



Organizing Committee of the Sixth International Youth Scientific Conference "Physics. Technology. Innovation. FTI-2019", which was held from May 20 to May 24, 2019 on the basis of the Physico-Technical Institute of the Ural Federal University named after the first President of Russia B.N. Yeltsin "confirms that the following participants submitted quoted reports (they took part in person).

## Section 1. Condensed matter physics

### Oral reports

- 1. Kiselev Sviatoslav, Luminescence of Li<sub>6</sub>Y(BO<sub>3</sub>)<sub>3</sub> doped with Pr<sup>3+</sup> ions under X-ray, electron beam and ultraviolet excitation.
- 2. Khatchenko Yulia, Fast d-f luminescence of Pr3+ ions in some complex phosphates and silicates: comparative characteristics.
- 3. Chaikin Dmitrii, Spectral and kinetic parameters of thermoluminescence in cation-deficient AlN.
- 4. Vagapov Alexander, Effect of 10 MeV electron beam on the luminescent properties of MgAl<sub>2</sub>O<sub>4</sub> impurity centers.
- 5. Pavzderin Nikita, Thermal and electrical properties of Co-doped La<sub>2</sub>NiO<sub>4</sub>.
- 6. Balakhayeva Rakhima, Structure of CdTe nanocrystals synthesized by electrochemical deposition from different solutions onto the SiO<sub>2</sub>/Si track template.
- 7. Usseinov Abay, Ab initio calculations of CO2 adsorption on nonpolar (100) ZnO surface.
- 8. Sotnikov Oleg, Quantum nanoskyrmions.
- 9. Lei Xue, Modeling of electronic and optical properties of C<sub>3</sub>N<sub>4</sub> within DFT frame.
- 10. Germov Alexander, Results and perspectives of NMR spectroscopy in the study of the electronic structure of uranium mononitride.
- 11. Pankov Sergei, Conductivity mechanisms in [ZnO/SiO2]25 thin-film structure.
- 12. Olontseva Darya, Stripping of the ion beam when passing through nanotubes.
- 13. Sludnaya Marina, Correction of the classical theory of ionic inhibition of Bohr.
- 14. Shalomov Konstantin, Estimation of temperature and thermal pressures in thermalized areas of dense cascades of atomic displacements in the course of ion bombardement.
- 15. Potapova Irina, Wave propagation and dissipation parameters of surface plasmons on the border of nanocomposite.
- 16. Gilfanova Svetlana, Influence of electret effect on filter and dividing capabilities of polymer nonwovene materials.
- 17. Belyaeva Tatyana, The influence of polydispersity on the equilibrium properties of supramolecular magnetic polymers.
- 18. Yuzhakov Vladimir, Elastic and piezoelectric properties of diphenylalanine microtubes filled by ethanol molecules.

#### Poster Session

- 1. Pankov Vitaly, Effect of medium of sintering and manganese impurities on photoluminecsence of alumina ceramic.
- 2. Myshkina Aleksandra, Luminescent- optical properties of cerium dioxide nanoparticles annealed in a reducing atmosphere.
- 3. Abashev Rinat, Complex kinetics photoluminescence f centers in strongly irradiated anion-deficient corundum and its connection with the degree of filling electron traps.
- 4. Postnikov Mikhail, Control of the band gap by intercalating copper in ZrSe2.
- 5. Muftakhetdinova Razilia, Study of the spectral characteristics of meteorites after modeling thermal and impact metamorphism.
- 6. Dutov Valerii, New esr centers of transparent nanoseramic MgAl<sub>2</sub>O<sub>4</sub>.
- 7. Ramazanova Guzalliia, ESR of anion-deficient alumina single crystal after UV irradiation.
- 8. Voynov Victor, Non-radiation technology of creating complex color centers in anion-defective corund crystals.
- 9. Makarova Alina, Structural features and luminescence of natural spinel with abnormally high chromium content.
- 10. Savchenko Sergey, Composite color-tunable nanophosphor for UV radiation conversion.
- 11. Parulin Roman, Luminescent thin films of gadolinium oxide doped with erbium and europium ions.
- 12. Churkin Viacheslav, Photoluminecsence of alumina ceramic doped with manganese under vacuum high-temperature sintering.
- 13. Shevelev Vladimir, The effect of fluorescent additives on optical and luminescent properties of organic polymers.
- 14. Borbolin Andrey, Optically induced processes in ultradisperse anion-deficient Al<sub>2</sub>O<sub>3</sub>-BeO ceramics exposed to high doses of ionizing radiation.
- 15. Trofimova Elena, 5d-4f luminescence in Sr<sub>9</sub>Lu(PO<sub>4</sub>)<sub>7</sub> doped with Pr<sup>3+</sup> ions.
- 16. Koubisy Mohamed, Photoluminescence of oxygen-deficient centres in Re-implanted glassico

