

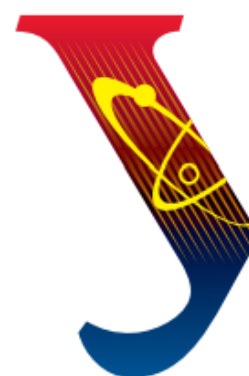


**Программа**  
**Десятой международной**  
**молодежной научной конференции**  
**Физика. Технологии. Инновации.**

**ФТИ-2023**  
**15-19 мая 2023**  
**г. Екатеринбург**

**Program**  
**of the Tenth International**  
**Youth Scientific Conference**  
**Physics. Technologies. Innovation.**

**PTI-2023**  
**May 15-19, 2023**  
**Yekaterinburg**



**Ural Federal**  
**University**

named after the first President  
of Russia B.N.Yeltsin

**Institute of Physics**  
**and Technology**

## PROGRAM OVERVIEW

### Day 1 – Monday – May 15

*Arrival of participants*

14:30 – 18:00	<b>Registration.</b> <i>Main Foyer</i>
15:00 – 19:00	<b>City tour.</b> <i>Main Foyer</i>

### Day 2 – Tuesday – May 16

08:00 – 09:00	Registration Main Foyer	Poster Session Arrangement of display stands		
		<u>Panel 1. Nuclear and radiation technologies</u> Foyer F-201	<u>Panel 2. Condensed matter physics</u> Main Foyer	<u>Panel 3. Instrumentation and robotics</u> PTI 2 floor
09:00 – 09:20	Opening. Welcome and opening comments of top university officials including Dean of Institute of Physics and Technology. F-201			
09:20 – 10:10	<u>Plenary Talk. Vladimir Dremov</u> (Federal State Unitary Enterprise “Russian Federal Nuclear Center – Zababakhin All-Russia Research Institute of Technical Physics”, Russia) “Atomistic modeling of material properties” F-201			
10:10 – 11:00	<u>Plenary Talk. Timur Kulevov</u> (National Research Centre Kurchatov Institute, Russia) “The DARIA project is a compact neutron source for research in physics, chemistry, biology and materials science” F-201			
11:00 – 11:30	Coffee Break F-416			
11:30 – 13:30	<u>Panel 5. Material science</u> Oral reports 1-12 F-201	<u>Panel 4. Chemical technologies</u> Oral reports 1-12 F-414	<u>Panel 1. Nuclear and radiation technologies</u> Oral reports 1-13 F-425	
13:30 – 13:40	Break			
13:40 – 15:40	<u>Panel 5. Material science</u> Oral reports 13-24 F-201	<u>Panel 4. Chemical technologies</u> Oral reports 13-17 F-414	Poster Session	
			<u>Panel 1. Nuclear and radiation technologies</u> Foyer F-201	<u>Panel 2. Condensed matter physics</u> Main Foyer
15:40 – 16:00	Coffee Break F-416			
16:00 – 17:40			Poster Session. Continuation	
17:40 – 18:00	Registration for intellectual game “What? Where? When?” Foyer F-201			
18:00 – 21:00	Intellectual game “What? Where? When?” F-201			

Day 3 – Wednesday – May 17			
08:30 – 09:00	Poster Session. Arrangement of display stands		
	<u>Panel 4. Chemical technologies</u> Main Foyer	<u>Panel 6. Information systems and technologies</u> 2 floor	
09:00 – 09:40	<u>Plenary Talk, Vyacheslav Platonov</u> (Institute of Electrophysics, Ural Branch of the Russian Academy of Sciences, Russia) “Simplicity and complexity of obtaining nanopowders of oxides and oxygen-free compounds using a powerful technological laser” F-201		
09:40 – 10:20	<u>Plenary Talk, Jiteng Sheng</u> (State Key Laboratory of Precision Spectroscopy, East China Normal University, Shanghai, China) “Phonon heat transport and dissipative coupling induced phonon lasing with optomechanics” F-201, Zoom		
10:20 – 11:00	<u>Plenary Talk, Madhavan Bradha</u> (Rathinam Technical Campus, India) “Novel cathode materials for solid oxide fuel cell” F-201, Zoom		
11:00 – 11:30	Coffee Break F-416		
11:30 – 13:30	<u>Panel 2. Condensed matter physics</u> Oral reports 1-12 F-419	<u>Panel 3. Instrumentation and robotics</u> Oral reports 1-7 F-414	<u>Panel 6. Information systems and technologies</u> Oral reports 1-10 F-425
13:30 – 13:40	Break		
13:40 – 15:40	<u>Panel 2. Condensed matter physics</u> Oral reports 13-24 F-419	Poster Session	
		<u>Panel 4. Chemical technologies</u> <u>Panel 9. Young talents (section of schoolchildren)</u> Main Foyer	<u>Panel 6. Information systems and technologies</u> 2 floor
15:40 – 16:00	Coffee Break F-416		
16:00 – 17:30		Poster Session. Continuation	
17:30 – 18:00	Registration for intellectual sports game “Quest” Main Foyer		Registration for Book club “The book was better” F-425
18:00 – 21:00	Intellectual sports game “Quest” University campus		Book club “The book was better” F-425

Day 4 – Thursday – May 18		
08:30 – 09:00	<b>Poster Session.</b> Arrangement of display stands	
	<u><b>Panel 5. Material science</b></u> <i>Main Foyer</i>	<u><b>Panel 7. Bioengineering and biotechnologies</b></u> <i>PTI 2 floor</i>
09:00 – 11:00	<u><b>Panel 7. Bioengineering and biotechnologies</b></u> Oral reports 1-12 <i>F-201</i>	<u><b>Panel 8. Innovation and social technologies</b></u> Oral reports 1-12 <i>F-310b</i>
11:00 – 11:30	<b>Coffee Break F-416</b>	
11:30 – 13:30	<u><b>Panel 7. Bioengineering and biotechnologies</b></u> Oral reports 13-24 <i>F-201</i>	<u><b>Panel 8. Innovation and social technologies</b></u> Oral reports 13-19 <i>F-310b</i>
13:30 – 16:00	<b>Poster Session</b>	
	<u><b>Panel 5. Material science</b></u> <i>Main Foyer</i>	<u><b>Panel 7. Bioengineering and biotechnologies</b></u> <i>PTI 2 floor</i>
16:00 – 16:30	<b>Coffee Break F-416</b>	
16:30– 17:10	<u><b>Plenary Talk, Elena Konysheva</b></u> (Institute of Metallurgy of the Ural Branch of the Russian Academy of Sciences) “Catalytic conversion of biomass by pyrolysis” <i>F-201</i>	
17:10 – 17:50	<u><b>Plenary Talk, Aleksei Krotov</b></u> (Action Lab, Northeastern University, Boston, USA) “Motor control beyond reach: manipulating a bullwhip” <i>F-201, Zoom</i>	
17:50 – 19:00	<b>Closing.</b> Closing remarks, PTI-2023 announcement, Distribution of awards for “What? Where? When?” game, awarding for best reports, photo-shooting <i>F-201</i>	

Day 5 – Friday – May 19	
16:00 – 19:00	<b>Excursion to the museums of Yekaterinburg.</b> <i>Main Foyer</i>
<i>Departure of participants</i>	

## Plenary Talk

**Vladimir Dremov**

**(Federal State Unitary Enterprise “Russian  
Federal Nuclear Center – Zababakhin All-Russia  
Research Institute of Technical Physics”, Russia)  
“Atomistic modeling of material properties”**

Materials science is traditionally considered an experimental science, but modern supercomputers allow virtual experiments with virtual samples in order to predict the properties of existing materials and create new ones. The atomistic approach to modeling involves determining the macroscopic properties of materials, based on the chemical composition and microstructure, as a result of detailed tracing the dynamics of systems of hundreds of millions and billions of interacting atoms under given external conditions (temperature, pressure, radiation background, etc.). In the report different approaches to the construction of models of interatomic interaction are considered and the possibilities of atomistic modeling are demonstrated on the example of predicting the evolution of strength properties of nuclear-active materials as a result of self-irradiation and the properties of structural materials as a result of

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#### **“The DARIA project is a compact neutron source for research in physics, chemistry, biology and materials science”**

Because of the high cost of the most powerful neutron sources and their small number, interest in creating compact neutron sources (CNSs) has grown in recent years. From a practical point of view, such sources are characterized by their low cost, small required area, and environmental friendliness and ease of certification, since no fissile materials are used or produced during operation. A combination of these factors makes it possible to locate such sources in universities and research centers. The DARIA (Dedicated for Academic Research and Industrial Applications) compact neutron source is being developed as a prototype of a serial installation to equip scientific and educational centers in the Russian Federation, which will allow to create a research infrastructure covering the entire country from Kaliningrad Oblast to the Far East. The first facility is planned for deployment in the Urals and includes an ion source, a high-current low-energy proton gas pedal, a target assembly, and a set of neutron scattering stations. The parameters of the facility are optimized for research in physics, chemistry, biology, and materials science by neutron scattering methods. The energy of accelerated proton beam reaches 13 MeV, the beam current (imp/medium) is  $\geq 100$  mA/1-3 mA. Beryllium (dimensions 100 mm<sup>2</sup> and 1.1 mm thick) was selected as a target material, water at T=300 K for thermal neutrons and frozen mixture of aromatic hydrocarbons at T=20-100 K for cold neutrons were used as moderator materials. The number (3-5) and the specific list of neutron scattering stations may vary depending on the needs of the center. The report will present the current status of work on the DARIA KIN.



**Vyacheslav Platonov****(Institute of Electrophysics, Ural Branch of the Russian Academy of Sciences, Russia)****“Simplicity and complexity of obtaining nanopowders of oxides and oxygen-free compounds using a powerful technological laser”**

A little-known application of high-power technological lasers is the production of nanopowders from oxide or non-oxide inorganic materials. The method consists in evaporation of a target with an appropriate chemical composition by laser radiation and subsequent condensation of vapor in a stream of buffer gas. At the Institute of Electrophysics UB RAS this method has been consistently developed since 1998. The report describes the peculiarities of using a 500W pulsed-periodic CO<sub>2</sub> laser and a 700W continuous-fiber Ytterbium laser for this purpose. The obtained nanopowders (Al<sub>2</sub>O<sub>3</sub>, ZrO<sub>2</sub>, Y<sub>2</sub>O<sub>3</sub>:ZrO<sub>2</sub> (YSZ), Nd:Y<sub>2</sub>O<sub>3</sub>, Fe<sub>x</sub>O<sub>y</sub>, MgAl<sub>3</sub>O<sub>4</sub>, ZnSe, CaF<sub>2</sub>, etc. ) contain weakly agglomerated particles with sizes of 2-100 nm. Their average size depends on the pressure and the type of buffer gas, to a lesser extent on the radiation parameters. At atmospheric pressure of air or Ar it is 10-20 nm. The thermal and optical properties of their material, the parameters of the buffer gas, and the average power of radiation influence the productivity of obtaining nanopowders. At atmospheric pressure of air (Ar) in the evaporation chamber, depending on the target material it is from 3 g/hour to 350 g/hour.

