A I Bogdanov, V P Kulevich and V O Kharlamov	Volgograd State Technical University, Volgograd, Russia
MIP-1063	Residual stresses in Ti6Al4V alloy after surface texturing by femtosecond laser pulses	M V Zhidkov, N A Smirnov, J Chen, S I Kudryashov and I Goncharov	Belgorod State National Research University, Belgorod; Lebedev Physical Institute, Moscow; Belgorod State Technological University named after V. G. Shukhov, Belgorod, Russia
MIP-1064	Technologies and software for the regional catalog of Russian spacecraft satellite data	A A Kadochnikov and O E Yakubailik	Institute of Computational Modelling SB RAS; Federal Research Center Krasnoyarsk Science Center of the SB RAS, Krasnoyarsk, Russia
MIP-1065	Atomic force microscopy and Mössbauer spectroscopy of magnetically active silicone elastomers	H H Valiev, V M Cherepanov, Yu N Karnet, A Ja Minaev and G V Stepanov	Federal budget - funded research Institute of applied mechanics of the Russian Academy of Sciences; National Research Center "Kurchatov Institute"; Federal budget - funded research Institute of Machines Science named after A.A. Blagonravov of the Russian Academy of Sciences; SSC Joint Stock Company "State Research Institute of Chemistry and Technology of Organoelement Compounds". Moscow, Russia
MIP-1066	Technology of producing nanomaterials and their use	A. Kairatuly, T.T. Aitassov, E.A. Ospanbekov, G. Partizan, D.S. Kerimbekov, D.V. Ismailov	Abai Kazakh National Pedagogical University; Al-Farabi Kazakh National University, Almaty, Kazakhstan
MIP-1067	Comparison of apparatus and methods for tactile marking of polymeric films with Braille alphabet	E P Cherkasov, M V Konovalova and A P Kondratov	Moscow Polytechnic University, Moscow, Russia
MIP-1068	Damping control system design for SamSat nanosatellite platform	A V Kramlikh, I A Lomaka and P N Nikolaev	Samara University, Samara, Russia
MIP-1069	Tribological tests of micro-arc oxidation coatings in environmentally safe lubricants	V N Malyshev, N S Poches and N Dörr	National University of Oil and Gas "Gubkin University", Moscow, Russia; AC2T research GmbH, Wiener Neustadt, Austria
MIP-1070	The effect of space weather on the ionosphere at the 15° meridian during CAWSES-II	O Maltseva and T Nikitenko	Southern Federal University, Rostov-on-Don, Russia

MIP-1071	Reducing Noises Of High-Speed Bi-JFET Charge-Sensitive Amplifiers During Schematic Design	O V Dvornikov, V A Tchekhovski, N N Prokopenko and I V Pakhomov	Minsk Research Instrument-Making Institute JSC (MNIPI JSC), Minsk, Belarus; Belarusian State University, Minsk, Belarus; Don State Technical University, Rostov-on-Don, Russia; Institute for Design Problems in Microelectronics of Russian Academy of Sciences, Zelenograd, Russia; Don State Technical University, Rostov-on-Don, Russia
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Section 2. Mechanical and Automation Engineering for Industry 4.0

MIP-2001	Prediction of service life of auto-tractor engine parts	Y A Shekikhachev, V I Batyrov, L Z Shekikhacheva, A L Bolotokov and H L Gubzhokov	Kabardino-Balkarian state agricultural university named after V.M. Kokov, Nalchik, Russia
MIP-2002	Technological innovations in bread production in the Arctic	N A Ermoshin, S A Romanchikov	Peter the Great St.Petersburg Polytechnic University, Saint-Petersburg, Russia, Military Academy of logistics named after General A. V. Khrulev (St. Petersburg)
MIP-2003	Features of the modular principle of constructing and manufacturing tools	E M Bolotina, S A Parshina	Moscow Polytechnic University, Moscow, Russia
MIP-2004	Application prospects of ASM 4603-SA surfacing material modified with hard-melting components for reconstruction of rollers for continuous casting machines	A V Makarov, A E Kudryashov, A A Vladimirov, A P Titova and N E Avdeeva	Stary Oskol Technological Institute named after A.A. Ugarov (branch) NUST MISIS, Stary Oskol; NUST MISIS, Moskow, Russia
MIP-2005	Improving the Durability of Machine Parts Connections	A K Apazhev, Y A Shekikhachev, A M Egozhev, L Z Shekikhacheva and A A Egozhev	Kabardino-Balkarian state agricultural university named after V.M. Kokov, Nalchik, Russia
MIP-2006	Robotic facilities resources of the future mechatronic factories	A V Shukalov, D A Zakoldaev, I O Zharinov, O O Zharinov	ITMO University, Saint Petersburg; Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg, Russia
MIP-2007	Influence of leakage on characteristics of the vacuum transport unit based on the water-ring pump	V A Naumov	Kaliningrad State Technical University, Kaliningrad, Russia
MIP-2008	Simulation and histogram modeling of conveyor systems	E D Guzha, V A Romanenko and M A Skorokhod	Samara National Research University, Samara, Russia

MIP-2009	Implementation of the nonlinear programming algorithm when optimizing the final turning mode	M G Galkin and A S Smagin	Ural Federal University, Ekaterinburg, Russia
MIP-2010	Base error for centerless grinding of spherical rolling elements	O P Reshetnikova, B M Iznaïrov, A N Vasin, N V Belousova and A V Panfilova	Yuri Gagarin State Technical University of Saratov, Saratov, Russia
MIP-2011	Mathematical model for changing the surface roughness of aluminum alloys when changing the final treatment modes	M G Galkin, A S Smagin and A S Poupyreva	Ural Federal University, Ekaterinburg, Russia
MIP-2012	Modular hardware platform for the development of IoT devices implemented using multi-chip packaging technology	D A Kirienko, P V Lunkov, V V Putrolaynen, S I Aryashev, and M A Belyaev	Petrozavodsk State University, Petrozavodsk, Russia; Scientific Research Institute of System Analysis, Moscow, Russia
MIP-2013	Small specialized digital manufacturing in mechanical engineering	V V Platonov, M M Sagalakova, V V Timchenko and E M Zheltobruhov	Khakassian Technical School, a branch of the Siberian Federal University
MIP-2014	Ensuring industrial safety of pipelines with developed hard sections	N V Zharinova* and M V Vakulenko	Department of Petroleum Engineering Technology, Ufa State Petroleum Technological University, 1, Kosmonavtov st., Ufa 450062, Russian Federation
MIP-2015	Improving the quality of tightened joints of metal-cutting machines	A V Lipov, D V Kochetkov and G S Bolshakov	Penza State University, Penza, Russia
MIP-2016	Features of planning an automated production line of manipulator-type machines	A A Shabashov	Ural Federal University named after First President of Russia B.N. Yeltsin, Ekaterinburg, Russia
MIP-2017	The assessment of the radio tower bearing capacity during the installation of some additional equipment	Alexander P Mashtakov and Rustam R Khakimzyanov	Russian University Of Transport (MIIT), Moscow, Russia
MIP-2018	The combination feeder of a continuous-action loader for the bulk load	Rustam R Khakimzyanov and Alexander P Mashtakov	Russian University Of Transport (MIIT), Moscow, Russia

MIP-2019	Refinement of the procedure to determine durability of abrasive materials	O Pushkarev and Yu Bagaiskov	Volzhsky Polytechnic Institute (branch) of the Volgograd State Technical University, Volzhsky, Volgograd Region, Russia
MIP-2020	Equipment quality management based on a mathematical model to detail its life cycle	Yuliya N Savicheva and Anna A Enikeeva	Ufa State Petroleum Technological University, Ufa, Russian Federation
MIP-2021	About some automated processes in the production of dairy products	Y A Kozub, VI Komlatsky and TA Khoroshailo	Irkutsk State Agricultural University named after A.A. Ezhevsky; National Research Irkutsk State Technical University, Irkutsk; Kuban State Agrarian University named after I.T. Trubilin, KrasnodarRussia
MIP-2022	Identification of electrical equivalent circuits of research objects by phase-frequency characteristics	S N Medvedeva, V I Chernetsov, M V Chernetsov and M M Chernetsova	Penza State University, Penza, Russia; Penza Cossack Institute of Technology (branch) of K.G. Razumovsky Moscow State University of Technologies and Management (the First Cossack University), Penza, Russia; Penza State Technological University, Penza, Russia; Bauman Moscow State Technical University, Moscow, Russia
MIP-2023	Applications of fatigue gauges for detection of subsurface cracks and defects	S G Tyutrin	Kurgan State University, Kurgan, Russia
MIP-2024	Digital Management by Supply Networks in Engineering	Vyacheslav V Provotorov, Denis V Danilevich, Aleksandr A Fedotov, Sergey M Sergeev and Oleg Ja Kravets	Voronezh State University, Orel state university, Peter the Great St. Petersburg Polytechnic University, Voronezh State Technical University
MIP-2025	Tests in the insulating cameras of the improved separator	M T Khodjiev, O J Murodov, D D Eshmurodov, D A Eshnazarov	Gulistan State University, Gulistan; Institute of retraining and advanced training of public education workers, Tashkent; Tashkent Institute of Textile and Light Industry, Tashkent; Tashkent Institute of Textile and Light Industry, Tashkent, Uzbekistan
MIP-2026	Improving the quality of lint by strengthening the cleaning of cotton seeds from waste	Kh J Abdugaffarov, A A Safoev, O J Murodov	Tashkent Institute of Textile and Light Industry, Tashkent; Tashkent Institute of Textile and Light Industry, Tashkent; Researcher of the Institute of retraining and advanced training of public education workers, Tashkent, Uzbekistan.
MIP-2027	The influence of the location of the cells on the allocation of weed impurities for cleaning raw cotton from fine waste	Ozod Rajabov, Fazliddin Kurbonov, Mastura Gapparova, Shakhriillo Jumaev	Bukhara engineering-technological institute, Bukhara, Uzbekistan
MIP-2028	The use of neural network technologies to optimize the shape of an object during mass transfer of air	N N Chernov, A V Kovalev, A V Palii, A V Sayenko and A M Maevskiy	Southern Federal University, Rostov-on-Don, Russia

MIP-2029	Durability increase of mining dump trucks through the use of protective coatings of the body	Y A Lagunova, S A Khoroshavin and A E Kalyanov	Ural Federal University named after the first President of Russia B.N. Yeltsin, Ural State Mining University, Ekaterinburg, Russia
MIP-2030	On preventing resonance condition in operation of rotary excavators	Ya L Liberman and O A Lukashuk	Ural Federal University, Ekaterinburg, Russia
MIP-2031	The equipment for measuring the solubility of granulated and liquid types of substances in a supercritical fluid	M R Khazipov, G S Sagdeeva, I L Pastushenko, A A Sagdeev, A T Galimova, A B Mikhaylov	Nizhnekamsk Institute of Chemical Technology (branch) KNRTU, Nizhnekamsk, Russia
MIP-2032	Improving aerodynamic characteristics for drag reduction of heavy truck	A A Markina, A D Lukashuk, S N Chepkasov and A V Starovoytenko	Ural Federal University; Rival Production LLC, Yekaterinburg, Russia
MIP-2033	Computing exact factors for two-sided tolerance limits in a normal distribution with unknown parameters in MATLAB	N M Borbatc, N Yu Chistokletov and T V Shkolina	Bryansk State Technical University, Bryansk, Russia
MIP-2034	Method of thermal treatment of saw disk teeth of fiber-processing machines by laser quenching	Akbar Abrorov, Matluba Kuvoncheva, Ozod Rajabov, Mukhsin Mukhammadov, Shakhrillo Jumaev	Bukhara engineering-technological institute, Bukhara, Uzbekistan
MIP-2035	The criterion power for identifying symmetric models	Vitaly Germanovich Polosin	Medicine Cybernetics and Computer Science Department, General Medicine Faculty, Penza State University,
MIP-2036	Study of performance criteria of experimental tumbling bodies	D B Shatko, V S Lyukshin and P A Strelnikov	T F Gorbachev Kuzbass State Technical University, Kemerovo, Russia
MIP-2037	The methodology of a part lifetime calculation	L A Chumakova, M Y Bulganina and A S Alexandrova	FSAEI HE "Ural Federal University", Mira St.,19, Yekaterinburg, Russian Federation, 620002
MIP-2038	Hydroabrasive machining of internal channels of parts obtained by SLM	A V Balyakin, E S Goncharov	Samara National Research University

