

# The Program of 8th International Scientific Conference on Information, Control, and Communication Technologies



Vladikavkaz, October 01-05  
2024



## V.A. Trapeznikov Institute of Control Sciences of RAS



K. L. Khetagurov North  
Ossetian State University



V.A. Kotelnikov Institute  
of Radio Engineering  
and Electronics of RAS



Moscow Power  
Engineering Institute



Astrakhan State Technical University

V. A. Trapeznikov Institute of Control Sciences of RAS

K. L. Khetagurov North Ossetian State University

V.A. Kotelnikov Institute of Radio Engineering and Electronics of RAS

Moscow Power Engineering Institute (MPEI)

Astrakhan State Technical University

# **Program**

**of 8<sup>th</sup> International Conference on  
INFORMATION, CONTROL, AND COMMUNICATION  
TECHNOLOGIES (ICCT-2024)**

**October 1-5, 2024  
Vladikavkaz, Russian Federation**

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Prof., Sydney, Australia

## Schedule of Conference ICCT-2024

**01.10.2024**

**Tuesday, room 313**

No.	Time	Speakers	Presentation
1	10.00 10.20	<p style="text-align: center;"><i>Acad. D. Novikov,</i> Director of Institute of Control Science of RAS</p> <p style="text-align: center;"><i>Prof. A. Ogoev,</i> Vice Rector of North Ossetian State University</p> <p style="text-align: center;"><i>V.Z. Bazaev,</i> Minister of Natural Resources and Environment of the Republic of North Ossetia- Alania</p> <p style="text-align: center;"><i>Prof. K. Vytovtov,</i> Co-chairman, leading researcher of Institute of Control Science of RAS</p>	Conference Opening
2	10.20 11.00	<b><i>R.V. Meshcheryakov</i></b> Moscow, Russian Federation	Information and technical means of ergatic robotic systems
3	11.00 11.40	<b><i>K.R. Aydazada</i></b> Baku, Azerbaijan	Feedback control taking into account the state of the object at the current and previous time points and optimizing the placement of measurement points
4	11.40 12.20	<b><i>V.B. Zaalishvili</i></b> Vladikavkaz, Russian Federation	Geological consequences of natural disasters of various nature.
5	12.20 13.00	<b><i>Dr. Vidyottama Jain</i></b> Rajasthan, India	Performance analysis of multi-server Semi-Markov model for NB-IoT devices
6	13.00 14.00	<b>Lunch</b>	

<b>14.00-19.00 Sessions</b>
<b>19.00. Welcome party</b>
<b>02.10.2024 Wednesday</b>
<b>10.00-13.00 Sessions</b>
<b>13.00 – 14.00 Lunch</b>
<b>14.00 – 15.00 Excursion to the K. L. Khetagurov North Ossetian State University</b>
<b>15.00-19.00 Sessions</b>
<b>03.10.2024 Thursday</b>
<b>10.00-13.00 Sessions</b>
<b>13.00 – 14.00 Lunch</b>
<b>14.00-20.00 City tour, local history Museum, Caucasian dinner</b>
<b>04.10.2024 Friday</b>
<b>10.00-11.00 Awarding</b>
<b>11.00-19.00 Excursion to the mountains</b>
<b>05.10.2024 Saturday</b>
<b>9.00-16.20 Sessions. Conference closing</b>

**Session 1. Scientific Instrumentation in Telecommunication and Control Systems**

**(14.00-19.00, Tuesday 01.10.2024, room 313)**

**Chairman Prof. K. Vytovtov**

1	14.00 14.20	<p align="center"><b><i>D. A. Ovchinnikov<sup>1</sup>, S. A. Baranov<sup>1</sup>, N. M. Barbin<sup>1,2,3</sup>, V. T. Kuanishev<sup>1</sup></i></b></p> <p><sup>1</sup>The Ural Technical Institute of Communications and Informatics (branch) of the Siberian State University of Telecommunications and Informatics, Yekaterinburg, <sup>2</sup>Urals State Institute of Fire Service, Yekaterinburg, <sup>3</sup>Ural State Agrarian University (GAU), Yekaterinburg</p>	Identification of the amount of salt impurities in an aqueous solution using radiointroscopy
2	14.20 14.40	<p align="center"><b><i>G. F. Karlova, M. S. Yegunov, E. A. Belozyorova</i></b></p> <p>Tomsk State University of Control System and Radioelectronics, Tomsk</p>	Using the EHF Transceiver Module for Designing Contactless Encoder
3	14.40 15.00	<p align="center"><b><i>V. S. Podlazov</i></b></p> <p>V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow</p>	Distributed arithmetic in optical channel based on photonic switches
4	15.00 15.20	<p align="center"><b><i>A. V. Balabanov, L. Y. Duda, A. O. Sokolov</i></b></p> <p>V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow</p>	Non-Contention-Based Microfluidic Counting Trigger
5	15.20 15.40	<p align="center"><b><i>M. P. Kalibabchuk</i></b></p> <p>V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow</p>	Development of Microfluidic Generator
6	15.40 16.00	<p align="center">M. T. Nguyen, A. F. Alhaj Hasan,</p>	Comparative analysis of UHF-horn antenna sparse



		T. R. Gazizov Tomsk State University of Control Systems and Radioelectronics, Tomsk	structures characteristics at different frequencies
7	16.00 16.20	<b>M. G. Ivanov,</b> <b>K. A. Vytovtov,</b> <b>E. A. Barabanova</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Mathematical model for estimating beam attenuation in the all-optical network with decentralized control
8	16.20 16.40	<b>G. A. Pikina<sup>1</sup>,</b> <b>F. F. Pashchenko<sup>2</sup>,</b> <b>D. M. Suslov<sup>1</sup>,</b> <b>A. F. Pashchenko<sup>2</sup></b> <sup>1</sup> Moscow Power Engineering Institute, Moscow, <sup>2</sup> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Improving the power stabilization quality for an 800 MW power unit with a TGMP-204 once-through boiler
9	16.40 17.00	<b>N. I. Petrov</b> Scientific and Technological Centre of Unique Instrumentation of RAS, Moscow	Photonic spin Hall effect in surface plasmon resonance structures: influence of polarization state and angle of incidence
10	17.00 17.20	<b>L. A. Pleshakova<sup>1</sup>,</b> <b>M. I. Shikulskiy<sup>1</sup>,</b> <b>O. M. Shikulskaya<sup>2</sup>,</b> <b>G. B. Abuova<sup>2</sup></b> <sup>1</sup> Astrakhan State University, Astrakhan, <sup>2</sup> Astrakhan State University of architecture and civil engineering, Astrakhan	Energy-information modeling of in-circuit transformations in fiber optic elements of measuring equipment for scientific instrumentation
11	17.20 17.40	<b>A. S. Sovlukov<sup>1</sup>,</b> <b>V. V. Yatsenko<sup>2</sup>,</b> <b>A. V. Kaychenov<sup>2</sup></b> <sup>1</sup> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow, <sup>2</sup> Murmansk Arctic University, Murmansk	Radiofrequency Method for Measurement of a Dielectric Liquid Level in a Tank independently on Its Dielectric Permittivity

