

# 4th 2022 International Youth Conference on Radio Electronics, Electrical and Power Engineering (REEPE), IEEE

The Official Language of Conference is English.

*The conference will be held by attending for all participants in Russian Federation. Online format is only possible for the plenary speakers and international participants.*

**Registration of Participants – March 17, 2022, from 11:30 till 12:40**  
«MPEI», Moscow, Krasnokazarmennaya st. 17, Room Г-200 (G-200)

## **Opening the Conference Event**

**(March 17, 2022) (13:00 – 15:00)**

1. **Vice-Rector for Scientific Work:** Dr. Viktor Karpovich Dragunov, Professor, Moscow Power Engineering Institute, Moscow, Russian Federation.
2. **Rector:** Dr. Davlatzoda Qudrat Qambar, Doctor of Economics, Professor, Tajik Technical University named after academician M.S. Osimi, Dushanbe, Republic of Tajikistan.
3. **Vice-Rector for science and innovation:** Dr. Abdullo Mamadamon Abdurahmonbek, Associate Professor, Tajik Technical University named after academician M.S. Osimi, Dushanbe, Republic of Tajikistan.
4. **General Chair of the IEEE-REEPE conference:** Dr. Rinat Nasirov, Associate Professor, Electrical Power System department, Moscow Power Engineering Institute.
5. **Co-Chair and Technical Program Chair of the IEEE-REEPE conference:** Dr. Mohamed A. Tolba, Assistant Professor, Egyptian Atomic Energy Authority, Cairo, Egypt. Assistant Professor, Electrical Power System department, Moscow Power Engineering Institute.
6. **Plenary Speaker:** Dr. Ali M. Eltamaly, Full Professor, Department of Electrical Engineering Department, Mansura University, Mansura, Egypt. Chair professor, King Saud University, Riyadh, Saudi Arabia. <https://www.scopus.com/authid/detail.uri?authorId=6507950667>
7. **Plenary Speaker:** Dr. Mostafa F. Shaaban, Associate Professor, Department of Electrical Engineering, American University of Sharjah, Sharjah, Emirates. <https://www.scopus.com/authid/detail.uri?authorId=26434445500>
8. **Plenary Speaker:** Dr.-Ing. Stefan Palis, Professor, Department of Control of Distributed-Parameter Systems, Faculty of Electro Engineering and Information Technology, Otto-von-Guericke University Magdeburg, Germany. <https://www.scopus.com/authid/detail.uri?authorId=24766914900>

***Coffee Break 15:00 – 15:35***

# Conference Program (March 17, 2022)

*{Each Participant has 10 minutes for introducing presentation and questions by attendees}*

## Starting the international participants' presentations (15:45-18:00)

*{Each Participant has 10 minutes for introducing presentation and questions by attendees}*

1.	<b>Comprehensive Comparison of the Application of Dynamic Optimization Algorithms for LFC of a Double Area System with the Penetration of Renewable Energy Sources</b>	<i>Mohamed Issam A.Elrefaei Ali, Kotin A. Denis, Ahmed A. Hassan, Mahmoud A. Mossa, Ahmed A. Zaki Diab</i>	Online/Attend
2.	<b>Harmonic Mitigation using Hybrid Control Method in Energy Storage Integrated Microgrid</b>	<i>Ibrahim Alsaeed, Mohammed Shafiullah</i>	Online/Attend
3.	<b>Novel Demand Side-Management Strategy for Smart Grid Concepts Applications in Hybrid Renewable Energy Systems</b>	<i>Ali M. Eltamaly, Majed A. Alotaibi, Waleed A. Elsheikh, Abdulrahman I. Alolah, Mohamed A. Ahmed</i>	Online/Attend
4.	<b>Artificial Intelligence-based Cyclic Voltammetry behavior Model for Supercapacitance of Zinc oxide (ZnO) Nanocomposite</b>	<i>Mostafa A. Ebied, Mohamed A. Azim, Ahmed Emad-Eldeen</i>	Online/Attend
5.	<b>Design of Multi-Sensors Node for Industrial Monitoring and Safety Systems</b>	<i>Essam I. Sobaih</i>	Online/Attend
6.	<b>A Novel Scheme for a Directional Relaying Based on Impedance Approach</b>	<i>Ahmed R. Adly, Said A. Kotb</i>	Online/Attend
7.	<b>A New Theft Detection Approach for Cyberattacks in PV Generation</b>	<i>Nada Eldahshan, Muneeba Asif, Turkey Baajaj, Mostafa F. Shaaban, Ahmed H. Osman, Usman Tariq</i>	Online/Attend
8.	<b>Optimal Allocation of Mobile Distributed Generation for Planning Islanded microgrids</b>	<i>A.A. Shalaby, M.F. Shaaban</i>	Online/Attend
9.	<b>Evaluation of the effectiveness of the hot water layer (HWL) in reducing the pool top radiation level for a typical open pool research reactor</b>	<i>Sahelemariam Tafesse Kitawa, Rowayda F. Mahmoud Abou Alo, Said A. Agamy, Mohsen Abdou Abou Mandour</i>	Online/Attend
10.	<b>High Gain, Wide Band 1*8 Microstrip Patch Antenna Array at 28GHz for 5G Communications</b>	<i>Lames Hasas, Mohammad Anbar, Maxim Kolistratov, Mohammad Nassr, Elena Vostorgina</i>	Online/Attend
11.	<b>QoS Based Route Selection in Cellulr IP Networks Using PSO</b>	<i>Mohammad Anbar, Ali Ahmad, Dima Mohammad, Michail Zakharov</i>	Online/Attend
12.	<b>Sidelobe Canceller Performance Evaluation using Sample Matrix Inversion algorithm</b>	<i>Mohammad Anbar, Mohammad Nassr, Mohammad Abdallah, Elena Vostorgina, Hamid Ali Abed Alasadi, Maxim Kolistratov</i>	Online/Attend
13.	<b>Conceptual Design of the Emergency Energy Supply System for a New Generation of Airships</b>	<i>Emanuele Adorni, Anastasiia Rozhok, Roberto Revetria, Sergey Suche</i>	Attend