MIP-2039	The study of the stress-strain state of the elements of the flange connection under the influence of internal pressure	R B Tukaeva, M I Bayazitov and A A Enikeeva	Ufa State Petroleum Technological University, Ufa, Russia
MIP-2040	Development of a flange connection model to study the effect of uneven bolt tightening forces on the stress-strain state	R B Tukaeva, M I Bayazitov and A A Enikeeva	Ufa State Petroleum Technological University, Ufa, Russia
MIP-2041	Algorithm for calculating the technological parameters of the process of extrusion of rods from powder compositions based on iron	A P Polyakov, P A Polyakov	Federal State Autonomous Educational Institution of Higher Education «Ural Federal University named after the first President of Russia B.N.Yeltsin» Ural Federal University Ekaterinburg, Russia.
MIP-2042	Loading of satellite bearing of planetary cycloid gear by forces acting in meshing	E A Tchufistov and O E Tchufistov	Penza State University; Penza State Technological University, Penza, Russia
MIP-2043	Factor analysis in the lame problem (the problem of composite cylinders)	Vladislav F Kremyansky, Klasner Georgy Georgievich and Yaroslavtsev Daniel I	"Kuban State Agrarian University" Krasnodar, Russian Federation
MIP-2044	Formation and burning of soot particles in a diesel cylinder when working on ethanol-fuel emulsion	V A Likhanov and A A Anfilatov	Vyatka State Agricultural Academy, Kirov, Russia
MIP-2045	Simulation of the characteristics of the robotic transport devices	Anthony A Chigbu, Alexander D Danilov, Victor L Burkovsky, Konstantin Yu Gusev, Pavel Yu Gusev	Voronezh State Technical University
MIP-2046	Post-production lifecycle phases of the fifth technological paradigm based heavy equipment vehicles	V I Ignatov, A V Siroto, Ya V Tarlakov, A Yu Tesovskiy and A S Lapin	Federal State Budgetary Scientific Institution Federal Scientific Agroengineering Center VIM, Moscow, Russian Federation; Department of Process Automation, machinery and industrial safety, Mytishchi branch of Bauman Moscow State Technical University, Mytishchi, Moscow Region, Russian Federation
MIP-2047	The use of the planetary differential in the mechanisms of energy recovery	N N Barbashov, L R Abdullina, I N Ilyushkov and I E Bolotov	Bauman Moscow State Technical University, Moscow
MIP-2048	Influence use of methanol in the engine on content nitrogen oxides and soot in the exhaust gases	V A Likhanov and A A Anfilatov	Vyatka State Agricultural Academy, Kirov, Russia

MIP-2049	An experimental study of the location of the grid bars cells installed under spiked cylinders in a cotton cleaner from small waste	O I Rajabov, A S Abrorov, N I Mirzaqulova, G B Zaripov, Kh S Ziyodullaeva	Bukhara Engineering Technological Institute, Bukhara, Uzbekistan
MIP-2050	Mathematical model of the formation and burning of soot particles in a diesel cylinder during operation on an EFE	V A Likhanov and A A Anfilatov	Vyatka State Agricultural Academy, Kirov, Russia
MIP-2051	The path planning method for anthropomorphic manipulator for avoidance an obstacle approximated by a parallelepiped	V I Petrenko, F B Tebueva, V O Antonov, M M Gurchinsky and U V Zavolokina	North-Caucasus Federal University, Stavropol, Russia
MIP-2052	The results of the influence of methanol on the effective performance of a diesel engine when working with DFS	A A Anfilatov and A N Chuvashv	Vyatka State Agricultural Academy, Kirov, Russia
MIP-2053	Research of influence of errors of cam manufacturing on the law of motion of output element	D M Samsonenko, V A Khudoyarov, N N Barbashov, L R Abdullina and D M Potapov	Bauman Moscow State Technical University, Moscow
MIP-2054	Digital control systems for asynchronous electrical drives with vector control	O A Jumaev, R R Sayfulin, A R Samadov, E I Arziyev and E O Jumaboyev	Navoi State Mining Institute, Department of Automation and Control, Faculty of Automation, Navoi, Uzbekistan
MIP-2055	Theoretical calculations of the volume content of nitrogen oxides in a diesel cylinder when operating on methanol	A A Anfilatov and A N Chuvashv	Vyatka State Agricultural Academy, Kirov, Russia
MIP-2056	Semantic segmentation in flaw detection	L A Kotyuzanskiy, N G Ryzhkova and N V Chetverkin	Ural Federal University, Yekaterinburg; LLC "Nexus", Artemovsky, Russian Federation
MIP-2057	Kinematic Analysis Anthropomorphic Gripper with Group Drive	V I Petrenko, F B Tebueva, M M Gurchinsky, A S Pavlov, V O Antonov and S S Ryabtsev	North-Caucasus Federal University, Stavropol, Russia
MIP-2058	Finish machining of gear wheels in a progressive manner	I A Vorobev, V A Belyakova and M V Ushakov	Tula State University

MIP-2059	Methods for assessing the strength of the blades of soil-cutting parts of forestry machines	V I Kretinin, V A Sokolova, V A Markov and A V Teppoev	Saint-Petersburg State Forest Technical University
MIP-2060	Application of thermal effect as a means to combat ground-and-machine part adhesion	S A Zenkov	Bratsk State University, Bratsk, Russia
MIP-2061	The digital twin of a warehouse robot for Industry 4.0.	Alexander A Fedotov, Sergey M Sergeev, Elena N Provotorova, Tatyana V Prozhogina, Olga Yu Zaslavskaya	Orel State university, Peter the Great St. Petersburg Polytechnic University, Voronezh State Technical University, Moscow City University
MIP-2062	Control algorithms and capabilities of universal UAV	Vladimir V Mitrashchuk and Marina P Baranova	FSBEI HE Krasnoyarsk State Agrarian University, Krasnoyarsk City, Russia
MIP-2063	Theoretical justification of the feed preparation technology by the gear pelletizer	V Yu Frolov, E E Samurganov, G E Samurganov	Kuban State Agrarian University named after I.T. Trubilin, Krasnodar, Russia
MIP-2064	Program control of the group of boilers at chp plants (chpps)	Ya A Sokolov, Ya I Shamlitsky, D A Korchikov, D A Semidotskiy, D A Boyko and I V Rozmanov	Reshetnev Siberian State University of Science and Technology
MIP-2065	Digital solution to the problem of flow control in mechanical engineering production	Tatyana V Prozhogina, Vyacheslav V Provotorov, Larisa N Borisoglebskaya, Alexey A Zaslavskiy	Voronezh State University, Orel State university, Moscow City University
MIP-2066	Wood Gas Generator management System for Vehicles	A.A. Popov, E.M. Gritsenko and S. A. Nosyrev	Reshetnev Siberian State University of Science and Technology
MIP-2067	Analysis of class groups in the San Francisco Crime Classification problem	D A Petrusevich	Russian Technological University
MIP-2068	Method for determining damping coefficient, characteristic friction force in the needle mechanism	I M Rakhmonov, L P Uzakova, D N Naimova, J O Otamurodov, N Z Adizova	Bukhara Engineering – Technological Institute, Bukhara, Uzbekistan

MIP-2069	Estimating the effect of instrument accuracy on the accuracy of mathematical modeling of quality indicators of oil treatment for transportation	S B Konygin, D V Konovalenko and D A Kryuchkov	Samara State Technical University, Samara, Russia
MIP-2070	Justification for the introduction of in-line diagnostics technology for field pipelines	Yu N Savicheva, E I Nafikova, K S Davletchina and K Yu Sandyrev	Ufa State Petroleum Technological University, Ufa, Russia
MIP-2071	Digital technologies in mechanical engineering: perspectives, risks	A I Borisov, S E Yakovlev	Federal State Autonomous Educational Institution of Higher Education "M. K. Ammosov North-Eastern Federal University", Yakutsk, Republic of Sakha (Yakutia), Russia
MIP-2072	Controlling the periodicity of grinding wheel dressing with the application of expert decision support system	E M Samoilova, M Yu Zakharchenko, M V Vinogradov, M G Babenko, A A Ignatiev, S V Slesarev, V A Melentiev and L G Bokova	Yuri Gagarin State Technical University of Saratov, Saratov, Russia
MIP-2073	New methods of processing of Cuban nickel ores and technogenic slimes	V Yu Bazhin, A N Nikolaev, A B Turro	Saint- Petersburg Mining University, St. Petersburg, Russia,
MIP-2074	Low pass anti-alias filter for ADC with differential input on base Op-Amp with differential output with a minimum number of capacitors	D Yu Denisenko, N N Prokopenko and N V Butyrlagin	Don State Technical University, Rostov-on-Don, Russia; Southern Federal University, Rostov-on-Don, Russia; Institute for Design Problems in Microelectronics of Russian Academy of Sciences, Zelenograd, Russia
MIP-2075	The influence of manufacturing errors of cases on their assembly	A S Yamnikov, E N Rodionova and I A Matveev	FSBEI of HE "Tula State University", Tula, Russia; JSC "NPO" SPLAV "named after A.N. Ganicheva, Tula, Russia
MIP-2076	Cobots and the benefits of their implementation in intelligent manufacturing	Rinat Galin, Roman Meshcheryakov, Saniya Kamesheva, Anna Samoshina	V A Trapeznikov Institute of Control Sciences of the Russian Academy of Sciences
MIP-2077	Simulation of partial oxidation of natural gas in a resource-saving reactor mixer	V Yu Bazhin, V E Trushnikov, A P Suslov	Saint Petersburg Mining University
MIP-2078	Development of a project for automated control systems for transshipment process of products at the warehouse of bulk goods production	N I Gdanskiy, J A Filinskaya and G R Grigoryan	K.G. Razumovsky Moscow State University of technologies and management (the First Cossack University)», Moscow, Russia

MIP-2079	Review of modern software complexes and digital twin concept for forecasting emergency situations in oil and gas industry	K N Abdrakhmanova, A V Fedosov, K R Idrisova, N Kh Abdrakhmanov, and R R Valeeva	Ufa State Petroleum Technological University, Ufa, the Russian Federation
MIP-2080	Regulatory systems aimed at providing safety on railway transport	Rustam R Khakimzyanov, Alexander P Mashtakov and Sergey V Nesterov	Russian University of Transport (MIIT), Moscow; JSC "VMP" Vyksa metallurgical plant, Vyksa, Nizhniy Novgorod region, Russia
MIP-2081	The Digital Twin Technology and its Role in Manufacturing	V S Magomadov	Chechen State University
MIP-2082	Research of efficiency of influence of ultrasonic treatment on asphalt and paraffin oil deposits	A G Palaev and E R Dzhemilev	St. Petersburg Mining University, Department of Transport and Storage of Oil and Gas, Saint Petersburg, Russia
MIP-2083	Steering actuator based on a ball screw with a separator	R R Abdulin, V V Bolshakov, V A Podshibnev and S L Samsonovich	Joint Stock Company "Avionica"; Moscow Aviation Institute, Moscow, Russian Federation
MIP-2084	Mathematical and computer modeling of a planar mechanism with a certain number of links	T N Mikhaschenko, M V Gavrilchik, V V Safronov and P V Sidorov	Kurgan state university, Kurgan, Russia
MIP-2085	Determining a numerical efficiency indicator for a mobile bricklaying robot	A V Malakhov, D V Shutin and K V Marfin	ProjectMarket LLC; Orel State University named after I.S. Turgenev, Orel, Russia
MIP-2086	Selection of the optimal configuration of a signal transmission system through a rock depending on the mine geological structure	Kokhonkova E.A., Kudinov D.S., Neverov A.S., Romanov V.V.	Siberian Federal Univeristy
MIP-2087	Theoretical grounds for the propagation of electromagnetic waves of low-frequency (URL) in low-resistivity rocks	Kudinov D.S., Maykov O.A. E. A Kokhonkova, Romanov V.V.	Siberian Federal Univeristy
MIP-2088	Analysis of load distribution unevenness in ball screw with a separator	R R Abdulin, V V Bolshakov, V A Podshibnev и S L Samsonovich	«Avionica» Joint Stock Company; Moscow Aviation Institute, Moscow Russia
MIP-2089	Study of the nature of destruction of castings made of 35HGSL steel after a long service life	M L Skryabin and M S Poyarkov	Vyatka State Agricultural Academy, Kirov, Oktyabrsky prospect, 133, 610017 Russia