## Plenary Talk

**Jiteng Sheng**

**(State Key Laboratory of Precision Spectroscopy, East China Normal University, Shanghai, China)**

**“Phonon heat transport and dissipative coupling induced phonon lasing with optomechanics”**

Cavity optomechanics studies the mutual interaction between optical field and mechanical motion, which has emerged as a new platform for frontier physics and advanced technologies. When multiple mechanical resonators interact with a common cavity field through radiation pressure, the mutual interaction of mechanical resonators can be flexible controlled. In this talk, I will present our recent experimental results of studying phonon heat transport and dissipative-coupling induced phonon lasing in a two-membrane-in-the-middle optomechanical system, which are resulted from the effective coherent and dissipative coupling respectively.





## Plenary Talk

**Madhavan Bradha**

**(Rathinam Technical Campus, India)**

**“Novel cathode materials for solid oxide fuel cell”**

The solid oxide fuel cell (SOFC) is one of the most promising technologies, which can offer high efficiency and fuel flexibility. Traditional SOFCs, which operate at a high temperature of roughly 1000 oC have a number of issues, including material degradation, long-term stability, and high cost. Lowering the working temperature of SOFCs to the intermediate temperature (IT) range (600–800 oC ) has been reported to alleviate the technical and economic issues associated with High temperature HT-SOFCs. Reducing the operating temperature to intermediate levels, on the other hand, will provide new obstacles to the cathode's oxygen reduction reaction (ORR) activity. At lower temperatures, the reduction of oxygen at the cathode is a thermally activated process, and the reaction's kinetics are decelerated, resulting in significant electrical losses and a drop in the cell's electrochemical performance. To improve the electrochemical performance of the cell at intermediate temperatures, an improved cathode with a high catalytic activity is required. Several cathode designs have been proposed, including with new compositions and tailored micro/nanostructures. Advanced approaches have also been applied to give more depth on the cathode and anode's electrochemical characteristics.

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## Plenary Talk

**Elena Konysheva**

**(Institute of Metallurgy of the Ural Branch of the Russian Academy of Sciences)**

### **“Catalytic conversion of biomass by pyrolysis”**

Biomass is an inexpensive, easily accessible and practically inexhaustible natural resource. Conversion of biomass by pyrolysis is one of the promising and effective ways to produce energy from renewable sources, as it is one of the ways to produce value-added chemicals, syngas, and biofuels. In addition, it allows solving a number of environmental problems. The impact of inorganic catalysts on the conversion of biomass by the pyrolysis is of great importance in controlling the chemical composition and improving the quality and stability of the final products. In the lecture, we will discuss the fundamentals of the pyrolysis method and its application for the conversion of beechwood and pinewood considering several groups of catalytic materials: individual oxides, red mud (a by-product of alumina industry) and complex oxide compounds with the perovskite, brownmillerite, and spinel structures.



## Plenary Talk

**Aleksei Krotov**

**(Action Lab, Northeastern University, Boston, USA)**

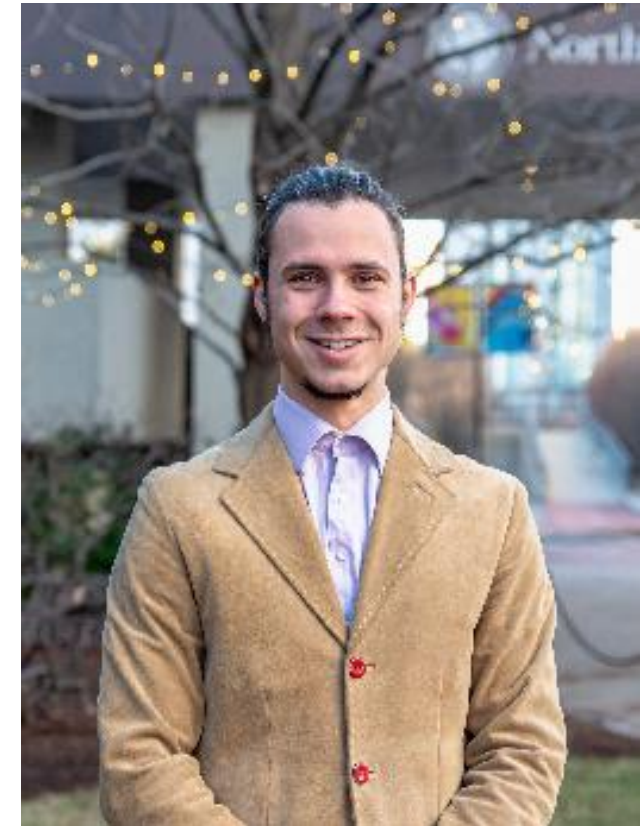
**“Motor control beyond reach: manipulating a bullwhip”**

Research in fundamental motor neuroscience studies control of human movements, aiming to quantify the emerging regularities and propose plausible models of control. Over the past decades, much of computational motor neuroscience has focused on planar reaching movements with the arm constrained to the horizontal plane. This and related paradigms purposefully reduced action complexity to allow running carefully controlled experiments and testing computational models of control. The main limitation of these findings is their scale: the simplified movements might not capture the coordination challenges that emerge in everyday actions, for example, when carrying a bowl full of hot soup, making bed, or folding clothes. The flexible objects are particularly challenging for investigation; they have internal dynamics, multiple, underactuated, degrees of freedom, and the typical movement is so fast that human sensorimotor ‘circuitry’ falls short of processing sensory feedback in real-time. While physics-informed mechanical models of flexible objects or fluids remain nearly intractable, even to supercomputers, so is the description of how humans can manipulate such objects.

In my research over the past years, I have focused on an extreme example of using a complex flexible object: using a bullwhip to hit a target. I designed a novel paradigm for collecting human movement data and acquired it from a few groups of naïve and expert volunteers. One branch of the research revealed that the whip assumes such configurations during its flight that simplify its dynamics, therefore facilitating control. Our results also suggest that humans rapidly develop a stereotypical hand movement when using a whip and their improvement is tightly related to sensing and fine-tuning the essential parameters of the whip. In my talk I will share our experimental paradigm, some novel analysis methods and results that we developed over time, as well as our approaches to use modeling for explaining how humans might control a whip.

In the long run, this research promotes understanding of the sensorimotor aspects of the nervous system and informs two crucial applications: rehabilitation of people with motor deficiencies, and development of efficient control algorithms in robotic manipulation of objects.

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## Panel 1. Nuclear and radiation technologies. Oral reports

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1. ASSESSMENT OF RADIATION RISKS WITH TIME-DISTRIBUTED EXPOSURE, *Ekaterina Makeeva*.
2. DYNAMICS MODEL OF THE CONTENT  $^{131}\text{I}$  IN THE THYROID AND DAILY MILK YIELD IN DAIRY COWS, *Maria Basova*.
3. THE ESTIMATION OF A CRITICAL DOSE  $^{131}\text{I}$  IN A CATTLE'S THYROID, *Elvira Denisova*.
4. EXPERIMENTAL STUDY OF THE PROTECTIVE PROPERTIES OF POLYMER COMPOSITES WITH POZZOLAN AGAINST GAMMA RADIATION, *Sergey Chalpanov*.
5. INFLUENCE OF PREPARATION TECHNOLOGY OF POLYMER COMPOSITE MATERIALS BASED ON LEAD OXIDE FILLED EPOXY RESIN ON RADIATION SHIELDING PROPERTIES, *Karina Iuzbashieva*.
6. INVESTIGATION OF RADIATION RESISTANCE OF SINGLE CRYSTALS AND OPTICAL CERAMICS BASED ON THALLIUM AND SILVER HALIDES, *Vladislav Kondrashin*.
7. THE USE OF POLYMER COMPOSITES IN PERSONAL RADIATION PROTECTION EQUIPMENT, *Timofey Volozheninov*.
8. SIMULATION OF ENERGY AND ANGULAR RESPONSE OF INDIVIDUAL NEUTRON DOSIMETERS, *Irina Spiridonova*.
9. DEVELOPMENT OF AN ION SOURCE FOR AN INERTIAL ELECTROSTATIC PLASMA CONFINEMENT CHAMBER, *Igor Il'ichev*.
10. ALTERNATIVE METHOD OF DISPOSAL OF POLLUTED SEAWATER AT THE FUKUSHIMA-1 NUCLEAR POWER PLANT, *Dmitriy Kaskov*.
11. FIRST-PRINCIPLE STUDY OF THE TRITIUM BEHAVIOR IN A FLIBE MOLTEN SALT MIXTURE, *Andrei Anisimov*.
12. DEVELOPMENT OF A MULTISPHERE NEUTRON SPECTROMETER SENSITIVE TO THE ANGLE OF INCIDENCE OF RADIATION, *Rishat Yumaguen*.
13. INVESTIGATION OF THE LEVEL OF BACKGROUND EXPOSURE TO NEUTRON RADIATION, *Ilya Panshin*.



1. COMPUTER SIMULATION OF THE STRUCTURE AND PHYSICOCHEMICAL PROPERTIES OF AL-CU ALLOYS USING INTERPARTICLE POTENTIALS BASED ON NEURAL NETWORKS, *Hazieva Ekaterina*.
2. OPTICAL PROPERTIES OF GLASSES AND GLASS-CERAMICS BASED ON  $\text{LiGe}_2(\text{PO}_4)_3$ , *Davletchin Egor*.
3. PLASMON SILVER NANOPARTICLES IN  $\text{MgAl}_2\text{O}_4$  SPINEL AND  $\text{SiO}_2$ , *Vagapov Alexander*.
4. DFT-SIMULATION OF G-C $_3\text{N}_4$  ELECTRONIC STRUCTURE ALLOWING FOR POLYMERIZATION TEMPERATURE VARIATION, *Ilyashenko Ivan*.
5. TEMPERATURE CHARACTERISTIC OF MAGNETIC HYSTERESIS OF FE LAYERS IN FILM STRUCTURES BASED ON ANTIFERROMAGNET  $\text{Cr}_{80}\text{Mn}_{20}$ , *Severova Svetlana*.
6. SHIFT OF OPTICAL BANDGAP IN  $\text{CH}_3\text{NH}_3\text{PbBr}_3$  HYBRID PEROVSKITE SINGLE CRYSTALS, *Akhatov Maxim*.
7. RELATIVE GRAIN BOUNDARY ENERGY MAPPING OF ULTRAFINE GRAINED COPPER BASED ON SCANNING TUNNELING MICROSCOPY DATA, *Chikunova Natalya*.
8.  $\text{Pr}^{3+}$  IONS LUMINESCENCE AND CHARGE CARRIER TRAPPING CENTERS IN  $\text{Sr}_3\text{Lu}_2\text{Ge}_3\text{O}_{12}$  И  $\text{Ba}_9\text{Lu}_2\text{Si}_6\text{O}_{24}$ , *Kiselev Sviatoslav*.
9. THEORETICAL STUDY OF GEOMETRIC AND ELECTRONIC STRUCTURE OF ENDOHEDRAL FULLERENES  $\text{M}@\text{C}_{20}$  ( $\text{M}=\text{Li}, \text{Na}, \text{K}$ ), *El Zanin Anton*.
10. SPECIFICS OF SCATTERING OF ULTRASHORT X-RAY PULSES ON DIAMONDS WITH NV CENTERS, *Gerasimenko Danil*.
11. EFFECT OF THERMOMAGNETIC TREATMENT ON ANISOTROPY OF HYSTERESIS PROPERTIES OF NI THIN FILMS, *Bykova Anastasia*.
12. ANALYSIS OF SHORT-RANGE ORDER OF  $\text{LiGe}_2(\text{PO}_4)_3$  USING PAIR DISTRIBUTION FUNCTIONS, *Zykov Kirill*.
13. INJECTION OF PURE SPIN CURRENT INTO HELIMAGNET, *Yasyulevich Ivan*.
14. METAMAGNETISM OF ITINERANT ELECTRONS IN THE HUBBARD MODEL FOR THE FCC LATTICE CAUSED BY THE VAN HOVE PLATEAU, *Vasilevskiy Fedor*.
15. DEPENDENCE OF THE CAUSTIC PATTERNS OF MAGNETOELASTIC WAVES ON THE MAGNETIC FIELD IN  $\text{Fe}_{82}\text{Ga}_{18}$  CRYSTALS, *Bakharev Sergey*.
16. PHASE DIAGRAM NUMERICAL CALCULATION OF A CHARGED SPIN-TRIPLET BOSONS SYSTEM BY THE CLASSICAL MONTE CARLO METHOD, *Nuzhin Stepan*.
17. GADOLINIUM OXIDE SINGLE CRYSTALS: OPTICAL PROPERTIES AND RADIATION RESISTANCE, *Tavrunov Dmitry*.
18. THERMAL STABILITY OF QUANTUM CONDUCTIVE FILAMENTS IN NANOTUBULAR ZIRCONIA, *Petrenyov Ilya*.
19. MODELING THE FREQUENCY DEPENDENCE OF THE MAGNETOIMPEDANCE EFFECT OF AMORPHOUS RIBBONS BY THE FINITE ELEMENT METHOD, *Matveeva Milana*.
20. SYNTHESIS AND INVESTIGATION OF MAGNETIC AND MAGNETORESISTIVE PROPERTIES OF CO NANOWIRES IN A THIN-FILM ALUMINA MATRIX, *Driagina Anastasiia*.