Director of the Institute of Physics and Technology, Conference chairman







- 17. Bubnova Anna, Luminescence analysis of ceramic magnesium aluminum spinel Fe<sup>2+</sup>:MgAl<sub>2</sub>O<sub>4</sub> synthesized from nanosized powders via syntering in air and vacuum.
- 18. Konev Aleksandr, The nature of radiation-induced EPR signals in halloysite nanotubes.
- 19. Smirnov Nikolai, Luminescence of intrinsic and impurity centers in Mg-doped aluminum oxide ceramics.
- 20. Sofronova Anastasia, Radiation-induced defects in SrMgF4 crystas irradiated by fast electrons.
- 21. Belikov Alexandr, Volt-ampere features of silver sulfide.
- 22. Menshenina Anastasia, About the nature of the luminescence band at 2.6 eV in zirconia.
- 23. Boqizoda Daleri, Photoemission characteristics and in situ Kelvin probe work function measurements on films of linear chained carbon on copper and silicon substrates.
- 24. Yakovenko Vladislav, Simulating and visualization bremsstrahlung and its use for the formation of small absorbed.
- 25. Shekunov Grigoriy, Grain boundary diffusion simulation of Xe in UO2.
- 26. Tereshchenko Alexey, Calculation of lorenogrograms for solutions of the model of double sine-Gordon.
- 27. Rozanov Evgenii, Using metadynamics for calculating nucleation energy barrier of metastable liquid.
- 28. Shvab Ekaterina, Computer modeling of heating and melting the fine particles of gold in different environments.
- 29. Kashin Ilya, Investigation of ferromagnetism in chromium triiodide monolayer.
- 30. Nuretdinov Tagir, Quantum fluctuation research in Fe<sub>x</sub>Mn<sub>1-x</sub>Si with considering of the LDA+U+SO calculations of the electronic structure.
- 31. Akisheva Anna, Modelling of the system of magnetic anisotropic nanoparticles.
- 32. Makoveeva Eugenya, Mathematical modeling of nonlinear growth rates of crystals with allowance for Meirs kinetics.
- 33. Badrtdinov Danis, The magnetic anisotropy of spin S=1 BaMoP2O8 system.
- 34. Titova Ekaterina, 3D dendrite shape in the large chemical peclet number limit in the case of rotational symmetry.
- 35. Toropova Liubov, Effect of forced convection on dendrite growth kinetics.
- 36. Grinina Zlata, Magnetization reversal in GdCo antidot films with perpendicular anisotropy.
- 37. Kudyukov Egor, Effect of annealing on stress-magnetoresistance properties of films with unidirectional anisotropy.
- 38. Zverev Vladimir, Characteristic relaxation times for the multicore magnetic anisotropic nanoparticles.
- 39. Kulesh Nikita, Magnetization configurations in soft magnetic Fe-Nb-Cu-Si-B films with periodic nanoscale curvature.
- 40. Izmozherov Ivan, 3D Bloch lines model in domain structure of thin films with perpendicular magnetic anisotropy.
- 41. Gupalo Marina, The effect of the topology of a magnetic polymer on its structural and magnetic properties.
- 42. Nogovitsyna Tatiana, Electronic structure and magnetic susceptibility of Fe<sup>1-x</sup>Co<sup>x</sup>Si alloys.
- 43. Moskalev Mikhail, Partial structural transformation of NiMn in exchange biased Fe<sub>20</sub>Ni<sub>80</sub>/Ni<sub>30</sub>Mn<sub>70</sub>/Fe<sub>20</sub>Ni<sub>80</sub> thin films.
- 44. Russkikh Pavel, Surface modification of steel inductor as an approach to enchance its durability in high pulsed magnetic fields.
- 45. Orlov Konstantin, The calculation of frequency of resonant absorption of microwave radiation by water.
- 46. Schapova Elizaveta, The comparison of two data processing techniques of magnetic method for elastic compressive stress determination.
- 47. Korenistov Pavel, Electronic structure, electrical and optical properties of Mn<sup>1.8</sup>Co<sup>1.2</sup>Al alloy and spin gapless semiconductor state.
- 48. Alekseev Igor, Magnetic viscosity dependence of δM plots for a NdFeB-based alloy.
- 49. Petukhova Anastasia, Spatial magnetic flux distribution in an object magnetized by three-pole electromagnet locally.
- 50. Sozonov Dmitry, Comparative study of ultrasonic and magnetic methods for estimating plastic deformation of medium carbon steel.
- 51. Feshchenko Anastasia, Magnetic properties of soft magnetic cobalt-based alloy heat treated in presence of indium vapors.
- 52. Rusalina Anastasia, Magnetism of Dy-Co system amorphous films.
- 53. Panchenko Polina, Influence of magnetic field annealing on hysteresis properties of polycrystalline films of iron-group alloys.
- 54. Vasilenko Olga, Structural Sensitivity of the Parameters of Asymmetric "Coercive Return–Magnetization" Cycle in Heat-Treated Low-Carbon Steels.
- 55. Skvortsov Daniil, Separation of substances during evaporation from three-component mixture and optimization of this process.
- 56. Toporova Natalia, Crystal structure and kinetic properties of intercalation compounds  $Cr_{0.33}Nb(S_{1-x}Se_x)_2$ .
- 57. Trofimova Kristina, Synthesis and characterization of semiconducting carbazole thin films.
- 58. Nizovtseva Irina, Multi-grain evolution under slow, intermediate and fast regimes of solidification in multi-component alloying system.
- 59. Akramov Danil, Changes in the crystal structure and phase transformations in the Co-(Se1-) Te18.
- 60. Borodin Kirill, Influence of interaction between impurity atoms on solubility of gases in crystals.

Director of the Institute of Physics and Technology, Conference chairman





- 61. Filatov Maxim, Thermal properties of ceramic and nanocomposition coatings of ZrO2 and NiO-ZrO2 obtained by reactive magnetron RF hardening.
- 62. Yakupov Ratmir, Depending on the loading rate, the mechanical properties of the Ti-3.5Al-1.1Zr-2.5V titanium alloy.
- 63. Shutov Ilya, The study of manifestations of the Jahn-Teller effect in the elastic properties of crystals ZnSe:Ni by acoustic spectroscopy.
- 64. Bondarevskaya Anna, Anomalous behavior of elastic properties of calcium fluorite crystal induced by nickel impurity.
- 65. Losev Timofey, Photodegradation of CsSnI3 investigated by mean of xps.
- 66. Ilyin Vadim, Electrical resistivity of liquid CuSn, CuSnBi, CuSnBiIn, CuSnBiInCd alloys of equiatomic compositions.
- $67. \textit{Zhilova Olga}, The \textit{ structure of the heterogeneous } (Co_{40}Fe_{40}B_{20})_{34}(SiO_2)_{66}/In_2O_3 \textit{ nanosystem}.$
- 68. Surganov Oleg, Researching of the electronic structure and paramagnetic properties of irradiated polyethylene.
- 69. Tarasova Oksana, Development of broadband radio-absorbing structures based on frequency elector gratings.
- 70. Sokolovsky Dmitry, Effect of high pressure on the thermal EMF of carbon nanotubes.
- 71. Tsykareva Yuliana, Alteration of carbon nanotubes' band structure through chemical modification.
- 72. Igolnikov Alexander, Study of thermal conductivity thermally unstable substances in a wide range of temperatures and pressures.
- 73. Egochina Veronika, The research of the pre-wetting effect on the moisture transition from the surface of the ice in the frozen ground.
- 74. Basyrova Sara, Influence of unipolar corona discharge on surface energy of modified cardboard.
- 75. Karishev Patrikey, Investigation of features of crater formation on the cathode surface in the short vacuum discharge.
- 76. Mikhailov Pavel, Study of the ion plasma flow generated by a high-current vacuum arc.
- 77. Osanova Elvira, Fuel loading optimization into the active zone of the BN-800 reactor for the purpose of the most balanced distribution of the energy releasing field.
- 78. Khalaf Hyam, Efficiency and radioactive aerosol permeability of AFA-RSP-20 analytical filter.
- 79. Fedorovykh Vyacheslav, Evolution of the domain structure by electron and ion beam irradiation in strontium barium niobate single crystals.
- 80. Gimadeeva Lyubov, Formation of domain structure by electron beam irradiation in PMN-39PT single crystals.
- 81. Dybov Vladislav, Evolution of the phase composition and electrical properties of amorphous LiNbO3 films in thermal annealing process.
- 82. Abramov Alexander, Indentation-induced local polarization reversal in La doped BiFeO3 ceramics.
- 83. Pashnina Elena, Electron beam domain patterning in thin plates of magnesium doped lithium niobite.
- 84. Kornilova Vera, Investigation of piezoelectic and elastic properties of diphenylalanine microtubes after lyophilic drying.
- 85. Vlasov Evgeny, Domain patterning in congruent lithium niobate by electron beam irradiation at elevated temperatures.
- 86. Anikin Viktor, Influence of the domain structure on piezoelectric and dielectric properties of relaxor ferroelectrics.
- 87. Lisjikh Boris, Influence of composition gradients on initial domain structure in lithium tantalate.
- 88. Guzhova Alina, Electret properties of Polylactic Acid Montmorillonite composites.
- 89. Minzagirova Alsu, Effect of montmorillonite on the properties of electret polyethylene.
- 90. Gilmanov Iskander, Interrelation of electret properties of polyethylene foam from the production technique and addition of a finely dispersed filler.