MIP-2090	Development and analysis of tool design for precision blind holes	V A Yakovlev, A E Tretyakov	North-Eastern Federal University, Yakutsk; North-Eastern Federal University, Yakutsk, Russia
MIP-2091	Research of stability of rotor of the knife grinding refiners	S N Vikharev	Department of technical mechanics and the equipment of pulp and paper industry, Ural State Forest Engineering University, Siberian tract, 37, Ekaterinburg, 620100, Russia
MIP-2092	Algorithms for replacing tools on multifunctional metal-cutting equipment	G V Shadskiy and I N Isakov	Tula State University; KBP named after Academician A. Shipunov, Tula, Russia
MIP-2093	Visualization of Metalworking processes in the development of simulation programs for equipment with numerical control	Alexey N Yurov, Mikhail I Chizhov, Alexey V Bredikhin, Valery V Lavlinskiy	Voronezh State Technical University, Voronezh State University of Forestry and Technologies named after G.F. Morozov
MIP-2094	Intensification of heat transfer by mixing in pyrolysis units during oil waste disposal	O A Kolenchukov, E A Petrovsky, A Yu Mikhaylov, K A Bashmur and N A Smirnov	Siberian Federal University; LLC «RN–Vankor»; Reshetnev Siberian State University of Science and Technology; Krasnoyarsk, Russia
MIP-2095	Analytical description of bulk temperature field Vegetal raw materials with internal heat sources	Elena I Verboloz, Dmitry S Raspopov, Anna G Leu, Olga I Nikolyuk, and Valeriy V Pelenko	St. Petersburg National Research University of Information Technologies, Mechanics and Optics, St. Petersburg; The General Command of the Navy, St. Petersburg, Russia
MIP-2096	Fault-tolerant nondestructive control of the stress-strain state of the load-bearing elements of pantograph lifts	V S Kalinichenko and Yu A Vlasov	Tomsk State University of Architecture and Building, Tomsk, Russia
MIP-2097	Assignment of dimensional accuracy parameters of parts during assembly of aircraft repair engines	I A Grachev, M A Bolotov, E V Kudashov and V A Pechenin	Samara National Research University, Institute of Engines and Power Plants, Samara, Russia
MIP-2098	Peculiarities of choice of materials for pistons of heat engines	M L Skryabin and S M Kuklin	Vyatka State Agricultural Academy, Kirov, Russia
MIP-2099	Calculation of parameters for altering the ship's course at sea using Artificial Neural Network (ANN)	Thai Duong Nguyen, Trong Duc Nguyen	Vietnam Maritime University, Hai Phong, Vietnam
MIP-2100	Active hybrid bearings as mean for improving stability and diagnostics of heavy rotors of power generating machinery	D V Shutin and R N Polyakov	Orel State University named after I.S. Turgenev, Orel, Russia
MIP-2101	The technology of manufacture of the pistons of the heat engine by the method of liquid stamping	M L Skryabin and M S Poyarkov	Vyatka State Agricultural Academy, Kirov, Russia

MIP-2102	Empirical modeling of cutting force from technological factors in hard turning of 105WCr6 steel	D A Rastorguev and A A Sevastyanov	Togliatti State University, Togliatti City, Russian Federation
MIP-2103	The Industrial Internet of Things as one of the Main Drivers of Industry 4.0	V S Magomadov	Chechen State University
MIP-2104	Doubly fed inductor electric drive model for automation systems	Sergej Bronov, Elena Stepanova, Pavel Avlasko, Nikolaj Nukulin, Darya Krivova and Aleksej Bisov	Siberian Federal University; Krasnoyarsk State Agrarian University, Krasnoyarsk, Russia
MIP-2105	Change of magnetic properties of metal in the zone of stress concentrator	L V Khajbullina	Ufa state petroleum technological university, Ufa, Russian Federation
MIP-2106	The method for determining the profile of large diameter pipes and the optimal technological mode during calibration-bending in the weld zone	D C Nguyen, D B Efremov	National University of Science and Technology MISIS, Moscow, Russia
MIP-2107	Experimental verification of the adequacy of a theoretical model of draft accuracy performed on a hydraulic press	A G Vyatkin and A A Vyatkin	Bauman Moscow State Technical University. The Kaluga branch. Kaluga Russia; Bauman Moscow State Technical University. The Kaluga branch. Kaluga Russia
MIP-2108	The effect of thermal feedback and statistical technological dispersion of microcircuits parameters on their thermal modes	Alexander G. Madera	Scientific Research Institute for System Analysis of the Russia Academy of Sciences, Moscow, Russia
MIP-2109	Research on the disinfection of livestock wastes by ultrasound	T.A. Storozhuk, G.G. Klasner and M.Yu. Tyunin	«Kuban State Agrarian University» Krasnodar, Russian Federation
MIP-2110	Geometric calculation of planetary rotor hydraulic machines	D A Kurasov	Kurgan State University, Kurgan, Russia
MIP-2111	Low Temperature and Radiation Resistant JFET Differential Amplifiers Circuits Synthesis with Increased Common-Mode Rejection Ratio	N N Prokopenko, I V Pakhomov and A A Zhuk	Don State Technical University, Rostov-on-Don, Russia; Institute for Design Problems in Microelectronics of Russian Academy of Sciences, Zelenograd, Russia
MIP-2112	Hydrostatic supports in test and measuring equipment	L V Strok, V S Sekatsky, N V Merzlikina, Yu A Pikalov and I A Kaposhko	Siberian Federal University
MIP-2113	Development of a mathematical model and analysis of the receiver for emergency alerts in a mine	Kudinov D.S., Maikov O.A., Kokhonkova E.A. Potylitsyn V.S.	Siberian Federal University
MIP-2114	Application of artificial neural networks to fault diagnostics of rotor-bearing systems	N V Kornaevev, E P Kornaeveva and L A Savin	Orel State University named after I.S. Turgenev, Orel, Russian Federation

MIP-2115	Approaches to building population registers in special automation systems	A V Vlasov and B B Kravets	Voronezh Regional Clinical Oncology Center, Voronezh State Medical University named after N.N. Burdenko, Voronezh, Russian Federation
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Section 3. Cybernetics, Economics and Organization of Mechanical Engineering Production

MIP-3001	Assessing energy efficiency factors in industrial companies	N R Kelchevskaya, E V Shirinkina and I V Atlasov	Ural Federal University named after the first President of Russia B.N. Yeltsin, Surgut State University, Moscow University of the Ministry of internal Affairs of the Russian Federation named after V. J. Kikot
MIP-3002	Engineering and manufacturing methodology of multi-robots collaboration model synthesis	A V Gurjanov, A V Shukalov, D A Zakoldaev, I O Zharinov	Stock Company «Experimental Design Bureau «Electroavtomatika» named after P A Yefimov, Saint Petersburg; ITMO University, Saint Petersburg, Russia
MIP-3003	The e-objects family in simulation of mechatronic facilities	D A Zakoldaev, A V Shukalov, I O Zharinov, O O Zharinov	ITMO University, Saint Petersburg; Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg, Russia
MIP-3004	Development of a methodology for identifying and modeling business processes for organizing information support	P N Charikov	Ufa State Petroleum Technological University, Branch in Sterlitamak, Sterlitamak, Russian Federation
MIP-3005	System models of organization the use of computer equipment for mechanical engineering production	Roman Aleksandrovich Uchaikin, Sergey Pavlovich Orlov, Alexandr Victorovich Burkovsky	Samara State Technical University, Voronezh State Technical University
MIP-3006	Creation of innovative infrastructure of territories as a factor in reducing regional polarization	V I Tikhii, O V Koreva, EE Afanasieva, N.A.Gusarova	Orel state University n.a. I. S. Turgenev, Orel, Russia
MIP-3007	Implementation of machine learning algorithms in the Sloan Digital Sky Survey DR14 analysis	D A Petrusevich	Russian Technological University
MIP-3008	Analysis of big data processing technologies	T Q Urazmatov, B B Nurmetova and X Sh Kuzibayev	Urgench branch of Tashkent University of Information Technologies, named after Muhammad Al-Khwarizmi Department of "Information technologies"

MIP-3009	Methods for choosing state stimulation forms of investing the high-tech production for civilian purposes	E Yu Smolina and Yu N Malanina	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk; Irkutsk State Transport University, Irkutsk, Russia
MIP-3010	Modeling and typologization of rural areas by the level of agricultural production development and the population density farms	D A Korobeynikov, N V Ivanova, M A Ovchinnikov, E A Kolpakova and K E Tokarev	Volgograd State Agricultural University, Volgograd, Russia; Volgograd State Technical University, Volgograd, Russia
MIP-3011	The rationalization model of the use of enterprise resources	A A Lubnina, S A Bashkirtceva, M V Rajskeya and R N Zaripov	Kazan National Research Technological University, Kazan, Russia
MIP-3012	Management of innovative activity in conditions of intensive development	A V Nikonorova	Moscow Witte University
MIP-3013	Coaching in energy efficiency control of manufacturing	V V Tsyganov	V.A. Trapeznikov Institute of Control Sciences, Moscow, Russia
MIP-3014	Monitoring of functional cost analysis parameters of enterprise personnel processes	T P Mozhaeva, A Z Simkin and A S Proskurin	Bryansk State Technical University
MIP-3015	Outrunning planning by network management in Industry 4.0 concept	Vyacheslav V Provotorov, Leonid B Raijhelgauz, Aleksandr A Fedotov, Stanislava N Makarova and Oleg Ja Kravets	Voronezh State University, Orel state university, Voronezh State Technical University
MIP-3016	Regulatory aspects of import substitution in the oil and gas sector of Russia	V Ya Kershenbaum, T A Guseva, A Yu Moroz and V N Ageeva	National University of Oil and Gas «Gubkin University», Moscow, Russia
MIP-3017	Problems of assessing the effectiveness of public administration in the innovative development of a resource-oriented region	D O Volkov, N T Avramchikova, I P Rozhnov, Y A Anikina	Administration of the Krasnoyarsk region governor; Reshetnev Siberian State University of Science and Technology
MIP-3018	Definition of factors limiting the growth of industrial production	D E Morkovkin, A A Gibadullin, B G Safarov and E A Alpatova	Financial University under the Government of the Russian Federation, Moscow, Russia; State University of Management, Moscow, Russia; The Tajik state university of finance and economics, Dushanbe, The Republic of Tajikistan; Don State Technical University, Rostov-on-Don, Russia

MIP-3019	Decision making support for the development of new products based on Big Data technology	A I Shinkevich, I A Zaraychenko, R P Ivanova and E L Vodolazhskaya	Department "Logistics and Management", Department of business statistics and Economics, Kazan National Research Technological University, K.Marx Street, 68, Kazan 420015, Russia
MIP-3020	The problems of the machine-building enterprise economic development	T A Makarenya and A Yu Kazanskaya	Federal State Autonomous Educational Institution of Higher Professional Education "Southern Federal University", Taganrog, Russia
MIP-3021	Semantic analysis implementation in engineering enterprise content management systems	Anton V Ivaschenko, Anastasia A Stolbova, Daniil N Krupin, Arkadiy V Krivosheev, Pavel V Sitnikov and O Ja Kravets	Samara State Technical University, Samara, Samara National Research University, Samara, SEC "Open code", Samara, Voronezh State Technical University, Voronezh, Russian Federation
MIP-3023	Ensembles of criteria for determining the number of homogeneous groups in a combined batch of industrial production	I P Rozhnov, L A Kazakovtsev, M V Karaseva, A A Stupina, E V Lapunova	Reshetnev Siberian State University of Science and Technology; Siberian Federal University; Krasnoyarsk State Agrarian University, Krasnoyarsk, Russia
MIP-3024	Conceptual foundations of the mechanism for forming the strategy of innovative development of the industrial complex	A S Tazetdinova and T A Bayaskalanova	Corporate Property and Transaction Department, Joint Stock Company "Verkhnechonskneftegaz"; Management Department, Federal State Budget Educational Institution of Higher Education "Irkutsk National Research Technical University", Irkutsk, Russia
MIP-3025	System analysis of the cognitive radio system operation algorithm efficiency	Gregory A Blagodatsky, Andrej N Kopysov, Vladimir V Khvorenkov and Ivan S Baturin	Izhevsk State Technical University named after Kalashnikov
MIP-3026	ALGORITHM FOR DETERMINING THE COEFFICIENTS OF THE INTERPOLATION POLYNOMIAL OF NEWTON WITH SEPARATED DIFFERENCES	N A Niyozmatova, N Mamatov, A Samijonov, B Abdukadirov, B M Abdullayeva	Tashkent University Information Technologies named after Al-Kharezmi, Tashkent, Uzbekistan, Namangan State University, Namangan, Uzbekistan
MIP-3027	Models and algorithm for managing of the human capital development in a digital transformation of the machine-building enterprise	Yu V Bondarenko, T V Azarnova, I L Kashirina, A L Uhin and A N Sunteev	Voronezh State University, Voronezh State Technical University, Samara State Technical University
MIP-3028	Mathematical Model of Heart Sounds	Ivan Zemlyakov, Dmitry Zhdanov, Yana Kostelev, Anton Seleznev and Artem Bureev	Limited Liability Company Diagnostica+, Tomsk, 634029, Russian Federation