21. INVESTIGATION OF PECULIARITIES OF DOMAIN STRUCTURE FORMATION BY ION BEAM IRRADIATION OF MONODOMAIN REGIONS IN STRONTIUM BARIUM NIOBATE, *Kholodenko Maria*.
22. THE INFLUENCE OF Co ON THERMAL STABILITY AND GLASS-FORMING ABILITY OF AL-NI-CO-R AMORPHOUS ALLOYS, *Rusanov Boris*.
23. LATTICE DYNAMICS AND OPTICAL PROPERTIES OF MAGNESIUM-ALUMINUM SPINEL WITH A DISORDERED CATION DISTRIBUTION OVER POSITIONS, *Sushanek Lev*.
24. LUMINESCENT PROPERTIES OF POWDERS OF ANION-DEFECTIVE CORUNDUM, *Boyarintsev Alexander*.

### Panel 3. Instrumentation and robotics. Oral reports

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1. DEVELOPMENT OF 2-AXIS TABLE FOR PERFORATION OF CIRCUIT BOARDS, *Lyagaev Artem*.
2. DEVELOPMENT OF A 3D PRINTER FOR PRINTING PERSONALIZED BANDAGES, *Lykova Mariia*.
3. DEVELOPMENT OF A HARDWARE-SOFTWARE COMPLEX FOR STUDYING PHASE TRANSITIONS OF SUBSTANCES DURING THE COOLING, *Gashimova Valeriia*.
4. OPTIMAL CONTROL OF THE ELECTROMECHANICAL SYSTEM OF THE TWO-LINK MANIPULATOR, *Chupin Ilya*.
5. VIRTUAL INSTRUMENT DEVELOPMENT FOR STUDYING MEMRISTIVE STRUCTURES IN THE PULSE MODE, *Fedorov Danil*.
6. UNIVERSAL COMPLEX FOR DIGITAL GENERATION AND ANALYSIS OF MAGNETIC FIELD WITH ARBITRARY TIME DEPENDENCE, *Ungvitskii Gleb*.
7. DEVELOPMENT OF A MAGNETIZING SYSTEM WITH FERROMAGNETIC WHEELS FOR MAGNETIC FLAW DETECTORS OF DRILL PIPES, *Mikhaylov Leonid*.

1. EXPERIMENTAL AND COMPUTATIONAL STUDY OF BIOCHAR GASIFICATION, *Spiridonov Kirill*.
2. COMPARISON OF THE STRUCTURAL AND DYNAMIC CHARACTERISTICS OF A GAS-DISPERSED FLOW FOR COMBUSTION AND GASIFICATION MODES FOR VARIOUS FUELS IN A WET STAT, *Suvorin Igor*.
3. THE EFFECT OF AEROSOL FORMATION ON ANALYSIS OF METAL HALIDES BY CARRIER GAS HOT EXTRACTION, *Kartashova Elena*.
4. SYNTHESIS OF STABILIZED ALUMINUM OXIDE FOR APPLICATION AS A SUPPORT FOR AUTOMOBILE CATALYST, *Solodovnikova Polina*.
5. DEVELOPMENT AND APPROVAL OF METHOD FOR CONTENT OF CS-137 IN NATURAL WATERS, *Suetina Anna*.
6. DEVELOPMENT OF A METHOD TO DETERMINE SR-90 IN NATURAL WATERS WITH A LOW DETECTION LIMIT, *Belokonova Nadezhda*.
7. PHYSICAL AND CHEMICAL CHARACTERISTICS OF SOLID RADIOACTIVE WASTES FROM A NEAR-SURFACE STORAGE FACILITY OF URANIUM CONVERSION PRODUCTION, *Nalivaiko Ksenia*.
8. SYNTHESIS OF MODIFIED PECTIN AND FURTHER DEVELOPMENT TO FORM MICRO-GEL PARTICLES USING 1,4-BIS(3-AMINOPROPYL) PIPERAZINE, *Almudhhi Ibrahim*.
9. APPLICATION OF THERMODYNAMIC MODELING TO OPTIMIZE ICP-AES DETERMINATION OF GALLIUM IN METALLURGICAL MATERIALS, *Belozerova Anastasia*.
10. DETERMINATION OF OXYGEN SULFATE CONTENT BY THE CARRIER GAS HOT EXTRACTION, *Tyufyakova Darina*.
11. DETERMINATION OF THE MOLAR RATIO  $AlCl_3/KCl$  IN THE MELT  $ZrCl_4-KCl - AlCl_3$ , *Panfilov Anton*.
12. DETERMINATION OF V, AS, FE, CL AND OTHER COMPONENTS IN VANADIUM CATALYSTS BY XRF, *Shikhaleeva Marina*.
13. ELECTROTHERMAL ATOMIC ABSORPTION DETERMINATION OF GALLIUM AFTER CONCENTRATION ON A SUSPENSION OF MECHANICALLY ACTIVATED ANATASE, *Shatunov Dmitrii*.
14. TECHNIQUE FOR DETERMINATION OF THE MAIN ELEMENTS AND IMPURITIES IN FERROVANADIUM ALLOYS BY X-RAY FLUORESCENCE ANALYSIS, *Trubacheva Ekaterina*.
15. DEVELOPMENT OF A TECHNIQUE FOR THE ANALYSIS OF A FUEL COMPOSITION BASED ON LITHIUM, SODIUM AND POTASSIUM FLUORIDES, *Grubtsova Karina*.
16. SORPTION-SPECTROSCOPIC DETERMINATION OF CADMIUM (II) IONS, *Streltsova Khristina*.
17. CORROSION BEHAVIOR OF HASTELLOY IN MELTS, *Gordeeva Julia*.

1. NUMERICAL SIMULATION OF HEAT TRANSFER IN MEASURING THE THERMAL DIFFUSIVITY OF THE LiF–NaF–KF MOLTEN SALT BY LASER FLASH TECHNIQUE, *Chernyshev Savely*.
2. PREDICTING THE PROPERTIES OF HIGH-ENTROPY CARBIDES WITH THE INTERATOMIC POTENTIAL BASED ON NEURAL NETWORKS, *Pikalova Nadezhda*.
3. SPECTRAL ANALYSIS IN EVALUATION OF ELECTROCHEMICAL BEHAVIOR OF HIGH-ENTERTROPIC ALLOYS GDTBDYHOSC AND GDTBDYHOY, *Skrylnik Maria*.
4. COMPARISON OF VISCOSITY, GLASS TRANSITION TEMPERATURE AND DENSITY OF MELT  $\text{XNa}_2\text{O}-(100-\text{X})\text{B}_2\text{O}_3$  FROM COMPOSITION, *Samoylova Maria*.
5. OPTICAL MATERIALS FOR INFRARED OPTICS BASED ON THE  $\text{AgCl}_{0.25}\text{Br}_{0.75}$  –  $\text{TLCL}_{0.74}\text{Br}_{0.26}$  AND  $\text{AgCl}_{0.25}\text{Br}_{0.75}$  –  $\text{TLBr}_{0.46}\text{I}_{0.54}$  SYSTEMS, *Pestereva Polina*.
6. IMPACT OF DEFECTS ON PROPERTIES OF THE NEW OPTICAL MATRIX  $\text{Li}_9\text{Mg}_3[\text{PO}_4]_4\text{F}_3$ , *Akulov Dmitriy*.
7. CATALYSTS BASED ON G-C<sub>3</sub>N<sub>4</sub> FOR PHOTOCATALYTIC HYDROGEN PRODUCTION UNDER VISIBLE LIGHT, *Potapenko Ksenia*.
8. EFFECT OF SYNTHESIS CONDITIONS ON THE MAGNETIC PROPERTIES OF PEROVSKITES BASED ON LANTHANUM MANGANITE DOPED WITH ALKALI METAL IONS (Li-CS), *Permiakova Anastasia*.
9. DEVELOPMENT OF SYNTHESIS METHODS AND INVESTIGATION OF PROPERTIES OF PEROVSKITES BASED ON  $\text{CeAlO}_3$ , *Smelov Alexey*.
10. DIELECTRIC PROPERTIES OF BARIUM-STRONTIUM TITANATE FERROELECTRIC CERAMIC WITH BISMUTH ADDITION, *Popov Ivan*.
11. DOPED LANTHANUM NICKELATES AS CATHODES FOR SOLID OXIDE FUEL CELLS, *Sukhanov Kirill*.
12. THE EFFECT OF PARTIAL LEAD SUBSTITUTION ON THE STABILITY OF HYBRID PEROVSKITES UNDER POWERFUL ELECTRON FLUXES, *Rasmetieva Alexandra*.
13. TECHNIQUE FOR MEASURING THE MAGNETIC PROPERTIES OF A SUBSTANCE IN AN OPEN MAGNETIC CIRCUIT, *Ksenofontov Danila*.
14. THE SIZE EFFECT IN MAGNETOCALORIC MANGANITES  $\text{Nd}_{0.85}\text{Me}_{0.15}\text{MnO}_3$  (Me=Ca, Sr, Ba), *Cherepanova Lyubov*.
15.  $\text{Pr}_{1-x}\text{Ba}_x\text{FeO}_3$  AS AN ELECTRODE MATERIAL FOR SYMMETRIC PROTON-CERAMIC ELECTROCHEMICAL CELLS, *Gordeeva Maria*.
16. MECHANICALLY ACTIVATED ANATASE AS A SORBENT AND PHOTOCATALYST FOR THE REMOVAL OF Cr(VI) FROM AQUEOUS SOLUTIONS, *Burdina Lyudmila*.
17. ELECTRONIC STRUCTURE AND MAGNETIC PROPERTIES OF THE FULL HEUSLER  $\text{Mn}_2\text{NiAl}$  ALLOY, *Chernov Evgeniy*.
18. EXTRUSION PROCESS MODELING OF INFRARED FIBERS BASED ON THE SILVER AND THALLIUM (I) HALIDE SYSTEM, *Yuzhakov Ivan*.
19. PHYSICO-CHEMICAL PROPERTIES OF LANTHANUM COMPOUNDS AS CATHODE MATERIALS FOR SOLID OXIDE FUEL CELLS, *Guseva Ekaterina*.
20. RADIATION EFFECTS IN PHOTOLUMINESCENCE AND RAMAN SPECTRA OF  $\text{A-In}_2\text{Se}_3$  SINGLE CRYSTALS, *Lobanov Alexey*.