12	17.40 18.00	<b><i>D. A. Balakin, Sh. Alali</i></b> Moscow Power Engineering Institute, Moscow	Estimation of QT interval duration using a modernized wavelet transform based on Gauss-Hermite functions
13	18.00 18.20	<b><i>I.N. Miroshnikova, V.V. Krutskikh, A.N. Ushkov, H. Arikat, A.Yu. Trofimov, A.M. Ignatov, D.S. Chukashov</i></b> Moscow Power Engineering Institute, Moscow	Effect of the Shape of the Protrusion of the NRD-waveguide Rod on the Characteristics of the Node
14	18.20 18.40	<b><i>I.N. Miroshnikova, V.V. Krutskikh, A.N. Ushkov, A.E. Mirzoyan, A.Yu. Trofimov, A.M. Ignatov, V.S. Flanden</i></b> Moscow Power Engineering Institute, Moscow	Influence of the Shape of Dielectric Element installed in the Gap of the Rod on the Characteristics of the NRD-waveguide
15	18.40 19.00	<b><i>I. A. Matveeva</i></b> Samara National Research University named after academician S.P. Korolev, Samara	Research of the Feature Informativeness in the Classification of Raman Spectra for the Identification of Malignant Melanoma of the Skin

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**Session 2. Hardware and software for information and communication systems**

**(14.00-19.00 Tuesday 01.10.2024, room 212)**

**Chairman Prof. E.A. Barabanova**

1	14.00 14.20	<b>V. L. Abramian, A. M. Sokolov, A. A. Larionov, M. A. Byzova, M. V. Lashin</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Simulation of RFID Tag Reading Time by a Reader Installed on a UAV
2	14.20 14.40	<b>D. V. Kutuzov<sup>1</sup>, A. V. Osovsky<sup>1</sup>, N. S. Maltseva<sup>1</sup>, D. V. Starov<sup>2</sup>, M. F. Rudenko<sup>1</sup>, R. M. Bakalaeva<sup>1</sup></b> <sup>1</sup> Astrakhan State Technical University, Astrakhan, <sup>2</sup> Astrakhan State University, Astrakhan	Simulation of NoC communication structures performance for self- similar traffic
3	14.40 15.00	<b>N. A. Suhorukova</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Studies of the Stability of a Two-stage Microfluidics Generator and the Construction of Mathematical Models
4	15.00 15.20	<b>A. V. Osovsky, D. V. Kutuzov, N. S. Maltseva, K. V. Perova, V. N. Esaulenko</b> Astrakhan State Technical University, Astrakhan	Features of 5G mobile traffic and analysis of the resulting traffic patterns
5	15.20 15.40	<b>D. A. Poleshchenko, V. A. Petrov, I. S. Mikhailov</b>	Modernization of the Automated Control Approach for Crop

		National University of Science and Technology MISIS, Stary Oskol	Development Indicators Using UAV Photography
6	15.40 16.00	<b>A. Y. Larionov<sup>1</sup>, E. E. Karanova<sup>2</sup></b> <sup>1</sup> ITMO University, Saint-Petersburg, <sup>2</sup> LLC «Special Technology Center», Saint-Petersburg	Development of scenarios for analyzing the performance of 5G networks in the NS-3 simulator
7	16.00 16.20	<b>Y. V. Nikityuk<sup>1</sup>, A. F. Vasiliev<sup>1</sup>, L. N. Marchenko<sup>1,2</sup>, A. V. Semchenko<sup>1</sup>, D. L. Kovalenko<sup>1</sup></b> <sup>1</sup> Francisk Skorina Gomel State University, Gomel, Belarus <sup>2</sup> «North-West Center for Mathematical Research named after Sofia Kovalevskaya» Pskov State University, Pskov	Determination of parameters of two-beam laser splitting of silicate glasses using neuro-fuzzy networks
8	16.20 16.40	<b>T. Ph. Dang, A. F. Alhaj Hasan, T. R. Gazizov</b> Tomsk State University of Control Systems and Radioelectronics, Tomsk	Notes on the analysis of crossed wire scatterers with junction by a fast MoM-based code with step basis functions
9	16.40 17.00	<b>N. I. Gorlov<sup>1</sup>, I. V. Bogachkov<sup>2</sup>, E. T. Kitova<sup>3</sup></b> <sup>1</sup> Siberian State University of Telecommunications and Computer Science, Novosibirsk,	Measurement of peak frequency in Mandelstam-Brillouin scattering spectrum

		<sup>2</sup> Omsk State Technical University, Omsk, <sup>3</sup> Novosibirsk State Technical University, Novosibirsk	
10	17.00 17.20	<p style="text-align: center;"><b><i>E. Yu. Davydov<sup>1</sup>, S. A. Malgina<sup>1</sup>, M. P. Farkhadov<sup>2</sup>, O. V. Blinova<sup>2</sup></i></b></p> <p><sup>1</sup>All-Russian Scientific Research Institute of Experimental Physics, Sarov,  <sup>2</sup>V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow</p>	Creation of a system for processing scientific and technical documentation based on a modular architecture
11	17.20 17.40	<p style="text-align: center;"><b><i>M. T. Nguyen, A. F. Alhaj Hasan, T. R. Gazizov</i></b></p> <p>Tomsk State University of Control Systems and Radioelectronics, Tomsk</p>	Comparative analysis of UHF-band horn antenna sparse structures characteristics at different frequencies using OCGA
12	17.40 18.00	<p style="text-align: center;"><b><i>V. V. Konyashov<sup>1,2</sup>, A. S. Sergeev<sup>1,2</sup>, A. V. Fedorov<sup>1</sup>, K. A. Konyashova<sup>2</sup>, O. A. Kolganov<sup>1,2</sup></i></b></p> <p><sup>1</sup>ITMO University, Saint-Petersburg,  <sup>2</sup>Scientific and Technical Center «Etalon» Saint-Petersburg,</p>	Algorithm for Detecting Surface Defects in Hot-Rolled Sheet Metal for Technical Vision Systems
13	18.00 18.20	<p style="text-align: center;"><b><i>V. V. Shvyrov, D. A. Kapustin, R. N. Sentyai</i></b></p>	On the use of neural network models on the Transformer architecture

		Lugansk State Pedagogical University, Lugansk	for detecting vulnerabilities in software code Transformer architecture for detecting vulnerabilities in program code
14	18.20 18.40	<b><i>M. T. Nguyen,</i></b> <b><i>A. F. Alhaj Hasan,</i></b> <b><i>T. R. Gazizov</i></b> Tomsk State University of Control Systems and Radioelectronics, Tomsk	Sparse wire grid C-band conical horn antenna
15	18.40 19.00	<b><i>M. E. Belkin<sup>1</sup>,</i></b> <b><i>S. Y. Kuzikov<sup>2</sup>,</i></b> <b><i>A. S. Sigov<sup>1</sup></i></b> <sup>1</sup> MIREA – Russian Technological University, Moscow, <sup>2</sup> Saint-Petersburg State University of Aerospace Instrumentation, Saint-Petersburg	Development of modern information and telecommunication environment in the coastal zone of the Arctic and Far East coasts

**Session 2. Hardware and software for information and communication systems**

**(9.00-13.00 Saturday 05.10.2024, room 212)**

**Chairman Prof. E. Barabanova**

1	10.00 10.20	<b><i>A. V. Sotnikov,</i></b> <b><i>A. V. Bodnar</i></b> Donetsk national technical university, Donetsk	Development of game graphics and its future prospects
2	10.20 10.40	<b><i>R. E. Beloshitsky,</i></b> <b><i>A. V. Bodnar</i></b> Donetsk national technical university, Donetsk	Overview of security methods for videoconferencing protocols

