

# **2019 IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering**

**(2019 EIConRus)**

## **Conference Program**

**Venue: St.Petersburg Electrotechnical University “LETI”**

**5 Prof. Popov street, St.Petersburg, Russia**

**January 28, 2019 ☐☐☐☐ Building 5, Conference Hall**

**09.15 – 10.00 Registration of participants**

**10.00 – 11.00 Welcome from the IEEE Russia North West Section and Saint Petersburg Electrotechnical University “LETI”**

Plenary report

**Stepanov Oleg A., Motorin Andrei V.**

Adaptive Estimation Algorithms and their Applications to Measurement Data Processing

**Section 1. Communication. Networking & Broadcasting**

**28.01.2019. 11.10 – 12-00 Room 5205**

**1. Antipin Boris M., Vinogradov Evgeniy M., Grossman Alexander O., Tumanova Evgeniya I.**

The Spectrum Monitoring Station Operation Analysis to Eliminate Interference from Radio Communications

**2. Baranova Elena A., Zareshin Sergey V., Shevchenko Nadezhda A.**

Wi-Fi Network Analysis with a Large Number of Access Points

**3. Maksutov Artem A., Kondrashkin Kirill V., Durachenko Sergey V., Matveeva Daria V.**

Development of Mesh Networks Based on the 802.11 Family of Standards

**4. Maksutov Artem A., Valter Dmitrii A., Borisenko Gleb V., Ovchinnikov Kirill A.**

Real-Time Simulation of the GLONASS System Signals Using SDR

**28.01.2019. 12.15 – 14-00 Room 5205**

**5. Santos Virgílio M. J. D. , Kovalgin Yuri A.**

The Algorithm and Program of the Calculation for Service-Area Radius of a Digital Transmitter

**6. Sergienko Alexander B., Sylka Semyon S.**

Bit Error Rate of FQAM Transmission in Fast Fading Channel

**7. Shorov Andrey V.**

5G Testbed Development for Network Slicing Evaluation

**8. Vinogradov Evgeniy M., Antipin Boris M., Spirin Alexander D.**

Distance Separation and Guard Band Evaluation between LTE and Space Operation Service Systems in Shared Frequency Band

**9. Yokhin Mihail N., Stepanov Maxim M.**

Application of Boolean Functions in Gateways Placement Task with Respect to the Minimum Average Group Response Time Criterion

**10. Yurchenko Mikhail A., Karavaev Dmitry A., Stepanov Andrey B., Vladimirov Sergey S., Vladyko Andrei G.**

A Secure SDN Framework Based on Ultra-Low Power Microcontrollers

**Section 2. Components, Circuits, Devices & Systems**

**28.01.2019. 11.10 – 12-00 Room 5219**

**1. Antonovich Mary V., Druzhina Olga S., Serebryakova Veronika O., Butusov Denis N.,**

**Kopets Ekaterina E.**

The Analysis of Oscillations in Chaotic Circuit with Sensitive Inductive Coil

**2. Antonyuk Evgenyi M., Varshavskiy Ilyas E., Orlova Natalya V., Antonyuk Petr E.**

Adaptive Transmitting Device of a Telemetering System

**3. Antonyuk Evgenyi M., Varshavskiy Ilyas E., Antonyuk Petr E.**

Adaptive Automatic Monitoring System with Forced Polling of a Low-Active Channel

**4. Barabanova Elizaveta A., Vytovtov Konstantin A., Maltseva Nataliya S., Kravchenko Oleg V., Kravchenko Viktor F.**

Models and Algorithms of Optical Switching Systems with Decentralized Control

28.01.2019. 12.15 – 14.00 Room 5219

**5. Belko Victor O., Emelyanov Oleg A., Ivanov Ivan O., Plotnikov Andrey P.**

Numerical Simulation of Electro-Thermal Processes in Multilayer Ceramic Capacitors

**6. Belyaev Yakob V., Gaidukov Mikhail S., Sidun Aleksandr V., Smirnov Ivan S., Piatak Ivan M.**

Design of the Integrated Temperature Stabilization System

**7. Borisova Margarita E., Kamalov Almaz M., Osina Yulia K.**

Absorption Phenomena in Capacitors Based on PPS Films

**8. Dem'yanenko A.V.**

Alternative Ways of IMPATT Diode Application

**9. Grekov Artem V., Tyurin Sergey F.**

Testing of the Fault Tolerant Element

**10. Kamenskikh Anton N.**

The Research into Fault-Tolerant Design Usign Pass Transistor Logic

**11. Karimov Timur I., Antonovich Mary V., Mashanin Alexander S., Yastrebkov Anton S., Slizh Arina I.**

Synthesis of Chaotic Circuits with Inductive Elements Based on 3rd Order Differential Equations

**12. Kopylov Alexey F., Ogorodnikov Dmitri K., Salomatov Yuri P., Kharitonova Natalya A.**

Effect of Symmetrically-Asymmetric Arrangement of Resonant Membranes on the Frequency Characteristics of Three-Section Filters on Waveguide-Slot Membranes

**13. Kostrin Dmitrii K., Simon Vsevolod A., Uhov Andrey A.**

Application of an Automated Optoelectronic System for Determining Position of an Object

**14. Kuvaev Alexey S., Meltsov Vasiliy Yu., Lesnikov Vladislav A.**

Features of the Design Operating Unit Inference Engine and Its Implementation on FPGA

28.01.2019. 15.00 – 17.00 Room 5219

**15. Manokhin Mikhail E., Pilipko Mikhail M.**

Design of a CMOS Radio Frequency to Direct Current Power Converter

**16. Meltsov Vasiliy Yu., Lapitsky Alexey A., Lesnikov Vladislav A., Kuvaev Alexey S.**

Features of Decoding Transponder Signal of an Aircraft Using FPGA

**17. Morozova Elena V., Kulikov Kirill A., Lazebnikov Sergey S.**

The Laboratory Stand Simulation for Programming Microprocessor Devices

**18. Pilipko Mikhail M., Manokhin Mikhail E.**

Design of a Low-Power 12-bit SAR ADC

**19. Prokhorov Andrey S., Chudinov Maksim A., Bondarev Sergei E.**

Simulation of the Transistor's Quadding Redundancy in the LUT FPGA

**20. Prokhorov Andrey S., Chudinov Maksim A., Bondarev Sergej E.**



Simulation of the Logical Elements with Combined Redundancy

**21. Prokonich Andrey V.**

Calculate the TV-cameras Included in the Stereopair

**22. Sakhno Liudmila, Rahul Kashyap, Cui Yan**

The Study of the Influence of the Output Rectifier Circuit on the Power Consumption

of the Resistance Spot Welding Machine

**23. Sanver Ufuk, Yavuz Erdem, Eyupoglu Can**

An Electronic Control Unit for Thermoelectric Cooling

**24. Shabalin Semen A., Myakinkov Aleksandr V., Kuzin Andrey A.**

Phased Array Antenna of Millimeter Range for Automotive Radar

**25. Tumanova Evgeniya I., Rogozinsky Gleb G., Tatarenkov Dmitry A., Dalk Marpha A.**

A Method for Achieving the Maximum Quality of 3D Images

**26. Veremyev Vladimir I., Vorobev Evgenii N., Kokorina Yulia V.**

Feasibility Study of Air Target Detection by Passive Radar Using Satellite-based Transmitters

**27. Yenuchenko Mikhail S.**

Multi-dimensional Thermometer Decoders for Unary DACs

### **Section 3. Computing & Processing (Hardware/Software). Information Security**

**28.01.2019. □□ 11.10 – 12.00 Room 5221**

**1. Achsan Harry Tursulistyono Yani**

The Research Trends of Partnership Based on Scientific Publications

**2. Achsan Harry Tursulistyono Yani , Wahyu Catur Wibowo, Diki Gita Purnama, Muhammad Muhtar Baswara Achsan**

Mining of Russian Bibliography

**3. Achsan Harry Tursulistyono Yani, Wahyu Catur Wibowo, Muhammad Muhtar Baswara Achsan, Diki Gita Purnama, Kenny Badjora Lubis**

The Quality of Indonesian Scientific Articles and Its Neighboring Countries

**4. Bakhtin Vadim V., Isaeva Ekaterina V.**

New TSBuilder: Shifting towards Cognition

**28.01.2019. 12.15 – 14.00 Room 5221**

**5. Bekeneva Yana A., Kholod Ivan I., Novikova Evgenia S., Shevelev Denis, Shorov Andrey V.**

Event Pattern Constructing Technique for Prediction of Violations in Technological Processes

**6. Belyaev Sergey A.**

Features of the Geological Logging Software Design

**7. Bondarev Sergei E., Chudinov Maksim A., Prokhorov Andrey S.**

The Analysis of Existing Methods of Software Verification

**8. Bordug Aleksandr S., Chernyi Sergei G., Kucherenko Vladislav A., Titov Ivan L., Moiseev Aleksandr I.**

Improving the Reliability of Low-Speed Diesel Engines Through the Use of a System for Monitoring the Condition of Piston Rings