## Starting the participants' presentations (15:45-18:00)

*{Each Participant has 10 minutes for introducing presentation and questions by attendees}*

### Section A: Power, Energy and Industry Applications; Room (G-200)

1.	<b>Coordinated Voltage and Reactive Power Control of Power System with Wind Farms and SVCs as the ORPD problem</b>	<i>Vadim I. Zakutsky, Magomed G. Gadzhiev</i>	Attend
2.	<b>Impact of operation mode in terms of reactive power regulations on technical condition and reliability of generating equipment operation</b>	<i>Sergey Lenev, Anton Vivchar, Andrey Okhlopkov, Vladislav Bitney</i>	Attend
3.	<b>Analysis of the maximum electrical load of multi-apartment residential buildings in the power supply systems of cities</b>	<i>Galaktion V. Shvedov, Ivan A. Morsin, Alyona S. Demidenko, Svetlana A. Kudelina, Grigorij A. Parfenov</i>	Attend
4.	<b>Implementation and research of operating parameters of energy-efficient engineering systems with a single circuit of heat engines</b>	<i>Aleksey V. Kondrashov, Aleksey A. Trinchenko</i>	Attend
5.	<b>Analysis study for the Iraqi-Syrian interconnection 400 kV electrical networks</b>	<i>Ahmed S. Al-akayshee, Ibrahim Alwazah, Oleg N. Kuznetsov, Rinat R. Nasyrov</i>	Attend
6.	<b>Techno-economic study introduce an Off-Grid PV/Biomass System in Iraq using the Improved Chaotic Electromagnetic Field Optimization</b>	<i>Ahmed S. Al-akayshee, Oleg N. Kuznetsov, Zubkova Irina Sergeevna, Hamdy M. Sultan</i>	Attend
7.	<b>Evaluation of the efficiency and reliability of the use of hydrogen generators in the schemes of thermal power plants in the context of digitalization</b>	<i>Maksim S. Ivanitckii, Makhsud M. Sultanov, Elena V. Kuryanova</i>	Attend
8.	<b>Utilization of the Energy Storage System for the Energy Arbitrage and Peak Shaving</b>	<i>Igor D. Vitlinsky, Gvan Chun Cho, Nikolay N. Smotrov, Kirill R. Bitkulov, Denis D. Umurzakov</i>	Attend
9.	<b>Development of simulation models of traction for evaluating the possibility of reducing intermittent current unbalance</b>	<i>Pavel Bordadyn, Yaroslav Marinov, Konstantin Shish, Maksim Silaev, Vladimir Korolev</i>	Attend
10.	<b>Envelope Stator Current Analysis of an Induction Motor for Short-Circuit Fault Diagnosis</b>	<i>Muhammad Deeb, Nikolay F. Kotelenets, Vladimir. B.Ba, Talal Assaf, Ghassan Ibrahim</i>	Attend
11.	<b>The On-load Voltage Regulator for an Oil-immersed Power Transformer</b>	<i>Alexander V. Gorchakov, Ann M. Stoynova, Pavel A. Rashitov, Oleg Z. Popkov</i>	Attend

### Section B: Power, Energy and Industry Applications. Components, Circuits, Devices and Systems. Computing, Signal Processing and Analysis. Room (D-205)

1.	<b>Test Bench for Thyristor Cells of on-Load Transformer Voltage Regulators</b>	<i>Alexander V. Gorchakov, Vladimir I. Maleev, Pavel G. Nahabin, Sergei Y. Kuzin, Olga G. Gagarina</i>	Attend
----	---	--	--------