## Section 2. Instrument Engineering and Robotics

#### Oral reports

- 1. Maltseva Viktoria, Development of setup for measuring magnetic properties of materials in a closed magnetic circuit.
- 2. Nikitin Andrey, Magnetic defectometry of surface defects in a ferromagnet.
- 3. Proskurina Irina, Control of electrical parameters for the evaluation of martensitic transformations in austenitic steels.
- 4. Nasyrov R.T., Problems of verification in development of microelectronic products.
- 5. Serazetdinov Artur, Current Comparator Design.
- 6. Merkulov Oleg, Development and testing of a tubular thermoelectric generator based on oxide materials.
- Melnikova Alexandra, Automated system for decoding results and automatic tracking of the development of defects when controlling heat exchangers.
- 8. Perevalor G.S., Requirements for software to ensure the resistance of equipment to ionizing radiation of outer space.
- 9. Iurkov Igor, Methods of measuring the flux density of radon, taking into account advective transfer.
- 10. Tarasov Stepan, Development of a high-performance extruder for 3D printing with engineering plastics and composites.
- 11. Petrenyov Ilya, Bipolar resistive switching in nanotubular zirconia structures.

Director of the Institute of Physics and Technology, Conference chairman





- 12. Gordeev Gleb, Instrument equipment for measuring the density of advective radon flux from the soil.
- 13. Kupchinskaya Evgeniya, Methods for obtaining gamma images.

#### Poster Session

- 1. Briginets Sofya, The software for figurative the cardiominitorah.
- 2. Rozevika Alina, The software for the grut mobile complex.
- 3. Alimkhanov Albert, Neutron detector based on 6li-silicate glass activated by cerium.
- 4. Abdurakhimov Nursulton, Design of a universal experimental stand for determining the spectrophotometric characteristics of substances.
- 5. Mogilnikov Ilya, Eviot-module.
- 6. Mekhontseva Galina, Evaluation of factors influencing the measurement of electrical. resistivity of material of standard samples of silicon single crystal.
- 7. Chuvashov Roman, Device for nitroaromatic substance detecting and identification.
- 8. Alaberdin Rinat, Development of a mobile device for the analysis of the content of harmful gas in the fire.
- 9. Zabolotniy Sergey, Development of a mobile device for analysis of the concentration of natural gas.
- 10. Yurpolsky Dmitry, Development of a mobile device for optical analysis of problem skin zones.
- 11. Mukhin Roman, Digital method of processing information in spectroscopy: problems and prospects.
- 12. Krasnoborova Ekaterina, The control module of shaft engine rotation speed.
- 13. Kornienko Maxim, The error reduction of coordinates determination of acoustic emission sources.
- 14. Ziatdinova Adel, Device for nitroaromatic substance detecting.
- 15. Sturis Aleksey, Hardware for electron beam energy control measuring in real time.
- 16. Byzov Alexander, Hardware-software system for magnetic structurescopy dius-1.15m.
- 17. Martemyanov Nikolay, Module for high-temperature annealing of widegap materials in various gases.
- 18. Novoslugina Anastasia, Dipole model of magnetization of rebar in concrete.
- 19. Zakirov Nail, Development of a device to restore the thread for 3d printers from plastic waste.
- 20. Fofanov Andrey, Modernization of hardware and software complex to study the mechanical properties of ice.
- 21. Kochnev Alexander, Instrumental control of magnetic properties and phase composition of corrosion-resistant chromium-nickel steels.
- 22. Ogorodnikova Olga,, Method of ripe tomato detecting for a harvesting robot.
- 23. Patrakov Vitaly, Comparison of commercial and integrated thyristors triggered in impact-ionization wave mode.
- 24. Ostrovsky Vasily, Development of a control system of hardware and software complex to determine thin films thickness by interferential method.
- 25. Sinev Maxim, Description of the shs reactor and the nearest plans for its use.
- 26. Kupchinsky Anton, The energy dependence of sensitivity correction for the direct-reading dosimeter.
- 27. Voloshin Artyom, Determination of neutron spectrum using bonner sphere spectrometer.
- 28. Pyshkina Mariia, The dependence of the uncertainty on the amount of sphere at bonner sphere spectrometer.
- 29. Saif Mujahed, Estimate the absolute efficiency by matlab for the NaI(Tl) detector using IAEA-314.
- 30. Ushakov Vjacheslav, Stand for the analysis of the amplitude-time characteristics of the nuclear precession signal.
- 31. Trofimova, Spin coating.

### Section 3. Chemical Technologies

### Oral reports

- 1. Martyuk Daniil, Using galvanic coatings to improve operational characteristics and resource for external combustion engines in arctic conditions.
- 2. Seleznev Andrian, Methods of instrumental and theoretical analysis of contemporary anthropogenic sediments in urban areas.
- 3. Lobanov Daniil, Physical and chemical features of the zinc extraction from technogenic formations.
- 4. Pavlova Yana, Determination of the degree of the recovery of uranium dioxide with the addition of oxides of rare-earth elements.
- 5. Fedorov Sergei, The behavior of micro-dispersed gold in smelting of sulfide materials.
- 6. Ordinartsev Denis, Leaching of vanadium from the second stage duplex process converter slag.
- 7. Rulinskaya Marina, Improving the efficiency of heat exchange equipment manufacturing «Butadiene».
- 8. Tsarev Nikolay, Aggressive wastewater sludges conditioning with polyelectrolytes

гехнологическ институт

- da

V. Yu. Ivanov

Director of the Institute of Physics and Technology, Conference chairman





- Vorob'ev Alexey, Study of stability of silicon complexes in KF-KCl-K<sub>2</sub>SiF<sub>6</sub> melt.
- 10. Kostromin Konstantin, Localization of fluoride ion at LRW by evaporation in a pilot plant.
- 11. Khamatnurova Alina, Effects provided by the lower concentrations of inorganic additives on the synthesis and properties of polycaproamide.
- 12. Gordeev Egor, Interkalation of layered hydroxonitrate Gd-Er fluoride ions and sulfate ions.
- 13. Burdina Anna, Obtaining nanocrystalline powders of tantalum carbide and studying their properties.
- 14. Adiyak Ekaterina, Synthesis of nonstoichiometric titanium dioxide in hydrogen stream.
- 15. Osinkina Tatiana, Oxidation of Ti-Al-Nb and Ti-Al-Ta alloys by air oxygen.
- 16. Osipenko Anastasia, Study of ruthenium behaviour in alkali chloride melts using electronic absorption spectroscopy.
- 17. Sinelshchikova Anna, Dynamics of sorption of noble metal ions by sulphoethylated polyethylenymin with a modification degree of 0.58.
- 18. Naskina Dilyara, Mixing hydrodynamics research during the ammonium polyuranate deposition.
- 19. Koshcheeva Alina, Efficiency increasing methods used for hydrocarbon processing facilities.
- 20. Britvina Anastasiya, Precipitation of uranium peroxide from nitrate-sulphate pregnant solutions.
- 21. Lavrov Anton, Modeling the processes of mixing of sediments with large content of solid phases in the machine with different variants of mixing devices.