MIP-3029	Study of the impact of the life cycle of aircraft engines on the strategy of an engineering enterprise	Alexey I Tikhonov	Moscow Aviation Institute (National Research University) Moscow, Russia
MIP-3030	The principles of adaptive control of a technical system using Cetlin probabilistic automata	V I Petrenko, F B Tebueva, V O Antonov, V N Smykova and V E Nechvoloda	North-Caucasus Federal University, Stavropol, Russia
MIP-3031	Assessment of planning methods at job-order manufacturing facilities	Aleksandr S Kuznetsov, Elena E Noskova	Siberian Federal University, Krasnoyarsk, Russia
MIP-3032	Digital algorithms for supply chain automation of mechanical engineering production	Larisa N Borisoglebskaya, Sergey M Sergeev, Elena N Provotorova, Alexey A Zaslavskiy	Orel State university, Peter the Great St. Petersburg Polytechnic University, Voronezh State Technical University, Moscow City University
MIP-3033	Methods of decomposition of Boolean functions	N I Gdanskiy and A A Denisov	K.G. Razumovsky Moscow State University of technologies and management (the First Cossack University), Moscow, Russia
MIP-3034	Modern benchmarks in educational process for economics and organization of mechanical engineering production	Yelena Yu Lukyanova	V.I. Vernadsky Crimean Federal University, Simferopol, Russia
MIP-3035	UNCONDITIONAL DISCRETE OPTIMIZATION OF LINEAR-FRACTIONAL FUNCTIONAL "-1" -ORDER	N A Niyozmatova, N Mamatov, A Samijonov, Naibakhon Mamadalieva and B M Abdullayeva	Tashkent University Information Technologies named after Al-Kharezmi, Tashkent, Uzbekistan, Namangan State University, Namangan, Uzbekistan
MIP-3036	Method of forming of the program of issue of competitive products of machine-building industry.	Olga I Antamoshkina, Olga V Zinina, Artem O Stupin	Krasnoyarsk State Agrarian University, Siberian Federal University, Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russia
MIP-3037	Economic and mathematical analysis of efficiency leasing in the electronic industry	Yu V Kirillov	Novosibirsk State Technical University, Novosibirsk, Russian Federation
MIP-3038	The role and place of technology parks in the innovation infrastructure of the region	Y V Erygin, F P Shumakov and N A Shumakova	Reshetnev Siberian State University of science and technology, Krasnoyarsk

MIP-3039	Assessment of technical level of new, promising models of equipment at the stage of their development in modern engineering practice	I L Skripnick, Y G Ksenofontov, T T Kaverzneva, N V Rumyantseva and V V Kiss	Saint-Petersburg University of State Fire Service of Emercom of Russia, Peter the Great St. Petersburg Polytechnic University, Saint-Petersburg National Research University of Information Technology, Mechanics and Optics, St. Petersburg, Russia
MIP-3040	Intelligent quality management tools for digital production and knowledge management system for their application	A N Chesalin, S Ya Grodzenskiy, M Yu Nilov and Pham Van Tu	MIREA - Russian Technological University
MIP-3041	Formation of a model of information technology platform for the development of foreign trade potential as the basis for the technological development of engineering enterprises	Galina Belyakova, Sergey Belyakov, Darya Fokina and Anastasiya Shpak	Siberian Federal University, Siberian State University of Science and Technology, Krasnoyarsk, Russia
MIP-3042	Edge detection in non-linear scalable space	D V Parfenov, D A Petrusevich, E V Sherstnev	Russian Technological University
MIP-3043	Organizing the cash flow management in the construction industry in the Russian Federation	K V Ketova, I G Ruyak, E V Kasatkina, E A Saburova and D D Vavilova	Kalashnikov Izhevsk State Technical University, Izhevsk, Russia
MIP-3044	Algorithm for building a group incentive system in the implementation of engineering projects	Sergey A Barkalov, Vladimir N Burkov, Irina V Burkova and Pavel N Kurochka	Voronezh State Technical University, Institute of Control Sciences named by V.A. Trapeznikov of Russian Academy of Sciences
MIP-3045	Clustering of Covid-19 morbidity cases in Germany	D A Petrusevich	Russian Technological University
MIP-3046	Omni-channel customization of industrial production	D A Guryanova, A V Guryanov, I O Zharinov	LLC «Yandex.Taxi», Moscow; Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg; ITMO University, Saint Petersburg, Russia
MIP-3047	The analysis of changes in the payroll of information system support specialists during the Devops methodology implementing	I Aliev, S Gazul and A Bobova	St. Petersburg State University of Economics
MIP-3048	Modeling control of industrial organizations based on rating approach	I Ya Lvovich, Ya E Lvovich, A P Preobrazhenskiy, Yu P Preobrazhenskiy, O N Choporov	Voronezh institute of high technologies, Voronezh, Russia Voronezh state technical university, Voronezh, Russia

MIP-3049	Ergonomics of the workplace in the lean production system	N V Vadulina, N Kh Abdrahamanov, A V Fedosov, Yu N Savicheva and I D Khlopina	Ufa state petroleum technological university, Ufa, Russian Federation; Bashkir State University, Ufa, Russian Federation
MIP-3050	Automation of Russian industry as an indispensable condition for sustainable economic development in the digital environment	Elena Avdeeva, Tatiana Averina, Tatiana Davydova and Evgeniya Zhutaeva	Voronezh State Technical University
MIP-3051	Factors determining the decision on spatial location of mechanical engineering production forces	A A Fefelov and Yu N Malanina	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk; Irkutsk State Transport University, Irkutsk, Russia
MIP-3052	Development of a proactive project monitoring model	Tatiana A Averina, Alexander Yu Glushkov, Sergey I Moiseev and Ludmila V Shevchenko	Voronezh State Technical University, Plekhanov Russian University of Economics (Voronezh branch)
MIP-3053	Long-term projecting in the local or territorial automation systems with alternative network models	Alexey V Potudinskii, Andrew V Vlasov and Dmitry V Lysov	Military Training and Scientific Center of the Air Force "Air Force Academy named after Professor N.E. Zhukovsky and Yu.A. Gagarin", Voronezh Regional Clinical Oncology Center, Voronezh State Technical University
MIP-3054	A model for forming the degree of influence of the counterparty when making managerial decisions in mechanical engineering	Sergey A Barkalov, Pavel N Kurochka, Natalia Yu Kalinina and Alla I Polovinkina	Voronezh State Technical University
MIP-3055	Face recognition methods	A I Dzhangarov and M A Suleymanova A L Zolkin	Chechen State University, Groznyy; Volga State University of Water Transport (Samara branch), Samara, Russia
MIP-3056	Overview of the evaluation methods for the interpretable business decision support model for cybernetics and organization of production	Dmitry A Zuev, Alexey P Kalistratov, Andrey G Zuev, Guennadiy I Afanasyev, Georgiy I Revunkov and Alexey V Potudinskii	Bauman Moscow State Technical University, Military Training and Scientific Center of the Air Force "Air Force Academy named after Professor N.E. Zhukovsky and Yu.A. Gagarin"
MIP-3058	Distribution method of different types of vehicles on the objects of internal works of the machine building enterprise	A V Selivanov, E V Belyakova and A A Ryzhaya	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russia
MIP-3059	Fundamentals of the economic growth of engineering enterprises in the face of challenges of the XXI century	A A Chursin, P Yu Grosheva and A V Yudin	RUDN University, Moscow, Russia

MIP-3060	Management model of a business union in service companies of aerospace industry	I A Smarzhevskiy, S Yu Murtuzalieva and Yu D Myakishev	RUDN University, Moscow; Murom Institute (branch) of Vladimir State University named after A.G. and N.G. Stoletovs, 23, Orlovskaya str., Murom, Vladimirskaya oblast', Russia
MIP-3061	Lean manufacturing - a method of managing a manufacturing enterprise	EL Moskvicheva, AM Mukhametshina, AN Erofeev and KV Savelyev	Department of Technosphere Safety and Production Certification of Samara State Technical University, Samara, Russia. Department of Chemistry and Technology of Organic Nitrogen Compounds of Kazan National Research Technological University, Kazan, Russia. Department of Standardization, Certification and Technological Management of the Kazan National Technical University, Kazan, Russia
MIP-3062	Ways of automation and optimization of measuring instruments	G G Nektgyaev and A I Borisov	Federal State Autonomous Educational Institution of Higher Education "M. K. Ammosov North-Eastern Federal University"
MIP-3063	Filtering in discrete systems with multiplicative perturbations and unknown input	K S Kim and V I Smagin	National Research Tomsk State University, Tomsk, Russia
MIP-3064	Method of synthesis of the information model of the judicial decision support system	L E Mistrov and A V Mishin	Russian State University of the Justice, Voronezh, Russia
MIP-3065	Automated Approach to Building the Multilingual Frequency Dictionary on System Analysis and Computer Technologies	I V Kovalev, M V Karaseva and A A Voroshilova	Siberian Federal University, Krasnoyarsk, Russia, China Aviation Industry General Aircraft Zhejiang Institute Co., Ltd, Reshetnev University, Krasnoyarsk, Russia, Krasnoyarsk State Agrarian University, Krasnoyarsk, Russia, Krasnoyarsk Science and Technology City Hall of the Russian Union of Scientific and Engineering Association, Krasnoyarsk, Russia
MIP-3066	Methodology of determining benchmarks and indicators characterizing the functioning of the enterprise quality management system	A V Kirov	MIREA - Russian Technological University, Moscow, Russia Federation
MIP-3067	Technical and economic feasibility of the on-board location system application for the aircraft and satellite communication system	I V Kovalev, A S Andronov, I N Kartsan and M V Karaseva	Siberian Federal University, Krasnoyarsk, China Aviation Industry General Aircraft Zhejiang Institute Co., Ltd, Reshetnev University, Krasnoyarsk, Krasnoyarsk complex aviation rescue center EMERCOM of Russia, Krasnoyarsk, Krasnoyarsk State Agrarian University, Krasnoyarsk, Russia

Section 4. Information Technologies, Reliability and Data Protection in Automation Systems