3	10.40 11.00	<b>A. O. Istyagin, A. V. Bodnar</b> Donetsk national technical university, Donetsk	Prospects of application of neural networks in the task of classification
4	11.00 11.20	<b>I. A. Tretiakov, Ia. I. Rushechnikov, V. V. Danilov</b> Donetsk State University, Donetsk	Algorithm for automated estimation of the volume of TEMPEST signals
5	11.20 11.40	<b>Phuc Hao Do<sup>1</sup>, Tran Duc Le<sup>2</sup>, Aleksandr Berezkin<sup>1</sup>, Ruslan Kirichek<sup>1</sup></b> <sup>1</sup> The Bonch-Bruевич Saint- Petersburg State University of Telecommunications, Saint- Petersburg, <sup>2</sup> University of Wisconsin- Stout, Menomonie, Wisconsin, USA	ST-GNN-Powered Compression for Latency Reduction in Hybrid Satellite-Terrestrial Networks
6	11.40 12.00	<b>A. V. Balabanov, A. M. Kasimov, A. I. Popov</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Improving the efficiency of jet control devices
7	12.00 12.20	<b>O. V. Kudryavtseva<sup>1,2</sup>, M. A. Kudryavtseva<sup>2</sup></b> <sup>1</sup> Astrakhan State Technical University, Astrakhan, <sup>2</sup> Astrakhan State University of Architecture and Civil Engineering, Astrakhan	Drivers of digital technologies implementation in the region's human resources management

8	12.20 12.40	<p><b><i>A. I. Burumbaev<sup>1</sup>, S. D. Kononov<sup>1</sup>, V. T. Kuanyshev<sup>1</sup>, N. M. Barbin<sup>1,2,3</sup></i></b></p> <p><sup>1</sup>The Ural Technical Institute of Communications and Informatics (branch) of the Siberian State University of Telecommunications and Informatics, Yekaterinburg, <sup>2</sup>Ural Institute of GPS of the Ministry of Emergency Situations of Russia, Yekaterinburg, <sup>3</sup>Ural State Agrarian University (GAU), Yekaterinburg</p>	The use of AI to process measurement results in order to predict them
9	12.40 13.00	<p><b><i>Hoang Van Tuan</i></b></p> <p>Moscow Institute of Physics and Technology, Moscow</p>	Improving the effectiveness of the active constellation extension method to reduce the PAPR of OFDM signals on DVB-T2

**Session 2. Hardware and software for information and communication systems**

**(14.00-16.00 Saturday 05.10.2024, room 212)**

**Chairman Prof. E. Barabanova**

1	14.00 14.20	<p><b><i>Liang Xiangjun<sup>1</sup>, Pan Changyong<sup>2</sup>, Zeng Qingjun<sup>1</sup></i></b></p> <p><sup>1</sup>China Broadcasting Network Group Co., Ltd., Beijing, China, <sup>2</sup>Tsinghua University, Beijing, China</p>	Multimedia service trials based on 5G NR MBS
2	14.20 14.40	<p><b><i>Ke Mao<sup>1</sup>, Haidong Fang<sup>1</sup>, Changyong Pan<sup>2</sup>, Siyuan Li<sup>1</sup>, Lu Tong<sup>1</sup>, Xiafei Zhao<sup>1</sup></i></b></p>	HDR Vivid Automatic Testing Method for Multimedia output Device



		<sup>1</sup> National Engineering Laboratory for Digital TV(Beijing), Beijing, China <sup>2</sup> National Research Center for Information Science and Technology Tsinghua University, Beijing, China	
3	14.40 15.00	<b><i>P. Nahar,</i></b> <b><i>A. Ghuraiya,</i></b> <b><i>I. M. Voronkov,</i></b> <b><i>A. A. Kharlamov</i></b> Moscow Institute of Physics and Technology, Dolgoprudny	IoT System Architecture for a Smart City
4	15.00 15.20	<b><i>Dang Minh Cong</i></b> Moscow Institute of Physics and Technology, Dolgoprudny	Evaluation of the performance of a multiphase queuing system with retrial orbit using neural network model
5	15.20 15.40	<b><i>V. A. Loginov,</i></b> <b><i>M. A. Mirzoian,</i></b> <b><i>E. M. Khorov</i></b> Institute for Information Transmission Problems of the RAS, Moscow	C-DL: Coordinated Direct Links for Serving VR Traffic in Wi-Fi 8 Networks
6	15.40 16.00	<b><i>A. M. Kasimov,</i></b> <b><i>A. I. Popov</i></b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Improvement of Performances of Fluidic Control Devices

**Session 3. Technical robotics**  
**(10.00-12.40, Thursday, 03.10.2024, room 313)**

**Chairman Prof. R. Meshcheryakov**

1	10.00 10.20	<b><i>K. D. Rusakov,</i></b> <b><i>T. Y. Gladkikh,</i></b> <b><i>A. V. Grafenkov</i></b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Oil pollution detection in aquatic ecosystems using UAVs and multispectral imaging based on deep learning technologies
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2	10.20 10.40	<b>A. N. Migachev</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Homogeneous surface control system
3	10.40 11.00	<b>S. P. Khripunov</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Problematic issues of robot application in man-made conflict environments
4	11.00 11.20	<b>P. M. Trefilov</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Algorithm for complex data processing of on-board navigation system of a small UAV
5	11.20 11.40	<b>A. A. Dubelschikov<sup>1</sup>,</b> <b>T. R. Gamberov<sup>2</sup>,</b> <b>T. G. Tsoy<sup>2</sup>,</b> <b>K.-H. Hsia<sup>3</sup>,</b> <b>E. A. Magid<sup>1,2</sup></b> <sup>1</sup> National Research University Higher school of economics, Moscow, Russia, <sup>2</sup> Kazan Federal University, Kazan, Russia, <sup>3</sup> National Yunlin University of Science & Technology, Yunlin, Taiwan, China	LoRa technology application within the Internet of Flying Things concept for data collection from IoT devices
6	11.40 12.00	<b>R. M. Mishenin<sup>1</sup>,</b> <b>A. E. Eryomin<sup>2</sup>,</b> <b>T. G. Tsoy<sup>2</sup>,</b> <b>E. A. Magid<sup>1,2</sup></b> <sup>1</sup> Higher School of Economics University, Moscow, <sup>2</sup> Kazan Federal University, Kazan	Implementation and validation of the CautiousBug algorithm in ROS Noetic
7	12.00 12.20	<b>A. I. Zagirov,</b> <b>E. V. Chebotareva,</b> <b>S. I. Osokin</b> Kazan Federal University, Kazan	Human-Robot Collision Analysis in Gazebo environment
8	12.20 12.40	<b>M. D. Roslavtsev<sup>1</sup>,</b> <b>R. N. Safin<sup>2</sup>,</b> <b>A. E. Eryomin<sup>2</sup>,</b> <b>E. A. Magid<sup>1,2</sup></b>	Implementation of Rev1 and Rev2 bug family algorithms in ROS Noetic

		<sup>1</sup> Higher School of Economics University, Moscow, <sup>2</sup> Kazan Federal University, Kazan	
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**Session 4. Digital ecosystems, production and logistics management  
(10.00-13.00, Wednesday, 02.10.2024, room 313)**