**9. Chugunkov Ilya V., Riakhovskaia Iuliia S., Matriukhina Ekaterina A., Ivanov Michael I., Chugunkov Vladimir I.**

Generators with the Given Distribution Law

**10. Chugunkov Ilya V., Ivanov Michael I., Kliuchnikova Bogdana V.**

Hash Functions are Based on Three-Dimensional Stochastic Transformations

**11. Chugunkov Ilya V., Gulyaev Vadim A., Baranova Elena A., Chugunkov Vladimir I.**

Method for Improving the Statistical Properties of Pseudo-random Number Generators

**12. Dang Binh, Zhilenkov Anton A.**

Numerical Solutions for Nonhomogeneous Thermal Conductivity Problems in Composite Layered Media

**13. Desnitsky Vasily A., Kotenko Igor V., Rudavin Nikolay N.**

Protection Mechanisms against Energy Depletion Attacks in Cyber-Physical Systems

**14. Desyatnikov Felix A., Desyatnikova Elena N., Mager Vladimir E.**

Computer Analysis of Text Tonality Based on the JCM Method

**28.01.2019. 15.00 – 17.00 Room 5221**

**15. Dikii Dmitrii I., Artemeva Viktoriia D.**

Online Handwritten Signature Verification System Based on Neural Network Classification

**16. Ivanov Artem V., Zhilenkova Elena A.**

Software Environment for Motion Capture System Based on Inertial Sensors

**17. Ivanov Artem V., Skripnik Tatiana**

Human-Machine Interface with Motion Capture System for Prosthetic Control

**18. Ivanov Artem V., Erofeev Valentin L.**

The Use of Motion Capture and EEG Recognition for Neuro-Visual Feedback System

**19. Ivanovskii Aleksei N., Ivanovskii Nikolai V., Goryachev Ivan S., Degtyarev Andrey V.**

Application of the Goal Method to Estimate Traffic Channel for Engineering Planning

**20. Kholod Ivan I., Rukavitsyn Andrey N., Reva Nikita, Shorov Andrey V.**

Distributed Data Clustering by Neural Network Algorithms

**21. Kireev Vasiliy S., Posmakov Nikolay P., Emelianenko Andrey S., Kisselev Yuriy V.**

The System of Automatic Monitoring of Social Media for the Nuclear Industry

**22. Kokoulin Andrey N., Tur Aleksandr I., Yuzhakov Aleksandr A., Knyazev Aleksandr I.**

Hierarchical Convolutional Neural Network Architecture in Distributed Facial Recognition System

**23. Kolosov Roman V., Vavrenyuk Aleksandr B., Zareshin Sergey V., Makarov Viktor V., Shaymardanov Timur A.**

Development of Automated Robot to Human Dialogue System

**24. Lin Nay, Kudinov Vitaly A., Soe Yan Naing**

Automatic Generating Vocabulary File in Myanmar Information Retrieval

**25. Logichev Mikhail V., Popov Alexey V.**

Estimation of Long-term Dynamic of Pricewise-Linear Chaotic Map Approximated in Digital Computer

**26. Maksutov Artem A., Alexeev Maxim S., Fedorova Natalia O., Andreev Daniil A.**

Detection of Blockchain Transactions Used in Blockchain Mixer of Coin Join Type

**29.01.2019. 10.00 – 12.00 Room 5221**

**27. Maslennikov Andrey A., Novak Bogdan O., Kozachenko Lubov N., Erofeev Pavel A., Mamunts David G.**

Modern and Optimal Completing of Ship Energy Installations

**28. Motylenok Mikhail A., Vyngra Alexei V., Siek Iuri.L.**

Computer Simulation of Group Motion of Underwater Robots

**29. Popov Alexey V., Zhilenkov Andrei A.**

Object-Oriented Programming and Complex Neural Models

**30. Popov Alexey V., Seredenko Nikita A., Zhilenkov Anton A.**

Control System of Multi-Level Manipulator with Rotational Degrees of Mobility

**31. Postnikov Evgeniy V., Belyaev Sergey A., Ekalo Aleksandr V., Shkulev Anton A.**

Application of Fuzzy State Machines to Control Players in Virtual Soccer Simulation

**32. Prokofiev Anton O.**



Development Principles and Classification of PRNG Graphical Tests

**33. Prokofiev Anton O., Smirnova Yulia S.**

Counteraction against Internet of Things Botnets in Private Networks

**34. Prokofiev Anton O., Chirkin Andrey V., Skorokhodova Elena R., Titov Kirill E.**

Methods of Graphical Research of Stochastic Transformation Results

**35. Radikhlebova Anastasia A., Vavrenyuk Alexandr B., Rusakova Anna S., Makarov Victor V.**

Study of the Possibilities of Using Virtualization Tools to Optimize the Cluster Resources Management

**36. Rovnyagin Mikhail M., Timofeev Kirill V., Elenkin Aleksandr A., Shipugin Vladislav A.**

Cloud Computing Architecture for High-volume ML-based Solutions

**29.01.2019. □ □ 12.15 – 14.00 Room 5221**

**37. Safronova Valeria P., Yakovleva Marina V.**

Microprocessor Controllers of Automatic Systems and Automatic Control Systems

**38. Safronova Valeria P., Daragan Pavel A.**

Acoustic Emission Processing System for Diesel Engine Nondestructive Testing

**39. Semencha Veronica E., Yakovleva Marina V.**

Microprocessor Control of Mini Robots

**40. Semencha Veronica E., Berkhova Evdokiia M.**

Distributed Intelligent Autonomous Navigation System for Formation Control of Mini Robots

**41. Semencha Veronica E., Skripnik Tatiana N.**

Convolution Neural Network Based Autonomous Navigation System for Mobile Robots

**42. Shaburov Andrey S., Alekseev Vsevolod R.**

Protection Models of Critical Information Infrastructure Objects from Targeted Computer Attacks

**43. Shipunov Ilya S., Voevodskiy Konstantin S., Nyrkov Anatoliy P., Katorin Yuri F., Gatchin Yuri A.**

About the Problems of Ensuring Information Security on Unmanned Ships

**44. Shipunov Ilya S., Voevodskiy Konstantin S., Nyrkov Anatoliy P., Katorin Yuri F., Gatchin Yuri A.**

Trusted Transport Telemetry by Using Distributed Databases

**45. Sisyuko Artem N., Yulmetova Olga S., Kuznecov Vladimir A.**

GPU Accelerated Industrial Data Analysis in Private Cloud Environment

**46. Slepova Liudmila O., Zhilenkov Anton A.**

Approximating the Solution of Thermal Conductivity Problem for Composite Medium

**29.01.2019. 15.00 – 17.00 Room 5221**

**47. Smolyakov Ivan Y., Belyaev Sergey A.**

Design of the Software Architecture for Starcraft Video Game on the Basis of Finite State Machines

**48. Tabakov Andrey V., Paznikov Alexey A.**

Algorithms for Optimization of Relaxed Concurrent Priority Queues in Multicore Systems\*

**49. Tutueva Aleksandra V., Rodionova Ekaterina A., Baidina Mariia P., Kavunskaiia Anastasiia V., Kozak Maria N.**

The Convergence of Semi-Implicit Numerical Methods

**50. Vavrenyuk Aleksandr B., Rusakova Anna S., Radiskhlebova Anastasia A., Ivanov Michael A., Makarov Viktor V.**

Implementation of the DOZEN Cryptoalgorithm on the Cluster of Single-board Computers

**51. Vyngra Alexey V., Avdeyev Boris A., Abdurakhmanov Roman F., Yenivatov Valeriy V., Ovcharenko Igor K.**

Mathematical Model of Start for a Piston Compressor Electric Drive of a Ship Refrigerator

**52. Yemelyanov Vitaliy A., Yemelyanova Nataliya Yu., Nedelkin Aleksey A., Glebov Nikolay B., Tyapkin Dmitry A.**

Information System to Determine the Transported Liquid Iron Weight

**53. Yemelyanov Vitaliy A., Nedelkin Aleksey A., Titov Valery A., Fatkulin Azat R., Degtyarev Andrey V.**

Software for Weight Estimation of the Transported Liquid Iron

**54. Zhukov Vladimir A., Pulyaev Andrey A., Melnik Olesya V., Nyrkov Anatoliy P.**

Ensuring the Permissible Temperature State of Parts of the Cylinder-Piston Group of Forced Diesels