21. HIGHLY CONDUCTIVY SOLID-STATE ELECTROLYTE (LA, SR) (GA, FE, MG) O<sub>3-Δ</sub>: INFLUENCE OF IRON CATIONS ON STRUCTURAL AND TRANSPORT PROPERTIES, *Gordeev Egor*.
22. FORMATION OF AL-Y ALLOYS OF HYPOEUTECTIC COMPOSITION WITH SMALL ADDITIONS OF SC AND ZR, *Podkin Egor*.
23. PULSE ARC SHIELDED GAS WELDING WITH ADDITIONAL HOT FILLER OF HIGH-STRENGTH HARDENING STEELS, *Smolentsev Mikhail*.
24. CALIBRATION BY DRAWING AN ALUMINUM TUBE IN THE CONFORM LINE, *Bazan Dmitry*.



1. DEVELOPMENT OF A WEB APPLICATION FOR SEGMENTATION OF HTML PAGE CONTENT USING MACHINE LEARNING METHODS, *Alexeeva Alexandrina.*
2. OPTIMIZATION OF THE PGN-200M STEAM GENERATOR MODULES REPLACEMENT PROCESS USING 3D MODELING, *Zavadskii Daniil.*
3. SELF-ORGANIZATION IN TWO DIMENSIONAL REACTION-DIFFUSION MODELS: TURING PATTERNS AND MULTISTABILITY, *Kolinichenko Alexander.*
4. EQUILIBRIUM AND OSCILLATORY REGIMES IN AN AUTOCATALYTIC REACTOR WITH RANDOM PERTURBATION, *Pavletsov Makar.*
5. A USAGE OF NUMERICAL SIMULATION IN THE STUDY OF URANIUM DIOXIDE NANOCRYSTALS MELTING MECHANISMS, *Pitskhelauri Sergey.*
6. ANALYSIS OF METHODS FOR CALCULATING THE RESISTANCE OF A PERFORATED SURFACE, *Revyakina Polina.*
7. LEFT VENTRICULAR MOTION STUDY WITH STATISTICAL SHAPE ANALYSIS, *Rokeakh Roman.*
8. SYSTEM OF OPTIMAL CONTROL OF MEDIUM VOLTAGE ELECTRIC NETWORKS OPERATION MODES, *Rokhlov Vladislav.*
9. EVALUATION OF ICE CONDENSER EFFICIENCY DEPENDING ON ITS GEOMETRIC CONFIGURATION, *Ta Van Thuong.*
10. LABELING VIDEO DATA USING CROWDSOURCING FOR THE DETECTION TASK, *Sheka Andrey.*

## Panel 7. Bioengineering and biotechnologies. Oral reports

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2. EFFECT OF AMINO ACIDS ON CRYSTALLIZATION OF GALLSTONES IN CONDITIONS CLOSE TO THE HUMAN BODY, *Stepanova Anastasia*.
3. A COMPARISON OF THREE METHODS FOR MARKERS SELECTION IN UNTARGETED LIPIDOMICS, *Polanco Espino Fernando Jonathan*.
4. CHEST X-RAY BONE SUPPRESSION VIA MACHINE LEARNING METHODS, *Chechulina Maria*.
5. INCORPORATION OF MAGNETIC NANOPARTICLES INTO MESOPOROUS CALCIUM CARBONATE MATRICES FOR BIOMEDICAL APPLICATIONS, *Mikheev Alexander*.
6. BIOLOGICALLY ACTIVE SUBSTANCES FROM MICROORGANISMS, *Wuni Ibrahim Ibn*.
7. EVALUATION OF WHEAT MORPHOPHYSIOLOGICAL PROPERTIES UNDER THE INFLUENCE OF LOW-ENERGY IONIZING RADIATION, *Narkhova Anastasia*.
8. MECHANICAL PROPERTIES OF SCLEROSED DENTIN, *Loskutnikov Egor*.
9. EVALUATION OF THE ANTIOXIDANT ACTIVITY OF RAW COCOA BEANS AND PROCESSED COCOA POWDER FROM DIFFERENT MANUFACTURING COMPANIES IN GHANA, *Danyo Emmanuel*.
10. FLUORESCENT BIOSENSOR FOR THE REGISTRATION OF ORGANOPHOSPHORUS COMPOUNDS, *Izmozherova Kira*.
11. EVALUATION OF THE PROTEOLYTIC ACTIVITY OF YOGHURT STARTER CULTURES, *Savlukova Iuliia*.
12. FABRICATION OF FUCOIDAN/CHITOSAN NANOPARTICLES FOR THE CONTROLLED RELEASE OF PIPERINE IN VITRO, *Mensah Emmanuel Ofosu*.
13. STATIC AND DYNAMIC PHANTOMS FOR CALIBRATION OF MOBILE MEDICAL RADIOMETRY MEASURING SYSTEMS, *Gasilova Ekaterina*.
14. YOGURT WITH A MULTICOMPONENT VEGETABLE SUPPLEMENT, *Zhuravleva Darya*.
15. FUNCTIONAL PROPERTIES OF OVEN AND VACUUM DRIED CHLORELLA VULGARIS PROTEIN ISOLATES, *Kambebe Jonas*.
16. MODELING OF IMMUNODEFICIENCY STATE IN MODELS OF LABORATORY ANIMALS (MICE), *Demicheva Ekaterina*.
17. LOCALIZATION OF SURFACE ELECTRODES ON THE MYOCARDIUM IN OPEN HEART SURGERY USING NEURAL NETWORKS, *Chernobrovkin Timofey*.
18. MONOCLONAL ANTIBODIES: DEVELOPMENT PROSPECTS, *ANOSIKE GLORY CHINAZA*.
19. MEDICAL DATA AUGMENTATION GENERATOR BASED ON GIVEN FILE FOR RESEARCH PURPOSES, *Aristova Ekaterina*.
20. ON DEFORMATION BEHAVIOR OF THE BIOMINERAL (HEN'S EGG SHELL) AND EGG SHELL-BASED MATERIALS, *Korovin Roman*.
21. NATURAL ADDITIVES IN BEER, *Osei Eric*.
22. RISK FACTORS AFFECTING THE SURVIVAL OF PATIENTS WITH BLADDER CANCER, *Ogorodnikova Svetlana*.
23. MODELS OF REGULATION OF ION TRANSPORT IN MAMMALIAN CELLS, *Bondar Vyacheslav*.
24. PHYSICO-CHEMICAL PROPERTIES OF FERMENTED SOYMILK WITH ADDITION OF XANTHAN GUM, *Asase Richard Vincent*.

1. VOLUNTEERS MOTIVATION IN TERMS OF CONTINUITY, *Belov Anton*.
2. RESEARCH OF ROLE MODELS OF INTERACTION BETWEEN A UNIVERSITY AND AN INDUSTRIAL PARTNER IN THE FIELD OF INTELLECTUAL PROPERTY, *Aleksandrova Alina*.
3. ACCOUNTING FOR COGNITIVE DISTORTIONS IN THE INNOVATION MANAGEMENT SYSTEM, *Antonov Pavel*.
4. METHODOLOGY FOR ASSESSING THE COMPETITIVENESS OF INNOVATIVE ENTERPRISES, *Vyrypaeva Elizaveta*.
5. MODEL OF INNOVATIVE PROCESSES IN LOGISTIZATION, *Davletova Elizaveta*.
6. ASSESSMENT OF THE ORGANIZATION'S INNOVATION ACTIVITY BASED ON INTERNATIONAL STANDARDS, *Domanova Maria*.
7. FORMATION OF INNOVATIVE ENVIRONMENT OF ENTERPRISES FOR MAINTENANCE OF MEDICAL EQUIPMENT, *Duikova Sofia*.
8. THE SEVERAL SOCIOLOGICAL SURVEYS OF THE ATTITUDE OF THE YOUNGER GENERATION TO CHANGES IN THE LABOR LANDSCAPE IN THE RUSSIAN FEDERATION, *Zafirov Evgeny*.
9. STUDENT ACTIVITY ANALYSIS IN THE AREA OF PATRIOTIC EDUCATION OF YOUTH BY ROSPATRIOTCENTER'S CONCEPT "10 FACETS OF PATRIOTISM", *Kolmogorova Alice*.
10. THE POLYCODE TEXTS DIDACTIC CAPABILITIES AND INNOVATIVE TECHNOLOGIES FOR THEIR IMPLEMENTATION, *Krochin Alexander*.
11. FORMING CONDITIONS FOR DIGITAL TRANSFORMATION OF AGRICULTURE, *Meshkova Arina*.
12. ASSESSMENT OF THE COMPETENCE OF THE MANAGEMENT TEAM OF INNOVATIVE PROJECTS IN THE FIELD OF INFORMATION TECHNOLOGIES, *Popova Anna*.
13. ANALYSE THE LEGAL AND REGULATORY FRAMEWORK AND DEVELOP RECOMMENDATIONS TO UPGRADE TECHNOLOGIES FOR THE IMPROVEMENT AND MAINTENANCE OF ADJOINING AREAS, *Pochatkova Ekaterina*.
14. INNOVATIVE METHOD OF PERSONNEL MANAGEMENT: NON-STANDARD NON-MATERIAL MOTIVATION, *Sabantseva Tatyana*.
15. METHODOLOGY FOR ASSESSING PROJECT MATURITY AS A CONTINUOUS PROCESS OF ORGANIZATION IMPROVEMENT, *Khokhlov Dmitrii*.
16. ЭФФЕКТИВНОСТЬ ВНЕДРЕНИЯ ЭКОЛОГИЧЕСКИХ ПРОЕКТНЫХ МЕРОПРИЯТИЙ В ПРОМЫШЛЕННОСТИ, *Yasashnykh Elena*.
17. THE METHOD OF PROJECTION DESIGN USING THE ELECTRONIC 3D ENVIRONMENT "LIGROGAME" IN PRESCHOOL EDUCATION, *Molodnyakova Alena*.
18. PATENT AND INNOVATION ACTIVITY IN RUSSIA: NUMBERS AND PROBLEMS, *Pavlov Egor*.
19. INNOVATION IN THE ECONOMY: KEY DRIVERS AND CHALLENGES, *Gofman Danil*.
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## Panel 1. Nuclear and radiation technologies. Poster reports