**Chairman Prof. O. Dranko**

1	10.00 10.20	<b><i>O. Dranko</i></b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Digital Businesses Ecosystem Financial Health
2	10.20 10.40	<b><i>I. O. Bondareva<sup>1</sup>, A. A. Khanova<sup>1</sup>, O. M. Protalinsky<sup>2</sup></i></b> <sup>1</sup> Astrakhan State Technical University, Astrakhan, <sup>2</sup> Moscow Power Engineering Institute, Moscow	Concept of Cognitive Cargo Port Risk Management
3	10.40 11.00	<b><i>Yu. S. Zatuliveter, E. A. Fishchenko</i></b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Towards hybrid computing with scalable mass parallelism for high- performance cloud computing of digital twins
4	11.00 11.20	<b><i>S. B. Galina<sup>1</sup>, Y. A. Turovsky<sup>1,2</sup>, R. R. Galin<sup>1</sup></i></b> <sup>1</sup> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow, <sup>2</sup> Voronezh State University, Voronezh	Numerical modeling results of the combined approach of labor cost estimation

5	11.20 11.40	<p style="text-align: center;"><b>S. V. Kuleshov,</b> <b>A. A. Zaitseva,</b> <b>I. O. Shalnev</b></p> <p>St. Petersburg Federal Research Center of the Russian Academy of Sciences, Saint-Petersburg</p>	<p style="text-align: center;">Development of Smart Space Architecture for Dairy Farming Management</p>
6	11.40 12.00	<p style="text-align: center;"><b>T. A. Nechay,</b> <b>G. V. Korop,</b> <b>R. N. Sentyai</b></p> <p>Lugansk State Pedagogical University, Lugansk</p>	<p style="text-align: center;">Types and kinds of UAS: applications, functions and training systems</p>
7	12.00 12.20	<p style="text-align: center;"><b>Y. V. Nikityuk<sup>1</sup>,</b> <b>G. A. Baevich<sup>1</sup>,</b> <b>A. V. Maksimenko<sup>1</sup>,</b> <b>C. Ma<sup>2</sup>,</b> <b>L. Wang<sup>2</sup>,</b> <b>I. Y. Aushev<sup>3</sup></b></p> <p><sup>1</sup>Francisk Skorina Gomel State University, Gomel, Belarus, <sup>2</sup>Nanjing University of Science and Technology, Nanjing, China, <sup>3</sup>University of Civil Protection of the Ministry of Emergency Situations, Minsk, Belarus</p>	<p style="text-align: center;">Optimization of parameters of pulse cladding of 30XГСН2А steel with circular laser beams in DesignXplorer module</p>
8	12.20 12.40	<p style="text-align: center;"><b>V. V. Bakalina,</b> <b>A. V. Bodnar</b></p> <p>Donetsk national technical university, Donetsk</p>	<p style="text-align: center;">Simulation modeling of logistics business processes and supply chains</p>

9	12.40 13.00	<p><b>A. A. Sereda,</b>  <b>Y. V. Nikityuk,</b>  <b>A. N. Serdyukov,</b>  <b>E. B. Shershnev,</b>  <b>S. I. Sokolov</b></p> <p>Francisk Skorina Gomel State University, Gomel, Belarus</p>	Use of photoelasticity method to improve the efficiency of laser controlled thermo-cutting of silicate glasses
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**Session 4. Digital ecosystems, production and logistics management**  
**(10.00-13.00, Thursday, 03.10.2024, room 211)**  
**Chairman Prof. O. Dranko**

1	10.00 10.20	<p><b>O. V. Kudryavtseva<sup>1,2</sup>,</b>  <b>M. A. Kudryavtseva<sup>2</sup></b></p> <p><sup>1</sup>Astrakhan State Technical University, Astrakhan,  <sup>2</sup>Astrakhan State University of Architecture and Civil Engineering, Astrakhan</p>	Impact of the digitalization of the economy on the labor market in modern Russia
2	10.20 10.40	<p><b>V. V. Tsyganov</b></p> <p>V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow</p>	Self-teaching archetype for binary ranking in production management
3	10.40 11.00	<p><b>O. I. Dranko<sup>1</sup>,</b>  <b>V. A. Kushnikov<sup>2</sup>,</b>  <b>A. F. Rezhikov<sup>1</sup>,</b>  <b>I. A. Stepanovskaya<sup>1</sup>,</b>  <b>A. S. Bogomolov<sup>2</sup></b></p> <p><sup>1</sup>V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow,  <sup>2</sup>Saratov Scientific Center of RAS, Saratov</p>	Oscillatory-Wave Approach to System-Dynamic Modeling of Industrial Cyber-Physical Systems

4	11.00 11.20	<b><i>E. B. Babayan</i></b> Autonomous non-profit organization «Digital Country Digital Economy Development Center», Moscow	Conceptual Framework for the Creation of the Economic Cooperation Space: Model, Methods of Implementation, Practice
5	11.20 11.40	<b><i>Ya. Reshetnyak</i></b>	Digital ecosystems, production and logistics management
6	11.40 12.00	<b><i>Y. V. Nikityuk<sup>1</sup>, A. N. Serdyukov<sup>1</sup>, D. G. Piliptsov<sup>1</sup>, B. Joe<sup>2</sup></i></b> <sup>1</sup> Francisk Skorina Gomel State University, Gomel, Belarus, <sup>2</sup> Taiyuan University of Technology, Taiyuan, China	Determination of diamond laser processing parameters using finite element method and fuzzy models
7	12.00 12.20	<b><i>O. V. Kudryavtseva<sup>1,2</sup>, M. A. Kudryavtseva<sup>2</sup></i></b> <sup>1</sup> Astrakhan State Technical University, Astrakhan, <sup>2</sup> Astrakhan State University of Architecture and Civil Engineering, Astrakhan	Information technologies of decision-making support in personnel management
8	12.20 12.40	<b><i>Yu. V. Nikitjuk, V. A. Prokhorenko, O. M. Demidenko, V. S. Smorodin, A. V. Varuyeu D. L. Kovalenko</i></b> Francisk Skorina Gomel State University, Gomel, Belarus	Software package for modeling and optimizing parameters of laser processing of brittle non-metallic materials using laser splitting methods

9	12.40 13.00	<b>P. Yu. Buchatskiy, S. V. Onishchenko, K. A. Kuzmin, S. V. Teploukhov</b> Adyge State University, Maykop	Modeling of wind generator in the power supply system of an individual consumer using SimInTech
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**Session 5. Materials for infocommunication systems**