**55. Zhukov Vladimir A., Sherban Sergey A., Melnik Olesya V., Sokolov Sergey S., Kolesnicenko Sergey V.**

Improvement of Methods and Means of Thermal Control of Ship Power Plants

**56. Zubov Ilya G., Lysenko Nikolai V., Labkov Gleb M.**

Detection of the Information Hidden in Image by Convolutional Neural Networks

**57. Zubov Ilya G.**

Estimation of Vehicle Pose with Monocular Camera

**Section 4/1. Electrical Engineering, Automation & Control Systems**

**28.01.2019. 11.10 – 12.00 Conference Hall 5**

**1. Abdullin Dmitrii Sh., Vaganov Michail A.**

The Optimal Geometry of Salient Pole Synchronous Motors

**2. Abramovich Boris N., Sychev Yury A., Zimin Roman Yu.**

Efficiency Estimation of Hybrid Electrical Complex for Voltage and Current Waveform Correction in Power Systems of Oil Enterprises

**3. Ahmed Refaat, M. Elgamal, Korovkin Nikolay V.**

A Novel Photovoltaic Current Collector Optimizer to Extract Maximum Power during Partial Shading or Mismatch Conditions

**4. Alekseev Vladimir V., Gosteva Daria R., Korolev Pavel G., Akolsin Alexey I.**

Metrological Research of Measuring Channels of a Personal Navigation System

**28.01.2019. 12.15 – 14.00 Conference Hall 5**

**5. Aydarov Dmitriy V., Kozlovsky Vladimir N., Kleymenov Sergey I., Vakhnina Vera V., Didenko Nikolay I.**

Alarm Signals Identification Based on the Data of Cars Warranty Exploitation

**6. Baidiuk Maksim A., Komarova Galina V.**

Influence of Induction Motor Reliability on Its Technical and Economic Parameters

**7. Baranov Georgii D., Matus Konstantin I., Vaganov Michail A., Bubnov Evgeny A.**

Spectral Analysis Algorithm for the Diagnosis of Electrical Machines

**8. Bardanov Alexey I., Pudkova Tamara V.**

Control of D-STATCOM for Asymmetric Voltage Dips Compensation

**9. Batueva Daria E., Shklyarskiy Jaroslav E.**

Increasing Efficiency of Using Wind Diesel Complexes through Intellectual Forecasting Power Consumption

**10. Belov Mikhail P., Tran Dang Khoa, Dinh Dang Truong**

BLDC of Robotic Manipulators with Neural Torque Compensator based Optimal Robust Control

**11. Bespalov Viktor Y., Imanova Azaliya A., Tulegenov Erlan M.**

Mechatronic Modules of Traction Electrical Drive

**12. Bochkarev Igor V., Bryakin Ivan V., Khramshin Vadim R., Voronin Stanislav S.**

Diagnostics of Electromagnetic Friction Brakes and Clutches

**13. Bondar Alexei S., Chmilenko Fedor V.**

The Use of a Neural Network to Obtain the Characteristics of Steels Depending on the Chemical

**14. Bukhanov Sergey S., Doykina Lada A., Tsirkunenko Anatoly T.**



Evaluation of the Electromagnetic Situation at Open Switchgears of Power Stations and Substations

**15. Bukhanov Sergey S., Kornienko Mariia N., Fediakov Vladislav V.**

Designing Control Nodes for Mechatronic Modules by the Criterion of Minimal Losses

**28.01.2019. 15.00 – 17.00 Conference Hall 5**

**16. Deripaska Alina G., Soklakova Marina V., Chernishev Eduard P., Skorobogatova Alena I.**

Stability Analysis of Asymmetric Self-oscillations in Relay Systems

**17. Desyatirikova Elena N., Vasilenko Andrey V., Polukazakov Aleksey V., Mager Vladimir E., Chernenkaya Liudmila V.**

Structural Synthesis of a Dynamic System Control Algorithm Based on the Separation of Electromagnetic and Electromechanical Movements

**18. Desyatirikova Elena N., Akimov Valery I., Sysoev Dmitry V., Mager Vladimir E., Chernenkaya Liudmila V.**

Selection of Controller Settings in Digital Control Systems

**19. Diane Sekou Abdel Kader, Lesiv Evgeniy A., Pesheva Irina A., Neschetnaya Anna Yu.**

Multi-Aspect Environment Mapping with a Group of Mobile Robots

**20. Diane Sekou Abdel Kader, Manko Sergey V., Margolin Ilan D., Novoselskiy Alexey K.**

Hierarchical Scenarios for Behavior Planning in Autonomous Robots

**21. Elgamal Mohamed, Korovkin Nikolay V., Mahmoud Refaat, Elmitwally Akram**

An Optimal Day-Ahead Operation Strategy for Hybrid Energy Microgrid

**22. Fediakov Vladislav V., Kornienko Mariia N., Khayatov Evgeny S.**

Adaptive Power Supplies for Technological objects With Non-Stationary Loads

**23. Filatenkov Pavel A., Sergun Tatyana A., Vinokurov Alexander A., Morozova Elena V.**

The Main Technical Problems of Unmanned Aerial Vehicles on the Example of Multicopters

**24. Gasiyarov Vadim R., Baskov Sergey N., Voronin Stanislav S., Loginov Boris M., Khramshin Vadim R.**

Mathematical Modeling of an Automatic Control System for Profiled Rolling of Slabs in Reversing Plate-Mill Stands

**29.01.2019. 10.00 – 12.00 Conference Hall 5**

**25. Gogina Olga A., Belitskiy Anton A., Churyumov Andrey A.**

Automatic Customisation of Temperature Sensor Based on Piecewise-Line Interpolation

**26. Golovin Mikhail A., Sufelfa Alice R.**

Wheelchair Balancing Control System

**27. Gorozhankin Aleksey N., Gladyshev Sergey P., Golykov Artyom D.**

Features of Loss Calculation in Mechatronic Modules on the Basis of Synchronous Reluctance and Induction AC Electric Drives

**28. Gritsay Aleksandr S., Makarov Vladimir V., Khamitov Rustam N., Tatevosyan Andrey A., Gritsay Sergey N.**

The Method of Short-term Forecast Electricity Load with Combined a Sinusoidal Function and

an Artificial Neural Network

**29. Gritsay Aleksandr S., Makarov Vladimir V., Khamitov Rustam N., Tatevosyan Andrey A., Gritsay Sergey N.**

Method for Short-Term Forecast Electricity Loads Based on Criteria Informativeness and Compactness

**30. Imanova Azaliya A., Tulegenov Erlan M., Bespalov Viktor Y.**

Pilgering Mill Electric Drive

**31. Kanygina Ekaterina D., Denisova Olga V., Rastvorova Iuliia V.**

Optical and Electrical Control in Printed Circuit Board Manufacturing

**32. Katrichek Valeriia S., Grigorev Maksim A., Gryzlov Artyom A.**

Synthesis of Mechatronic Modules with Improved Mass-Size Indicators of Metallurgical Facilities

**33. Kazak Maksim N., Kruglov Sergei A., Komarova Galina V.**

Evaluating Technical Condition of Electrical Equipment

**34. Koptev Vladimir Yu., Kopteva Alexandra V., Poddubnyi Dmitriy A.**

Increase in Energy Efficiency of Oil and Gas Companies by Perfecting of Management Systems

**29.01.2019. 12.15 – 14.00 Conference Hall 5**

**35. Korolev Pavel G., Romantsova Natalia V., Galimullina Elina E., Akolzin Alexey I.**

Movement Kinematics Research Systems. The Measuring Experiment Organization

**36. Kozlova Lyudmila P., Belov Aleksandr M., Kozlova Olga A.**

Algorithm of Control of the Keys of a Wave Frequency Converter for Regulation of Asynchronous Motor Speed

**37. Kozlova Lyudmila P., Wang Tong, Kozlova Olga A.**

Model of Motion Control System of Driverless Car

**38. Kozlova Lyudmila P., Belov Aleksandr M., Kozlova Olga A.**

Model of Control System for Electric Drive of the Transferred Cart in the Sorting Section

**39. Kozlovsky Vladimir N., Lysov Vladimir E., Ermakov Victor V., Antipov Dmitry V., Skripnuk Djamilia F.**

Calculation and Statistical Experiment on the Monte Carlo Method when Assessing the Stability of the Technical Characteristics of the Automobile Generator Set in Mass Production

**40. Kozlovsky Vladimir N., Petrovsky Sergei V., Vakhnina Vera V., Skripnuk Djamilia F.**

Determination of the Causes of the Excess of the Level of Electromagnetic Interference from the Ignition System Using an Intelligent Diagnostic System

**41. Kuzin Aleksey Yu., Demidova Galina L., Lukichev Dmitry V.**

An Approach of the JADE and Simulink Interaction to Control Smart Grid Based on the Multi Agent System

**42. Kuznetsov Pavel A., Sychev Yury A., Abramovich Boris N.**

Synchronisation of Islanded Networks with Distributed Generation Using SST

**43. Kuznetsov Vladimir E., Phan Thanh Chung, Lukichev Andrei N., Nguyen Hoang Ha**

A Linear Electric Motor Servo System with the Adaptive Controller Based on Exo-model