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2. SOLVING THE PROBLEM OF TRANSFERRING A NUCLEAR REACTOR INTO A SUBCRITICAL MODE BY THE MARKOV CHAIN METHOD, *Vaulin Gleb*.
3. ENERGY DENSITY OF THE PHYSICAL VACUUM AND ESTIMATION OF THE MASS OF A COMPACT ELECTRON (EE) – PAIR, *Kashchenko Mikhail*.
4. ESTIMATION OF THE MINIMUM MASSES OF ELECTRON (EE) - PAIRS FOR SYNTHESIS REACTIONS OF MASSIVE ELEMENTS, *Kashchenko Nadezhda*.
5. HIGH DENSITY POLYETHYLENE FILLED WITH POZZOLANA AS A POLYMER RADIATION PROTECTION MATERIAL, *Grechishkin Roman*.
6. IMPROVEMENT OF RADIATION-PROTECTIVE PROPERTIES OF DIAMITE CLAY MATERIALS UNDER PRESSURE, *Shironina Alexandra*.
7. INVESTIGATION OF THE DEPENDENCE OF THE DENSITY OF POLYMER COMPOSITE MATERIALS ON THE MANUFACTURING TECHNOLOGY, *Kuvshinova Elena*.
8. SOME ASPECTS OF THE TWO-PHASE FLOW HYDRODYNAMICS IN THE HEAT EXCHANGE TUBE OF THE FALLING-FILM EVAPORATOR DESIGNED FOR THE HLW CONCENTRATION, *Gushshamova Viktoria*.
9. CALCULATION OF THE NEUTRON GUIDE SYSTEM FOR DIFFRACTOMETER ON COMPACT NEUTRON SOURCE DARIA, *Matyukhov Vladimir*.
10. DESIGN OF NEUTRON GUIDE FOR A REFLECTOMETER ON COMPACT NEUTRON SOURCE DARIA, *POPOV ARTEM*.
11. RADIOECOLOGICAL MONITORING OF YEKATERINBURG SOILS, *Sultanova Yliana*.
12. RADIATION RISKS ASSESSMENT IN TERRITORIES WITH INCREASED CONTENT OF TECHNOGENIC RADIONUCLIDES, *Zigangirov Arthur*.
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14. ESTIMATION OF DOSE RATES FROM NATURAL RADIONUCLIDES GAMMA RADIATION IN BUILDING MATERIALS OF MODERN RESIDENTIAL BUILDINGS, *Izgagin Vyacheslav*.
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2. A COMPUTER MODEL OF A MAGNETORESISTIVE SENSOR IN THE COMSOL MULTIPHYSICS, *Nizaev Azat*.
3. ANALYSIS OF AN INTEGRO-DIFFERENTIAL MODEL FOR CRYSTALLIZATION PROCESS WITH ACCOUNT OF IMPURITY FEEDING, GROWTH OF NUCLEI AND REMOVAL OF CRYSTALS, *Makoveeva Eugenia*.
4. APPLICATION OF POSITRON ANNIHILATION SPECTROSCOPY FOR ANALYSIS OF DEFECTS IN SYNTHETIC DIAMOND PLATES, *Kuziv Ivan*.
5. APPROACHES TO THE DESIGN OF MAGNETIC SYSTEMS MANUFACTURED BY SELECTIVE LASER SINTERING, *Korchigin Kirill*.
6. ASSESSMENT OF MECHANICAL STRESSES IN STEEL PLATE DURING BENDING BY MAGNETIC PARAMETERS, *Matosyan Anton*.
7. CALCULATION OF THE ENERGY STRUCTURE AND OPTICAL PROPERTIES OF THE SURFACE OF ZINC-CONTAINING PARTICLES IN SILICON DIOXIDE FILMS, *Zabokritskaya Elizaveta*.
8. CHANGES IN THE HYDROPHILICITY AND HYDROPHOBICITY OF MATERIALS DURING APPLICATION GRAPHENE, *Betke Igor*.
9. COMPARATIVE STUDY OF MAGNETIC NANOWIRES IN THIN ALUMINA FILMS SYNTHESISED BY DIFFERENT ELECTRODEPOSITION METHODS, *Veryasova Alena*.
10. COMPARISON OF SYSTEMS FOR REGISTRATION OF X-RAY SPECTRA AND IMAGES IN VARIOUS COMBINATIONS OF “DETECTOR-CAMERA” PAIR, *Kantur Ilya*.
11. CONCENTRATION DEPENDENCES OF ELECTRICAL RESISTIVITY OF TERNARY AND BINARY ALLOYS AT THE MAXIMUM LONG-RANGE ORDER, *Borodin Kirill*.
12. COULOMB CORRELATIONS AND ELECTRONIC STRUCTURE OF  $\text{CuCo}_2\text{S}_4$ : A DFT+DMFT STUDY, *Trifonov Ivan*.
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14. DAMPING-FREE ESTIMATION OF SPIN STIFFNESS IN METALLIC FERROMAGNETS, *Shagivaleeva Svetlana*.
15. DECORATION OF CARBON NANOTUBES FOR OBTAINING SUPERHYDROPHOBIC COATINGS, *Kapustin Sergey*.
16. DENSITY AND ELECTRICAL RESISTIVITY OF ALCONICUZR HIGH-ENTROPY ALLOY, *Bukreeva Julia*.
17. DEPENDENCE OF THE CHARACTERISTICS OF THE RADIATION-INDUCED EPR SIGNAL OF ARTIFICIAL HYDROXYAPATITE ON THE SYNTHESIS CONDITIONS, *Podshivalov Alexey*.
18. DETERMINATION OF THE NUMBER OF NON-ZERO EXCHANGE PARAMETERS OF THE MODEL BASED ON ITS THERMODYNAMIC OBSERVABLES, *Kozlov Egor*.
19. EFFECT OF ANNEALING ON THE MAGNETORESISTIVE PROPERTIES OF  $(\text{Co}_{47}\text{Fe}_{42}\text{Zr}_{11})\text{X}(\text{MGF}_2)_{100-\text{X}}$  COMPOSITES, *Tregubova Tatyana*.
20. EFFECT OF LASER MOTION DIRECTION ON THE MAGNETIC PROPERTIES OF SAMPLES PRODUCED BY SLS METHOD, *Shaimardanova Lilya*.
21. ELECTRONIC STRUCTURE AND OPTICAL PROPERTIES OF  $\text{CeO}_2$  AND  $\text{CeO}_2\text{:RE}$  NANOPARTICLES, *Myshkina Aleksandra*.



22. EVALUATION OF THE ACCURACY AND COMPUTATIONAL SPEED FOR THE METHOD OF MOLECULAR DYNAMICS WITH MACHINE LEARNING POTENTIAL FOR CARBON STRUCTURES, *Arslanov Kirill*.
23. EVOLUTION OF A POLYDISPERSE PARTICLE ENSEMBLE AT AN INTERMEDIATE PHASE TRANSITION, *Nikishina Margarita*.
24. EVOLUTION OF AN ENSEMBLE OF SPHERICAL PARTICLES IN METASTABLE MEDIA WITH ALLOWANCE FOR THEIR UNSTEADY-STATE GROWTH RATES, *Glebova Alexandra*.
25. EVOLUTION OF THE MAGNETIC PROPERTIES OF TWO-DIMENSIONAL  $\text{Fe}_3\text{GeTe}_2$  UNDER STRAIN, *IAKOVLEV ILIA*.
26. EXCHANGE BIAS EFFECT IN FERRIMAGNETIC COMPOUND  $\text{Fe}_2\text{CrSe}_4$ , *Komarova Valeria*.
27. EXCHANGE ENHANCEMENT OF THE ELECTRON g-FACTOR IN  $\text{InGaAs/InAlAs}$  METAMORPHIC HETEROSTRUCTURES WITH A HIGH INAS CONTENT, *Sandakov Nikita*.
28. FEATURES OF ELECTRONIC TRANSPORT AND MAGNETIC PROPERTIES OF  $\text{Mn}_3\text{Al}$  ALLOY IN CAST AND RAPID MELT QUENCHED STATE, *Korenistov Pavel*.
29. FEATURES OF SPECTRAL-RESOLVED THERMOLUMINESCENCE IN ALN NANOWHISKERS, *Chaikin Dmitrii*.
30. FEATURES OF THE ELECTRO- AND MAGNETOTRANSPORT IN TOPOLOGICAL SEMIMETAL  $\text{PtSn}_4$ , *Fominykh Bogdan*.
31. FEATURES OF THERMOLUMINESCENCE KINETICS OF  $\text{ZrO}_2$  CERAMICS SYNTHESIZED BY ELECTRON BEAM METHOD, *Kasatkina Yana*.
32. FIRST-ORDER MAGNETIC PHASE TRANSITIONS AT HYDROSTATIC PRESSURE, *Govorina Valeriya*.
33. GRAIN BOUNDARY SELF-DIFFUSION IN NANOCRYSTALLINE NIKEL, *Stupak Maksim*.
34. HIGH-ENTROPY ALLOYS  $\text{CoCrFeNi}$ : STRUCTURE AND THERMAL PROPERTIES, *Sterkhov Evgenii*.
35. IMPROVING CONVERGENCE OF THE MONTE CARLO METHOD FOR THE ISING MODEL USING PEDD, *Kukushkin Dmitriy*.
36. INFLUENCE OF ANNEALING TEMPERATURE ON THE PHASE COMPOSITION OF  $\text{A-Fe}_2\text{O}_3$  THIN FILMS, *Merencova Kristina*.
37. INFLUENCE OF THE COMPOSITION OF A LOW-MELTING ADDITIVE ON THE MAGNETIC HYSTERESIS PROPERTIES OF  $\text{Nd-Fe-B}$  NANOCRYSTALLINE ALLOYS AFTER INFILTRATION, *Golubiatnikova Aleksandra*.
38. INFLUENCE OF TITANIUM DISULFIDE ON THE SUPERCONDUCTING AND MAGNETIC PROPERTIES OF IRON TELLURIDE, *Kislov Evgeny*.
39. INVESTIGATION OF THE DOSE DEPENDENCE OF DETECTORS BASED ON  $\text{Al}_2\text{O}_3$ , *Igumnova Daria*.
40. LUMINESCENT AND DOSIMETRIC PROPERTIES OF MAGNESIUM OXIDE CERAMICS WITH AN IMPURITY OF CERIUM, *Shmeleva Anastasia*.
41. MAGNETIC AND ELECTRICAL PROPERTIES, STRUCTURE AND HARDNESS OF GP1 STAINLESS-STEEL SAMPLES MANUFACTURED ON A LASER 3D PRINTER, *Gordeev Nikita*.
42. MAGNETIC AND STRUCTURAL PROPERTIES IN  $\text{Fe}_{(7-x)}\text{M}_x\text{Se}_8$  ( $\text{M}=\text{Ti, Cr, Ni}$ ), *Klyucharev Maksim*.
43. MAGNETIC PROPERTIES AND MAGNETOCALORIC EFFECT OF  $\text{Ho}(\text{Me}_{0.84}\text{Fe}_{0.16})_2$  COMPOUND, WHERE  $\text{Me} = \text{Co, Ni}$ , *Kniazhev Mikhail*.
44. MAGNETIC PROPERTIES OF RAPIDLY QUENCHED  $\text{Sm-Fe-V}$  ALLOYS, *Shalaginov Arkadiy*.
45. MAGNETO-OPTICAL STUDY OF THE TOPOLOGICAL INSULATOR  $\text{Bi}_{1-x}\text{Sb}_x\text{Te}_2$ , *Belyaev Danil*.
46. MICROMAGNETIC SIMULATION OF MAGNETIZATION PROCESSES IN ANTIFERROMAGNETIC THIN FILMS, *Solntsev Semyon*.