#### **Poster Session**

- Tsimmerman Aleksandr, Analysis of the possibility of obtaining bulk ceramic materials using spark plasma sintering in the ZnO-Bi<sub>2</sub>O<sub>3</sub> system.
- 2. Ikanina Elena, Iron (III) forms in aqueous solutions of salts of strong inorganic acids.
- 3. Igosheva Viktoriya, Electrothermal atomic absorption determination of indium.
- 4. Gurianova Anna, Study of the effects of modification on the properties of OSC-materials.
- 5. Kosykh Anastasiya, The influence of precipitation conditions on the parameters of size distribution and particle shapes of hydroxide and oxide tin powders.
- 6. Bereskina Polina, The influence of synthetics method on parameters of porosity and surface of alumina-ceria-zirconia composite.
- 7. Nikitin Dmitry, Electrolysis of fluoride-chloride melts as a method of cerium group REE production.
- 8. Buinachev Sergei, Investigation of the effect of pH in the sorption of yttrium on hydrated zirconium dioxide.
- 9. Zolotarev Daniil, Estimation of temperature influence on cathodic reduction of uranium from chloride melts.
- 10. Sekhleyan Ovsanna, Influence of environmental quality on population health of the Sverdlovsk region.
- 11. Savastianova Anastasia, The investigation of niobium pentachloride dissolution processes in molten chlorides.
- 12. Maksimtsev Konstantin, Synthesis and structure of aluminum-cerium master-alloys.
- 13. Popilovskaya Kristina, Extraction-spectrophotometric determination of di (2-ethylhexyl) phosphoric acid.
- 14. Batalova Ekaterina, Analysis of the spectral characteristics of apatite germinate.
- 15. Shadrina Liubov, Anions determination in layered hydroxides of REE using capillary electrophoresis.
- 16. Lopunova Ksenia, Influence of medium acidity on selectivity sorption of silver (I) ions of sulfoethylated polyallylamine, cross-linked by epichlorogidrin.
- 17. Kurasova Yulia, The influence of precipitation conditions on chromium hydroxide powders properties.
- 18. Zhirenkina Nina, The research of the processes of hydroxyapatite.
- 19. Khorkova Arina, Determination of tributyl phosphate and di-2-ethylhexylphosphoric acid in aliphatic hydrocarbons.
- 20. Fofanov Grigoriy, Interaction of metallic niobium with niobium-containing chloride melts.
- 21. Kashapova Julia, Control of the composition of siderite and products of its treatment by xrf..
- 22. Petrov Anton, Samarium and ytterbium metal production using lantanothermic reduction.
- 23. Taranova Lyubov, Efficiency increasing methods used for hydrocarbon.
- 24. Glazunova Yuliya, The study of kinetics of strontium sorption by natural and modified aluminosilicates.
- 25. Shabunin Artem, Adsorption-coagulation separation of cesium and strontium ions by intercalated aluminosilicates.
- 26. Borodina Elena, Development of technology for the isolation of germanium from irradiated gallium-nickel targets.
- 27. Kirichenko Irina, Determination of radionuclide composition of an actinium-containing rare earth concentrate.
- 28. Alimgulov Ruslan, Corrosion of structural materials in molten KCl-LiCl-UCl3 containing metallic zinc.
- 29. Baksheev Evgenii, Synthesis of palladium containing solid solutions based on cerium and circonium oxides.

Director of the Institute of Physics and Technology, Conference chairman





- 30. Yushchenko Alena, Coprecipitated hydroxides granulation.
- 31. Soldatova Maria, Deposition potentials of zirconium from chloride melts on solid and liquid metal cathodes.
- 32. Mityushova Yulia, Properties characterization of ceramic samples.
- 33. Gordeeva Tatiana, The analysis of uranium sorption isotherms in the area of colloids formation.
- 34. Nikulina Victoria, Electrochemical properties of niobium in alkali chloride based melts.
- 35. Ismailov Murodzhon, Preparation and analysis of Pr-Ga-Al alloys.
- 36. Ryzhov Alexander, Effect of temperature on electronic absorption spectra of tungsten-containing chloride melts.
- 37. Bardina Maria, Optimization of conditions of separation of nickel, titanium, chromium, molybdenum, tungsten, cobalt, tantalum and iron from selenium and tellurium.
- 38. Zakharova Tatyana, Studying the mechanisms of the sorption of radionuclides Cs-137 and Sr-90 in the soils of various regions.
- 39. Orlov Pavel, The influence of the solution composition on the course of chemical reactions during the sorption of cesium and strontium by natural and modified clinoptilolite.
- 40. Mikhalev Semen, The study of uranium electrodeposition in the method of alpha spectrometric analysis of uranium isotopic ratio.
- 41. Kasyanova Anna, A method for Sr isotope ratio determination in biogenic apatite by MC-ICP-MS using SR resin.
- 42. Kudyakova Valeriya, CVD synthesis of the tin nanopowders.
- 43. Silenkov Sergey, Electrodeposition of nickel on the structure of nanotubular titanium dioxide.
- 44. Yudina Yuliya, Modeling of the solid phase particles dispergation and agglomeration processes in technological equipment.
- 45. Boroznin Sergei, Research into boron-carbon nanotube modified by alkaline metal atoms.
- 46. Danilenko Irina, Valence of iron in chromite by the data of electron probe microanalysis.
- 47. Shebukhova Ekaterina, Synthesis and spectral properties of new phosphors  $Ca_2La_{6.8}Eu_{1.2}(XO4)_6O_{2-\delta}$  (X = Si, W), obtained by the anionic substitution method.
- 48. Skripchenko Sergey, The regeneration of saturated ionite after sorption hexavalent chromium from wastewater of chromium production plant.
- 49. Sukhorukova Olga, Phosphogypsum analysis by XRF.
- 50. Tokmakova Kristina, Electrochemical determination of glucose using silver and palladium nanoparticles as catalysts.
- 51. Bobarenko Anastasya, Organic nickel (II) and ruthenium (III) complexes as electrochemical catalysts in glucose oxidation
- 52. Pozdin Andrey, The effect of iodine and ultrasound allocation on the composition and morphology of PbS films.
- 53. Timina Daria, Investigation of antioxidant capacity of plant extracts.
- 54. Peshkova Anastasia, Obtaining and investigation of antioxidant properties of grape extracts.
- 55. Strepetov Kirill, Uranium reduction from chloride melts on solid and liquid metal cathodes.
- 56. Vaganova Irina, Evolution of structural and optical properties of nanostructured PbS films doped with iron (II).
- 57. Karpova Sofya, Copper isotope ratios in cis-Urals copper sandstones and products of their processing as a tool for uncovering the bronze age smelting activities.
- 58. Korobitsyna Anna, Sorption of perrhenate ions by aminopolymers and their functional derivatives.
- 59. Vovk Sergey, The study of sorption kinetics of cobalt.
- 60. *Piskareva Mariya*, Determination of the firing temperature and redox atmosphere of the pottery from the bronze age settlement Kamenny Ambar by X-Ray diffraction phase analysis
- 61. Kozlova Anastasiya, Reaction of uranium(iv) chloride with oxygen in alkali chloride melts.
- 62. Nikitin Alexander, A stady of air-steam charcoal conversion by thermographimetric analysis.
- 63. Pankrushina Elizaveta, Statistical data processing of Raman thermal spectroscopy in minerals.
- 64. Mashkovtsev Maksim, Synthesis and luminescence of yttrium oxide ceramics with a variable europium content.
- 65. Tropin Oleg, Electronic absorption spectra of rare earth (Sm, Eu, Yb) dichlorides in alkali chloride melts.
- 66. Markina Maria, Design and calculation of the scheme of the ideal separatory cascade for a three-component mixture.
- 67. Starygina Polina, High temperature IR-spectroscopy of lithium, sodium and potassium urinates.
- 68. Malyshev Andrei, The study of REE leaching kinetics from phosphogypsum.
- 69. Shishkin Roman, Novel method of silicon synthesis by CVD.
- 70. Gushshamova Viktoria, Investigation of the impact of structural gaps on the hydrodynamics of the flow shell and tube heat exchanger.
- 71. Kochergina Elizaveta, Analysis of molybdenum-containing chloride melts by XRF
- 72. Ivanov Alexander, Phosphate precipitation from the melts containing mixtures of rare earth elements, particle size distribution analysis.
- 73. Nalivaiko Ksenia, Kinetic of sorption of scandium and impurities from hydrolysis sulfuric acid by phosphoric acid cation-exchanger.