**(10.00-13.00 Wednesday, 02.10.2024, room 212)**

**Chairman Prof. A. V. Osovsky**

1	10.00 10.20	<b>N. I. Petrov<sup>1</sup>, Y. M. Sokolov<sup>1</sup>, V. V. Stoyakin<sup>1</sup>, V. A. Danilov<sup>1</sup>, V. V. Popov<sup>2</sup>, B. A. Usievich<sup>3</sup></b> <sup>1</sup> Federal State Budgetary Institution of Science Scientific and Technological Centre of Unique Instrumentation of RAS, Moscow <sup>2</sup> M. V. Lomonosov Moscow State University, Moscow <sup>3</sup> Prokhorov General Physics Institute, Moscow	Observation of the Imbert- Fedorov shift in subwavelength diffraction gratings enhanced by surface plasmon resonance
2	10.20 10.40	<b>D. P. Emanov, Sinitsa, K. M. Moiseev, A. S. Osipkov</b> Bauman Moscow State Technical University, Moscow	Measurement of gh coefficient of PVDF segmentoelectric films using a resonator tube
3	10.40 11.00	<b>E. L. Buryanskaya<sup>1,2</sup>, S. V. Kondrashov<sup>1</sup>, A. S. Osipkov<sup>1</sup>, S. A. Lermontov<sup>3</sup>, N. E. Vlasenko<sup>3</sup>, D. K. Derimedved<sup>1</sup>, D. A. Petrova<sup>2</sup>, M. O. Makeev<sup>1</sup>, P. A. Kiselev<sup>2</sup></b>	Development of flexible electronics materials based on ferroelectric copolymers of vinylidene fluoride with tetrafluoroethylene derived from xerogel

		<sup>1</sup> Bauman Moscow State Technical University, Moscow, <sup>2</sup> National University of Science and Technology MISIS, Moscow, <sup>3</sup> Institute of Physiologically Active Substances of RAS, Chernogolovka	
4	11.00 11.20	<b><i>A. S. Voronin<sup>1,2</sup>,  M. O. Makeev<sup>1</sup>,  P. A. Mikhalev<sup>1</sup>,  B. A. Parshin<sup>1</sup>,  I. V. Govorun<sup>3</sup>,  S. V. Khartov<sup>2</sup></i></b> <sup>1</sup> Bauman Moscow State Technical University, Moscow, <sup>2</sup> Federal Research Center «Krasnoyarsk Science Center» of the Siberian Branch of RAS, Krasnoyarsk <sup>3</sup> Kirensky Institute of Physics, Krasnoyarsk	Investigation of broadband shielding effect in mesh transparent conductor with irregular structure
5	11.20 11.40	<b><i>B. Basov,  A. S. Osipkov,  K. T. Makarova,  K. M. Moiseev</i></b> Bauman Moscow State Technical University, Moscow	Glow Discharge Plasma Polarization Effect on Piezoelectric and Surface Properties of PVDF Film
6	11.40 12.00	<b><i>E. V. Barabanova<sup>1</sup>,  A. V. Ilyinsky<sup>2</sup>,  O. A. Kolganov<sup>2</sup>,  K. A. Konyashova<sup>3</sup>,  I. Kinzhagulov<sup>2</sup>,  A. S. Umansky<sup>2</sup></i></b> <sup>1</sup> Saint Petersburg Mining University, Saint-Petersburg, <sup>2</sup> ITMO University, Saint-Petersburg, <sup>3</sup> Engineering and Design Center for Space Technology	Observation of the Imbert-Fedorov shift in subwavelength diffraction gratings enhanced by surface plasmon resonance



		Operation Support, Saint-Petersburg	
7	12.00 12.20	<b><i>K. V. Cherkasov,</i></b> <b><i>S. A. Meshkov,</i></b> <b><i>M. O. Makeev,</i></b> <b><i>N. V. Fedorkova,</i></b> <b><i>B. V. Khlopov</i></b> Bauman Moscow State Technical University, Moscow	Study of the diffusion processes impact on the resonant-tunneling diodes active area layers' chemical composition
8	12.20 12.40	<b><i>A. V. Semchenko<sup>1</sup>,</i></b> <b><i>V. V. Sidsky<sup>1</sup>,</i></b> <b><i>G. V. Chucheva<sup>2</sup>,</i></b> <b><i>D. Kiselev<sup>2</sup>,</i></b> <b><i>V. A. Pilipenko<sup>3</sup>,</i></b> <b><i>Y. A. Solovyov<sup>3</sup>,</i></b> <b><i>Y. V. Nikityuk<sup>1</sup>,</i></b> <b><i>S. A. Khakhomov<sup>1</sup></i></b> <sup>1</sup> Francisk Skorina Gomel State University, Gomel, Belarus, <sup>2</sup> V.A. Kotelnikov Institute of Radio Engineering and Electronics RAS (Fryazinsky Branch), Fryazino, Russia <sup>3</sup> Belmicroanalysis Center, JSC INTEGRAL, Minsk, Belarus	The influence of annealing temperature on the piezoelectric properties of SBTN structures
9	12.40 13.00	<b><i>G. A. Mustafayev<sup>1</sup>,</i></b> <b><i>A. I. Khasanov<sup>2</sup>,</i></b> <b><i>A. G. Mustafayev<sup>3</sup></i></b> <sup>1</sup> Kabardino-Balkarian State University named after H. M. Berbekov, Nalchik, <sup>2</sup> A. A. Kadyrov Chechen State University, Grozny, <sup>3</sup> Dagestan State University of National Economy, Makhachkala	Technology for the formation of diffusion barrier layers for optoelectronic devices

**Session 6. Control and automation systems**  
**(10.00-13.00 Wednesday, 02.10.2024, room 211)**  
**Chairman Prof. A.I. Zeifman**

1	10.00 10.20	<p><b><i>D. V. Khablov</i></b>  V. A. Trapeznikov Institute of  Control Sciences of RAS,  Moscow</p>	<p>Automatic Obstacle  Avoidance Module for a  Car with Predictive Control  and Measurement of the  Instantaneous Velocity  Vector</p>
2	10.20 10.40	<p><b><i>V. A. Petrov,</i></b>  <b><i>V. S. Vorobyov</i></b>  National University of Science  and Technology MISIS, Stary  Oskol</p>	<p>A Method for Adaptive  Control of the Overhead  Crane Drive to Dampen  Cargo Oscillation</p>
3	10.40 11.00	<p><b><i>K. A. Vytovtov,</i></b>  <b><i>E. A. Barabanova,</i></b>  <b><i>M. G. Ivanov</i></b>  V. A. Trapeznikov Institute of  Control Sciences of RAS,  Moscow</p>	<p>Method for constructing a  radar local navigation  system for a tethered high-  altitude module in the 800  MHz - 5.8 GHz band</p>
4	11.00 11.20	<p><b><i>A. E. Artamonov,</i></b>  <b><i>A. A. Kvasha,</i></b>  V. A. Trapeznikov Institute of  Control Sciences of RAS,  Moscow, Russia</p>	<p>Modeling microturbine for  microfluidic-membrane  control system of wheeled  vehicle</p>
5	11.20 11.40	<p><b><i>V. I. Goncharenko<sup>1</sup>,</i></b>  <b><i>A. A. Zekalo<sup>2</sup></i></b>  <sup>1</sup>V. A. Trapeznikov Institute of  Control Sciences of RAS,  Moscow,  <sup>2</sup>Moscow Aviation Institute,  Moscow</p>	<p>Pre-flight planning of UAV  flight using Delaunay  triangulation</p>

6	11.40 12.00	<b>Y. A. Tsygankov</b> National University of Science and Technology MISIS, Stary Oskol	Development of regression model for predicting the ball loading of the grinding unit of a mining plant
7	12.00 12.20	<b>D. V. Zheleznyakov,</b> <b>Y. A. Golovko,</b> <b>A. M. Lichter</b> Astrakhan State University, Astrakhan	Analysis of systems of information transmission to hydrobionts using signals of different modality
8	12.20 12.40	<b>M. D. Sargsyan<sup>1</sup>,</b> <b>S. A. K. Diana<sup>2</sup></b> <sup>1</sup> MIREA – Russian Technological University, Moscow, <sup>2</sup> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Routing Algorithms of a Heterogeneous Transport System for Courier Delivery in Urban Environment
9	12.40 13.00	<b>P. A. Timoshev</b> Moscow Aviation Institute, Moscow	Development of a stand for experimental research of microturbine functional characteristics