2.	<b>Control System for Semiconductor Voltage Regulators of an On-Load Power Transformer</b>	<i>Alexander V. Gorchakov, Pavel G. Nahabin, Vladimir I. Maleev, Maria I. Fedorova</i>	Attend
3.	<b>Acoustic and mass characteristics of plate silencers with wedge-shaped outlet fairings</b>	<i>Andrey A. Taratorin, Ainur B. Mukhametov</i>	Attend
4.	<b>Adaptive Processing and Analysis of Electrocardiosignals in Children: an Interdisciplinary Approach</b>	<i>Alexander Yu. Tychkov, Artem P. Nazarychev, Yulia N. Komkova, Galina A. Sugrobova, Alan K. Alimuradov</i>	Attend
5.	<b>An Approach to Improve the Power Frequency Measurement Accuracy Based on the Application of Low-Pass Filtration</b>	<i>Andrey N. Serov, Kirill A. Ivanenko, Dmitry A. Chumachenko</i>	Attend
6.	<b>Neurocryptographic Bluetooth-attack prevention system</b>	<i>Larisa Fomchenkova, Alexey Lazare, Pavel Kharlamov</i>	Attend
7.	<b>Approach to determining the power and location of transformer substations</b>	<i>Vadim A. Ageev, Konstantin A. Dushutin, Dmitriy V. Kazakov, Sergei V. Golobokov</i>	Attend
8.	<b>Application of the genetic algorithm in urban distribution networks tracking</b>	<i>Vadim A. Ageev, Konstantin A. Dushutin, Dmitriy S. Repeyev, Tatiana Yu. Brostilova</i>	Attend
9.	<b>Wavelet analysis of transient signals caused by commutations in power lines</b>	<i>Rustem G. Khuziashev, Igor L. Kuzmin, Iluza I. Irkagalieva, Ildar A. Minaev</i>	Attend
10.	<b>Control Algorithm For Hybrid PV-Fuel Cell Energy System</b>	<i>Nikolay S. Rodkin, Georgiy K. Solovov, Konstantin V. Kryukov, Mikhail G. Kiselev, Nikolay N. Baranov</i>	Attend
11.	<b>Investigation of superconducting closed winding parametric dependences on contact resistance</b>	<i>Boris F. Kuznetsov, Ivan I. Solovyov, Egor A. Pavlovich</i>	Attend

## **Section C: Power, Energy and Industry Applications. Nuclear and Mechanical Science Applications. Components, Circuits, Devices and Systems. Computing, Signal Processing and Analysis. General Topics for Engineers. Fields, Waves and Electromagnetics. Room (D-213)**

1.	<b>Application of the D-decomposition method using one parameter to select tuning parameters of Static VAR Compensators</b>	<i>Erik F. Jaramillo, Rinat R. Karymov</i>	Attend
2.	<b>Modeling of a Distributed Energy System with Renewable Generation, Demand-side Flexibility, and Behind-the-meter Batteries</b>	<i>Daniel A. Perez-Moscote, Mikhail G. Tyagunov</i>	Attend
3.	<b>Aspen Plus model of a Power-to-Gas technology for methane-hydrogen mixture production</b>	<i>Daniil V. Semin, Aleksandr V. Fedyukhin, Stanislav A. Dronov, Vladislav E. Panarin, Artem E. Savostikov</i>	Attend
4.	<b>Estimation of the parameters of the trajectories of radio sources in multi-position complexes by the MLE method</b>	<i>Alexander Chugunov, Sergey Serov, Roman Kulikov, Vladimir Pudlovskiy, Nikita Petukhov</i>	Attend

5.	<b>Increasing Efficiency of Single-phase PFC by Decreasing Dynamic Power Dissipation in Transistor</b>	<i>Georgiy V. Roschupkin, Mikhail A. Novikov, Alexander A. Retyunsky, Artem A. Badrutdinov, Maria I. Fedorova</i>	Attend
6.	<b>Calculation of the Control Angle of the Phase Shifting Transformer with a Nonlinear Reactance</b>	<i>Alexey V. Kochergin, Sergey V. Loktionov, Alexey N. Sharov, Alexei Y. Vestfalskii, Grigoriy V. Krupin, Gleb S. Loktionov</i>	Attend
7.	<b>Estimation of the initial phase of a radio signal with an arbitrary shape and unknown appearance and disappearance moments</b>	<i>Yury Korchagin, Konstantin Titov, Yury Petrov, Olga Zavalishina</i>	Attend
8.	<b>Digital acoustical models of steam generator in VVER-440 NPP</b>	<i>K. N. Proskuryakov, E. Afshar, A.V. Anikeev, R.M. Ismail</i>	Attend
9.	<b>Reliability assessment of switching process control equipment</b>	<i>Svetlana P. Ivanova, Denis A. Pestryaev, Tatyana V. Myasnikova, Oksana V. Sveklova</i>	Attend
10.	<b>Application Of The Dbscan Method To Solve The Problem Of New Employees Adaptation</b>	<i>Maria A. Durova, Egor A. Khodunov, Anna S. Anikeeva, Aleksey A. Mishin, Ali N. Zein, Svenlana V. Borisova</i>	Attend
11.	<b>External Fields Boundaries Estimation of High-Q Shielded Dielectric Resonator</b>	<i>Vladimir M. Gevorkyan, Yuri A. Kasantsev, Aleksandr V. Shutov</i>	Attend