**44. Kuznetsov Vladimir E., Lukichev Andrey N., Phan Thanh Chung**

Speed Control of Permanent Magnet Synchronous Motor with Voltage Surges Reduction by Means of Adaptive Control

**Section 4/2. Electrical Engineering, Automation & Control Systems**

28.01.2019. 11.10 – 12.00 Room 5230

**45. Lapshina Polina D., Kurilova Sofya P., Belitsky Anton A.**

Development of an Arduino-based CO2 Monitoring Device

**46. Lillo Aleksandr V., Stotckaia Anastasiia D.,**

Development and Research of the Adaptive Pulse Converter

**47. Loseva Daria M., Korablev Juri A.**

Wavelet Analysis for Solving Diagnostics Problems

**48. Mannanov Emil, Galunin Sergei, Yermekova Madina, Nikanorov Alexandr, Bernard Nacke**

Numerical Simulation, Investigation and Development of Induction Systems for Heating of Disks with Complex Profile

**28.01.2019. 12.15 – 14.00 Room 5230**

**49. Martirosyan Alexander V., Martirosyan Karina V., Chernyshov Alexander B.**

Application of Fourier Series in Distributed Control Systems Simulation

**50. Morozov Anton V., Dobroskok Nikita A., Lavrinovskiy Victor S., Mohova Olga V.**

Interrelated Control of the Multi-Motor Electrical Drive

**51. Pankratev Denis A., Samsonov Andrey A., Stotckaia Anastasiia D.**

Wireless Data Transfer Technologies in a Decentralized System

**52. Pelenev Denis N., Abramovich Boris N., Sychev Yuri A., Babyr Kirill V.**



Study of the Efficiency of the Invariant Protection Against Single-Phase Ground Faults in the Microprocessor Terminals

**53. Pisarev Ivan A., Kotova Elena E., Pisarev Andrei.S., Stash Natalia V.**

Development of Scenarios for Automatic Processing and Data Mining in a Multi-Agent Environment

**54. Popov Maxim G., Shady Soleyman Abounekirah, Ahmed Refaat**

A Modified Restraint Method to Enhance the Performance of Differential Protection for Overhead Transmission Lines

**55. Popov Maxim G., Shady Soleyman Abounekirah, Goriachevskii Konstantin S., Sinianskii Ivan V.**

Dynamic Identification of Electromagnetic Parameters for Adaptive Protection Devices

**56. Prakosa Jalu A., Samokhvalov Dmitry V., Ponce Gabino R. V., Fuad Sh. Al-Mahturi**

Speed Control of Brushless DC Motor for Quad Copter Drone Ground Test

**57. Rastvorova Irina I., Krasnorudskii Vadim A., Rastvorova Iuliia V.**

Features of the Use of Induction Heating in «Semi-Solid Metal Forming»

**58. Romanov Alexey M., Romanov Mikhail P., Morozov Aleksandr A., Slepynina Evgeniya A.**

A Navigation System for Intelligent Mobile Robots

**28.01.2019. 15.00 – 17.00 Room 5230**

**59. Romanov Alexey M., Volkova Maria A.**

The Algorithm for Classification and Determination of the Spatial Position of Moving Objects

**60. Romanov Alexey M., Mikheenko Ivan S.**

Unified Control System for Modular Reconfigurable Robots

**61. Romantsova Natalia V., Tsareva Anna V., Ivashchenko Oleg A., Suloeva Elena S.**

Scheduling the Local Measuring System for the Incineration of Waste

**62. Samoilenko Alexander N., Baranouski Ruslan U., Morozova Elena V.**

The Use of Capacitive Micromotors as Micropositioning Devices

**63. Sedova Yana K., Yaitskaya Anastasia G., Belitsky Anton A.**

Development of the Laboratory Panel and the Laboratory Research on the Subject "Optical Electronics"

**64. Shpakovskaya Irina I., Loseva Daria M.**

Simulation of Biological Wastewater Treatment of Oil Refineries and Oil Producing Enterprises

**65. Sinianskii Ivan V., Goriachevskii Konstantin S., Popov Maksim G.**

Development of an Algorithm for the Cascade of Vuoksin HPPs Automated Transfer to Parallel Operation with Nordel

**66. Sitnikov Maksim A., Sepp Yuriy I.**

The Affect of Main Contact's Vibration in System "AC Switch Apparatus - Switched Device" on States of Switched Device

**67. Streltsova Olga V., Ishin Vladimir V.**

The Influence of the Magnetic Field of the Power Cable on the Signal Cable

**68. Tao Jing, Maklakov Alexander S., Gasiyarova Olga A.**

Research on Selective Harmonic Elimination Technique based on Particle Swarm Optimization

**69. Tarakanov Vladislav D., Korolev Vitalii V., Medvedev Mikhail K.**

Features of the Design of Power Installation of the Underwater Vehicle

**29.01.2019. 10.00 – 12.00 Room 5230**

**70. Tran Huu Phuong, Belov Mikhail P., Doan Van Thuy**

Adaptive Model Predictive Control for Nonlinear Elastic Electrical Transmission Servo Drives

**71. Tsareva Anna V., Zhurbilo Polina G., Kurochkin Alexey Y.**

Research of the Kinematics of the Lower Limbs Movements. Statistical Processing of Linear Acceleration

**72. Tsareva Anna V., Ivanova Tatyana S., Alekseev Vladimir V.**

Applications of Discrete Wavelet Transformation for Analysis of Informative Signals of Person's Kinematic Portrait

**73. Tsirkunenko Anatoly T., Bukhanov Sergey S., Platonov Vladislav V.**

Ways to Increase Energy Efficiency of Traction Mechanisms

**74. Tsvetkov Gennady A., Burmistrov Aleksei D., Bezukladnikov Igor I.**

Improving the Accuracy of Directional Drilling by Logging Tools Enhancement

**75. Varshavskiy Ilyas E., Krasnova Anastasia I., Polivanov Vladimir V.**

Efficiency estimation of Digital Filtering Algorithms of Noise

**76. Vasilkov Oleg S., Dobush Vasiliy S.**

Features of Application Hybrid Energy Storage in Power Supply Systems

**77. Vlasenko Sergey V., Efimenko George A., Gnezdilov Denis V., Brikova Olga I.**

Approaches to Conceptual Graphs Notations Using in Digital Manufacturing Software Environments

**78. Voytyuk Irina N., Bolshunova Olga M.**

Ensuring Energy Efficiency of the Belt-type Conveyor Electric Motor Drive Operation Due to Noncontact Control of Mass Discharge of Cargo During Its Transport in Mining Condition

**79. Zagrivniy Eduard A., Poddubniy Dmitry A., Kovalchuk Margarita S.**

Noncontact Speed Sensor for Maintaining the Autoresonant Operating Mode of the Oscillating Electric Motor Drive

**29.01.2019. □□ 12.15 – 14.00 Room 5230**

**80. Zaharov Aleksei E., Gorkavenko Sergey O., Korolev Vitalii V.**

Features of the Calculation and Simulation of a Transformer for a Substation

**81. Zaharov Aleksei E., Potekhin Nikolay V., Korolev Vitalii V.**

Simulation of Control System for Traction Electric Motors Control of Subway Cars

**82. Zelenin Aleksandr S., Eliseev Dmitry A., Popov Maxim G.**

Development and Implementation Experience of Microprocessor Emulators for Cyber-physical AVR Testing Complexes

**83. Zhuravlev Artyom M., Fedorov Timofei G., Khayatov Evgeny S.**

Highly Efficient Mechatronic Modules with New Types of Electric Machines for General Industrial Mechanisms and Metallurgical Objects

## **Section 5. Micro- and Nanoelectronics**

**28.01.2019. 12.15 – 14.00 Room 5226**

**1. Belorus Anton O., Pastukhov Andrei I., Vasyukov Alexey M., Moshnikov Vyacheslav A., Pleshanov Ilya M.**

Formation of ZnO Nanoparticles Using Electrochemical Deposition Technique for Applications in Sensorics and Biomedicine

**2. Belorus Anton O., Spivak Yulia M., Pastukhov Andrei I., Moshnikov Vyacheslav A., Koshevoi Veniamin L.**

Study of Luminescent and Morphological Properties of Porous Silicon Matrix Obtained by Photoelectrochemical Etching

**3. Belarus Anton O., Sherimov Daniyar, Koshevoi Veniamin L., Kavun Vitali S., Pleshanov Ilya M.**

Study of Microcrystals Distribution in Microcrystalline Silicon thin Films by Raman Spectroscopy

**4. Korepanov Oleg A., Mazing Dmitrii S., Aleksandrova Olga A., Moshnikov Vyacheslav A.**

Synthesis and Study of Colloidal Nanocrystals Based on Ternary Chalcogenides for Active Media of Heavy Metal Ions Sensors