47. NATURE OF INTERLAYER BONDS IN TWO-DIMENSIONAL DITELURIDES, *Pushkarev Georgy*.
48. NEUTRON INVESTIGATION OF  $\text{LiNi}_0.25\text{Co}_0.75\text{PO}_4$  SAMPLE, *Romashko Polina*.
49. NUMERICAL SOLUTION OF THE BOUNDARY VALUE PROBLEM DESCRIBING THE CONVECTIVE FLOW OF A VISCOUS INCOMPRESSIBLE FLUID IN A HORIZONTAL LAYER, *Dyachkova Anastasia*.
50. OPTICALLY STIMULATED ELECTRON EMISSION IN SURFACE LAYERS OF SILICON AND GERMANIUM OXIDES ( $\text{GeO}_2$ ), *Kochakov Yaroslav*.
51. PHOTOLUMINESCENT PROPERTIES THERMOPOLYMERIZED STRUCTURES  $\text{G-C}_3\text{N}_4$ , *Martemyanov Nikolay*.
52. PHOTOSORPTION PROPERTIES OF NANOSIZED  $\text{G-C}_3\text{N}_4/\text{TiO}_2$  HETEROSTRUCTURES TO ADSORB GALLIUM IONS, *Dorosheva Irina*.
53. PHYSICAL PROPERTIES AND STRUCTURE OF NONSTOICHIOMETRIC COMPOUNDS  $(\text{Fe,Ti})\text{S}_{1.8}$ , *Mozgovykh Stepan*.
54. PREDICTION OF MAGNETOTRANSPORT PROPERTIES OF SUPERLATTICES BASED ON MACHINE LEARNING METHODS, *Naydanov Ivan*.
55. PROPERTIES OF SINGLE CRYSTALS AND OPTICAL CERAMICS BASED ON THE  $\text{AgCl}_{0.25}\text{Br}_{0.75}$  - AGI SYSTEM SOLID SOLUTIONS, *Barykina Sofya*.
56. PROTON MIGRATION ON A TWO-DIMENSIONAL BCN LAYER SURFACE, *Shkodin Alexandr*.
57. PULSED CATHODOLUMINESCENCE AND OPTICAL PROPERTIES OF POWDERED  $\text{AlON}:\text{V}$ , *Pastukhov Dmitrii*.
58. RAMAN SPECTROSCOPY OF MODIFIED  $\text{CaF}_2$ , *Maslova Serafima*.
59. RELAXATION OF THE SYSTEM OF JAHN-TELLER COMPLEXES IN  $\text{CdF}_2:\text{Cr}$  CRYSTAL, *Ofitserova Natalia*.
60. SEMIMETALLIC AND SEMICONDUCTING STATES IN BAND STRUCTURE OF RSB AND RNISB WITH  $R = \text{TB, DY, HO}$ , *Baidak Semyon*.
61. SHAPE TRANSFORMATION OF COLLOIDAL NANOPARTICLES, PRODUCED BY LASER ABLATION OF ZINC IN WATER, *Rakhmatova Regina*.
62. SPECTRALLY RESOLVED THERMOLUMINESCENCE OF HAFNIA NANOTUBES IN LNT – 623 K RANGE, *Shilov Artem*.
63. STRUCTURAL PHASE TRANSFORMATIONS AND METASTABLE STATES IN SULPHIDE  $\text{Co}_{0.56}\text{Cr}_{0.4}\text{S}$ , *Akramov Danil*.
64. STUDIES OF STRUCTURAL CHANGES IN HYDROGENATED  $\text{Fe/Gd}$  SUPERLATTICES BY X-RAY DIFFRACTION AND REFLECTOMETRY, *Ryzhova Anna*.
65. SYNTHESIS, FEATURES OF STRUCTURE, ELECTRO- AND MAGNETORESISTIVITY OF  $\text{MnBi}_2\text{Te}_4$  MONO- AND POLYCRYSTAL, *Perevalova Alexandra*.
66. THE ANOMALIES OF ELECTRONIC HEAT CAPACITY DURING PHASE TRANSITION IN CHIRAL FERROMAGNET  $\text{MnSi}$ , *Chernikova Maria*.
67. THE DETERMINATION OF AMORPHOUS PHASE CONTENT IN MULTIPHASE SAMPLE BY THE X-RAY DIFFRACTION DATA, *Romanov Roman*.
68. THE EFFECT OF A PRECURSOR OF CADMIUM IONS ON THE STABILITY AND OPTICAL PROPERTIES OF CADMIUM SULFIDE NANOPARTICLES IN AQUEOUS SOLUTION, *Putilova Viktoria*.
69. THE EFFECT OF DISSIPATION ON THE CAUSTICS OF MAGNETOELASTIC WAVES IN FERROMAGNETS, *Savchenko Sergey*.
70. THE EFFECT OF TB AND MN ON THE INTERCHANGE INTERACTION FOR  $\text{La}_{0.2}\text{TB}_{0.8}\text{Mn}_2\text{Si}_2$  AND  $\text{La}_{0.4}\text{TB}_{0.6}\text{Mn}_2\text{Si}_2$ , *Alsafi Haneen*.
71. THE EFFECT OF THE DEGREE OF FUNCTIONALIZATION ON THE CONDUCTIVITY OF CNTS, *Kolpakov Pavel*.

72. THE INFLUENCE OF SYNTHESIS PARAMETERS ON MICROCRYSTAL STRUCTURE ARTIFICIAL HYDROXYAPATITES (HAP), *Shchanov Vsevolod*.
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74. THE POSSIBILITY OF DETERMINING THE TOTAL CONTENT OF A CHEMICAL ELEMENT IN A SAMPLE FROM X-RAY DIFFRACTION DATA, *Shchepin Kirill*.
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76. THERMOLUMINESCENCE OF  $\text{Ga}_2\text{O}_3$  IRRADIATED BY HIGH-DOSE PULSED ELECTRON BEAM, *Prytkov Daniil*.
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### Panel 3. Instrumentation and robotics. Poster reports

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4. DEVELOPMENT OF A BASIC OPTICAL SCHEME FOR DETERMINING INTERNAL STRESSES IN A COMPOSITE MATERIAL LIKE METAL-GLASS-CERAMICS, *Kostrov Vladislav*.
5. DEVELOPMENT OF A TECHNIQUE FOR CORRECTING IMAGES OF ELECTRODE SPOTS OBTAINED WITH A NEWVIEW 5010 INTERFERENCE MICROSCOPE, *Maksimov Artem*.
6. DEVELOPMENT OF THE PLASMA TORCH FOR SPRAYING INTERNAL SURFACES OF RELATIVELY SMALL DIAMETER, *Savelev Denis*.
7. EXPERIMENTAL INVESTIGATION OF PICOSECOND PULSE DISPERSION IN MICROSTRIP TRANSMISSION LINES, *Patrakov Vitaly*.
8. MODELLING OF THERMAL PROCESSES IN A SUPERSONIC PLASMA GUN, *Koreneva Ekaterina*.
9. MODERNIZATION OF THE RADIATION RECEIVER OF THE PRISM SPECTROGRAPH OF THE OPTICAL SPECTRUM, *Popov Aleksandr*.
10. POSSIBILITY OF NONDESTRUCTIVE TESTING OF AUSTENITIC CHROMIUM-NICKEL STEELS' PHASE COMPOSITION USING ELECTRICAL RESISTIVITY, *Kochnev Alexander*.
11. PRESSURE SENSOR WITH INCREASED MECHANICAL STENGHT AND TEMPERATURE SENSOR, *Basov Mikhail*.
12. SOFTWARE AND HARDWARE MODULE FOR STUDYING THE SYNAPTIC PLASTICITY OF MEMRISTIVE STRUCTURES, *Litvinov Alexey*.
13. PORTABLE GENERATOR OF SYNCHRONIZING PULSES, *Smolnikova Elizaveta*.

## Panel 4. Chemical technologies. Poster reports

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1. PRECONCENTRATION OF PB-210 FROM LARGE AQUEOUS SAMPLES BY VARIOUS METHODS FOR RADIOANALYTICAL APPLICATIONS, *Toporkova Vasilisa*.
2. THE EFFECT OF IRRADIATION OF INORGANIC SORBENTS ON THEIR SORPTION PROPERTIES FOR CESIUM-137, *Mukharova Tatyana*.
3. ANALYSIS OF THE GAS AND SALT COMPOSITION OF PHENAKITE FLUID INCLUSIONS (MIDDLE URAL) ACCORDING TO RAMAN SPECTROSCOPY DATA, *Pechurin Mikhail*.
4. CHRONOAMPEROMETRIC METHOD FOR DETERMINING ANTIOXIDANT CAPACITY USING IRON COMPLEXES OF DIFFERENT HYDROPHILITY, *Karmanova Anna*.
5. DETERMINATION OF BIOMARKERS BY THE “FINGERPRINTS” METHOD IN VOLCANIC OIL BY THE GC-MS METHOD, *Belonosova Viktoria*.
6. DETERMINATION OF ELEMENTAL COMPOSITION OF ALUMOSILICATE MICROSPHERES OF FLY ASH FROM THERMOELECTRIC PLANTS BY WD-XRF, *Pechishchev Ilya*.
7. DETERMINATION OF RARE EARTH ELEMENTS IN PUROLITE C160 RESIN BY WD-XRF, *Ulanova Olesya*.
8. DETERMINATION OF THE CHEMICAL COMPOSITION OF ZIRCON BY XRF, *Chekunova Anna*.
9. THE ANALYSIS OF ELEMENTAL AND 87SR/86SR ISOTOPIC COMPOSITON FOR THE AUTHENTICATION AND DETERMINATION OF THE GEOGRAPHICAL ORIGIN OF RUSSIAN WINES, *Rybakova Anna*.
10. THE EFFECT OF THE INTERFACE TEMPERATURE ON THE GENERATED ANALYTICAL SIGNAL IN THE GC-MS METHOD, *Malyshev Alexander*.
11. USE OF CARBON PLANAR ELECTRODES FOR DETERMINATION OF ANTIOXIDANT CAPACITY IN POTENTIOMETRIC PORTABLE DEVICES, *Salimgareeva Elena*.
12. THE EFFECT OF COBALT DOPANT ON THE PHOTOELECTRIC PROPERTIES OF PBS THIN FILMS, *Pozdin Andrey*.
13. THE EFFECT OF CHROMIUM DOPANT ON THE MORPHOLOGY OF CHEMICALLY DEPOSITED PBS FILMS, *Beltseva Anastasia*.
14. SYNTHESIS AND PROPERTIES OF LAYERS PBS(Y) AND PBS(Y,I), *Basalaev Ilya*.
15. SENSORY PROPERTIES OF THIN FILMS IN THE CDS - PBS SYSTEM, *Dyomina Darya*.
16. METHYLENE BLUE PHOTODEGRADATION WITH THE PARTICIPATION OF CUS THIN FILMS, *Lysanova Maria*.
17. RESEARCH OF SORPTION PROPERTIES OF BI-207 ON THIN-LAYER INORGANIC SORBENTS BASED ON CADMIUM SULFIDE, *Ermolaeva Valeria*.
18. MECHANISM OF URANIUM SORPTION BY ANION EXCHANGER AM-4VP FROM IN-SITU LEACHING SULFATE-CHLORIDE SOLUTIONS, *Kayotkin Vadim*.
19. ION EXCHANGE OF LAYERED REE HYDROXIDES IN CARBONATE SOLUTIONS, *Kosykh Anastasiya*.
20. EXTRACTING RHENIUM AND MOLYBDENUM FROM AQUEOUS SOLUTIONS VIA ADSORPTION ON MODIFIED MONTMORILLONITE, *Krutikova Elizaveta*.