MIP-4001	Poly-model description of Industry 4.0 cyber-physical systems	D A Zakoldaev, A V Gurjanov, A V Shukalov, I O Zharinov	ITMO University, Saint Petersburg; Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg, Russia
MIP-4002	Conceptual model of the empirical data multidimensional presentation on the state of forming critical information infrastructure	A V Kalach, K O Burkova, T N Kulikova, E O Buharov and A N Scherbin	Voronezh institute of the Russian Federal Penitentiary Service, Russia; Voronezh State Technical University, Russia; Krasnodar Higher Military School, Russia, Krasnodar
MIP-4003	Contemporary state of the confidential information leakages through the cloud data repositories	A V Kalach, E A Timofeeva, D A Bakhteeva, D D Dayneko and VA Spirin	Voronezh institute of the Russian Federal Penitentiary Service, Russia, Voronezh; Voronezh State Technical University, Russia, Voronezh; Research Institute of the Federal Penitentiary Service of Russia, Moscow
MIP-4004	A parallel algorithm for extracting a face from an image	H N Zaynidinov, O U Mallaev and B B Anvarjonov	Tashkent university of Information technologies named after Muhammad al-Khwarizmi(TUIT)
MIP-4005	Analysis of routing processes in telecommunication networks with unsteady flows using Markov processes	Oleg Ja Kravets, Sergey V Shaytura, Alina M Minitaeva and Igor V Atlasov	Voronezh State Technical University; Russian University of Transport; Russian state University of tourism and service, Moscow region, Russia; Moscow University of the Ministry of internal Affairs of the Russian Federation named after V. J. Kikot
MIP-4006	Data processing of robotic parameters in intelligent robotic systems	A V Shukalov, D A Zakoldaev, I O Zharinov, O O Zharinov	ITMO University, Saint Petersburg; Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg, Russia
MIP-4007	Semistructured information in the organization of processes for managing large production systems	Y V Polishchuk	Orenburg State University, Orenburg, Russian
MIP-4008	Simulation of the automated motion of a robotic agricultural vehicle	Sergey Vasilevich Susarev, Sergey Pavlovich Orlov, Oleg Jakovlevich Kravets and Artem Sergeevich Morev	Samara State Technical University, Voronezh State Technical University, Volga Engineering Academy
MIP-4009	Automatic x-ray image analysis for aviation security within limited computing resources	N A Andriyanov, Al K Volkov, An K Volkov, A A Gladkikh and S D Danilov	JSC "RPC "Istok" named after Shokin", Moscow Region, Russia; Ulyanovsk Civil Aviation Institute, Ulyanovsk State Technical University, Ulyanovsk, Russia
MIP-4010	Image enhancement with DAGNet-based artificial neural network	Danil N Veremeev, Pavel S Obuhov, Kirill V Kislov and Olga G Yaskevich	Don State Technical University, Voronezh State Technical University

MIP-4011	A model for generation a motion-blurred image of a radiating object's shadow from a series of high-quality images	R Galagan, A Muraviov, A Tomashuk	Department of Non-Destructive Testing Instruments and Systems, Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine
MIP-4012	Methods for synthesizing adaptive control with reference models using adaptive observers	T V Botirov, Sh B Latipov, B M Buranov and M A Barakayev	Navoi State Mining Institute, Navoi, Uzbekistan
MIP-4013	Automation of air-conditioning systems with controlled microclimate in the Russian penitentiary system	Alexander Y Kiryanov, Roman V Fokin, Stanislav V Vidov and Sergey A Tklich	Academy of the FPS of Russia, Voronezh State Technical University
MIP-4014	Virtual NOx-emission sensors for aeroengine control	T A Kuznetsova, V G Avgustinovich	Perm National Research Polytechnic University, Perm, Russian Federation
MIP-4015	The information approach to the quantization of the effectiveness of test arrays of data for static memory devices	Julia S Akinina, Vitaly E Bolnokin, Sergey V Tyurin, Andrey A Akinin and Sergey A Popov	Voronezh State Technical University, Mechanical Engineering Research Institute of the Russian Academy of Sciences
MIP-4016	Automation of information entropy assessment process for large production systems and their components	Y V Polishchuk and R V Chumakov	Orenburg state university
MIP-4017	Radio-optical line for SCADA systems with relay	R P Krasnov, A V Ostankov, I I Malyshev, D A Maximov and V A Kondusov	Voronezh state technical university
MIP-4018	Automation of full-scale regression testing of radio monitoring equipment	P. E. Bizyukov, D. S. Radchenko, A. B. Tokarev, B.V. Matveev, V.N. Povetko, S.A. Slinchuk	JSC "IRCOS", Moscow, Russia , Voronezh state technical university
MIP-4019	Designing and producing a geographic information system to forecast vegetation fire danger according to weather conditions	V Glagolev, R Bazhenov, I Povkh, O Chuyko and O Dolmatova	Sholom-Aleichem Priamursky State University, Birobidzhan; Far Eastern State Transport University, Khabarovsk; Khabarovsk State University of Economics and Law, Khabarovsk; Omsk State Agrarian University named after P. A. Stolypin, Omsk, Russia
MIP-4020	Convolutional neural network for detecting anomalies in the control system of a machine-building enterprise	Nadezhda M Kusakina, Sergey P Orlov, Oleg Ja Kravets	Samara State Technical University, Voronezh State Technical University

MIP-4021	Using image processing to improve semaphore communication	K A Spenkov, O R Nikitin, I E Zhigalov, I R Dubov, A D Pozdnyakov	Vladimir State University named after Alexander and Nikolay Stoletovs, Vladimir, Russian Federation
MIP-4022	Augmented reality for SCADA	Sergey V Byvaltsev	Ural Federal University named after the First President of Russia B. N. Yeltsin; Institute of Engineering Science, Ural Branch of the Russian Academy of Sciences, Ekaterinburg, Russia
MIP-4023	Computing process as a diagnostic object	I A Oblomov, V V Rzhavin, N V Pervova, K N Fadeeva and A G Gerasimova	I. Ulyanova Chuvash State University; I. Yakovlev Chuvash State Pedagogical University, Cheboksary, Russia
MIP-4024	Method of hiding the architecture and configuration of the sensor network based on the dynamic topology	E A Kushko and N Y Parotkin	Institute of Informatics and Telecommunications, Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russian Federation
MIP-4025	On Implementation of an Approximating k-ary GCD Algorithm	Ismail F. Amer, Mohammed H. Najajra	Institute of Computational Mathematics and Informational Technologies, Kazan Federal University (Kazan, Russia), Department of Management Information Systems, Al Istiqlal University (Jericho, Palestine)
MIP-4026	Analysis of the temperature regime of basin geosystems of the Krasnoyarsk Territory using MODIS satellite images and ground-based data	M G Erunova, O E Yakubailik and T V Yakubaylik	Federal Research Center Krasnoyarsk Science Center of the SB RAS; Institute of Computational Modelling SB RAS, Krasnoyarsk, Russia
MIP-4027	Packet fragmentation as data protection method in automated systems	Denis E Gorokhov, Vladimir V Ryabokon, Aleksandr A Kuzkin, Vitaliy S Sherbakov, Maksim A Kutsakin	The Academy of Federal Guard Service of Russian Federation
MIP-4028	Mapping retrieval method for academic publications in the field of aerospace technology safety	Alexey L Serdechnyi, Andrew A Goncharov, Alexander G Ostapenko and Igor L Bataronov	Voronezh State Technical University
MIP-4029	Adaptive fuzzy model for detecting of vulnerabilities of unmanned vehicles interfaces based on evaluation of the information state of resources	A V Skatkov, A A Bryukhovetsky and D V Moiseev	SEVASTOPOL STATE UNIVERSITY, 33 Universitetskaya str., Sevastopol, Russia, 299053
MIP-4030	A conceptual model of communication for intelligent agents in the infrastructure of smart transportation systems	V I Shevchenko, A V Skatkov, A A Bryukhovetskiy, O V Chengar and T A Kokodey	Sevastopol State University

MIP-4031	A new algorithm of solving harmonic balance equations	V N Lantsov	Vladimir State University named after Alexander and Nikolay Stoletovs, Vladimir, Russian Federation
MIP-4032	Asymptotic secrecy of the information security by the usage of simple integer splitting method.	Alhussain Amanie Hasn	Peoples' Friendship University of Russia
MIP-4033	Security threats of NB-IOT and countermeasures	Adam U Mentsiev, Tamirlan R Magomaev	Chechen State University, GTSU named after Acad. M.D. Millionschikov, Grozny, Russia
MIP-4034	New information technologies in the estimation of stationary modes of the third type systems	V V Grigorenko, Yu V Bashkatova, L S Shakirova, A A Egorov and N B Nazina	BI HE "Surgut State University", Surgut, Russia; FSI FRC Federal Scientific Research Institute for System Analysis of the Russian Academy of Sciences, Moscow, Russia
MIP-4035	Internet of things networks predictive risk assessment method and security management	Andrew A Bolgov, Sergey A Ermakov, Larisa V Parinova and Vera N Kostrova	Voronezh State Technical University, JSC «Concern «Sozvezdie»
MIP-4036	Indoor ultrasonic positioning system transceiver modules	D V Morohin	Volga State University of Technology, Yoshkar-Ola, Russia
MIP-4037	Mathematical and algorithmic support for the early detection process automation of potentially dangerous content in Internet resources	Evgeniya A Shvartskopf, Oleg N Choporov, Konstantin A Razinkin, Vladislav G Yurasov and Alexander N Mazalov	Voronezh State Technical University, Tambov State Technical University
MIP-4038	Software implementation of the conjugate gradient method for shared and distributed memory multiprocessor systems	T S Rein and S N Karabtsev	Kemerovo State University, Kemerovo, Russian Federation
MIP-4039	Thermal bar studies in the Krasnoyarsk Reservoir based on remote sensing datasets	E V Bondarenko, A A Gosteva, N Ya Shaparev	Federal Research Center KSC SB RAS, Krasnoyarsk, Russia; Siberian Federal University, Krasnoyarsk, Russia; Institute of Computational Modelling SB RAS, Krasnoyarsk, Russia
MIP-4040	A mathematical model for assessing security of restricted-access information	A P Rosenko1, V I Petrenko1, F B Tebueva1, A A Gerasimova1	North-Caucasus Federal University, Stavropol, Russia

MIP-4041	The development of ontological model for increasing the competitiveness of university graduates in information technologies	L V Kurzaeva, S A Povitukhin, T V Usataya and D U Usatyi	Nosov Magnitogorsk State University, Magnitogorsk, Russia; Moscow State University of Technology and Management named after K.G. Razumovsky (the First Cossacs University), Moscow, Russia
MIP-4042	Spectral curves for the multi-phase solutions of Manakov system	A O Smirnov, E A Frolov and V S Gerdjikov	Sankt-Petersburg State University of Aerospace Instrumentation, St-Petersburg, Russia; Institute of Mathematics and Informatics, Bulgarian Academy of Sciences, Sofia, Bulgaria; National Research Nuclear University MEPhI, Moscow, Russia
MIP-4043	Multimodel approach to analysis and rubrication of citizen appeals on the basis of intellectual methods application	E V Kulyasova, M I Dli, O V Bulygina, N S Kulyasov	State University of Management, Moscow; National Research University «Moscow Power Engineering Institute» (Branch) in Smolensk, Russia
MIP-4044	Comparative analysis of methods for digital system debugging at the design stage	A D Ivannikov	Institute for design problems in microelectronics of Russian Academy of Sciences, Moscow, Russia
MIP-4045	The language of left brackets as a morphism of a maximum prefix code	B F Melnikov, S Yu Korabelshchikova and V V Dang	Shenzhen MSU – BIT University, Shenzhen, China; Northern Arctic Federal University named after M.V. Lomonosov, Arkhangelsk, Russia; Vietnam National University, Ho Chi Minh city, Vietnam
MIP-4046	Regional socio-economic parameters modeling and system analysis by means of programming and computing suite	K V Ketova, I G Rusyak, E A Saburova and D D Vavilova	Kalashnikov Izhevsk State Technical University, Izhevsk, Russia
MIP-4047	Spacecraft onboard computers control automation	E V Tabakov, A I Zinina and M Ui Kosinsky	Design Bureau «Mars», Moscow, National Research University Moscow Aviation Institute, Moscow, National Research University Power Engineering Institute, Moscow, Russia
MIP-4048	Organization of cluster systems based on the PCI Express switching environment	N S Vasyaeva and E S Vasyaeva	Volga State University of Technology, Yoshkar-Ola, Russia
MIP-4049	Some approaches for determining isomorphism of semigroups of small order	S Yu Korabelshchikova, B F Melnikov, E A Melnikova and L V Zyablitseva	Northern Arctic Federal University named after M.V. Lomonosov, Arkhangelsk, Russia; Shenzhen MSU – BIT University, Shenzhen, China; Russian State Social University, Moscow, Russia
MIP-4050	Classification of handwritten digits using the Hopfield network	M A Belyaev and A A Velichko	Petrozavodsk State University, Petrozavodsk, Russia