**5. Krasovskaya Maria V., Zaozerskaya Natalia I., Zhernakov Anton B.**

Nano-innovation in Space Exploration

**6. Levkevich Ekaterina A., Moshnikov Vyacheslav A., Yukhnovets O., Maksimov Aleksandr I.**

Photocatalytic Properties of ZnO/CuO Heterostructures

**7. Nazvanov Artem A., Yenuchenko Mikhail S.**



A 10-bit Current-steering Fibonacci DAC with DEM

**8. Pastukhov Andrei I., Belorus Anton O., Moshnikov Vyacheslav A.**

Photoluminescence Investigation of Purified and Non-purified Methylammonium Lead Halide Perovskite Nanocrystals

**9. Smerdov Rostislav S., Mustafaev Alexander S., Soukhomlinov Vladimir S., Spivak Yulia M., Moshnikov Vyacheslav A**

Nanostructured Porous Silicon and Graphene-based Materials for PETE Electrode Synthesis

**Section 6. Engineering Materials, Dielectrics & Plasmas**

**28.01.2019. 15.00 – 17.00 Room 5205**

**1. Adamyan Yuri E., Krivosheev Sergey I., Magazinov Sergey G., Alekseev Dmitriy I., Koldkin Ivan S.**

Investigation of Influence of Pulse Electric Current on High-Speed Deformation of Copper M1 by Magnetic Pulse Loading

**2. Belko Victor O., Bogdanov Maxim V., Plotnikov Andrey P.**

Investigation of Chip-Film Capacitors Pulse Dielectric Strength

**3. Belko Victor O., Petrenya Yuri K., Andreev Alexander M., Kosteliyov Andrey M., Roitgarz Mikhail B.**

Numerical Simulation of Discharge Activity in HV Rotating Machine Insulation

**4. Feklistov Efrem G., Emelyanov Oleg A.**

Optimization of Cold Atmospheric Plasma Generator Electrode System

**5. Kadyrov Arslan A., Frolov Vladimir Ya., Yushin Boris A.**

Numerical Simulation of a Plasma Jet with Several Electrodes Used in the Technology of Creating Powders for 3d Printers

**6. Kalyonov Vladimir E., Alekseyev Nikolay I., Khmel'nitskiy Ivan K., Lagosh Anton V., Bro yko Anton P.**

Free Oscillation Frequency of IPMC Actuator as an Indicator of its Water Content

**7. Khmel'nitskiy Ivan K., Aivazyanyan Vagarshak M., Andryukhin Kirill A., Lagosh Anton V.,**

**Kalyonov Vladimir E.**

PEDOT and PANI Electrodes for IP2C Actuators

**8. Kieseletter Dmitry V., Reznik Alexandr S., Zhuravleva Natalia M., Litvinov Danila V.**

Investigation of Optical Characteristics of Mixtures of Dielectric Liquids in the Process of Artificial Aging

**9. Sinev Leonid S., Prigodskiy Denis M., Pereyaslavl'tsev Alexander Y., Gusin Dmitrii V.**

Thermal Matching of Glass and Silicon for Anodic Bonding in Micromechanical Devices

**10. Tupik Viktor A., Margolin Vladimir I., Chu Trong Su, Nguyen Duc Phu**

Study of the Thermal Treatment in Growth and Annealing Processes of Nano-thin Films

**11. Volynov Alexander M., Goncharov Vadim D., Evdakova Ekaterina G., Yashkardin Rostislav V.**

Capacitive Power Supply Characteristics Influence on the Shape of a Discharge Pulse

**12. Voronenkov Vladislav V., Lelikov Yuriy S., Zubrilov Andrey S., Shreter Yuriy G., Leonidov Andrey A.**

Thick GaN film stress-induced self-separation

**13. Zhuravleva Nataliya M., Reznik Alexandr S., Kiesewetter Dmitry V., Stolpner Anna M., Smirnova Ekaterina G.**

Study of the Electrophysical Properties of the Composite of Plant and Bacterial Cellulose

## **Section 7. Fields, Waves & Electromagnetics**

**28.01.2019. 15.00 – 17.00 Room 5226**

**84. Ballandovich Svyatoslav V., Antonov Yuriy G., Kostikov Grigory A., Liubina Liubov M., Sugak Mikhail I.**

Collinear Wideband-dipoles Antenna Array with the Omnidirectional Radiation Pattern in the Azimuth Plane

**85. Doronin Mikhail V., Greshnyakov George V.**

Magnetic Concentrators for Reducing the Magnetic Field around Power Cable Line

**86. Gevorkyan Armen V.**

Wideband Microstrip Van Atta Array

**87. Gorbatenko Nikolay N., Semenikhina Diana V.**

Application of the Effect of Excitation of Surface Waves on a Perfectly Conducting Cylinder with Nonlinear Loads Covered with a Layer of DNG Material

**88. Iakovleva Emiliia V., Belova Margarita V., Popov Anton L.**

Study of the Magnetic Permeability of Mountain Rocks Based on the Comprehensive Analysis of the Pulsed Electromagnetic Field Parameters

**89. Ibanez Mieles Diego Napoleon**

Choosing of the Optimal Cross-Section Form of Conductors Using Genetic Algorithm

**90. Kiesewetter Dmitry V., Ilyn Nikita V., Luban Alexandr O.**

Study of Optical Vortices Propagation in Passive Fiber-Optic Elements

**91. Kochetov Aleksandr V., Komarov Gleb V., Kulikova Daria Yu.**

Ultra-wideband Multidisc Antenna with Reconfigurable Polarization for Ground-Penetrating Imaging Radar

**92. Lytaev Mikhail S.**

Higher-order 3D Parabolic Equation for Radio Wave Propagation Modeling in a Street Canyon

**93. Petrov Boris M., Titova Daria**

Neumann Boundary Problem for a Rotating Spherical Cavity

**94. Semenikhin Andrey I., Chernokolpakov Artem I.**

Active Cancellation of the RCS of a Large Aircraft Using of Stealth 4-Port Magnetic Antenna with Heterogenic Ferrite Core

**95. Stankovsky A. V., Litinskaya, Ye. A., Alexandrin A. M., Polenga S. V., Salomatov Yu. P.**

Spatial Polarizers for CTS Structure-Based Antenna Arrays

**96. Vytovtov Konstantin A., Barabanova Elizaveta A., Kravchenko Viktor F., Kravchenko Oleg V.**

Sliding Wave Propagation over the Interface between a Biaxial Anisotropic Medium and Vacuum

## Section 8. Photonics & Electro-Optics

28.01.2019. 11.10 – 12.00 Room 5226

**1. Ala' F. Khalifeh, Nael AlFasfous, Ramzi Theodory, Serina Giha, Khalid A. Darabkh**

On the Effect of Light Emitting Diodes Positions on the Performance of an Indoor Visible Light Communication System

**2. Konin Yuri A., Garanin Andrey I., Nurmuhametov Danil' I., Turin Sergey F., Shcherbakov a Viktoria A.**

Research the Thermal Sensitivity of a Fiber Optic Sensor Created with the Catastrophic Fuse

**3. Nurmuhametov Danil' I., Konin Yuri A.**

Evaluation of Parameters of an Optical Trap Built Based on Tapered Fiber for Blood Cells

**4. Parfenov Vadim A. 1., Titov Sergei V.**

Technical and Technological Aspects of Laser Cleaning for Books and Documents

**5. Parfenov Vadim A., Zhuravlev Anton A., Galushkin Alexandr A., Gonobobleva Sofya L.**

Application of 3D Scanning and Additive Technologies for Documentation and Creation of Physical Copies of Objects of Cultural Heritage

**6. Pleshanov Iliia M., Koshevoi Veniamin L., Sherimov Daniyar, Belorus Anton O., Gorchakov Oleg I.**

Mathematical Modeling of the Fabry-Perot Interferometer Based on Silicon Plates for Application in Microfluid Sensor Devices

**7. Shcherbakova Viktoria A., Starikov Sergey S., Konin Yuri A., Garanin Andrey I., Nurmuhametov Danil' I.**

Fuse Effect Investigation in Optical Fiber for Creation Optical Sensor Structure

**8. Sherimov Daniyar, Belorus Anton O., Agafonova Darina S., Gorchakov Oleg I., Pleshanov Iliia M.**

Investigation of Oxyfluoride Glasses with Ag Clusters and Sm Ions on Temperature Sensitivity Sensory Applications



## Section 9. Power, Energy & Industry Applications

29.01.2019. ☐☐ 10.00 – 12.00 Room 5205

### 1. Abdullaev Zhahongir O., Zyazev Mikhail E., Konyaev Andrey Yu.

Investigation of Double-Purpose Linear Induction Motors

### 2. Alekseev Vladimir A., Kolodkin Ivan S., Korovkin Nikolay V., Adamian Yuriy E., Krivoshev Sergey I.

The Influence of Ground Parameters on the Maximum Value of Transient Resistance Under Lightning Impact