**Session 6. Control and automation systems  
(15.00-19.00 Wednesday, 02.10.2024, room 211)**

**Chairman Prof. A. Zeifman**

1	15.00 15.20	<b><i>E. V. Yurkevich, A. A. Tuturov, L. N. Kryukova</i></b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Mechanisms of Situational Management Providing of Stability of Parameters of Unique Programmatic- Technical Means
2	15.20 15.40	<b><i>A. V. Molodykh, V. A. Petrov, V. S. Vorobyov, I. V. Kosarev</i></b> National University of Science and Technology MISIS, Stary Oskol	The Use of a Full-Order Observer and the ACAR Method in a Cargo Movement System with Oscillation Suppression
3	15.40 16.00	<b><i>A. A. Chenskiy, A. A. Berezkin, R. M. Vivchar, R. V. Kirichek, D. S. Kukunin</i></b> Bonch-Bruевич Saint- Petersburg State University of Telecommunications, Saint- Petersburg	VAE latent space quantization methods for UAVs video stream
4	16.00 16.20	<b><i>D. S. Feofilov, A. V. Kozyr, S. V. Feofilov</i></b> Tula State University, Tula	Using a neurosimulator in the problem of maximizing the output value of a dynamic object
5	16.20 16.40	<b><i>E. V. Khodatovich, Kotov</i></b> Institute of Automation and Electrometry SB RAS, Novosibirsk State University, Novosibirsk	Development of quadrotor aircraft control system based on a single-board microcomputer

6	16.40 17.00	<b>Y. M. Rassadin</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Synthesis of microclimate control system in the task of comfort assurance
7	17.00 17.20	<b>A. V. Kozyr, S. V. Feofilov, D. L. Khapkin</b> Tula State University, Tula	Synthesis of neural network program control based on Pontryagin's maximum principle
8	17.20 17.40	<b>S. V. Romadov, A. V. Kozyr, A. G. Efromeev</b> Tula State University, Tula	Study of the characteristics of linear flexible object control system
9	17.40 18.00	<b>T. V. Sinyukova, A. V. Sinyukov</b> Lipetsk State Technical University, Lipetsk	Correction blocks on the basis of fuzzy systems as elements of process control in industrial mechanisms
10	18.00 18.20	<b>D. L. Khapkin, S. V. Feofilov</b> Tula State University, Tula	Transient performance control in neural network tracking systems
11	18.20 18.40	<b>E. A. Heiss, A. V. Kozyr, O. O. Morozov</b> Tula State University, Tula	Formations of agents interacting by the thermal motion equivalent method
12	18.40 19.00	<b>E. S. Izrailova</b> Chechen Academy of Sciences, Grozny	Algorithms for resolving graphic homonymy in Chechen texts

**Session 6. Control and automation systems**  
**(10.00-13.00 Thursday, 03.10.2024, room 211)**  
**Chairmans Prof. A. Zeifman**

1	10.00 10.20	<b>V. A. Hashimov<sup>1</sup></b> <sup>1</sup> Institute of Control Systems, Baku, Azerbaijan	Optimization of placement of heating sources of plate and synthesis of their power control at moving measurement points
2	10.20 10.40	<b>I. O. Voskovshchuk</b> Astrakhan State Technical University, Astrakhan	Program complex for automation of hot water boiler
3	10.40 11.00	<b>T. A. Alizadeh<sup>1</sup>,</b> <b>G. S. Khalygov<sup>2</sup></b> <sup>1</sup> Institute of Control Systems, Baku, Azerbaijan, <sup>2</sup> State Border Guard Service Academy, Baku, Azerbaijan	Methods for calculating the angular size of an object in a video camera image
4	11.00 11.20	<b>A. Sokolov</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Experimental study of static characteristics of a microjet element of logical multiplication
5	11.20 11.40	<b>I. L. Shcherbov</b> Donetsk national technical university, Donetsk	Algorithm of adaptive nonlinear smoothing of multivariate measurement data
6	11.40 12.00	<b>K. I. Sukhachev,</b> <b>D. P. Grigoriev,</b> <b>D. A. Shestakov,</b> <b>A. S. Kiryushkina</b> Samara National Research University named after academician S.P. Korolev, Samara	Development of a simplified, customizable synthesizable IP processor core
7	12.00 12.20	<b>A. P. Gerasimova,</b> <b>A. S. Maltsev</b> Institute of Automation and Electrometry of the Siberian Branch of RAS, Novosibirsk	Universal operator interaction system with control system components for experimental equipment

8	12.20 12.40	<b>S. V. Frolov, A. A. Korobov, K. S. Savinova, A. Y. Potlov</b> Tambov State Technical University, Tambov	Structural-parametric synthesis of a neural network control system for a neonatal incubator
9	12.40 13.00	<b>G.A. Algashev, A.V. Kupriyanov</b> Samara National Research University named after academician S.P. Korolev, Samara	Determining the position of an object in three- dimensional space using a single image with computer vision methods

**Session 6. Control and automation systems  
(9.00-13.00 Saturday, 05.10.2024, room 211)  
Chairman Prof. K. Vytovtov**

1	9.00 9.20	<b>S. A. Yamashkin, A. A. Yamashkin</b> Mordovia State Technical University, Saransk	Geoportal Platform for Spatially Distributed Organizational Systems Management
2	9.20 9.40	<b>O. M. Demidenko, V. N. Kulinchenko, E. V. Rafalava, D. S. Sych</b> Francisk Skorina Gomel State University, Gomel, Belarus	Processing of the results of simulation experiments by computer modeling tools
3	9.40 10.00	<b>E. P. Vinogradova, A. V. Novochadova</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Voice Assistant Technology in the Vehicle Operation Support System
4	10.00 10.20	<b>V. N. Kulinchenko, A. V. Voruev, A. I. Kucherov, E. V. Rafalova, D. S. Sych</b>	Approaches to building generalized zones PoE devices for organization of information exchange

		Francisk Skorina Gomel State University, Gomel, Belarus	
5	10.20 10.40	<b>T. A. Aliev, G. A. Guluev, A. G. Rzayev, F. G. Pashayev, Y. G. Aliev, M. G. Rezvan</b> Institute of Control Systems, Baku, Azerbaijan	System for rational control and management of oil production processes at a late stage of operation
6	10.40 11.00	<b>K. T. Makarova, B. A. Parshin, K. M. Moiseev, A. S. Osipkov</b> Bauman Moscow State Technical University, Moscow	Sensors with transparent electrodes based on polymer ferroelectric PVDF films
4	11.00 11.20	<b>E. K. Arakelyan<sup>1</sup>, S. V. Mezin<sup>1</sup>, F. F. Pashchenko<sup>2</sup>, A.V. Andriushin<sup>1</sup>, A. A. Kosoy<sup>1</sup></b> <sup>1</sup> Moscow Power Engineering Institute, Moscow, <sup>2</sup> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	General approaches to assessing the level of intelligence of automated process control systems of thermal power plants based on PTC according to the efficiency criterion
5	11.20 11.40	<b>A. A. Ivanova, P. A. Mikhalev, A. A. Vodyashkin, M. O. Makeev</b> Bauman Moscow State Technical University, Moscow	Modification of polypropylene with surfactants for the creation of hybrid conductive devices using inkjet printing methods
6	11.40 12.00	<b>M. A. Murzova<sup>1</sup>, V. E. Farber<sup>1,2</sup>, B. A. Levitan<sup>1,2,3</sup>, S. A. Topchiev<sup>1,2</sup></b> <sup>1</sup> PJSC «Radiofizika», Moscow, <sup>2</sup> Moscow Institute of Physics and Technology, Moscow,	Simulation of reentry detection by estimated atmospheric component