Director of the Institute of Physics and Technology, Conference chairman





- 74. Shestakov Kirill, Autoclave leaching of REE from phosphogypsum.
- 75. Bachina Tatyana, Detection of heavy metals in food products by the method of excitation of isomeric states.
- 76. Kotova Mariia, Study of extraction separation of holmium and erbium from hydrochloric acid medium.
- 77. Arnautov Alexander, Insertion of silica into nanoporous alumina by chemical deposition technique.
- 78. Yuferov Yuliy, Technology development for obtaining a multilayer nanoporous aluminum oxide.
- 79. Khudorozhkova Anastasia, Study of liquidus temperatures in the KF KCL KI melt containing SiO2 and K2SiF6
- 80. Medvedeva Margarita, Obtaining polyvinililbenzylaside films, functionalized by copper nanoparticles, on the surface of a glass-carbon electrode for address process immobilization.
- 81. Saigushkina Anna, Address functionalization of the gold electrode by the method of electrographing of salts 3- carboxyphenyl diazonia and 3-carboxy-1,2,4-triazole-5-diazonia.
- 82. Kutergin Andrey, Effect of activating natural alyumosilicate on its sorption properties.
- 83. Abuelsoad Asmaa, Beryllium biosorption on chemically modified sulfonated chitosan: kinetics and thermodynamics studies.
- 84. Kriukova Veronika, Modeling mixture processes in a conversion device with various types of construction of mixing devices.
- 85. Pronina Maria, Synthesis and Study Physicolchemicai Progorties of Nanocrystalline Ceria

#### Section 4. Materials science

### Oral reports

- 1. Akylbekova Aiman, ZnSe<sub>2</sub>O<sub>5</sub> nanocrystals synthesis in a nanoporous layer of silicon dioxide on silicon.
- 2. Kuznetsova Yulia, The effect of matrix on luminescence of nanocomposIte based on CdS.
- 3. Sinetskaya Darya, Studying of structural and orientational changes in the process of growth of Pd-Pb solid film films.
- 4. Chlenova Anna, Thin film based magnetoimpedance sensor for magnetic needle position indentification.
- 5. Slautin Boris, Local study of lithiation and degradation paths in LiMn<sub>2</sub>O<sub>4</sub> battery cathodes via confocal raman microscopy.
- 6. Otcheskikh Dmitry, Composite solid electrolyte CaWO<sub>4</sub>-SiO<sub>2</sub>.
- 7. Finogenov Anton, Determination of compositions and specific entalpies of melting in salt systems with participation carbonat aniona.
- 8. Burchakov Alexander, Study of phase equilibria in the system K,Rb||F,I,CrO4.
- 9. Ivanov Roman, Investigation of the influence of melt movement on the microstructure of a 3d printed product completed by the method of selective laser melting.
- 10. Metelev Denis, Study of the evaporation of porous targets from high-transparent oxides and fluorides with the help of a fiber yterbie laser.
- 11. Kotenkov Pavel, Effect of copper on the Al<sub>3</sub>Hf aluminides formation in the Al-Cu-Hf system.
- 12. Sedukhin Vadim, To the question of the interaction of titanium carbide with low-carbon steel.
- 13. Sinitsin Nikolai, The surface tension of liquid steel 110G13L.
- 14. Slinkin Igor, The microstructure of sintered permanent magnets with Co-(36,0-38,5)%Sm grade KS-37.
- 15. Valtsev Nikolay, Microstructure and crystal structure of the pipes from the CrNi<sub>60</sub>WTi alloy with spray coating PV-NiCr<sub>16</sub>Al<sub>6</sub>Y.
- 16. Balyakin Ilya, Radial distribution functions of TiZrNbHfTa high-entropy alloy in a liquid state.
- 17. Gibadullina Alfiya, Modelling of the thermodynamic and kinetic stability of alloys based on "nickel-chromium-molybdenum" system.
- 18. Gilev Ivan, Effect of zirconium and titanium on the recrystallization of Al-Cu alloy.
- 19. Komkova Daria, Development and structure of extra-fine magnesium wires.
- 20. *Melchakov Stanislav*, Cu-Cr-W composite alloy with thin dispersive inclusions of W, received by vibrational reactive infiltration of Cr+W powder mixture by copper melt.
- 21. Bryuzgina Anna, Crystalline structure and physicochemical properties of Y<sub>2</sub>Ba<sub>3</sub>Fe<sub>5</sub>-<sup>x</sup>C<sub>o</sub><sup>x</sup>O<sub>13+δ</sub> solid solutions.
- 22. Tkachenko Yelizaveta, The hardening of titanium alloy surface by ultrasonic treatment.

#### **Poster Session**

- 1. Dmitriev Alexander, Low-energy electron beam application for SiCN-based coatings deposition.
- 2. Danilov Sergei, Effect of special boundaries on recrystallization texture of fcc metals with high packing defect energy.
- 3. Nikul'chenkov Nikolai, Heat treatment parameters optimization for magnetic cores of amorphous Finemet alloy.
- 4. Gabdrakhmanova Diana, Corrosion of type 625 alloys in chloroaluminate melts.