### 3. Aljendy Raseel I., Nasyrov Rinat R., Hamdy M. Sultan, Zaki Diab Ahmed A.

Bio-inspired Optimization Techniques for Compensation Reactive Power and Voltage Profile Improvement in the Syrian Electrical Distribution Systems

### 4. Belsky Aleksey A., Salov Roman A.

Balanced Voltage Sag Compensation on Adjustable Speed Drive of a Gas Compressor

**5. Bolotin Kirill E., Sokolov Igor V., Bychkov Sergey A.**

Influence of Optimality Criterion Choice on the Electromagnetic Stirrer Optimization Results

**6. Chorshanbiev Sirojiddin R., Shvedov Galaktion V., Sultan Hamdy M., Nazirov Khurshed B., Ismoilov Firdavs O.**

Structural Analysis of Power Losses in (6-10 / 0.4 kV) Urban Distribution Electric Networks of the City of Dushanbe, the Republic of Tajikistan

**7. Chorshanbiev Sirojiddin R., Shvedov Galaktion V., Nazirov Khurshed B., Ganiev Zokirjon S.**

Analysis of the Influence of the Operation of Network-driven Inverters of Solar Power Plants on the Operation Mode of 0.4 kV Electrical Network in Terms of Electromagnetic Compatibility

**8. Dzljev Soslan V., Khorshev Aleksei A., Zhukova Alena A., Tsvetkov Ilya A.,**

**Pishchalev Konstantin E.**

Influence of Magnetic Steel Induction Heating Power Density on Inductor Resistance Range

**9. Dzljev Soslan V., Golubev Maxim S., Pishchalev Konstantin E., Zavorotkin Aleksei A.**

Curie Isotherm Instability during Scanning Induction Heating of Magnetic Steel Strip

**10. Franyuk Andrey, Shatunov Alexey N., Ermekova Madina**

Mathematical Modeling and Investigation of Current Distribution in Sections of Cold Crucible

**29.01.2019. 12.15 – 14.00 Room 5205**

**11. Golovina Anastasia V., Pereslytskikh Oleg O., Rodionova Anna S., Belyaev Andrey N.**

Analysis of Operation and Stability of Ultra-long Transmission Lines with Controlled Shunt Compensation

**12. Gulkov Yuri V., Turysheva Anna V., Kopteva Alexandra V.**

Research of Grounding Systems of Electrical Complexes in the Conditions of Permafrost Soils

**13. Inoyatov Bekhruz D., Aljendy Raseel, Tulsy Vladimir N., Dzhuraev Shokhin D.**

Power Quality Monitoring as a Tool for Phase Conductors Diagnostics

**14. Ivanchenko Daniil I., Smirnov Artem I.**

Simulation of Interwire Short Circuits in Transformer Windings by Means of Simulink MATLAB

**15. Ivanov Alexandr N., Bukanin Vladimir A., Zenkov Alexei E.**

Simulation of Induction Heating Processes in ICF ELTA

**16. Khabarova Maria A., Novikova Olga V., Khabarov Alexander A.**

State and Perspectives of Power and Industry Applications of Coal

**17. Khalyasmaa Alexandra, Stepanova Alina I., Davidenko Irina V.**

High-voltage Equipment State Assessment Method Based on the Integrated Use of Advanced Non-Destructive Technologies

**18. Kolesnikova Ksenia V., Gusev Yury P., Smotrov Nickolay N., Kupchinov Alexandr D., Lkhamdondog Anna D.**

The Impact of the Sequence of Measures for the Transition to a Resistive-Grounded Neutral in 6-35kV Cable Networks on Investment Profitability

**19. Kuznetsov Anton A., Mosalova Yuliya A.**

The Analysis of Possibility of Applying Current Transformers of Zero Sequence of Different Manufacturers For designing Damaged Feeder Identification Systems

**29.01.2019. 15.00 – 17.00 Room 5205**

**20. Kuznetsov Oleg N., Sultan Hamdy M., Aljendy Raseel I., Diab Ahmed A. Zaki**

Economic Feasibility Analysis of PV/Wind/Diesel/Battery Isolated Microgrid for Rural Electrification in South Egypt

**21. Lkhamdondog Anna D., Gusev Yury P., Monakov Yury V., Oknin Evgeny P.,**

**Chorshanbiev Sirojiddin R.**

Comparative Analysis between Static and Dynamic Characteristics of Power Transformer in Different Operating Modes

**22. Makarichev Yuri A., Anufriev Andrei S., Zubkov Yuri V., Didenko Nikolay I.**

Energy Efficiency of the Wind Power Generator

**23. Mustonen Mikhail A., Kuchinskiy Vladimir G., Adalev Aleksey S., Popkov Evgeniy N.,**

**Feshin Aleksandr O.**

The Rectifier of the Generator with Excitation from Permanent Magnets of the Wind-Driven Power Plant

**24. Ntawuhorakomeye Noel, Belov Mikhail P.**

Replacement of Liquid Fuel by Solar Electrical Installation for the Production of Electric Energy by Diesel-Generators of the «REGIDESO» Industrial Group in the Republic of Burundi

**25. Pelenev Denis N., Abramovich Boris N., Turysheva Anna V., Babyr Kirill V.**

Organization of Selective Protection against Single-Phase Ground Faults in Autonomous Power Supply Networks of Oil Production Facilities

**26. Petrikov Artyom S., Kondratenko Sofia A., Belyaev Andrey N.**

Optimization of Gas Engine Power Plant Operation Based on Study of Starting Conditions of a Powerful Motor Load

**27. Popkov Evgeniy N., Seyt Ruslan I., Feshin Aleksandr O.**

The Possibility of Participation of Solar Power Plants in the Primary Frequency Control

**28. Popov Maksim G., Petrushin Denis E., Efimov Nikita S.**

Increasing the Emergency Control Systems Efficiency in Kola's and Karelia's Power Systems

**29. Rahimov Jamshed B., Sultonov Sherhon M., Dzhuraev Shokhin D., Sultan Hamdy M., Kayumov Alisher G.**

Effect of Additional Capacities on Transients Recovery Voltage in the Short – Line – Fault Regime

**30.01.2019. 10.00 – 12.00 Room 5205**

**30. Sangov Khushdil S., Tsyruk Sergey A., Mikheev Dmitry V., Giyoev Borbad M., Charaf eddine Karam F.**

Economic Efficiency of Using a Windmill for Supplying Power to Remote Rural Consumers in the Republic of Tajikistan

**31. Shagalieva Alina I., Pershikov Georgiy A., Lyulina Maria A., Belyaev Andrey N.**

Analytical Investigation of AC Transmission Line Operation with Series Compensation Facilities

**32. Shirokova Elena I., Azarov Andrey A., Shirokov Igor B.**

The System of Wireless Energy Transfer

**33. Shirokova Elena I., Azarov Andrey A., Wilson Nina G., Shirokov Igor B.**

Precision Positioning of Unmanned Air Vehicle at Automatic Landing

**34. Shmakov Evgeniy I., Tarchutkin Nicolay V., Smolyanov Ivan A.**

Comparison of Dynamic and Harmonic-Field Models of Linear Induction Motor

**35. Shmakov Evgeniy I., Smolyanov Ivan A., Tarchutkin Nicolay V.**

Dynamics Modes of Traction Linear Induction Motor with Different Winding Circuits

**36. Skamyin Aleksandr N., Dobush Vasiliy S., Rastvorova Iuliia V.**

Method for Determining the Source of Power Quality Deterioration

**37. Smolovik Sergey V., Tupitsina Anna L., Liamov Aleksandr S., Chudny Vladimir S., Ryndina Irina E.**

Analysis of the Unified Power Flow Controller Influence on Transient Processes



**38. Smolyanov Ivan A.**

Study of Electrodynamic Levitation Force in a Traction Linear Induction Motor

**39. Snegirev Denis A., Eroshenko Stanislav A., Khalyasmaa Alexandra, Dubailova Valeria V., Stepanova Alina I.**

Day-ahead Solar Power Plant Forecasting Accuracy Improvement on the Hourly Basis

**30.01.2019. 12.15 – 14.00 Room 5205**

**40. Sokolov Igor V., Shvydkiy Evgeniy L., Bychkov Sergey A.**

Dependence of Titanium Sample Position Inside Coil on Axial Levitation Force

**41. Sokolov Igor V., Bolotin Kirill E., Sarapulov Sergey F., Kravtsov Anatoly A.**

Shape Optimization of Magnetic Core of Electromagnetic Stirrer for Melted Silicon

**42. Sosnina Elena N., Shalukho Andrey V., Erdili Natalya I., Ivanov Anton V.**

Functioning Algorithm of the Stand Alone Power Supply System with Renewable Energy