		<sup>3</sup> Moscow Aviation Institute, Moscow,	
7	12.00 12.20	<b><i>M. S. Saeed<sup>1</sup>, S. Bezzateev<sup>2</sup></i></b> <sup>1</sup> ITMO University, Saint- Petersburg <sup>2</sup> Saint-Petersburg State University of Aerospace Instrumentation, Saint- Petersburg	A Formal Verification- Based Risk Assessment Framework for the Authentication of Self- driving Vehicles
8	12.20 12.40	<b><i>I. S. Velichko, S. V. Bezzateev, A. V. Afanasyeva</i></b> Saint-Petersburg State University of Aerospace Instrumentation, Saint- Petersburg	Optimized VRF-driven distributed randomness generation protocol
9	12.40 13.00	<b><i>A. V. Dushkin<sup>1</sup>, R. V. Meshcheryakov<sup>2</sup></i></b> <sup>1</sup> National Research University of Electronic Technology, Moscow <sup>2</sup> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Applicability of Shannon's Theorem to the Processing of Weakly Structured Speech Information in Acoustic Noise Conditions

**Session 6. Control and automation systems  
(14.00-16.20 Saturday, 05.10.2024, room 211)**

**Chairman Prof. K. Vytovtov**

1	14.00 14.20	<b><i>M. Yazan, D. Gavrilov, V. Buzdin, W. Kafa, E. Tatarinova, A. Fateev, S. Shkatula, D. Krichevets</i></b> Moscow Institute of Physics and Technology, Moscow	Visual localization system for GPS-Blind environments in unmanned aerial vehicles
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2	14.20 14.40	<b>K. D. Rusakov, M. V. Mamchenko</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Studying deep learning metrics for the problem of person's emotional state recognition from speech
3	14.40 15.00	<b>E. I. Khokhryakov</b> Moscow Institute of Physics and Technology, Zelenograd	Manipulating controlled FPGA component of compain screen and streams
4	15.00 15.20	<b>Yu. A. Nedbailo</b> INEUM im.I.S.Bruka, Moscow	Inverse Weight Based Arbitration Algorithm for On-Chip Networks
5	15.20 15.40	<b>M. D. Fedorov</b> Moscow Institute of Physics and Technology, Moscow	Fast and Deterministic Method for Compressed Sensing Based Pilot Patterns Allocation
6	15.40 16.00	<b>Ali Raafat</b> Moscow Institute of Physics and Technology, Moscow	Fast and Effective Satellites Selection Algorithm for Multi-Constellation GNSS Receiver Based on Incremental Greedy Approach
7	16.00 16.20	<b>A. A. Shiroky</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	A Method for Rapid Risk Assessment of a Computer Network with a Star- Shaped Topology

**Session 7. Mathematical methods and models  
(14.00-19.00 Tuesday, 01.10.2024, room 211)**

**Chairman Prof. G. Shilova**

1	14.00 14.20	<b>A. I. Zeifman, I. A. Usov, A. L. Kryukova, Y. A. Satin,</b> Vologda State University, Vologda	Bounds on the Rate of Convergence for a class of Birth–death Process with Two Types of Catastrophes
2	14.20 14.40	<b>N. M. Ivanova, V. M. Vishnevsky</b>	Reliability Modeling of the Tethered High-Altitude Platform Using Risk Tree

		V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	
3	14.40 15.00	<b>P. A. Shlepakov</b> Alef.Soft LLC, Moscow	General mathematical model of optimal planning, scheduling and control and a hypercube of its special cases
4	15.00 15.20	<b>N. S. Orlova</b> North Ossetian State University named after Kosta Levanovich Khetagurov, Vladikavkaz	Study of two-fluid model of falling rocks
5	15.20 15.40	<b>Aidazade Kamil R.<sup>1</sup>, Samir Guliyev Z.<sup>2</sup></b> <sup>1</sup> Institute of Control Systems; Azerbaijan University of Architecture and Construction Baku, Azerbaijan, <sup>2</sup> Azerbaijan State Oil and Industry University Baku, Azerbaijan	Synthesis of zonal control of nonlinear dynamic objects taking into account their history and current state
6	15.40 16.00	<b>M. R. Tomaev, Zh. D. Totieva</b> North Ossetian State University named after Kosta Levanovich Khetagurov, Vladikavkaz	Numerical study of the problem of determination of two unknowns for inhomogeneous viscoelastic media
7	16.00 16.20	<b>A. M. Salnikov<sup>1,2</sup>, I. E. Stepanova<sup>2</sup>, A. V. Batov<sup>1,2</sup>, T. V. Gudkova<sup>2</sup></b> <sup>1</sup> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow,	Data Sampling for Modelling the Martian Magnetic Field with S-Approximations

		<sup>2</sup> O. Yu. Schmidt Institute of Earth Physics, Moscow	
8	16.20 16.40	<b>A. F. Sharafiev</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Methods of thematic segmentation of texts based on the knowledge graph
9	16.40 17.00	<b>D. S. Kukunin,</b> <b>A. A. Berezkin,</b> <b>R. V. Kirichek</b> Bonch-Bruevich Saint-Petersburg State University of Telecommunications, Saint-Petersburg	Using equivalent Gold sequences for parallel data transmission with non-orthogonal code division
10	17.00 17.20	<b>S. A. Krasotkin</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Heuristics for the traveling salesman problem in the plane based on the special case of a convex hull
11	17.20 17.40	<b>Z. V. Beshtokova,</b> <b>M. Kh. Beshtokov,</b> <b>M. Kh. Shkhanukov-Lafishev</b> Institute of Applied Mathematics and Automation, KBNTs RAS, Nalchik	Economical additive scheme for the multivariate fractional-order heat conduction equation with conditions of the third kind in an arbitrary domain
12	17.40 18.00	<b>L. M. Berlin,</b> <b>A. A. Galyaev,</b> <b>P. V. Lysenko</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Constructing intercept plans in a dynamic traveling salesman problem
13	18.00 18.20	<b>S. A. Kochetkov</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Smooth control of quadrotor DC traction motor
14	18.20 18.40	<b>V. R. Roganov<sup>1</sup>,</b> <b>B. S. Dolgovesov<sup>2</sup>,</b> <b>M. Yu. Mikheev<sup>1</sup>,</b>	Analysis of the Directions of Improvement of Individual Devices, That