# Conference Program (March 18, 2022)

## Starting the participants' presentations (10:30-12:45)

*{Each Participant has 10 minutes for introducing presentation and questions by attendees}*

### Section A: Power, Energy and Industry Applications; Room (D-205)

1.	<b>Generalized stochastic model of an AC arc for analyzing the power quality</b>	<i>Andrey N. Zhurkin, Sergey M. Nekhamin, Michael Ya. Pogrebisskiy, Anastasia V. Molostova</i>	Attend
2.	<b>Influence of surface properties on heat transfer during cooling under conditions of forced fluid flow</b>	<i>Tatiana A. Gubanova, Arslan R. Zabiroy, Irina A. Molotova, Victor V. Yagov</i>	Attend
3.	<b>Hardware Protection for High Voltage Regulators Output Voltage Transformers On-Load</b>	<i>Anna A. Arkhireeva, Pavel A. Rashitov, Dmitriy A. Seregin, Nikolay P. Shchepkin</i>	Attend
4.	<b>Estimated loads of household electrical appliances</b>	<i>Galaktion V. Shvedov, Ivan A. Morsin, Alyona S. Demidenko, Svetlana A. Kudelina, Grigoriy A. Parfenov</i>	Attend
5.	<b>Development of a lithium battery with a solid polymer electrolyte</b>	<i>Aleksey A. Zatsepin, Elizaveta P. Eliseeva, Ivan A. Putsylov</i>	Attend
6.	<b>Determination of Maximum Allowable Step Voltage in Area of Air Power Line Wire Drop</b>	<i>I.V. Korolev, A.A. Zakrevsky, D.A. Burdyukov</i>	Attend
7.	<b>Validation of the model of water jet breakup in liquid metal</b>	<i>Daria V. Finoshkina, Oleg I. Melikhov</i>	Attend
8.	<b>Analysis of the Influence of Electricity Quality Indicators on the Operating Modes of Asynchronous Motors</b>	<i>Abdullo Majidov, Shahboz Hafizov, Muhibullokhujja Zokirov, Shahrom Abdullozoda, Abubakr Azimov, Shamsulkhak Naimov</i>	Attend
9.	<b>Study the Impact of Geometric Parameters of Glass Plate Insulators on their Moisture-Discharge Voltages under Artificial Pollution</b>	<i>Sergey I. Khrenov, Rinat S. Gubaev, Muna Rmno</i>	Attend
10.	<b>Design, Fabrication and Characterization of flexible laser reduced Silicon Carbide nanoparticle thermal heater sensor</b>	<i>Shojaa A. Aljasar, Y Xu, Mohammad R. Qasaimeh</i>	Attend

*Coffee Break 12:45-13:30*

## Continuing the participants' presentations (13:45-15:45)

### Section A: Power, Energy and Industry Applications; Room (D-205)

1.	<b>Modeling of the Forecasting Performance Indicators for the Power Equipment Generating Systems</b>	<i>Mahsud M. Sultanov, Anatoly A. Konstantinov</i>	Attend
----	--	--	--------

2.	<b>Development and research of a lithium battery with a gel-polymer electrolyte</b>	<i>Mikhail A. Beshkarev, Ivan A. Putsylov</i>	Attend
3.	<b>Improving the energy efficiency of gas pumping units based on absorption heat transformers</b>	<i>Aleksey I. Bartenev, Ildar A. Sultanguzin, Baydaa Bo Dakkah, Peter A. Shomov, Stanislav M. Kulagin, Aleksey N. Koryagin</i>	Attend
4.	<b>Investigation of Autonomous Power System Stability Improvement Methods</b>	<i>Alexandr Dolgov, Alexey I. Laktionov, Leonid A. Mikhailishin</i>	Attend
5.	<b>Study of Transients in a PV Plant in Case of Short Circuiting in Power Grid</b>	<i>Alexander N. Ovcharenko, Pavel A. Trukhanov, Maxim V. Burmeyster, Ramis V. Bulatov, Rinat R. Nasyrov</i>	Attend
6.	<b>An extension of the CHP plants' adjustment range with the use of pressurized heating system water storage devices</b>	<i>E. Ilyin, D. Levenok, D. Lymarev</i>	Attend
7.	<b>Increasing the Energy Efficiency of Ventilation Systems Heat Recovery of Wet Ventilation Emissions in Rooms with Open Water Surfaces</b>	<i>Natalia M. Savchenkova, Dmitry A. Kravtsov, Michael S. Purdin, Oleg M. Khlopov</i>	Attend
8.	<b>Investigation of experimental testing of Copper Chromium electrode arcs generated by Vale Dobker scheme</b>	<i>Muhammad Saqib, Yubin Xu, Shojaa A. Aljassar</i>	Attend
9.	<b>Evaluation of the Electrical Energy Storage Efficiency for Increasing Stability of an Electric-Power System with RES</b>	<i>Danila A. Averyanov, Maxim V. Burmeyster, Alexei Yu. Martynushkin, Andrew A. Samoylov</i>	Attend
10.	<b>Investigation of the Stability Mechanisms with Asynchronous Motors Auxiliary of Power Plant and Substation with Decreasing Frequency</b>	<i>Abdullo Majidov, Shahboz Hafizov, Muhibullokhujja Zokirov, Shahrom Abdullozoda, Abubakr Azimov, Shamsulkhak Naimov</i>	Attend