Sources

**43. Sosnina Elena N., Shalukho Andrey V., Lipuzhin Ivan A., Voroshilov Alexander A.**

The Increase of Small Distributed Generation Efficiency

**44. Tarchutkin Nicolay V., Smolyanov Ivan A., Shmakov Evgeniy I., Sarapulov Fedor N.**

A Novel Approach of Solving Thermal Problems for Application of Electrical Engineering

**45. Zagrivnyi Eduard A., Malarev Vadim I., Kopteva Alexandra V.**

Studying the Operating Mode of the Down-Hole Electrode Heater for the Production of

High-Viscosity Oil

**46. Zamyatin Egor O., Voytyuk Irina N., Zamyatina Elena N.**

Filter Compensating Devices Connection Technique

**47. Zolotarev Alexander V., Khamidullin Kassymkhan I., Morozova Elena V.**

The Power Supply of Public Buildings of the Leningrad Region Based on Alternative Energy Sources

## **Session 10. Signal Processing & Analysis**

**29.01.2019. 10.00 – 12.00 Room 5219**

### **1. Alimuradov Alan K., Tychkov Alexander Yu., Churakov Pyotr P.**

Formant Analysis of Speech Signals Based on Empirical Mode Decomposition to Detect Human Psycho-Emotional Disorder

### **2. Altay Yeldos A., Kremlev Artem S., Gandalipov Erik R., Yerzhebayeva Raushan S.**

On the Use of the Statistical Methods for Biomedical Signals and Data Processing

### **3. Altay Yeldos A., Kremlev Artem S., Margun Alexey A.**

ECG Signal Filtering Approach for Detection of P, QRS, T Waves and Complexes in Short Single Lead Recording

### **4. Andreev Denis S., Lysenko Nicolay V.**

Objects Recognition Methods Estimation in Application to Runway Pictures Taken in Poor Visibility Conditions

**5. Bogoslovskii Ivan A., Ermolenko Daniil V., Stepanov Andrey B., Kilicheva Klavdiya Kh., Pomogalova Albina V.**

Implementation of Universal Neural Network Approximator on a ULP Microcontroller for Wavelet Synthesis in Electroencephalography

**6. Borisov Sergey V., Lotareva Darya A., Chernobrovkin Ilya D.**

A Model of Office Digital Repeater of Audio Broadcasting

**7. Borovitsky Dmitry S., Zhesterev Alexander E., Ipatov Valery P., Mamchur Ruslan M.**

Filtering and Smoothing in the Course of Ground-based Retracking of Space-based Altimeter Data

**8. Chemashkin Fedor Y., Moiseev Aleksandr I.**

Analysis of Dynamical Properties of Digital Chaotic Systems Approximated in Finite Precision Computers

**9. Chemashkin Fedor Y., Zhilenkov Andrei A.**

Problems in Network Control Systems and Their Solutions

**10. Chemashkin Fedor Y., Zhilenkov Andrei A.**

Fault Tolerance Control in Cyber-Physical Systems

**29.01.2019. □ □ 12.15 – 14.00 Room 5219**

**11. Dang Binh, Zhilenkova Elena A.**

Methods of Adaptive Signal Processing in the Space-Time Coding System

**12. Dang Binh, Zhukov Vladimir A.**

Robust Signal Processing for the Space-Time Coding Applications

**13. Kondakov Dmitrii V., Lavrov Alexander P.**

Digital Broadband Multichannel Receiver with Subsampling Operation Analysis

**14. Kulikova Daria U., Gorbunov Igor G.**

Analysis of the Sea Surface Parameters by Doppler X-Band Radar in the Coastal Zone of the Black Sea

**15. Lisovskaya Angelina, Skripnik Tatiana**

Processing of Neural System Information with the Use of Artificial Spiking Neural Networks

**16. Lisovskaya Angelina, Berkhova Evdokiia**

Processing, Hardware Design and Prospects of Use of Myoelectric Prostheses

**17. Lisovskaya Angelina, Yakovleva Marina**

Software Processing for Modern Myoelectric Prosthetic Systems

**18. Lyakhov Pavel A., Nagornov Nikolay N., Chervyakov Nikolay I., Kaplun Dmitrii I.**

Analysis of the Quantization Noise of Linear Time-Invariant Filters for Image Processing

**19. Lyakhov Pavel A., Ozaev Anzor R., Chervyakov Nikolay I., Kaplun Dmitrii I.**

A New Method for Adaptive Median Filtering of Images

**20. Melnikov Vladislav, Bogachev Mikhail I., Volkov Vladimir Yu., Markelov Oleg A.**

Selection and Analysis of Objects in Multi-Threshold Image Processing

**29.01.2019. 15.00 – 17.00 Room 5219**

**21. Mikhailov Vyacheslav N., Polyakov Pavel O., Elizarov Vladimir A., Andreeva Olga M.**

Algorithm of Demodulation for UMTS-standard Signals

**22. Motorin Andrei V., Nosov Aleksei S.**

Accuracy and Sensitivity Analysis for Marine Gravimetry Algorithms in Dependence of Survey Conditions

**23. Pozdeev Alexandr A., Obukhova Nataliia A., Motyko Alexandr A.**

Automatic Analysis of Endoscopic Images for Polyps Detection and Segmentation

**24. Pukhova Valentina M., Stepanova Maria S.**

Up-Chirplet and Down-Chirplet Transforms of Non-Stationary Signals

**25. Pyko Nikita S., Pyko Svetlana A., Markelov Oleg A., Uljanitski Yuri D., Bogachev Mikhail I.**

The Statistical Analysis of Systolic Blood Pressure and Pulse Intervals Mutual Adjustment Rate

**26. Safronova Valeria, Daragan Pavel**

Problems of Data Processing in Acoustic Emission Nondestructive Testing Systems for Ship's Diesel Engines

**27. Slepova Liudmila O., Berkhova Evdokiia M.**

Development of a System Providing the Interaction of the Transducer with the Nervous System for Sensory Prosthetics

**28. Slepova Liudmila O., Skripnik Tatiana N.**

Neurotechnologies in Signal Processing for Implementation of Interaction Between Electronic Sensors and the Nervous System

**29. Voznesenskiy Alexander S., Kaplun Dmitrii I., Romanov Sergei A., Gulvanskii Vyacheslav V., Klionskiy Dmitry M.**

Denosing Algorithm Based on EMD with Adaptive Adjustment of Coefficients



**30. Zernov Oleg I., Gerasimov Nikolay I.**

Electromyography Signals Processing Algorithm for Gesture Classification

**31. Zernov Oleg I., Berkhova Evdokiia**

Methods of Electromyographic Studies in the Task of Signals Classification

**32. Zernov Oleg I., Zhilenkova Elena A.**

Classification Algorithm of Electromyography Signals

**Session 11. Biomedical & Environmental Engineering**

**29.01.2019. □□ 15.00 – 17.00 Room 5230**

**1. Alekseev Vladimir V., Korolev Paul G., Orlova Natalya V., Pimenov Dmitriy V., Tsvetkov Vladimir Y.**

Territory Assessment Taking Into Account the Value of Flora and Fauna

**2. Anisimov Aleksey A., Skorobogatova Alena I., Sergeev Timofey V.**

Simultaneous Registration of Hemodynamic Parameters During Ortho-and Anti-orthostatic Loads

**3. Bobrova Yulia O.**

Algorithm for Signal Processing of Fetal Activity in the Remote Monitoring System

**4. Butorina Marina V., Shabarova Anastasiya V., Sannikov Vladimir, Osetrov Alexander V.**

Engineering Geometrical Acoustic Method for Higher-Order Diffraction of Sound in Building

**5. Desyatnikov Felix A., Danilova Anna V., Gubkin Igor M., Chernenkaya Liudmila V. , Desyatnikova Elena N.**

Biomedical Applications of Nanotubes in Doping Problems

**6. Druzhinina Ekaterina A., Nikitaev Valentin G., Pronichev Alexandr N., Mozerov Sergey A.**

Decision Support System with the Use of "HISTOLOGICAL ANALYSIS OF THYROID TUMORS" Knowledge Base

**7. Eliachim Mbazumutima, Grigoriev Eugene B., Krasichkov Alexander S., Nifontov Eugene M.**

A Study of the Possibility of Predicting Main Parameters of a Cardiopulmonary Exercise Testing in Patients with Congestive Heart Failure

**8. Gerasimenko Alexandra E., Goncharov Vadim D., Eriskovskaya Angelina I.,**

**Yashkardin Rostislav V.**

Mathematical Methods of Processing the Results of AFM Scanning

**9. Goncharov Vadim D., Yashkardin Rostislav V., Gorelikova Maria A., Larina Marina A.**

Determination of the Structural Units of Hard Tooth Tissues Using the Cole-Cole Curves