MIP-4051	Wavelet transform for the identification of P300	V A Bulanov, A V Zakharov and E V Khivintseva	LLC "IT Universe", Samara, Russia; State Medical University, Samara, Russia
MIP-4052	Complete ultrashort pulse decomposition in modal filters with circular symmetry	A O Belousov and T T Gazizov	Tomsk State University of Control Systems and Radioelectronics, Tomsk
MIP-4053	Solving classification problems of visual evoked potentials for the brain-computer interfaces	V A Bulanov, A V Zakharov and C S Chaplygin	LLC IT "Universe", Samara, Russia; State Medical University, Samara, Russia
MIP-4054	A study of the correctness of the execution of a class file with an embedded digital watermark in different environments	P I Sharikov, A V Krasov and V N Volkogonov	The Bonch-Bruевич Saint-Petersburg State University of Telecommunications, Saint-Petersburg, Russia
MIP-4055	On an algorithm for generating inhomogeneous porous media	A A Egorov, T V Gavrilenko, V V Grigorenko, I A Shaitorova and N B Nazina	Surgut State University, Surgut, Russia; Federal Scientific Research Institute for System Analysis of the Russian Academy of Sciences, Moscow, Russia
MIP-4056	Electronic digital signature	A I Dzhangarov and M A Suleymanova	Chechen State University
MIP-4057	An approach to algorithmizing the problem of vertex minimization of nondeterministic automata. Part I. Problem statement and the brief description of the basis methods	M E Abramyan and B F Melnikov	Southern Federal University, Moscow, Russia; Shenzhen MSU – BIT University, Shenzhen, China
MIP-4058	On the formation of membership functions for fuzzy sets in the logical representation of knowledge	Vladimir V Serov	Russian state social University, Moscow, Russia
MIP-4059	Protection of information presented as pseudo-probabilistic display in the information exchange channels of UMV	D V Moiseev E N Mashenko, V V Nikishin and L I Lukina	SEVASTOPOL STATE UNIVERSITY, Sevastopol, Russia
MIP-4060	Vision system for detection of defects on apples using hyperspectral imaging coupled with neural network and Haar cascade algorithm	P V Balabanov, A G Divin, A S Egorov, V A Yudaev, D A Lyubimova	Tambov State Technical University, Tambov, Russia

MIP-4061	Multi-chip assemblies combining Wire Bond and Flip-Chip package technologies	N Yu Ershova, S A Reginya, P V Lunkov and D A Kirienko	Petrozavodsk State University, Petrozavodsk, Russia
MIP-4062	Debugging method for spacecraft's equipment based on ARM processors	E V Tabakov, A I Zinina and D S Kireev	Design Bureau «Mars»; National Research University Moscow Aviation Institute, Moscow, Russia
MIP-4063	Differential parameter method of aircraft flight simulation in aviation virtual electronic proving grounds	A R Bestugin, A D Filin and I A Kirshina	Saint Petersburg State University of Aerospace Instrumentation, Saint Petersburg, Russia
MIP-4064	Reservoir Computing using High Order Synchronization of Coupled Oscillators	A A Velichko, D V Ryabokon, S D Khanin, A V Sidorenko, A G Rikkiev	Petrozavodsk State University, Petrozavodsk; Russia Marshal of the Soviet Union Budennyi Military Academy of Communications, St. Petersburg, Russia
MIP-4065	Development of autonomous software solutions based on geometric cores to create digital assembly models of machine tools	Alexey N Yurov, Mikhail I Chizhov, Valery V Vetokhin and Valery V Lavlinskiy	Voronezh State Technical University, Voronezh State University of Forestry and Technologies named after G.F. Morozov
MIP-4066	Geo-integration bases of services generation for the Multipurpose aerospace system for forecasting monitoring of disasters	O A Alekseev, A N Perminov, V B Serebriakov, N V Razumova and A D Linkov	JSC "Russian Space Systems", Moscow, Russia
MIP-4067	Transformation of types of signs for a task of the regression analysis	D Z Narzullaev, B A Abdurakhmanov, A S Baydullaev, Sh T Ilyasov and K K Shadmanov	Tashkent pharmaceutical Institute, Tashkent, Uzbekistan
MIP-4068	Technologies and applications for the support of tourism in Krasnoyarsk region	A I Nozhenkov and A A Korobko	Institute of Computational Modelling of the Siberian Branch of the Russian Academy of Sciences
MIP-4069	Algorithms and methods of image classification for automated medical systems	I V Kovalev, I G Shelomentseva, N V Yakasova and A A Voroshilova	Siberian Federal University; Khakassia state University named after N. F. Katanov; Krasnoyarsk State Medical University named after Professor V.F. Voyno-Yasenetsky
MIP-4070	Automatic generation of methodological materials in the study of technical and engineering texts in a foreign language	Sergej Bronov and Elena Stepanova	Siberian Federal University; Krasnoyarsk State Agrarian University, Krasnoyarsk, Russia

MIP-4071	Self-configuring genetic programming algorithm for solving symbolic regression problems	T S Karaseva and S A Mitrofanov	Reshetnev Siberian State University of Science and Technology, Siberian Federal University, Krasnoyarsk, Russia
MIP-4072	Improving the reliability of the results of automated forecasting of emissions in geotechnical systems based on the bifurcation approach	N V Dorofeev, R V Romanov, A V Grecheneva and ES Pankina	Vladimir State University, Russian Federation
MIP-4073	THE ROLE OF DIGITAL TECHNOLOGIES IN ECONOMIC DEVELOPMENT	I A Magomedov, H A Murzaev, A M Bagov	Chechen State University
MIP-4074	Development of LANE software for the modelling complex engineering systems in Aerospace	D L Rakov	Institute of Engineering Science, Russian Academy of Sciences
MIP-4075	Method for assessing the diagnosis of the technical condition of an integrated microprocessor pulse generator of railway automation and telemechanics	A. R. Azizov, F. F. Shakirova	Tashkent Institute of Railway Engineers
MIP-4076	Optimization of Planned Solutions Based on Network Models for Large-Scale Problems	Yu N Kondrashov and A A Ermakov	Moscow Aviation Institute, Moscow, Russia
MIP-4077	Mathematical model of distributed registry architecture based on cloud and fog technologies	S P Vorobyev, S N Shirobokova and V A Evsin	Platov South-Russian State Polytechnic University (NPI), Novocherkassk, Russian Federation
MIP-4078	Development of the formal model for the presentation of poorly structured and unstructured information	A V Rabin, A A Petrushevskaya	Saint-Petersburg State University of Aerospace Instrumentation, St. Petersburg, Russia
MIP-4079	Statistics on the use of mathematical modeling as a research tool	A I Galkina and I A Grishan	A. K. Aylamazyan IPS RAS, Veskovo village, Russia
MIP-4080	Development of the formal model of the optical recognition mechanism for tabular documents	A V Rabin, A A Petrushevskaya	Saint-Petersburg State University of Aerospace Instrumentation, St. Petersburg, Russia

MIP-4081	Optical diagnostics fractal structures: methodical aspects	P Korolenko and Yu Ryzhikova	Lomonosov Moscow State University, Moscow, Russian Federation; P.N. Lebedev Physics Institute, Russian Academy of Sciences, Moscow, Russian Federation
MIP-4082	Authentication control algorithm for long-term keeping of digital data	A V Solovyev	Institute for Systems Analysis Federal Research Center "Computer Science and Control" of Russian Academy of Sciences, Moscow, Russia
MIP-4083	Stress-strain state and structure of pure copper and titan Grade4 after free bending	D A Aksenov, R N Asfandiyarov, G I Raab, A G Raab and M. Janecek	Ufa State Aviation Technical University, Institute of Molecule and Crystal Physics UFRC RAS, Ufa, Russia, Charles University, Prague, Czech Republic

Section 5. Chemical, Ecological and Power Engineering

MIP-5001	Analysis of self-starting of own needs of heat power plants	Alexander A Egonsky, Igor V Kovalenko	Siberian Federal University, Krasnoyarsk, Russia
MIP-5002	Interaction between convective cloud systems and the Earth's surface	S Yu Turko, M V Vlasenko, K Yu Trubakova and A S Khnyckin	Federal Scientific Centre of Agroecology, Complex Melioration and Protective Afforestation of the Russian Academy of Sciences, Volgograd, Russian Federation
MIP-5003	Mathematical model and numerical algorithm for studying suspension filtration in a porous medium considering the processes of colmatation and suffusion	Normakhmad Ravshanov, Utkir Saidov, Dilshod Karshiev and Vitaly E Bolnokin	Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, Tashkent Pediatric Medical Institute, Mechanical Engineering Research Institute of the Russian Academy of Sciences
MIP-5004	Modeling the salt-dust aerosols distribution in the atmosphere, taking into account the soil erosion	Normakhmad Ravshanov, Zafar Ravshanov, Vitaly E Bolnokin	Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, Mechanical Engineering Research Institute of the Russian Academy of Sciences
MIP-5005	Technology for reducing urease activity in soybeans	N L Morgunova, F Y Rudik, N A Semilet, L G Lovtsova, Z I Ivanova, Sh A Pfeifer	Saratov State Vavilov Agrarian University, Russia
MIP-5006	Composite method of sewage treatment for chromium ion (VI)	L V Mostalygina, D N Kamaev and S N Elizarova	Kurgan state university, Kurgan, Russia

MIP-5007	Industrial and ecological safety analysis for modeling oil and petroleum products spills in the Arctic waters of the Kola Bay	A A Katansky1, E E Minchenok2, N G Zhuravleva3, Ye Yu Aleksandrova4 and A A Trotsenko4	Rostov Institute for Protection of Entrepreneurship, Rostov-on-Don, Murmansk State Technical University, Murmansk Marine Biological Institute, Murmasnk Arctic State University
MIP-5008	Thermal calculation of the radiation chamber of an ethane pyrolysis furnace	D B Vafin, A V Sadykov	Nizhnekamsk Institute of Chemical Technology (branch) Kazan National Research Technological University, Nizhnekamsk, Russia
MIP-5009	Bioindication methods in environmental engineering	O A Esyakova and V M Voronin	Reshetnev Siberian state University of Science and Technology
MIP-5010	Numerical-analytical method for determining the barodiffusion coefficient of technological process of ion-exchange suspension filtration	Bozorboy Palvanov, Utkir Saidov, Janar Yusupova, Oleg Ja Kravets	Urgench branch of Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, Voronezh State Technical University
MIP-5011	Assessment of the industrial load impact on the ambient air state	Oksana B Sheveleva, Ekaterina V Slesarenko, Nina D Vagina and Vladimir V Mishchenko	T.F. Gorbachev Kuzbass State Technical University, Kemerovo, Russian Federation
MIP-5012	Analysis of some chemical indicators of soils of industrial-oil-polluted territories	L.A.Gerasimova, I.Yu.Eremina, G. V. Makarskaya, A.I.Kuklina	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk State Agrarian University, Institute of Computational Modelling of the Siberian Branch of the Russian Academy of Sciences; Krasnoyarsk, Russian Federation
MIP-5013	Synthesis of sulfated starch-casein complex	A S Kazachenko, N Yu Vasilyeva, Y N Malyar1, A S Kazachenko and E A Slyusareva	Institute of Chemistry and Chemical Technology SB RAS, Federal Research Center "Krasnoyarsk Science Center SB RAS", Siberian Federal University, Krasnoyarsk, Russia
MIP-5014	Model for calculating the characteristics of fuel injection and atomization in diesel when working on alcohol-fuel emulsions	V A Likhanov and O P Lopatin	Vyatka State Agricultural Academy, Kirov, Russia
MIP-5015	A dynamic model of the impact of engineering services on the parameters of the economic system	M V Shinkevich, T I Klimenko, S Sh Ostanina and G R Garipova	Kazan National Research Technological University
MIP-5016	Theoretical framework of the polymer waste thermal degradation	S K Petrov, T N Patrusheva, P V Matveev and T V Logunova	Baltic State Technical University "VOENMEH" named D.F. Ustinov, St. Petersburg, Russia