## Starting the participants' presentations (10:30-12:45)

*{Each Participant has 10 minutes for introducing presentation and questions by attendees}*

### **Section B: Power, Energy and Industry Applications. Nuclear and Mechanical Science Applications. Components, Circuits, Devices and Systems. Computing, Signal Processing and Analysis. General Topics for Engineers. Fields, Waves and Electromagnetics. Room (D-213)**

1.	<b>Method for assessing the thickness of the fatigue damage layer of the overhead line wire during its operation</b>	<i>Kul'kov V.G., Norov D. Sh.</i>	Attend
2.	<b>Analysis of overvoltage processes under single-phase-to-earth fault conditions in TPP 6-10 kV switchgear</b>	<i>Nikolay Smotrov, Andrey Okhlopkov, Vladislav Bitney</i>	Attend
3.	<b>Features of high-precision sync-signals formation for distributed systems based on a synchronous Ethernet network</b>	<i>Alexander A. Deev, Andrei A. Kalshchikov</i>	Attend
4.	<b>Improving the efficiency of sparse matrix class processing by using the SPMV-CSR parallel algorithm and OpenMP</b>	<i>Adnan Adhab K. Al-Saeedi, Shamaeva Olga Yurievna, Teaba W. Khairi</i>	Attend

technology

5.	<b>Comparison of local ultra-wideband radio navigation systems architectures</b>	<i>Ilya V. Korogodin, Alexander P. Malyshev, Alexander A. Chugunov, Tatyana A. Brovko, Anna Yu. Siziakova, Rodion R Vakhitov</i>	Attend
6.	<b>Structural model of power section of three-phase active rectifier</b>	<i>Alexey I. Andriyanov, Maksim V. Baranchikov</i>	Attend
7.	<b>Fused optical couplers: biconical taper</b>	<i>Pavel V. Bazakutsa, Michael A. Boev, Andrey I. Nikitin</i>	Attend
8.	<b>Synthesis of PDR Algorithm and Experimental Estimation of Accuracy of Step Length Estimation Methods</b>	<i>Nikita I. Petukhov, Vladimir N. Zamolodchikov, Alexander P. Malyshev, Tatyana A. Brovko, Sergey A. Serov, Ilya V. Korogodin</i>	Attend
9.	<b>Application of the genetic algorithm to locate the reference points of the local navigation system</b>	<i>Roman Kulikov, Natalia Masalkova, Nikita Petukhov, Andrey Boldyrev, Denis Zezin, Maksim Efremov</i>	Attend
10.	<b>Thermohydraulic Analysis of Fuel Assembly of the WWER-1000 Reactors at Reduced Power</b>	<i>Mehakdeep Singh, Yubin Xu, Shojaa A. Aljassar</i>	Attend

**Coffee Break 12:45-13:30**

**Continuing the participants' presentations (13:45-15:45)**

**Section B: Power, Energy and Industry Applications. Nuclear and Mechanical Science Applications. Components, Circuits, Devices and Systems. Computing, Signal Processing and Analysis. General Topics for Engineers. Fields, Waves and Electromagnetics. Room (D-213)**

1.	<b>Fused optical couplers: power transfer between optical fibers</b>	<i>Pavel V. Bazakutsa, Michael A. Boev, Andrey I. Nikitin</i>	Attend
2.	<b>Optimization of schedules - tasks of CCGT unit start-ups according to the steam path critical elements thermal stress state</b>	<i>Sergey Lenev, Yuri Radin, Andrey Okhlopkov</i>	Attend
3.	<b>Development of the software part of the mobile scanner of the digital substation network using the DPDK library</b>	<i>Anton A. Ivanov, Boris A. Safronov, Alexander K. Ryzhkov, Alexander A. Voloshin</i>	Attend
4.	<b>Analytical estimation of Kalman filter errors for indoor positioning systems</b>	<i>Tatiana A. Brovko, Alexander A. Chugunov, Alexander P. Malyshev, Ilya V. Korogodin, Oleg V. Glukhov, Elena V. Silayeva</i>	Attend
5.	<b>Validation of the STEG Code using Experiments on Two-Phase Flow Across an In-Line Tube Bundle</b>	<i>Hossein Abdi, Najmeh J. Ouregani, Oleg I. Melikhov</i>	Attend
6.	<b>Influence of Self-Oscillations in VVER Coolant on Failures Fuel and Control and Protection Systems</b>	<i>K. N. Proskuryakov, M.V. Manukhin</i>	Attend
7.	<b>MCU simulation of the neutronics calculations of the IRT-T reactor for</b>	<i>Shojaa A. Aljassar, Artyom G. Naymushin, Yubin Xu</i>	Attend