		<p><b>G. V. Korop<sup>1</sup>, T. A. Nechay<sup>1</sup>, A. E. Savochkin<sup>1</sup></b></p> <p><sup>1</sup>Penza State Technological University, Penza <sup>2</sup>Institute of Automation and Electrometry SB RAS, Novosibirsk</p>	Synthesize in Real Time a 3D-Model of the External Environment Visually Observed by a Person
15	18.40 19.00	<p><b>A. N. Fedorovskaya<sup>1</sup>, E. A. Barabanova<sup>2</sup></b></p> <p><sup>1</sup>Astrakhan State Technical University, Astrakhan <sup>2</sup>V.A. Trapeznikov Institute of Control Sciences of RAS, Moscow</p>	Algorithm for choosing optimal design of all-optical switch

**Session 7. Mathematical methods and models  
(15.00-19.00 Wednesday, 02.10.2024, room 212)  
Chairman Prof. G. Shilova**

1	15.00 15.20	<p><b>K. A. Kalugin</b></p> <p>V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow</p>	Thematic analysis scientific groups
2	15.20 15.40	<p><b>D. I. Grebenkov</b></p> <p>V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow</p>	Application of learning curves as a method for assessing the difficulty of learning texts
3	15.40 16.00	<p><b>M. S. Gavrilov</b></p> <p>V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow</p>	Methods of thematic segmentation of texts using syntactic graph
4	16.00 16.20	<p><b>S. A. Volkova</b></p> <p>Crimean State Engineering Pedagogical University, Simferopol</p>	Study of Dynamic System with Impulse Action

5	16.20 16.40	<b>D. S. Feofilov,</b> <b>S. V. Feofilov</b> Tula State University, Tula	Gradient Calculation Using Artificial Neural Networks in the Problem of Determining Nonlinear Control for Nonlinear Objects
6	16.40 17.00	<b>A. I. Kushchazli<sup>1</sup>,</b> <b>A. S. Vlaskina<sup>1</sup>,</b> <b>I. A. Kochetkova<sup>1,2</sup></b> <sup>1</sup> Peoples' Friendship University of Russia, Moscow, <sup>2</sup> Federal Research Center «Computer Science and Control» of the Russian Academy of Sciences, Moscow	A mass service system with moving classes of requests between groups of appliances to analyze virtual machine migration in cloud computing
7	17.00 17.20	<b>V. M. Zaripova<sup>1</sup>,</b> <b>I. Yu. Petrova<sup>2</sup>,</b> <b>S. K. Sheikhgasanov<sup>2</sup></b> <sup>1</sup> MIREA – Russian Technological University, Moscow, <sup>2</sup> Astrakhan State Technical University, Astrakhan	Integration of a virtual sensor into the control system for diesel fraction hydrotreatment
8	17.20 17.40	<b>V. L. Litvinov<sup>1</sup>,</b> <b>K. V. Litvinova<sup>2</sup>,</b> <b>A. V. Tarakanov<sup>1</sup>,</b> <b>A. A. Uytov<sup>1</sup>,</b> <b>R. I. Almeev<sup>1</sup></b> <sup>1</sup> Samara State Technical University, Samara, <sup>2</sup> M. V. Lomonosov Moscow State University, Moscow	Research and Mathematical Modeling of The Dependence of The Frequency of Transverse Vibrations of a Variable-Length String on The Amplitude

9	17.40 18.00	<b>D. I. Bolshakov, M. A. Mishchenko, D. V. Chindarev, V. V. Matrosov</b> N. I. Lobachevsky State University of Nizhny Novgorod	Discrete recursive neuron model
10	18.00 18.20	<b>A. V. Imangazieva</b> Astrakhan State Technical University, Astrakhan	Robust synchronisation control for a nonstationary multi-agent plant
11	18.20 18.40	<b>S. A. Volkova</b> Crimean Engineering and Pedagogical University the name of Fevzi Yakubov, Simferopol	Precious metals price forecasting using neural networks
12	18.40 19.00	<b>A. A. Radionov</b> Vladikavkaz Scientific Centre of RAS, Vladikavkaz	Pulsating regimes of air flow in mountain gorges

**Session 8. School of Young Scientists «Perspectives of information,  
control, and communication technologies»  
(15.00-19.00, Wednesday, 02.10.2024, room 313)**

**Chairman Prof. D. Kutuzov**

1	15.00 15.20	<b>A. A. Sukhorukov</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Tools For Microspelling Signal Conversion
2	15.20 15.40	<b>I. D. Kudinov, A. A. Kozlova</b>	A model for solving the co- referencing problem using

		V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	a third-party generative language model
3	15.40 16.00	<b><i>E. A. Barabanova<sup>1</sup>, K. A. Vytovtov<sup>1</sup>, S. E. Kazakov<sup>2</sup>, E.V. Shalimova<sup>2</sup></i></b> <sup>1</sup> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow, <sup>2</sup> Moscow Power Engineering Institute, Moscow	Delay Analysis of All-Optical Network with Decentralized Control
4	16.00 16.20	<b><i>I. A. Usov, A. I. Zeifman, Y. A. Satin, G. N. Shilova, A. S. Sipin</i></b> Vologda State University, Vologda	Bounds on the Rate of Convergence for a Nonstationary Two – Class Priority Queuing System
5	16.20 16.40	<b><i>K. A. Vytovtov, A. V. Novochadova</i></b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Object identification based on the analytical method of processing multispectral images
6	16.40 17.00	<b><i>N. E. Vlasenko<sup>1</sup>, S. A. Lermontov<sup>1</sup>, E. L. Buryanskaya<sup>2,3</sup>, S. V. Kondrashov<sup>2</sup>, D. K. Derimedved<sup>2</sup>, A. S. Osipkov<sup>2</sup>, M. O. Makeev<sup>2</sup></i></b> <sup>1</sup> Institute of physiologically active substances RAS, Chernogolovka <sup>2</sup> Bauman Moscow State Technical University, Moscow <sup>3</sup> National University of Science and Technology MISIS, Moscow	Preparation of polymer films of piezoelectrics based on vinylidene difluoride copolymer with tetrafluoroethylene by sol-gel method
7	17.00 17.20	<b><i>V. Zaripova<sup>1</sup>, I. Petrova<sup>2</sup>, Y. Lezhnina<sup>1</sup>, D. Gimatdinov<sup>1</sup></i></b>	Structural design of memristive biosensors



		<sup>1</sup> MIREA – Russian Technological University, Moscow, <sup>2</sup> Astrakhan State Technical University, Astrakhan	
8	17.20 17.40	<b>A. S. Rey,</b> <b>A. A. Shirokiy</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Identification of a set of permissible risk mitigation measures in a complex system under conditions of mutual influence of risk factors
9	17.40 18.00	<b>O. M. Gerget,</b> <b>K. D. Rusakov,</b> <b>G. K. Tevyashov</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Analysis of fish behavior using deep learning techniques
10	18.00 18.20	<b>A. V. Balabanov,</b> <b>A. A. Mamontova</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Calculation models of microfluidic gas flow meter
11	18.20 18.40	<b>L. P. Skripko,</b> <b>A. A. Skripko</b> Astrakhan State Technical University, Astrakhan	Improving the quality and energy efficiency in the transportation of hydrocarbon raw materials
12	18.40 19.00	<b>P. M. Trefilov,</b> <b>M. A. Romanova,</b> <b>M. V. Mamchenko</b> V. A. Trapeznikov Institute of Control Sciences of RAS, Moscow	Study of degradation of LED lighting devices and reliability of their power supplies under long-term operation in real conditions