Director of the Institute of Physics and Technology, Conference chairman Физикотехнологический институт





- Gamburg Agata, Evaluative comparison of "time temperature precipitation" and "time temperature sensitization" diagrams for application of nickel-based alloys.
- 6. Dorosheva Irina, Synthesis of nanosized titanium dioxide with high adsorptive ability to adsorb gallium ions.
- 7. Kukushkin Dmitriy, Studying the microstructure of composite Ti-Al-Si-N coating using  $K_{\beta}$  x-ray.
- 8. Chernyshov Lev, Using  $K_{\beta}$  x-ray radiation to study the structural features of surface layers of nitroged austenitic steels.
- 9. Vladimirov Alexander, Functional-gradient materials obtained by a magnetic impulse method.
- 10. Zaytsev Evgeniy, Experimental registration of tubular parts collision under magnetic pulse acceleration.
- 11. Khismatullina Anna, Experimental and theoretical investigations of electrophysical properties of iron based nanocomposites
- 12. Goyda Eduard, The effect of an electric arc on the microstructure of composite Cu-Cr, Cu-W, Cu-Cr-W alloys, obtained after vibrational reactive infiltration of powders by copper melt.
- 13. *Glukhov Andrey*, Determination of the degree of long-range order in an ordered alloy of gold-copper with application of resistometry and x-ray diffraction methods.
- 14. Kalonov Azambek, Physical and mechanical properties of Cu/Mg composites.
- 15. Khardin Danil, Cu/Mg composite structure after high pressure torsion.
- 16. Sergeev Dmitry, The effect of rotation of electrode on the hardness of various sections of the workpiece obtained by the method of electroslag remelting.
- 17. Khaidarshin Marat, Lamb waves interference in main pipelines.
- 18. Kononova Violetta, Estimation of the efficiency of the use of bonded synthetic fabric aimed to improve the durability and frost resistance of road constructions under arctic climate.
- 19. Prokopyev Dmitriy, NMR study of phase composition of carbon encapsulated Ni@C nanoparticles.
- 20. Erofeev Mark, Features of the synthesis of carbon coatings on the installation UNIPA-1-001.
- 21. Kapystin Sergey, Superhydrophobic surface based on xerogel from CNTS.
- 22. Begunova Anastasia, Influence of seymchan meteorite structure on the synthesis of carbon nanotubes.
- 23. Frolov Viktor, The synthesis of fluoride nanopowders with the help of pulse-periodic CO2-laser.
- 24. Chernetskiy Ivan, Effect of nanopowder additives on the properties of zirconia ceramics.
- 25. Yushkov Anton, Synthesis of thin amorphous films Ag-Sn-Sb-S stable for electron-beam annealing.
- 26. Gavrin Vitaly, Synthesis of long length ceramical matherials based on yttrium aluminum garnet (YAG).
- 27. Maksimov Artem, Synthesis of metal oxide nanopowders by spark discharge.
- 28. Shatkovskiy Yaroslav, Ceramic high-porous composite materials based on ZrO2-Y2O3.
- 29. Zakirov Ilsur, ZrO2-Y2O3-ceramic fiber thermal protective coatings of increased thickness
- 30. Popov Nikolay, Luminescence of nanoporous anodic oxide obtained from rare earth doped aluminum.
- 31. Ryabin Aleksandr, Features of LiFePO<sub>4</sub> degradation during raman spectroscopy.
- $32. \textit{Maksimchuk Tatiana}, \textit{Crystal structure and thermal expansion } Nd_{1.6}Ca_{0.4}Ni_{1-x}Cu_xO_{4+\delta} \textit{ solid solutions}.$
- 33. Bazueva Maria, Crystal structure and properties of solid solutions based on barium ferrite.
- 34. Golovachev Ivan, Investigation of crystal structure and physical and chemical properties of perovskite-like oxides of the general composition  $Sm_{2-\epsilon}Ba_{3+\epsilon}Fe_{5-x}Co_xO_{15-\delta}$  ( $\epsilon=0; 0.125; x=0; 0.5, 1, 1.5, 2$ ).
- 35. Dyagileva Anastasia, Crystal structure and properties of Sm<sub>0.9</sub>Ca<sub>1.1</sub>Fe<sub>1.x</sub>Co<sub>x</sub>O<sub>4-δ</sub> (0≤x≤0.7) complex oxides.
- 36. Moreva Ekaterina, Study of the Sr<sub>2</sub>Ni<sub>0.7</sub>Mg<sub>0.3</sub>MoO<sub>6</sub> conditions synthesis.
- 37. Chekushina Yana, Crystal structure of compounds of the general composition Sr<sub>1-x</sub>Ho<sub>x</sub>FeO<sub>3-δ</sub>.
- 38. Saveleva Olga, Crystalline structure of complex oxydes of general composition Sr<sub>1-x</sub>Pr<sub>x</sub>FeO<sub>3-δ</sub>.
- 39. Vizner Anastasia, Structure and properties of oxides formed on the basis cobaltite ytterium of Y<sub>1-x</sub>Ca<sub>x</sub>CoO<sub>3-δ</sub>.
- 40. Svishchev Alexander, Composite solid electrolytes based on phases in La2O3-MoO3 system.
- 41. Zapadnova Elena, Ionic conductivity of complex oxides BaLaIn<sub>0.9</sub>M<sub>0.1</sub>O<sub>4.05</sub> (M=Ti, Zr) with Ruddlesden-Popper structure.
- 42. Tolstykina Anastasia, Synthesis and transport properties of BaLa<sub>0.9</sub>M<sub>0.1</sub>InO<sub>3.95</sub> (M=Ca, Ba).
- 43. Obrubova Anastasia, Complex certification of properties of Zn-doped lanthanium aluminates  $LaAl_{1-x}Zn_xO_{3-1/2x}$ .
- 44. *Galisheva Anzhelika*, Chemical stabiity of halogen-substituted oxygen-deficient complex oxides based on Ba<sub>2</sub>In<sub>2</sub>O<sub>5</sub>, Ba<sub>4</sub>In<sub>2</sub>Zr<sub>2</sub>O<sub>11</sub> and Ba<sub>4</sub>Ca<sub>2</sub>Nb<sub>2</sub>O<sub>11</sub>.

45. Pereverzev Danil, Influence of anion substitution and the introduction of silicon oxide on the properties of the composite based on hydroxyapatite.

Director of the Institute of Physics and Technology, Conference chairman

V. Yu. Ivanov

Физикокнологичес институт





- 46. Giniyatullin Igor, The effect of the addition of metallic aluminium and aluminium oxide on the strength properties of composites based on hydroxyapatite.
- 47. Razgulyaeva Valeria, The effect of the addition of metallic zirconium, and zirconia on the mechanical properties of the composite based on hydroxyapatite.
- 48. Vereshchagin Artem, Investigation of the influence of precipitation conditions on the sorption properties of freshly-precipitated hydrated zirconium oxide.
- 49. Merezhnikova Olga, Effect of complex-former ion concentration on the sorption of copper (II) ions by sulfoethylated polyaminostyrene with the degree of modification 0.5.
- 50. Zemlyanskaya Alena, The study of tim polymer composite materials thermal conductivity.
- 51. Zykov Fedor, The development of magnetic wedges for special-purpose electric motors.
- 52. Nosovskiy Yan, Trace element LA-ICP-MS mapping of authigenic calcite.
- 53. Hontsova Svetlana, Structure and composition of iron sulfides in meteorite Dronino.
- 54. Permiakova Anastasia, Synthesis and catalytic activity of lanthanum manganite doped with alkali metals.
- 55. Hanfi Mohamed, The correction of gross beta measurements of the surface sediment in the different urban zones.
- 56. Mahmoud Karem, Investigation of Radiation Shielding Properties of building materials reinforced by basalt powder.
- 57. Tonshev Roman, The effect of temperature of simultaneous curing and polarization on the hardness of epoxyamine materials.
- 58. Voronin Vladislav, Development of technology for the preparation of lightweight cement slurry for wells with the addition of planar nanoparticles improve strength of the adhesive properties of concrete.