**10. Kazmina Anna S., Makukha Vladimir K.**

Hardware Development for a Multifunctional Wireless Spirometer Module

**11. Kryukova Olga V., Pyankov Vladimir F., Salomatov Yuriy P., Kopylov Alexey F.**

Radiophysical Microwave Installation for Investigating Biological Effects in Mice with Tumor

**12. Kurakina Natalia I., Agadilov Alexey V., Kuzmina Anastasiya D.**

The Modeling of Emergency Oil Spills in GIS

**30.01.19. 10.00 – 12.00 Room 5230**

**13. Kurakina Natalia I., Kuzmina Anastasiya D.**

The Assessment of Environmental Situation in the Yanao Using Satellite Imagery in GIS-technology

**14. Lemozerskii Vladislav E., Zimina Tatiana M., Sitkov Nitita O., Koigerov Aleksei S., Pudova Anna V.**

Sensor/Actuator Elements Based on SAW Principle for Flexible Disposable Laboratories-on-a-Chip for Biomedical Analysis

**15. Mashevskiy Gleb A., Dubrovina Polina A., Ulianova Anna V.**

Predicting the Level of Neurological Deficit for Children with Stroke Based on Mathematical Modeling

**16. Myshko Roman A., Kurakina Natalia I., Kovchik Viktor S.**

Geoinformational Generalized Flow Formation Model for Solving Problems of Prognostication and Emergency Prevention

**17. Semernik Ivan V., Dem'yanenko Alexander V., Topalov Feruz S., Nevstruev Yaroslav V.**

Automatic System for Early Diagnosis of Pathological Changes in the Bronchopulmonary System Based on Radiofrequency Scanning of the Chest

**18. Semernik Ivan V., Dem'yanenko Alexander V., Topalov Feruz S., Nevstruev Yaroslav V.**

Prospects for Designing a Portable System for Monitoring of the Patient's Condition with Bronchial Asthma

**19. Sitkov Nikita O., Zimina Tatiana M., Soloviev Alexei V., Lemozerskii Vladislav E., Karasev Vladimir A.**

Development of Peptide Aptamers – 3d Complementary Ligands for Selective Binding of Target Biomarkers of Diseases in Multiparametric Sensor Systems

**20. Sutyagina Anastasia D., Anisimov Aleksey A., Lyakhova Ekaterina K.**

The Device for Monitoring of Functional Status of Patients During Cardiac Rehabilitation

**21. Timokhov Gennady V., Semenova Evgeniia A., Yuldashev Zafar M.**

An Intelligent System of Remote Personalized Medical Care with the Possibility of a Therapeutic Impact

**22. Timokhov Gennady V., Semenova Evgeniia A.**

A Decision Support System for a Surgeon in Preoperative Planning of Mini-laparotomy Gallbladder Surgery

**23. Uhov Andrey A., Gerasimov Vladimir A., Kostrin Dmitrii K., Selivanov Lev M., Simon Vsevolod A.**

An Approach to Digital Adaptive Filtering of Bioelectric Signals

**24. Zhivolupova Yuliya A.**

Remote Monitoring System for Preeclampsia Detection and Control

**Session 12. Industrial Management, Management of Innovations**

**29.01.19. □ 10.00 – 12.00 □ Room 5226**

**1. Aytasova Aliya S., Karpenko Pavel A., Solopova Natalya A.**

Development the Risk Management System of Processes in the Enterprise

**2. Aytasova Aliya S., Erofeeva Kira Yu., Solopova Natalya A.**

Improvement of the "Research and Development " and "Development R&D" Process Maps for Enterprises of the Nuclear Industry

**3. Bataev Alexey V.**

The Model of Assessing Economic Efficiency of Biometric ATMs

**4. Bataev Alexey V.**

Financial Technology: Efficiency Evaluation of Challenger Banks

**5. Bataev Alexey V.**

Efficiency Estimation Model of 3D Technology in the Construction Industry

**6. Dementyev Andrey S., Semenov Viktor P.**

Development Prospects of Certification Services for Compliance with ISO 9001 Requirements Through Implementation of an Online Portal - Database

**7. Desyatirikova Elena N., Chernenkii Andrey V., Gubkin Igor M., Fedosova Svetlana P., Slinkova Nataliya V.**

Optimal Control of Open System with Asymmetric Information

**8. Gallini Nadezhda I., Makoveichuk Krystina A.**

Development of Intranet Solution Based on the Model of a United Single Information and Analytical Space Area of the University

**9. Gavrilenko Aleksey I., Shaposhnikov Sergey O.**

Analysis of Safety Principles in Standardization and Certification of Electrotechnical Products

**10. Gavrilov Maxim D., Trofimov Dmitriy A.**

Operational Risks of Power Supply Failure of the Transport Infrastructure Facilities

**11. Gureev Alexandr A., Trofimov Dmitriy A.**

The Improvement of «Management of Nonconformities and Corrective Actions" Process in the Design of the Power Supply System of Tram Lines»



**29.01.19. 12.15 – 14.00 Room 5226**

**12. Iashchenko Vladimir V., Orlova Ekaterina D.**

Obstacles to the Introduction of Lean Production in Russian Electrotechnical Enterprises

**13. Kazak Anatoliy N., Filippov Dmitriy M.**

Development of In-wheel Motor for Vehicles

**14. Kazak Anatoliy N., Dorofeeva Anna A.**

Prospects for the Use of Service Robots in the Resort-Recreational Sphere

**15. Kolesnikov Alexandr M., Kokodey Tatiana A., Khitushchenko Vitalina V.,**

**Lomachenko Tatiana I., Mikhailov Yury I.**

A Strategy of Visualization and Interactive Support for University Level Educational Digitalization

**16. Lesnichaya Marina A., Kolchina Oksana A., Kondzharyan Henrietta A.**

Elaboration of a Conceptual Scheme of Municipal Units Classification According to the Level of Budgetary Provision on the Base of Cluster Analysis

**17. Lesnichaya Marina A., Kolchina Oksana A., Kondzharyan Henrietta A.**

Elaboration of Municipal Development Trajectories for Every Type of Municipal Territories on the Base of Cognitive Modeling

**18. Macheret Pavel D., Savchuk Ramila R., Macheret Dmitriy A.**

Economic Importance of Automation of Transport Infrastructure Design

**19. Makarova Mariya A., Serebryakova Olga I., Guskov Sergey J.**

The Design Quality Indicators and a Transport Infrastructure Objects Quality Interrelation

**20. Paliy Roman V., Spiridonov Ernst S., Telyatnikova Natalia A., Cerniauskaite Laura**

The Logical Structure of the Software File Archive Formation as a Part of Industrial Management

**21. Pavlova Xenia L., Shaposhnikov Sergey O.**

Risk Management for University Competitiveness Assurance

**22. Razmochaeva Natalya V., Klionskiy Dmitry M.**

Data Presentation and Application of Machine Learning Methods for Automating Retail Sales Management Processes

**29.01.19. 15.00 – 17.00 Room 5226**

**23. Razmochaeva Natalya V., Semenov Viktor P., Bezrukov Artem A.**

Role of Process Automation in Quality Management of Enterprises in Perfumery and Cosmetic Industry

**24. Rogov Anatoly A., Kyblitskii Anton O., Tokareva Marina V.**

The Forest Park Areas Maintenance Activities Improvement in Metropolis, Based on Information and Production Technologies

**25. Rogov Anatoly A., Serebriakova Olga I., Makarova Maria A.**

Quality management of the Megacities Transport Hubs Development, Design and Construction

**26. Ryabchik Tatiana A., Smirnova Elvira E., Lykashova Marina I., Hasan Haydar**

Manufacturing Processes Quality Control as a Main Factor of Performance Enhancement in Industrial Management

**27. Savchuk Ramila R., Kirsta Nadezhda A.**

Managing of the Business Processes in Enterprise by Moving to SAP ERP System

**28. Shmeleva Anna G., Ladynin Andrey I., Smirnova Elvira E., Ryabchik Tatiana A.**

Transport Logistics Management Information System

**29. Shmeleva Anna G., Ladynin Andrey I.**

Industrial Management Decision Support System: from Design to Software

**30. Shrayner Yulia S., Yashchenko Vladimir V.**

Maturity Models of Quality Management System in High-Tech Industry: a Systematic Literature Review

**31. Shutin Maksim D., Dolgov Denis V.**

Creating a Digital Passport of the Object During the Survey of Transport Infrastructure

**32. Titov Sergey P., Telyatnikova Natalia.A ., Kudryavtseva Victoria D.,**

**Kondrashchenko Valery.I.**

Structural and Imitation Model of a Concrete Mix Rotational Seal

**33. Vershinina Anna S., Savchuk Ramilya R.**

Quality Management of Rolling Stock Electric Equipment Repairing

**30.01.19. 14.00 Conference Hall 5**

**Closing of the Conference**