MIP-5017	Atmospheric dispersion modeling in ecological engineering problems	Normakhmad Ravshanov, Dilshot Akhmedov, Oleg Ja Kravets	Tashkent Pediatric Medical Institute, Tashkent University of Information Technologies named after Muhammad al-Khwarizmi, Voronezh State Technical University
MIP-5018	Modernization of gas treatment equipment from pollutants in alumina production	I I Shepelev, EV Kiryushin, O V Pilyaeva and E N Eskova	JSC "ECO-Engineering", Achinsk; Krasnoyarsk state agrarian university, Krasnoyarsk; Achinsk branch of Krasnoyarsk state agrarian university, Achinsk, Russia
MIP-5019	Application of the information uncertainty measure when comparing planned and actual commercial losses of electricity	N V Dulesova, A S Dulesov, D J Karandeev and A V Malykhina	Khakas Technical Institute of Siberian Federal University; Katanov Khakass State University, Abakan, Russia
MIP-5020	Simulation method of the low-Re flows in the packed bed technological equipment	A P Khomyakov, S V Mordanov, A S Lavrov, and D I Grinyov	The department of chemical plant machinery and equipment, Institute of Chemical Engineering, Ural Federal University, Ekaterinburg, Russia
MIP-5021	Phytotoxic properties of electrically-cleaned oil-contaminated soils (the use of <i>Lepidium sativum</i> L. biotest)	N S Shulaev, V V Pryanichnikova, R R Kadyrov, N A Bykovsky, R M Damineva and I V Ovsyannikova	Ufa State Petroleum Technological University, Sterlitamak, Russian Federation
MIP-5022	Logic-sense model of primary oil processing plant safety assurance	M V Vakulenko and N V Zharinova	Ufa State Petroleum Technological University, Ufa, Russian Federation
MIP-5023	Investigation of a small river ecosystem to calculate the risk of quantitative and qualitative depletion of watercourse	E V Nafikova, A A Ismagilov and D V Alexandrov	Ufa State Aviation Technical University, Ufa, Russia
MIP-5024	Electrodeposition of zinc plating from zincate electrolyte using galvanostatic mode of pulse electrolysis	S.Yu. Kireev, A.Z. Yangurazova, S.N. Kireeva	Penza State University
MIP-5025	Model for calculating the reaction rates of nitrogen oxide formation in a diesel cylinder	O P Lopatin	Vyatka State Agricultural Academy, Kirov, Russia
MIP-5026	Calculation of the optimal number of redundant elements of power systems using the Lagrange multipliers method and information theory	D J Karandeev, A S Dulesov, R I Bazhenov and I J Karandeeva	Katanov Khakass State University, Abakan; Sholom-Aleichem Priamursky State University, Shirokaya street, Birobidzhan, Russia

MIP-5027	Investigation of the ignition delay period in the diesel combustion chamber when working on an alcohol-fuel emulsion	V A Likhanov and O P Lopatin	Vyatka State Agricultural Academy, Kirov, Russia
MIP-5028	Study of thermal conductivity temperature dependence for amorphous materials based on Al ₂ O ₃ and SiO ₂ oxides	L A Maryushin, D A Tikhonova and I I Kiryanov	Moscow Polytechnic University, CHP -11 them. M. Y. Ufaeva, Moscow, Russia
MIP-5029	Assessment of factors ensuring industrial safety of enterprises of the electric power complex	A A Gibadullin, V V Sorokina, M I Sadridinov, T V Petrusevich, T B Izzuka and A D Kokurina	State University of Management, Moscow, Russian Federation; Financial University under the Government of the Russian Federation, Moscow, Russian Federation; The Tajik state university of finance and economics, Dushanbe, The Republic of Tajikistan; National Research University Higher School of Economics, Moscow, Russian Federation
MIP-5030	Methods of computer thermodynamic analysis of chemical reactions in ecological systems	L P Mileshko, A D Telesh, I A Dmitrieva, A A Borisova and O N Sakharova	South Federal University; Don State Technical University, Rostov-on-Don, Russia
MIP-5031	Research of an electromagnetic vibrator with a non-linear power supply	M Ibadullaev, A Nuraliev and A Esenbekov	Tashkent State Technical University named after Islam Karimov, Uzbekistan, Tashkent, Karakalpak State University, Uzbekistan
MIP-5032	Calculation of transition processes in stabilized power sources on the basis of a single-phase serial current inverter	Sh B Umarov and D D Rakhmatov	State Technical University, Tashkent
MIP-5033	Dynamics of soot formation and burnout in a gas diesel cylinder	V A Likhanov and O P Lopatin	Vyatka State Agricultural Academy, Kirov, Russia
MIP-5034	Granular nitrogen and nitrogen-potassium fertilizers containing sulfur from the spent acid mixture of nitrocellulose production	R Kh Fazullin, R A Khalitov, R Kh Khuziahmetov, E L Matuhin and A A Fazullina	Kazan National Research Technological University, Kazan, Russia; Kazan State Treasury Powder Plant, Kazan, Russia
MIP-5035	Multi-motor drive with common inverter for pumping unites	M M Khamudkhanov, Kh B Sapaev and Sh B Umarov	Tashkent State Technical University named after Islam Karimov, Uzbekistan, Tashkent
MIP-5036	Predicting the reliability of auxiliary equipment of heat sources	V V Bonnet, A Yu Loginov, A Yu Prudnikov, Y V Bonnet and M V Bonnet	Irkutsk State Agricultural University named after A.A. Ezhevsky, Molodezhny, Irkutsk, Russia; Moscow State Technical University named after N. E. Bauman, Moscow, Russia; Irkutsk National Research Technical University, Irkutsk, Russia

MIP-5037	Three-dimensional thermal calculation of the radiation chamber of a cylindrical heating tube furnace	A V Sadykov and D B Vafin	Nizhnekamsk Institute of Chemical Technology (branch) Kazan National Research Technological University
MIP-5038	Development of resource-saving technology for solid waste disposal of industrial gas desiccants of petrochemical enterprises in the process of producing urethane rubbers	I V Kozhevnikova, T R Safiullina, L A Zenitova, S V Vdovina, E N Nurieva	Nizhnekamsk Institute of Chemical Technology (Branch) KNRTU, Nizhnekamsk; Kazan National Research Technological University, Kazan, Russia
MIP-5039	On the issue of using a robotic manipulator to perform operational switching in electrical distribution devices and substations	A A Dmitriev 1, A S Martyanov 1 and V V Yurkin 2	Tyumen industrial University, Tyumen, Russia State agrarian University of the Northern Urals, Tyumen, Russia
MIP-5040	Assessment of the influence of weather conditions on the concentration of PM2.5 in the atmosphere of Krasnoyarsk	A V Tokarev, N Ya Shaparev	Institute of Computational Modeling SB RAS, Krasnoyarsk, Russia
MIP-5041	Analysis of autparametric oscillations in three-phase electro-ferromagnetic circuits	A Tovboev, M Ibodulaev, M Baranova, I Grishina	Navoi State Mining Institute, Navoi, Republic of Uzbekistan; Tashkent State Technical University named after I. Karimov, Tashkent, Republic of Uzbekistan; FSAEI HE «Siberian Federal University»; FSBEI HE «KrasSAU», Krasnoyarsk, Russia
MIP-5042	Study of the relation between the modes of contour anti-erosion tillage of slope agricultural landscapes and the spatial location of the machine-tractor aggregate	S A Vasiliev, N I Zatytkov, A V Rechnov, M S Portnov and A A Vasiliev	State Budget Educational Institution of Higher Education "Nizhny Novgorod State University of Engineering and Economics", Knyaginino, Russia; Cheboksary Cooperative Institute, Cheboksary, Russia, Chuvash State University named after I.N. Ulyanov, 428015, Cheboksary, Russia
MIP-5043	Increasing efficiency of technological steam consumption at oil and gas enterprise	D S Balzamor, E Yu Balzamova, V V Bronskaya, G I Oykina, O S Kharitonova, R S Shaikhetdinova and L E Khairullina	Kazan State Power Engineering University, Kazan National Research Technological University, Kazan Federal University, Kazan, Russian Federation
MIP-5044	The beneficial using the heat of the exhaust gases of the furnaces of the technological unit for the ethylene oxide production	D S Balzamor, E Yu Balzamova, V V Bronskaya, G I Oykina, E A Rybkina, R S Shaikhetdinova and O S Kharitonova	Kazan State Power Engineering University, Kazan National Research Technological University, Moscow Power Engineering Institute, Kazan Federal University, Kazan, Russian Federation
MIP-5045	Obtaining medium molecular characteristics of cation copolymerization of isobutylene and isoprene	R R Dmitricheva, I O Antonova, G V Manuyko, G A Aminova, V V Bronskaya, R S Shaikhetdinova, D S Balzamor and O S Kharitonova	Kazan National Research Technological University, Kazan State Power Engineering University, Kazan, Russian Federation

MIP-5046	Optimization of environmental performance of a car diesel engine running on natural gas by reducing carbon black in the exhaust gas	V A Likhanov and A V Rossokhin	FSBEI HE Vyatka State Agricultural Academy, Kirov, Russia
MIP-5047	Calculation of the soot content in the diesel cylinder with turbocharge 4CHN 11,0/12,5 when working on natural gas	V A Likhanov and A V Rossokhin	FSBEI HE Vyatka State Agricultural Academy, Kirov, Russia
MIP-5048	Controls of the modes of operation of the pumping station with application of frequency-controlled electric drive	M M Khamudkhanov, I A Abdullabekov, R K Dusmatov, N B Khamudkhanova and B KH Fayzullayev	Tashkent State Technical University named after Islam Karimov, Tashkent, Uzbekistan.
MIP-5049	Investigation of the dependence of small rivers on the state of bottom sediments by mathematical methods	E V Nafikova, I V Dorosh and D V Alexandrov	Ufa State Aviation Technical University, Ufa, Russia
MIP-5050	Thermal and material balances of the synthesis of PE block copolymers	V V Pliushchev, M A Nazarova, V V Bronskaya, G A Aminova, G V Manuyko, R S Shaikhetdinova, A M Guzaerov and O S Kharitonova	Kazan National Research Technological University, Kazan, Russian Federation
MIP-5051	Application of magnetic units for intensification of water treatment	I.A. Golubev, I.K. Suprun	Scientific and technological complex "New Technologies and Materials", National Research University FSAEI HE «SPbPU". Department of Geocology, Saint-Petersburg Mining University
MIP-5052	Situational model of decision-making system based on environmental monitoring data in the conditions of urban development	Inna G Ivanova, Alexander D Danilov, Viktor L Burkovsky, Konstantin Yu Gusev and Pavel Yu Gusev	Voronezh State Technical University
MIP-5053	Effects of hydrodynamic impact on water from the viewpoint of cluster theory. Surface tension	L V Kashkina, T V Rubleva, I V Alekseenko and Yu V Bolshunova	Siberian Federal University; Krasnoyarsk Institute of Railway Engineering Branch of Irkutsk State Transport University, Krasnoyarsk, Russia
MIP-5054	Investigation of automatic electric drives balancing transformers with lead control angles	Evgenii V Sidorenko, Alexey S Kozhin, Alexander D Danilov, Viktor L Burkovsky and Konstantin Yu Gusev	Voronezh State Technical University

MIP-5055	Engineering solutions in the field of digital transformation of the electric power industry	A A Gibadullin, E V Ryabinina, D E Morkovkin, Sodikov K A, P V Trifonov, M A Kirpicheva and A D Kokurina	State University of Management, Moscow, Russian Federation; Financial University under the Government of the Russian Federation, Moscow, Russian Federation; Tajik National University, Dushanbe city, Republic of Tajikistan; National Research University Higher School of Economics, Moscow, Russian Federation
MIP-5056	Reactive power balancing transformers in control systems for electric drives of direct and alternating current	Evgenii V Sidorenko, Alexey S Kozhin, Alexander D Danilov, Victor L Burkovsky, Alexander V Burkovsky	Voronezh State Technical University
MIP-5057	Wildfires and the spread of smoke from forest fires in the Krasnoyarsk Territory in summer 2019	A A Gosteva, O E Yakubailik and N Y Shaparev	Federal Research Center Krasnoyarsk Science Center of the SB RAS; Institute of Computational Modelling SB RAS, Krasnoyarsk, Russia
MIP-5058	Regulating characteristics of a diesel engine working on natural gas	A V Grebnev, V A Likhanov, M L Skryabin and O M Kochurova	Vyatka State Agricultural Academy, Kirov, Russia
MIP-5059	Methods for detection of antibiotics in urban wastewater	A A Abramova, V G Isakov, E V Grakhova and A M Nepogodin	Kalashnikov Izhevsk state technical University
MIP-5060	Annual temperature variation reliably identifies different sites in a large water basin	M G Erunova, O E Yakubailik and M G Sadovsky	Federal Research Center Krasnoyarsk Science Center of the SB RAS; Institute of Computational Modelling SB RAS; Siberian Federal University, Krasnoyarsk, Russia
MIP-5061	Monitoring of technogenic pollution of soil in the region	L N Zhichkina, V V Nosov, K A Zhichkin, P V Starikov, A T Vasyukova and Z A Smirnova	Samara State Agrarian University; K.G. Razumovsky Moscow State University of technologies and management; Academy of the Investigative Committee of the Russian Federation
MIP-5062	Power consumptions of small-sized mix apparatus at emulsification processes	NS Shulaev, SV Laponov, TV Shulaeva and KE Bondar'	Ufa State Petroleum Technological University, Branch in the Sterlitamak, Republic of Bashkortostan, Russia
MIP-5063	Tribology of carbon-containing materials in the environment of carbon dioxide at high temperatures	M. N. Roshchin, N. A. Markachev, V. A. Bogachev	Mechanical Engineering Research Institute, Russian Academy of Sciences; Lavochkin Science and Production Association; Lavochkin Science and Production Association