21. HYDROFLUORIDE PROCESSING OF INDUSTRIAL WASTE TO OBTAIN FUNCTIONAL MATERIALS, *Medyankina Irina*.
22. EXTRACTION OF URANIUM FROM SULFURIC ACID SOLUTIONS OF LEACHING OF CONVERSION PRODUCTION WASTES, *Nechkin Michael*.
23. OXIDATIVE DECOMPOSITION OF CATION-EXCHANGE RESIN KU-2×8 AND ANION-EXCHANGE RESIN AV-17×8 WITH AN AQUEOUS SOLUTION OF HYDROGEN PEROXIDE, *Kozlova Marina*.
24. SORPTION EXTRACTION OF SILVER IONS FROM MULTIPLE-COMPONENT SOLUTIONS ON MODIFIED POLYSILSESCUIOXANE, *Shcherbinin Pavel*.
25. SORPTION OF SB (III) FROM SOLUTIONS USING MODIFIED MONTMORILLONITE, *Kholmanskikh Irina*.
26. STUDY OF THE POSSIBILITY OF MULTIPLE USE OF THIOCARBAMOYLATED POLYETHYLENE FOR THE SORPTION OF SILVER IONS FROM MULTICOMPONENT SYSTEMS, *Melnik Ekaterina*.
27. STUDY OF THE POSSIBILITY OF REMOVING STRONTIUM, BARIUM, LANTHANUM AND URANIUM FROM CHLORIDE MELTS BY THE PHOSPHATE PRECIPITATION METHOD, *Sharipova Marina*.
28. THE STUDY OF THE ION TYPE IS RESPONSIBLE FOR THE TRANSFER TO  $\text{Na}_3\text{DyV}_2\text{O}_8$ , *Razguliaeva Valeria*.
29. THE ANALYSIS OF THE METHODS OF APPLYING GLASS SEALANTS TO ASSEMBLE SOFC STACKS, *Golodnova Anastasiya*.
30. ANODIC DISSOLUTION OF GALLIUM IN CHLORIDE MELTS, *Tokarev Oleg*.
31. ELECTROCHEMICAL BEHAVIOR OF URANYL IONS IN FLINAK-BASED MELTS, *Smirnova Viktoria*.
32. ELECTROCHEMICAL PROPERTIES OF NICKEL IN THE  $\text{LiF-NaF-KF}$  MELT, *Stepanova Maria*.
33. ELECTRODE POTENTIALS OF SILVER IN  $\text{NaCl-KCl}$  EUTECTIC MELT, *Bessonova Daria*.
34. ELECTRODE POTENTIALS OF ZIRCONIUM IN LIQUID METAL SYSTEMS WITH GALLIUM AND GALLIUM-BASED ALLOYS, *Yakovlev Alexandr*.
35. ELECTROFINING OF MODEL NUCLEAR FUEL IN ELECTROLYTES CONTAINING REE CHLORIDES, *Nikitin Dmitry*.
36. STUDY OF THE EFFECT OF THE  $\text{Rh-Ag}$  THERMO-EMF PAIR ON THE MEASURED VALUES OF THE CONDITIONAL STANDARD POTENTIAL OF RHODIUM, *Osipenko Anastasia*.
37. INVESTIGATION OF THE ELECTRICAL CONDUCTIVITY OF CERAMICS IN THE PROCESS OF HIGH-TEMPERATURE AGING, *Poimtseva Viktoria*.
38. INVESTIGATION OF THE ELECTRICAL CONDUCTIVITY OF CERAMICS IN THE PROCESS OF HIGH-TEMPERATURE AGING, *Pilyugina Olga*.
39. EFFECT OF THE HYDROLYSIS PH VALUE ON THE CHANGE IN PARTICLE SIZE DURING PRECIPITATION AND THERMAL TREATMENT, *Polivoda Dmitry*.
40. INVESTIGATION OF THE INFLUENCE OF PH OF PRECIPITATION ON PARTICLE SIZE OF ERBIUM FLUORIDE, *Iakushev Iurii*.
41. INVESTIGATION OF THE INFLUENCE OF THE PH VALUE ON THE DEGREE OF CO-DEPOSITION OF GADOLINIUM WITH ZIRCONIUM HYDROXIDE DURING CONTROLLED DEPOSITION, *Sazonov Ilya*.
42. INVESTIGATION OF THE INFLUENCE OF THE PH VALUE ON THE SIZE AND SHAPE OF GADOLINIUM ZIRCONATE PARTICLES BY CONTROLLED DOUBLE-JET PRECIPITATION, *Bazhenova Elizaveta*.

43. INVESTIGATION THE EFFECT OF YTTRIUM ADDITIVE ON THE PRECIPITATION OF ZIRCONIUM HYDROXIDE DURING CONTROLLED TWO-JET DEPOSITION, *Domashenkov Maksim*.
44. STUDY OF THE EFFECT OF PRECIPITATION PF ON THE PROPERTIES OF CERIUM FLUORIDE PARTICLES, *Gasimova Alfina*.
45. RESEARCH OF THE HYDRODYNAMIC OPERATION MODES OF A HIGH-SPEED SEDIMENTATION CENTRIFUGE, *Mordanov Sergey*.
46. OPTIMISATION OF EXTRACTION METHODS OF CHLORELLA GROWTH FACTOR FROM CHLORELLA VULGARIS AS A POTENTIAL NANOPARTICLE MATERIAL, *Bulya Torkwase Emmanuella*.
47. PREPARATION OF FUCOIDAN COATED LIPOSOMES FOR TUBERCULOSIS TREATMENT, *Obiedallah Manar*.
48. METHODOLOGY FOR THE DIGESTION OF GOLD-BEARING ORES WITH SULFIDE CARBONACEOUS MATRIX, *Fedorova Viktoria*.
49. NOISE-INDUCED TRANSITIONS BETWEEN EQUILIBRIUM AND OSCILLATORY REGIMES IN A MODEL OF THERMOCHEMICAL KINETICS, *Klabukova Yulia*.
50. STOCHASTIC SPLITTING OF CYCLES AND TRANSITION TO CHAOS IN THERMOCHEMICAL PROCESSES, *Ivanenko Grigoriy*.
51. STRUCTURING OF THE SENSOR RECEPTOR LAYER TO CHLORAMPHENICOL BY ELECTRODEPOSITION OF 3,6-BIS(ETHYNYL)-9H-CARBAZOLE, *Kozyrina Yulia*.
52. DETERMINATION OF ALPHA EMITTING RADIONUCLIDES IN SAMPLES OF SOLID RADIOACTIVE WASTE, *Fomin Andrey*.

1. IONIC CONDUCTIVITY IN BA- AND SR-SUBSTITUTED LAYERED PEROVSKITE BASED ON BALA2IN2O7, *Fedorova Irina*.
2. THE EFFECT OF A-CATION SUBSTITUTION ON THE STABILITY OF HYBRID PEROVSKITES UNDER POWERFUL ELECTRON FLUXES, *Vorobyev Stepan*.
3. DEGRADATION OF HYBRID ORGANOMETALLIC PEROVSKITES UNDER GAMMA-RAY EXPOSURE STUDIED BY XPS, *Derendyaeva Ekaterina*.
4. NEW DOPED LAYERED PEROVSKITES BASED ON BALA2.IN2O7: SYNTHESIS AND TRANSPORT PROPERTIES, *Verinkina Eugenia*.
5. DETERMINATION OF THE CHEMICAL DIFFUSION COEFFICIENT AND THE CONSTANT OF SURFACE OXYGEN EXCHANGE GDBACO2-XFEXO6-Δ, *Zakiryanov Petr*.
6. PROTON CONDUCTIVITY IN CO-DOPED (SR2+ → LA3+; CA2+ → IN3+) LAYERED PEROVSKITES BASED ON BALA2IN2O7, *Zaviralova Viktoria*.
7. PRODUCTION OF THIN CERAMIC FILMS BY AEROSOL DEPOSITION, *Zavyalov Mikhail*.
8. PHYSICO-CHEMICAL PROPERTIES OF A COMPLEX OXIDE PR1.6CA0.4NI1-YCUYO4 AS A CATHODE MATERIAL FOR MEDIUM-TEMPERATURE SOFC, *Zhulanova Tatiana*.
9. ELECTROPHORETIC DEPOSITION OF CEO2-BASED THIN-FILM ELECTROLYTE, MODIFIED SRTIO3, FOR ANODE-SUPPORTED SOFC, *Rusakova Darya*.
10. PRODUCTION OF POWDERS BASED ON ZIRCONIUM DIOXIDE TO STUDY THE ELECTRICAL CONDUCTIVITY PROPERTIES CERAMICS, *Vandysheva Polina*.
11. CRYSTAL STRUCTURE AND PHASE TRANSITIONS OF THE PEROVSKITE-LIKE RARE-EARTH COMPLEX OXIDES, *Ivanova Anastasiya*.
12. ELECTRIC CONDUCTIVITY OF ANION-DEFICIENT HEXAGONAL PEROVSKITES BA5IN2AL2ZRO13 AND BA7IN6AL2O19, *Andreev Roman*.
13. SYNTHESIS AND PRODUCTION OF LAYERED CERAMIC MATERIALS BASED ON BARIUM STANNATE, *Akopyan Mariam*.
14. PROTON TRANSFER IN LAYERED PEROVSKITES BALA0.9M0.1INO4 (M = ND, GD) AND BALAIN0.9M0.1O4 (M = SC, Y), *Cheremisina Polina*.
15. INVESTIGATION OF THE FORMATION AND PHYSICO-CHEMICAL CHARACTERISTICS OF COATINGS BASED ON THE WC-NCO SYSTEM, *Kuklin Ilya*.
16. MAGNETIC PROPERTIES AND ELECTRONIC STRUCTURE OF THE ALLOY SERIES COXCU2-XMNAL, *Dedov Ilya*.
17. MAGNETIC PROPERTIES OF GDRUSI FOR MAGNETOCALORIC LIQUEFACTION OF NITROGEN, *Mukhachev Roman*.
18. NEW CRITERIA FOR PREDICTING THE COMPOSITION OF ALLOYS OF THE SC-CO-AL SYSTEM WITH GLASS-FORMING ABILITY, *Maiorova Anna*.
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20. DEVELOPMENT OF SRFE12O19 AND BAFE12O19 OXYGEN ACCUMULATORS FOR CHEMICAL CYCLING TECHNOLOGY, *Ryzhov Dmitriy*.
21. SYNTHESIS, STRUCTURE AND TRANSPORT PROPERTIES OF SC-DOPED LAYERED PEROVSKITE BASED ON SRLA2SC2O7, *Pyankov Daniil*.