### Conversion of HEU to LEU

8.	<b>Numerical analysis of the 8-tube hydraulic fuel assembly of an IRT-T research reactor</b>	<i>Shojaa A. Aljassar, Artyom G. Naymushin, Yubin Xu</i>	Attend
9.	<b>Influence of Non-uniform Axial Power Distribution on the Critical Heat Flux in Fuel Assemblies of Pressurized Water Reactors</b>	<i>Anton G. Zubkov, Dmitry A. Oleksyuk, Evgeniy A. Vertikov, Daniya R. Kireeva, Vyacheslav M. Zorin</i>	Attend
10.	<b>OpenFOAM modeling of thermal mixing in a T-junction geometry using RANS and LES models</b>	<i>Najmeh J. Ouregani, Hossein Abdi, Vladimir I. Melikhov</i>	Attend
11.	<b>One step formation of Laser reduced Graphene Oxide Fabrication and characterization on novel Flexible PET based sensitive sensor</b>	<i>Yubin Xu, Shojaa A. Aljassar, Mohammad R. Qasaimeh</i>	Attend

## Starting the participants' presentations (10:30-12:45)

*{Each Participant has 10 minutes for introducing presentation and questions by attendees}*

### Section C: Power, Energy and Industry Applications. Nuclear and Mechanical Science Applications. Components, Circuits, Devices and Systems. Computing, Signal Processing and Analysis. General Topics for Engineers. Fields, Waves and Electromagnetics. Room (D-2/209) "S.Issue"

1.	<b>Integrated presentation of existing approaches to Limit Overvoltages in 6-35 kV Networks</b>	<i>Tatiana Lopukhova, Yuliya Zatsarinnaya, Guzel Valeeva, Rustem Gainullin</i>	Attend/Online
2.	<b>Simulation of Heat Exchange in Combustion Chamber with Premix Burner</b>	<i>Vadim E. Zinurov, Azat A. Galiev, Ilyuza I. Nasyrova, Vitaly V. Kharkov</i>	Attend/Online
3.	<b>Microbiological studies of ion exchange and combined water treatment plants</b>	<i>Vlasova A.YU., Chichirov A.A., Vlasov S.M., Babikov O.E., Nizamaeva A.V.</i>	Attend/Online
4.	<b>Analysis of Multivortex Separator Operation in Spray Booth</b>	<i>Andrey V. Dmitriev, Rustem Ya. Bikkulov, Vitaly V. Kharkov, Oksana S. Dmitrieva</i>	Attend/Online
5.	<b>Investigation of hydrodynamic processes inside multicyclones in the integrated air cleaning device</b>	<i>Malik G.Ziganshin, Gulnaz I. Belyava</i>	Attend/Online
6.	<b>Induction Method for Parameters Control of Cable Lines laying at the Electricity Distribution Network Polygon</b>	<i>Rafael R. Askarov, Sergey S. Filimonov, Kirill V. Nikolaev, Rustem N. Mukhametzhano</i>	Attend/Online
7.	<b>The analysis of the technical condition of power plants when using renewable energy sources in the territory of the Russian Federation</b>	<i>V.R. Ivanova, N.V. Rozhentsova, R.R. Dautov</i>	Attend/Online
8.	<b>Study of the Flow Structure Stability in a Multi Vortex Contact Device</b>	<i>Guzel R. Badretdinova, Nurislam F. Sakhibgareev, Vadim E. Zinurov, Ilnur N. Madyshev</i>	Attend/Online

9.	<b>Calculation of New Electrical Loads for Public Premises Included in Multi-Apartment Residential Buildings</b>	<i>Yuriy I. Soluyanov, Alexander I. Fedotov, Azat R. Akhmetshin, Vladimir I. Soluyanov</i>	Attend/Online
10.	<b>Development of an automatic luminous flux control system for LED lamps</b>	<i>Alina Denisova, Elmas Sibgatullin</i>	Attend/Online

### *Coffee Break 12:45-13:30*

## **Continuing the participants' presentations (13:45-15:45)**

### **Section C: Power, Energy and Industry Applications. Nuclear and Mechanical Science Applications. Components, Circuits, Devices and Systems. Computing, Signal Processing and Analysis. General Topics for Engineers. Fields, Waves and Electromagnetics. Room (D-2/209) "S.Issue"**