MIP-5064	Effect of methanol use in the engine on the workflow	A A Anfilatov and A N Chuvashv	Department of thermal engines, automobiles and tractors, Vyatka State Agricultural Academy, Kirov, Russia
MIP-5065	The effect of the use of natural gas on the emissivity of a flame in a cylinder of an automobile diesel engine	A V Rossokhin and A A Anfilatov	FSBEI HE Vyatka State Agricultural Academy, Kirov, Russia
MIP-5066	Study of shrinkage of heat storage materials for building envelope structures	Indira Aimbetova, Ulanbator Suleimenov, Raimberdy Ristavletov and Omirserik Baigenzhenov	Khoja Akhmet Yassawi International Kazakh-Turkish University, M. Auezov South Kazakhstan State University, K.. Satpayev Kazakh national research technical University
MIP-5067	Risk-based approach for industrial environmental control during the construction of the main gas pipeline	Glebova E.V., Artanova M.V., Ivanova M.V., Korobov A V	National University of Oil and Gas «Gubkin University», Moscow
MIP-5068	Assessment of air pollution trends in Krasnoyarsk using indicators of sustainable development	A V Tokarev, N Ya Shaparev	Institute of Computational Modeling SB RAS, Krasnoyarsk, Russia
MIP-5069	Impact of methanol use in a diesel engine on workflow performance	A A Anfilatov and A N Chuvashv	Department of thermal engines, automobiles and tractors, Vyatka State Agricultural Academy, Kirov, Russia
MIP-5070	Improvements in industrial energy rationing methods	I U Rakhmonov, K M Reymov and S H Dustova	Tashkent State Technical University named after Islam Karimov, Uzbekistan, Tashkent, Bukhara branch of Tashkent institute of irrigation and agricultural mechanization, Bukhara, Uzbekistan
MIP-5071	Energy-economic analysis of the applicability of supercritical fluid extraction ethylene oxide	D D Akhmetlatyypova	Kazan National Rresearch Technological University
MIP-5072	The formation of soot on the walls of the diesel combustion chamber and its effect on heat transfer in the cylinder	R R Devetyarov	FSBEI HE Vyatka State Agricultural Academy, Kirov, Russia
MIP-5073	Detailed study of velocity characteristics of section based on data acquired by seismic technique of Parametric Deconvolution of Reflections	T R Ahmedov and A M Amirov	Azerbaijan State University for Oil and Industry, Baku, Azerbaijan

MIP-5074	Calculation of geometric parameters of diesel fuel ignition flares	V A Likhonov, O P Lopatin and P N Vylegzhanin	Vyatka State Agricultural Academy, Kirov, Russia
MIP-5075	Numbrigal simulation of a thermodynamic process to decompose gas hydrate in a gas production well using, radio-frequency electromagnetic radiation	M A Fatykhov, V A Akchurina and M V Stolpovsky	Bashkir State Pedagogical University n.a. M.Akmulla, Ufa, Russia; Ufa State Petroleum Technological University, Ufa, Russia
MIP-5076	The energy industry in Russia: assessment of the state, problems and prospects	Oksana B Sheveleva, Ekaterina V Slesarenko, Tatiana F Mamzina and Nina D Vagina	T.F. Gorbachev Kuzbass State Technical University, Kemerovo, Russian Federation
MIP-5077	Effect of electromagnetic field on water-in-oil emulsion and calcium carbonate crystallization	S R Alimbekova and V A Dokichev	Ufa State Aviation Technical University, Ufa, Russia; Ufa Institute of Chemistry UFRS RAS, Ufa Russia
MIP-5078	Passenger gas diesels to preserve the city's ecology	V A Likhonov, O P Lopatin and P N Vylegzhanin	Vyatka State Agricultural Academy, Kirov, Russia
MIP-5079	Increasing the uniformity of distribution of the oscillations of the disc ultrasound radiators for gas media	V N Khmelev, V A Nesterov and A V Shalunov	Biysk Technological Institute (branch) of the Altay State Technical University, Biysk, Russian Federation
MIP-5080	Influence of main chain transmitters and cross-growth reaction on characteristics of SDRC rubber	V V Bronskaya, G A Aminova, G V Manuyko, T V Ignashina, D V Bashkirov, O S Kharitonova and D S Balzamov	Kazan National Research Technological University, Kazan State Power Engineering University, Kazan, Russian Federation
MIP-5081	The mutual influence of electromagnetic and mechanical processes in dynamic modes of inertial vibrating electric drives	M M Mirsadov, B KH Fayzullayev, I A Abdullabekov, A S Kupriyanova, D I Kurbanbayeva and U A Boqijonov	Tashkent State Technical University
MIP-5082	Modeling and experimental study of an ion source	V A Obukhov, A I Mogulkin, O D Peysakhovich, V V Kozhevnikov, V V Nigmatzyanov and V V Svotina	Moscow Aviation Institute, Moscow, Russia
MIP-5083	Influence of methanol use in diesel fuel on energy and economic indicators	A N Chuvashov and A I Chuprakov	Department of thermal engines, automobiles and tractors, Vyatka State Agricultural Academy, Kirov, Russia

MIP-5084	Metrological parameters of semiconductor sensors of hydrogen sulfide SCS-H ₂ S with membrane coatings based on tungsten and copper oxides	I E Abdurakhmanov, R Kh Begmatov, E Abdurakhmanov, O N Kholboev and F F Kholmiraev	Samarkand State University, Samarkand, Uzbekistan; Djizzakh State Pedagogical Institute, Djizzakh, Uzbekistan
MIP-5085	Complex permittivity of organic solvents at microwave frequencies	A Yu Zarubina, S G Kibets, A A Politiko, V N Semenenko, K M Baskov, V A Chistyayev	Institute for Theoretical and Applied Electromagnetics, Russian Academy of Sciences, Moscow, Russia
MIP-5086	Investigation of Corona-Resistant Coatings for the Dielectric Surface in a Plasma-Chemical Ozone Generator on the base of Dielectric Barrier Discharge	V V Andreev, G A Kravchenko and Yu P Pichugin	Chuvash State University, Cheboksary, Russia
MIP-5087	The effect of operational modes of diesel engines to emissions of nitrogen oxides	O P Lopatin	Vyatka State Agricultural Academy, Kirov, Russia
MIP-5088	Quality control of electrical energy production	I Ya Lvovich, Ya E Lvovich, A P Preobrazhenskiy, Yu P Preobrazhenskiy, O N Choporov	Voronezh institute of high technologies, Voronezh, Russia, Voronezh state technical university, Voronezh, Russia
MIP-5089	Analysis of the use of methanol with a pilot portion diesel fuel	A N Chuvashiev and A I Chuprakov	Department of thermal engines, automobiles and tractors, Vyatka State Agricultural Academy, Kirov, Russia
MIP-5090	Innovative Development Technologies of Oil and Gas Industries	Oksana N Kiseleva, Alexandra V Kulbyakina and Nikita A Ozerov	Yuri Gagarin State Technical University of Saratov
MIP-5091	Digital control circuit of a pulse voltage stabilizer implemented by field-programmable gate array	S N Titovskii, T S Titovskaya and N V Titovskaya	Krasnoyarsk State Agrarian University; Siberian Federal University, Krasnoyarsk, Russia
MIP-5092	Concentration of particulate matter in the surface layer of the atmosphere of the village of Drokino (Krasnoyarsk territory)	V V Zavoruev and E N Zavorueva	Institute of Computational Modeling SB RAS, Krasnoyarsk, Russia; Siberian Federal University, Krasnoyarsk, Russia
MIP-5093	Problem analysis of improving the environmental performance of public transport	L A Ugarova, E A Kravtsova and N E Danilina	Togliatti State University, Togliatti City, Samara Region, Russian Federation

MIP-5094	Mathematical model of evaporator-condenser	V V Chernenko and D V Chernenko	Reshetnev Siberian State University of Science and Technology, Krasnoyarsk, Russia
MIP-5095	Impact of a reactor design features on wood raw materials torrefaction parameters before granulation	R R Safin, R V Salimgaraeva, A V Safina, E I Baigildeeva and N V Kraysman	Kazan National Research Technological University, Kazan, Russia
MIP-5096	Study of TGM-94 boiler with variable feed water temperature using a calculation model	V V Shaposhnikov, E M Dyakonov, Ya O Mihalko and D N Batko	Kuban State Technological University, Krasnodar; Platov South-Russian State Polytechnic University (NPI), Novocherkassk, Russia
MIP-5097	Inhomogeneous pollution by particulate matter of the atmospheric surface layer of the Oktyabrsky district of the city of Krasnoyarsk in 2019	E N Zavorueva and V V Zavoruev	Siberian Federal University, Krasnoyarsk, Russia; Institute of Computational Modeling SB RAS, Krasnoyarsk, Russia
MIP-5098	Study of the influence of magnetic properties of amorphous alloys on the electromagnetic field of current transformers with a short-circuited circuit	Xenia A Klimenko	Omsk State Technical University, Omsk, Russia
MIP-5099	Heat and mass transfer in unit of cooling tower filler with advanced gas-liquid contact surface	A V Dmitriev, I N Madyshev, A I Khafizova, V V Kharkov and M R Vakhitov	Kazan State Power Engineering University; Kazan National Research Technological University, Kazan, Russia
MIP-5100	Matrix model of energy audit	E B Izmailov, A S Amuzade, T I Tankovich and V V Shevchenko	Siberian Federal University, Krasnoyarsk, Russia
MIP-5101	Investigation of particular parameters of a semiconductor ammonia gas analyzer	O A Kuchkarov, I E Abdurakhmonov, Zh N Begimkulov, M A Mampirzaev, D A Khamraeva and E Abdurakhmanov	Samarkand State University, Samarkand, Uzbekistan
MIP-5102	Development and research of metrological characteristics of selective thermocatalytic methane (natural gas) sensor	Kh G Sidikova, I E Abdurakhmanov, N I Mumunova, O N Kholboev and E Abdurakhmanov	Jizzakh State Pedagogical Institute, Jizzakh, Uzbekistan; Samarkand State University, Samarkand, Uzbekistan
MIP-5103	Analysis of pre-filter models using numerical simulation	R R Khusainov, O V Soloveva, S A Solovev, L V Akhmetvaleeva	Kazan State Power Engineering University, Kazan, Russia

MIP-5104	Nitride solar cells - improving efficiency based on simulation	O Rabinovich and S Podgornaya	National university of science and technology "MISiS", Moscow, Russian Federation
MIP-5105	Ensuring the safety and reliability of automated manufacturing processes of hazardous industries	I V Kovalev, P A Kusnetsov, V V Losev, M V Saramud, A A Voroshilova and A S Andronov	Siberian Federal University, Reshetnev Siberian State University of Science and Technology, Krasnoyarsk State Agrarian University, Krasnoyarsk Science and Technology City Hall of the Russian Union of Scientific and Engineering Association, Krasnoyarsk complex aviation rescue center EMERCOM of Russia, Krasnoyarsk, Russia
MIP-5106	Control unit for a high voltage installation of X-ray microtomograph	A A Trubitsyn, B A Polonsky, E Yu Grachev, G V Davydov and K D Agaltsov	Ryazan State Radio Engineering University, Ryazan, Russia