## Section 5. Information technology

#### Oral reports

- 1. Kushner Irina, Development of a 3D-panorama model with an adaptive level of detail.
- 2. Dolganov Anton, Development of the learning ability classification method based on personality qualities.
- 3. Ptukhin Alexander, Development of a web service for evaluation the level of health.
- 4. Mushtak Oksana, Application of machine learning methods for analyzing data from the nomenclature directory of the enterprise resource planning system, part 1.
- 5. Mikhailov Igor, Detection of buildings on aerial photographs.
- 6. Grigoryev Alexey, Route optimization during works in non-stationary radiation fields with obstacles.
- 7. Zhaksygali Farabi, Probabilistic model of error distribution for satellite navigation.
- 8. Merezhnikov Artyom, An improved algorithm of calculation of the thermoluminescence kinetics in the cluster system with deep traps.
- 9. Khmara Guzel, The experience of using the joint control devices of voltage and reactive power regulation on a laboratory bench.
- 10. Pozigun Gloria, Critical analysis of hypothesis about possible variation of the nuclear decay constants.
- 11. Litovchenko Vladislav, Modeling combined radiation protection of containers for transporting isotopes with high-energy beta irradiation.
- 12. Sevastyanov Mikhail, Numerical simulation of residual heat removal from the spent fuel assemblies storage pit.
- 13. Buldakova Anna, Application of modular testing in the development of software to formation of requirements for control systems of rocket-space technology products.
- 14. Belousov Aleksey, About implementation of cloud computing for reachable sets calculation for control systems.
- 15. Sutormina Maria, Hypotheses of protocells origin and transport of substances in biomembranes.

#### Poster Session

- 1. Zafirov Evgeny, The determination of the controlling parameter of transport of substances through the cell membrane at the early evolution stages by the method of computer calculations.
- 2. Kuleshova Irina, Stochastic analysis of the Ricker population model with immigration and Allee effect.
- 3. Abramova Ekaterina, Analysis of stochastic excitability in the population dynamics model.
- 4. Samarina Anastasia, Method of stochastic sensitivity function in analysis of a population dynamics model.
- 5. Zimin Alexander, On the dialogue in translation medicine: medicine request answer of the physics.
- 6. Kasoyan Kristina, Development of marker recognition augmented reality.
- 7. Arkhandeev Igor, A MEX64-interface for solving inverse problems in Matlab.
- 8. Gladkov Dmitrii, Hardware-software complex of remote health monitoring of the patient on the example of electrocardiography.

Director of the Institute of Physics and Technology, Conference chairman on the example of electrocardiogra





- Pakhtusov Aleksey, Correlation analysis of clinical data on evaluation of motor disturbances and muscle tone disorders in cerebral palsy.
- 10. Golovacheva Polina, Identification of problems of interaction between insurance company and clinic, task definition for the organization of electronic documents VMI for legal entities.
- 11. Khrushkov Artem, Creation of a medical information search system in the electronic medical card to assist in decision-making by a doctor.
- 12. Ermakov Andrew, About the logic of the functioning of physics texts transmitter in medicine.
- 13. Vormanov Igor, Approaches to teaching a distributed robot collective.
- 14. Bannikov Ilya, Increase the reliability of decision-making by the robots swarm.
- 15. Kramarenko Anna, Application of the parameters of measures of order and disorder for classifications of russian-language texts.
- 16. Kupriyanov Anton, The information security risk assessment of commercial organizations.
- 17. Rakhmatova Anna, Data separation for training the artificial neural network to simulate the spatial distribution of chromium in the surface layer of the soil.
- 18. Smirnov Mikhail, Convertation of barclay database in format suitable for use in modern computer analysis means.
- 19. Filippova Maria, Identifying main requirements, searching for analogues of incident management system in ministry of social policy of the Sverdlovsk region.
- 20. Shevelina Ekaterina, Models for prediction of promotion of universities in QS WUR BRICS on the example of UrFU.
- 21. Tya-Shen-Tin Yegor, Fitting of deep neural network hyperparameters by kriging.
- 22. Belyaev Alexander, Mechanisms of generation of spikes in piecewise Rulkov model under a parametric noise.
- 23. Marakov Maxim, Development of web-server's heuristic automatic configuration model.
- 24. Dontsov Oleg, One-factor analysis of the model of IT specialist production.
- 25. Vasyutin Nikita, Developing of supporting program for operator of experimental nuclear reactor.
- 26. Zaynullina Elvira, Optimization of the mechanism of nuclear fuel overload in a reactor on fast neutrons.
- 27. Kostarev Vyacheslav, Simulation of passive removal of residual heat from radioactive wastes subject to weather conditions.
- 28. Chernoskutov Alexander, Morphological stability of the bubble in a fluid. The two-dimensional case.
- 29. Rusova Daria, Dendrites on the surface of NaCl water solution, observed with infrared camera.
- 30. Panova Alena, The influence of the "shading effect" on the rarefied gas cylindrical Kuette flow.
- 31. Seitov Dastan, Sintering UO2 nanocrystals of octahedral shape contacting along an edge: a molecular dynamics simulation.
- 32. Pitskhelaury Sergey, Molecular dynamic simulation of uranium carbonitride using variable ion charges.
- 33. Shumkov Dmitriy, Reliability assessment of the irradiated fuel assemblies cooling in the storage pit of a research nuclear reactor.

## Section 6. Bioengineering and biotechnology

### Oral reports

- 1. Savintseva Marina, Research of properties of packaging materials for sterilization processing of medical instruments.
- 2. Adepoju Feyisayo Olabisi, Gray biotechnology.
- 3. Elsayed Israa, Red biotechnology: a healthy World.
- 4. Kharlamova Anastasiia, Study of the dynamics of dissolution of pharmaceuticals in water by calorimetric method.
- 5. Volzhaninov Denis, The development of the experimental set-up to study biomechanics of heart muscle cells.
- 6. Kusay Abotrabi, Medical biotechnology: its prospects and development.
- 7. Ishkova Maria, The research of the influence of ionizing radiation different doses on the containers for yogurt production.
- 8. Desyatov Denis, Radioactive waste approaches analysis by different countries.
- 9. Berdenev Nikita, EPR dosimeter for routine measurements.
- 10. Agomo Atambire, Green biotechnology: the future of plant development from here.
- 11. Kasianova Valentina, Physico-chemical properties of maltodextrin stabilized cerium dioxide nanoparticles.
- 12. Vyrova Darya, Isolation of beta-glucan from yeast and its use as a dietary supplement.
- 13. Ibrahim Yama, Enzymatic treatment to increase extract yield from Chlorella Algae.
- 14. Okechukwu Queency, Advancement of food processing biotechnology in developing countries.
- 15. Nikitenko Eugeny, Determination of physico-chemical forms of iodine-131 emissions of the industrial reactor unit.
- 16. Simanova Yulia, The influence of lead ions on the mechanical function of myocardium.
- 17. Aboushanab Saied, Potential use of beta-glucan in the industry and medicine..