1.	<b>Evaluation of approaches to managing the technical condition of electric power facilities</b>	<i>Yuliya Zatsarinnaya, Marina Shustrova, Guzel Valeeva</i>	Attend/Online
2.	<b>The impact of electrical interconnection between countries on the stability of electrical power systems</b>	<i>Ahmad Alzakkar, Maksimov Victor Vladimirovich, Yuri Samofalov, Ilyasov Ildar, Ilgiz Valeev</i>	Attend/Online
3.	<b>Vibration Diagnostics of the Brush-Collector Assembly, as Means of Assessing</b>	<i>Olga Filina, Khalil Vakhitov, Artyom Starodubets, Olga Salnikova</i>	Attend/Online
4.	<b>Reduction of the amount of sulfur in model mixtures containing cyclohexyl sulfide by electric arc method</b>	<i>Roman Lipantev</i>	Attend/Online
5.	<b>Analysis of the step-by-step water purification of a combined water treatment plant at a heat and power complex</b>	<i>Vlasova A.YU., Akhmetzyanova A.T., Babikov O.E.</i>	Attend/Online
6.	<b>Investigation of reactive power parameters in the elements of the power supply system</b>	<i>Azat N. Khusnutdinov, Ivan V. Cherepen'kin, Marsel' R. Minazov, Ol'ga A. Filina, Pavel S. Lazarev, El'vira M. Khusnutdinova</i>	Attend/Online
7.	<b>On-line nuclear magnetic resonance analyzer for the production of new emulsion fuels</b>	<i>Kozelkova V.O., Ovseenko G.A., Karachin V.I., Tran Van Tung, Nguyen Chi Kien, Kashaev R.S</i>	Attend/Online
8.	<b>Application of nuclear magnetic resonance for the express-control of water concentration</b>	<i>V.O. Kozelkova, G.A. Ovseenko, V.I. Karachin, Nguyen Chi Kien, Tran Van Tung, O.V. Kozelkov</i>	Attend/Online
9.	<b>Prototyping for the development of practical skills of students in automation and robotics</b>	<i>Alexander N. Bogdanov, Valery A. Danilov, Ishanberdy A. Hallyyev</i>	Attend/Online

# Conference Program (March 19, 2022)

## Starting the participants' presentations (10:30-12:45)

*{Each Participant has 10 minutes for introducing presentation and questions by attendees}*

### Section A: Power, Energy and Industry Applications; Room (G-200)

1.	<b>Analysis of prerequisites for changing wind load standards for electric grid facilities</b>	<i>Oleg A. Loktionov, Olga E. Kondrateva, Ekaterina V. Fedotova</i>	Attend
2.	<b>PMU-based Estimation of Generator Synchronous Parameters through Simulated and Real-Field Synchrophasor Data</b>	<i>Vadim R. Rafikov, Igor E. Ivanov</i>	Attend
3.	<b>Development of a program for creation of the fuel and energy balance of the city</b>	<i>Yuriy V. Yavorovsky, Ildar A. Sultanguzin, Aleksey I. Bartenev, Ivan D. Kalyakin, Aleksey P. Yashin</i>	Attend
4.	<b>Solar power plant for energy supply of building</b>	<i>Vladislav Y. Chaikin, Ildar A. Sultanguzin, Yuri V. Yavorovsky, Ivan D. Kaliakin, Alexei V. Skorobatyuk, Evgeniy A. Demidov</i>	Attend
5.	<b>Software Development for Building Simulation Models of Digital Twins of TPP Equipment in Diagnostic Systems</b>	<i>Michael Belov, Ivan Shcherbatov, Vladimir Agibalov, Aleksey Dolgushev, Sergey Ziazev</i>	Attend
6.	<b>Development of algorithm for monitoring saturation and residual magnetization of current transformer magnetic core</b>	<i>Andrey Yablokov, Galina Filatova, Elena Gotovkina, Dmitriy Sharygin, Alexey Evdakov</i>	Attend
7.	<b>Methodology of a multifactorial automated research of fault location determination methods on EHV lines</b>	<i>Andrey Yablokov, Dmitriy Sharygin, Galina Filatova</i>	Attend
8.	<b>Features, advantages and current problems of the Russian power sector transition to data exchange based on CIM standards</b>	<i>Anastasiia Chernysheva, Artem Vanin</i>	Attend
9.	<b>Recurrent Model of Brain Activity Based on the Markov Chain in the Time Domain</b>	<i>Rodion Vakhitov, Anton Melanin, Roman Kulikov, Rodion Mazaev, Natalia Masalkova, Maxim Efremov</i>	Attend
10.	<b>Electric power system stability conditions with automatic voltage regulator</b>	<i>Irina S. Zubkova, Oleg N. Kuznetsov</i>	Attend
11.	<b>Ensuring the transient stability of the energy interconnection considering a share of RES connected to the electric grid-based inverters</b>	<i>Irina S. Zubkova, Oleg N. Kuznetsov, Danila A. Averyanov</i>	Attend