22. IONIC CONDUCTIVITY IN LAYERED PEROVSKITE  $\text{SrLa}_2\text{Sc}_2\text{O}_7$ , *Gnatyuk Vladislava*.
23. STUDY OF THE INTERNAL STRUCTURE AND MAGNETIC PROPERTIES OF NANOPARTICLES BASED ON  $\text{FEME@C}$  ( $\text{ME}=\text{CO, NI}$ ) BINARY ALLOYS BY NMR, *Suvorkova Yekaterina*.
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25. THERMAL, STRUCTURAL AND FLUORESCENCE PROPERTIES OF  $(\text{Sm}_{0.5}\text{Eu}_{0.5})(\text{Fe}_{0.5}\text{Cr}_{0.5})\text{O}_3$ , *Ermolaeva Yulia*.
26. SPECTRAL AND LUMINESCENT PROPERTIES OF  $\text{NaY}_1\text{-XTMXGEO}_4$  IN IR RANGE, *Melentsova Anna*.
27. STUDY ON MECHANICAL PROPERTIES OF COMPACTED AND FIBROUS MATERIALS BASED ON NANOSTRUCTURED COPPER-NIOBIUM COMPOSITE, *Zaytsev Evgeny*.
28. ALTERNATIVE CRITERIA FOR EVALUATION OF CORROSION DESTRUCTIONS AFTER AN EXPOSITION OF METALIC MATERIALS IN MOLTEN SALTS, *Trubcheninova Anastasia*.
29. STRUCTURE AND PHYSICO-MECHANICAL PROPERTIES OF THE TERNARY  $\text{Cu/Al/Mg}$ -COMPOSITE, *Sukhachev Pavel*.
30. KINETICS OF ATOMIC ORDERING IN A NONSTOICHIOMETRIC  $\text{Cu}_{56}\text{At.\%Au}$  ALLOY, *Podgorbunskaya Polina*.
31. STUDY OF MODIFIED HEAT-SHIELDING COATINGS BASED ON  $\text{ZrO}_2$ , *Zakirov Il'sur*.
32. INFLUENCE OF THE CALCINATION TEMPERATURE OF ZIRCONIUM DIOXIDE ON THE PROPERTIES OF CERAMICS, *Zhirenkina Nina*.
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34. PRODUCTION OF POWDERS BASED ON ZIRCONIUM DIOXIDE FOR ELECTRICALLY CONDUCTING CERAMICS, *Chekhova Anna*.
35. ANALYSIS OF QUARTZ ROUNDNESS IN SURFACE-DEPOSITED SEDIMENTS OF THE URBANIZED ENVIRONMENT (THE EXAMPLE OF ROSTOV-ON-DON), *Glukhov Vitaliy*.
36. MODELING THE TEXTURE OF METEORITE BRECCIA FROM ORDINARY CHONDRITE MATERIAL BY THERMAL EXPERIMENTS, *Muftakhetdinova Razilia*.

1. DEVELOPMENT OF A PROTOTYPE MODEL OF BLOOD FLOW IN THE LIVER, *Askarova Elizaveta*.
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3. STOCHASTIC DYNAMICS IN A SYSTEM OF TWO PERIODIC POPULATIONS COUPLED BY MUTUAL MIGRATION, *Belyaev Alexander*.
4. DEVELOPMENT OF A METHOD FOR HIGH-PERFORMANCE OBJECT DETECTION USING PREDETERMINED DISTRIBUTION DYNAMICS, *Galina Ekaterina*.
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6. MATHEMATICAL MODELING AND ANALYSIS OF CALCIUM RELAXATION SELF-OSCILLATIONS UNDER THE RANDOM PERTURBATIONS, *Kachusov Stepan*.
7. TEMPERATURE ROTATING WAVE IN A THIN LAYER OF WATER. NUMERICAL EXPERIMENT, *Kerekelitsa Ivan*.
8. ALGORITHM FOR GENERATING EFFECTIVE RECOMMENDATIONS TO SOLVE THE PROBLEM OF CONGESTION OF HIGHWAYS, *Kotlyarenko Nikolay*.
9. IP-CORE OF INTEGER MULTIPLIER FOR VLSI FUNCTION-ORIENTED PROCESSOR, *Lisovsky Danila*.
10. DISTRIBUTED ENVIRONMENT FOR DESIGN OF TECHNOLOGICAL EQUIPMENT BASED ON RUSSIAN SOFTWARE, *Ogorodnikov Aleksei*.
11. REFINEMENT OF THE COEFFICIENTS OF THE NONLINEAR HEAT CONDUCTIVITY EQUATION BY THE LEVENBERG-MARQUARDT METHOD, *Petukhova Viktoriia*.
12. DEVELOPMENT OF A METHOD FOR EVALUATING ANALOGUES IN THE PRESENCE OF PATENT DESCRIPTIONS, *Rantseva Natalia*.
13. ON THE ANALYSIS OF PATENTS ON METHODS FOR PREDICTING AND DIAGNOSING INFECTION IN SURGERY, *Rybina Ekaterina*.
14. NUMERICAL SCHEME FOR FAST CALCULATION OF STRUCTURAL COMPLEXITY, *Solomein Andrey*.
15. TRAIN ROUTE DETECTION BASED ON CONVOLUTIONAL NEURAL NETWORKS, *Fedorov Vladimir*.
16. BUILDING A DIGITAL TWIN OF MOUSE MOTOR CORTEX NEURONS, *Khasanova Adelina*.
17. ANALYSIS OF WORD LENGTHS IN TEXTS OF PUBLIC SPEECHES, *Tsizhmovska Natalia*.

1. APPLICATION OF MACHINE LEARNING METHODS TO SEARCH FOR PEROVSKITE-LIKE COMPOUNDS WITH THE BEST EFFICIENCY OF SOLAR ENERGY CONVERSION, *Fedotova Elena*.
2. TECHNOLOGY FOR CREATING SOLAR CELLS SENSITIZED WITH ORGANIC DYES, *Talankina Lidia*.
3. BIOCOMPATIBLE PEROVSKITE QUANTUM DOTS: SYNTHESIS AND INVESTIGATION OF PHYSICOCHEMICAL PROPERTIES, *Asabin Danil*.
4. ANTIBACTERIAL ACTIVITY OF CARBON-CONTAINING COATINGS, *Lapina Polina*.
5. EFFECT OF THE PH OF THE MEDIUM ON THE MULTIFERMENTATIVE ACTIVITY OF CERIUM DIOXIDE, *Smolnikova Ekaterina*.
6. DEVELOPMENT OF A FUNCTIONAL PRODUCT FOR PREVENTIVE NUTRITION OF MINERS, *Chernoguzova Diana*.
7. EFFECT OF CERIUM DIOXIDE NANOPARTICLES DOPING WITH RARE EARTH METAL IONS ON THE PHOTOCATALYTIC ACTIVITY, *Mullayarova Alexandra*.
8. FORMATION OF TWO-DIMENSIONAL PATTERNS IN THE GLYCOLYSIS, *Pankratov Alexandr*.
9. HERPES SIMPLEX VIRUS, *Ivantsova Maria*.
10. COMPARATIVE STUDY ON PHYSICAL-CHEMICAL PARAMETERS AND ORGANOLEPTIC VARIABLES OF POULTRY EGGS TO IRRADIATION BY HIGH AND LOW-ENERGY ELECTRON BEAM, *Safronova Alina*.
11. OPTIMIZATION OF DISTANT RADIOTHERAPY PLANNING BY THE GEUD FUNCTION, *Vechtomova Anastasia*.
12. THE EFFECT OF LOW-ENERGY ELECTRON BEAM TREATMENT ON THE PROPERTIES OF STARCH AND REDUCING SUGARS OF WHEAT, *Pustotina Alexandra*.
13. THE POSSIBILITY OF USING IONIZING RADIATION IN COSMETOLOGY ON THE EXAMPLE OF SCRUBS, *Uzhneva Valeriia*.
14. DEVELOPMENT OF A METHODOLOGY FOR ASSESSING THE VIABILITY OF MICROORGANISMS BY THE TURBIDIMETRIC METHOD, *Sabanin Kirill*.
15. THE EFFECT OF IONIZING RADIATION ON THE POTATO AND CORN STARCH, *Krylova Darya*.
16. PYRADIOMICS FEATURES EXTRACTION AND MACHINE LEARNING MEDICAL IMAGES CLASSIFICATION, *Novoselov Ivan*.
17. IMPROVEMENT OF THE VARIABLE STIFFNESS COEFFICIENT MODEL FOR STRENGTH LIMIT ANALYSIS OF BRONCHIAL ANASTOMOSIS, *Andreeva Svetlana*.
18. INFLUENCE OF NON-NEUTONIAN PROPERTIES OF BLOOD ON FORMATION OF RECIRCULATION ZONES IN VESSELS WITH STENOSE, *Makhaeva Ksenia*.
19. SHELL MODEL OF MECHANICAL SCLERA-RETINA CONTACT IN THE FRAMEWORK OF THE FINITE ELEMENT METHOD, *Kokusov Iliia*.
20. SYNTHESIS AND CHARACTERIZATION OF AGAROSE HYDROGEL AS A FRAMEWORK FOR A FLUORESCENT BIOSENSOR, *Kriukova Elena*.
21. HIGHT PRESSURE TREATMENT AS GERMINATION STIMULATION FACTOR FOR LETTUCE SEEDS, *Protsiv Stepan*.
22. TREATMENT OF DILL SEEDS BY HYDROSTATIC PRESSURE AND THE EFFECT OF THIS FACTOR ON SEED GERMINATION AND FURTHER DEVELOPMENT OF SPROUTS, *Shavarov Stanislav*.

23. THE USE OF MICROWAVE RADIATION FOR CHILDREN'S FERMENTED MILK PRODUCTS, *Panin Maksim*.
24. APPLICATION OF X-RAY DIFFRACTION METHODS TO STUDY THE COMPOSITION OF URINARY CONCREMENTS, *Chukina Anastasia*.
25. CULTIVATION OF FUSARIUM VERTICILLIOIDES FOR THE PURPOSE OF GIBBERELLIN BIOSYNTHESIS, *Dernina Daria*.
26. SEARCH FOR OPTIMAL WAYS TO EXTRACT BAS FROM DRIED LEAVES OF MORINGA OLEIFERA, *Bekkulova Regina*.
27. STOCHASTIC DYNAMICS OF RAB5/RAB7 PROTEINS IN ENDOSOMES INFLUENCED BY MULTIPLICATIVE NOISE, *Sholokhov Vladimir*.



## Panel 9. Young talents (section of schoolchildren). Poster reports

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2. THE INFLUENCE OF THE ALUMINUM OXIDE SYNTHESIS PARAMETERS ON ITS SPECIFIC SURFACE, *Daria Mogilnikova*.
3. ПАСПОРТИЗАЦИЯ КОПЕЙ ШАЙТАНСКОГО УЧАСТКА РЕЖЕВСКОГО ПРИРОДНО-МИНЕРАЛОГИЧЕСКОГО ЗАКАЗНИКА, *Yaroslav Semenishchev*.