Director of the Institute of Physics and Technology, Conference chairman







- 18. Sopelkina Kseniya, Isolation and purification of fucoidan from brown algae fucus vesiculosus and laminariae thalli with the purpose of its use as a food supplement in cultured milk products.
- 19. Kiseleva Maria, Synthesis and study of nanopowders Al<sub>2</sub>O<sub>3</sub>+Ag composite properties.
- 20. Salazar Perdomo Jennifer, The role of white biotechnology in obtaining secondary metabolites from edible fungi.
- 21. Myachina Tatiana, The use of fluorescent dyes in the studies of structural and mechanical properties of cardiomyocytes.
- 22. Torkwase Bulya, The innovative approach towards improving green biotechnology in Nigeria.
- 23. Letyagin Denis, Influence of alternating high-frequency magnetic field on living organisms.
- 24. Izmozherova Kira, Active transport model of water in plants.

#### Poster Session

- 1. Pankratov Alexandr, Pattern formation and noise-induced transitions in higgins model with diffusion.
- 2. Vazirov Ruslan, Radiation processing of food products on installations URT-0.5 and URT-1.0.
- 3. Izmozherov Ilya, Development of patological ECG and EEG classifier based on neural networks.
- 4. Razumov Artem, Heart segmentation on magnetic resonance imaging data with deep learning methods.
- 5. Shchelkanov Alexey, Experimental stand for phantomic research in medical radiology.
- 6. Loginova Daria, A comparison of the effectiveness of methods for isolation of myocardial single cells.
- 7. Lipatnikova Anastasia, Multifunctional device for monitoring human vital signs.
- 8. Dzholumbetov Sergey, The rationale for the use of promising radiopharmaceuticals based on lutetium-177.
- 9. Vasilyev Vladimir, Movement of head and center of mass: joint assessment.
- 10. Pankin Savva, Diagnosing pathologies of the lacrimal gland using the combined methods of transmission and emission diagnostics.
- 11. Zlygosteva Olga, Targeted drug delivery system based on manganese-doped mesoporous silica nanopowder.
- 12. Groznykh Matvei, Electron beam energy continuous measuring device.
- 13. Kurzyukova Anastasia, Radiobiological modelling-based comparison of radiotherapy plans for nasopharyngeal cancer.
- 14. Mostafa Mostafa, Effect of activity particle size distribution on deposition fraction of inhaled radon decay products in human respiratory system.
- 15. Geide Irina, The study of possible use of lactic bacteria in brewing.
- 16. Zakaly Hesham, Radiopharmaceutical dose distribution in different organs and tissues for Lu-177 with different carrier.
- 17. Darkazanli Mohamad, Genetic diversity of E. coli O157:H7 isolated from Aleppo river water samples using random amplified polymorphic DNA (RAPD) marker.
- 24. Shmarko Dmitriy, Method of personalization of cardiomyocyte models based on experimental data.
- 25. Sholokhov Vladimir, Personalized according to echocardiography model of the electromechanical function of the left ventricle of the human heart.
- 26. Nesterova Tatiana, In silico study of cardiomyocytes aging in human and canine atriums.
- 27. Karimov Alexander, Segmentation and classification of mast cells at histological images using deep learning.
- 28. Mishin Alexander, Segmentation and classification of white blood cells using deep learning.
- 29. Aboushanab Saied, Potential use of beta-glucan in the industry and medicine.
- 30. Mikhailova Yuliya, Dynamic speckle-interferometry of intact and virus-infected cells.
- 31. Nasyrova Venera, Stochastic oscillations in a two-dimensional discrete map of a neuron.
- 32. Ushakova Anastasia, Program for ECG signal analysis using MATLAB.
- 33. Butova Ksenia, The method of evaluating how the parameters of mechanical deformation affect myocardial contractility.
- 34. Pyrkova Alena, Emissions of noble gases to the atmosphere during normal operation of NPP.
- 35. Kolinichenko Alexander, Analysis of stochastically forced transitions in distributed models with diffusion.
- 36. Samburov Anatolii, Radionuclides in the emissions of beloyarsk npp under normal operation.
- 37. Nazarov Evgeniy, Trithium and carbon-14 in discharges of reactor installations.
- 38. Zaitseva Svetlana, Stochastic multimodal oscillations in nonlinear biochemical model.
- 39. Javed Fatima, Microencapsulation of vitamin D by using natural polymers (pectin & cellulose).







## Section 7. Innovations and social technologies

### Oral reports

- 1. Ozornin Stanislav, Agile project management in Russia: characteristics and modern state.
- 2. Tetiukova Evgenia, Project education innovative approach to the organization of the educational process in higher educational institutions of the Russian federation.
- 3. Kochnev Mikhail, Analysis of tools and mechanisms of the assessment of innovative start-up companies.
- 4. Puchikhina Alexsandra, Transition from OHSAS 18001 to ISO 45001 at JSC «Institute of Nuclear Materials».
- 5. Pakhomova Oksana, The role of universities in improving the quality of working life of young people.
- 6. Sukhorukova Anna, Quantitative evaluation of students social sufficiency.
- 7. Elnikova Anna, Algorithm for the diagnosis of problematic business processes of the company.
- 8. Semkin Mikhail, Risk management of process of approval reference materials in organization.
- 9. Rybina Irina, Security subsystem for the «Network city» system.
- 10. Nuritdinova Aigul, Documentation support of metrological control process for equipment.
- 11. Zeyde Kirill, The methodology of skills space forming development and testing.
- 12. Pyrkova Tamara, Speech behavior of social work specialists affecting their professional activity.
- 13. Vozchikova Ksenia, Effectiveness calculation of the nuclear power plant quality management system.
- 14. Chekmareva Marina, Activation of pro-social activity of elderly people.
- 15. Abdyushev Nikita, Opportunities for additional income of retirees in Russia.
- 16. *Molodnyakova Alena*, Innovative technology three-dimensional modeling in the digital environment ligrogame for the development of the natural mathematical concepts in preschool children.
- 17. Safina Elina, The development of the quality management system of the Ural interregional territorial department.
- 18. Pikhtovnikova Yuliya, The assessment of bachelor students' satisfaction with the quality of linguistic education.
- 19. Polovaya Viktoriya, Management of risks