***Coffee Break 12:45-13:30***

## Starting the participants' presentations (10:30-12:45)

*{Each Participant has 10 minutes for introducing presentation and questions by attendees}*

### Section B: Power, Energy and Industry Applications. Components, Circuits, Devices and Systems. Computing, Signal Processing and Analysis. Room (D-213)

1.	<b>Optimization of Interrogation Signal for SAW-resonator-based Vibration Sensor</b>	<i>Andrey A. Merkulov, Nikita O. Ignat'ev, Aleksandr S. Shvetsov, Sergei A. Zhgoon, Ksenia E. Lipshits</i>	Attend
2.	<b>Investigation of the Crystallization Kinetics of the Thin Films for the Phase Change Memory Application</b>	<i>Alexey V. Babich, Anastassiya S. Bozhedomova, Dmitriy Yu. Terekhov, Daria D. Glebova</i>	Attend
3.	<b>Large-Format 3D Printing with Hardware and Software Complex "RoboPrint"</b>	<i>Rodion E. Mazaev, Roman S. Kulikov, Vladislav A. Lyovushkin, Michael G. Ivanov, Vladimir A. Danilov, Rodion R. Vakhitov</i>	Attend
4.	<b>Development of an Algorithm for Processing and Analyzing Digital Packets of SV and GOOSE Protocols for Use in a Mobile Network Scanner</b>	<i>Anton A. Ivanov, Ekaterina E. Pashkovskaya, Boris A. Safronov, Alexander K. Ryzhkov, Alexander A. Voloshin</i>	Attend
5.	<b>Analysis of synchronous regimes of the biharmonic oscillator</b>	<i>Daniil A. Frolov, Ansar R. Safin, Nikolay N. Udalov, Valery A. Sotskov</i>	Attend
6.	<b>Recognizing Human Emotions Using a Convolutional Neural Network</b>	<i>Yulia A. Alexeevskaya, Maria Skvortsova, Roman A. Alexeevsky</i>	Attend
7.	<b>Processing and Visualization of Tomography Signal with AI: Decision Making on COVID-19</b>	<i>Denis O. Ishkov, Boris S. Goryachkin, Valery I. Terekhov</i>	Attend
8.	<b>Development of a risk-based predictive model of employees fatal injuries in Russian power grid complex</b>	<i>Oleg A. Loktionov, Olga E. Kondrateva</i>	Attend
9.	<b>Risk assessment of existing dams</b>	<i>Zhelankin V.G.</i>	Attend
10.	<b>The Modelling of the Production Factors' Prediction in the Radio-Electronic Industry</b>	<i>E. Gorlacheva, P. Drogovoz, I. Omelchenko, V. Shiboldenkov, O. Yusufova</i>	Attend

### Coffee Break 12:45-13:30

## Starting the participants' presentations (10:30-12:45)

*{Each Participant has 10 minutes for introducing presentation and questions by attendees}*

### Section C: Power, Energy and Industry Applications. Nuclear and Mechanical Science Applications. General Topics for Engineers. Fields, Waves and Electromagnetics. Room (D-205)

1.	<b>Cognitive Modeling of Digital Production Factors</b>	<i>Alla Brom, Irina Omelchenko, Yuliya Maslennikova</i>	Attend
2.	<b>Cold experiment as a model of basalt melting</b>	<i>Konstantin V. Strogonov, Andrey A. Borisov</i>	Attend

3.	<b>Deformation Diagram and Mechanical Constants of Electro-technical Materials</b>	<i>T.B. Duishenaliev, T.N. Komissarova</i>	Attend
4.	<b>Text CAPTCHA Traversal with ConvNets: Impact of Color Channels</b>	<i>Denis O.Ishkov, Valery I.Terekhov</i>	Attend
5.	<b>Mathematical Statement and Solution of Enterprise Equipment Maintenance and Repair Scheduling Problem</b>	<i>Dmitrii A. Gurianov, Konstantin S. Myshenkov, Valery I. Terekhov</i>	Attend
6.	<b>The Impact of Fiber Reinforcement on the Strength Characteristics of Concrete Used For the Construction of Hydraulic Structures</b>	<i>Natal'ya Borisovna Mahova, Tatarinov Viktor Viktorovich, Sergey Serov, Novikov Vasiliy Konstantinovich, Alexey S. Dutov, Anastasiia Rozhok</i>	Attend
7.	<b>Significant Irregularities in the NRD Waveguide</b>	<i>V.V. Krutskikh, A.N. Ushkov, N.O. Strelkov, A.E. Mirzoyan, H.M. Ariqat</i>	Attend
8.	<b>Analysis of Algorithms for Detecting the Spectral Peaks of Bragg Diffraction Gratings in Fiber-optic Measuring Systems</b>	<i>Dyakonov Andrey Valerevich, Viktor V. Tatarinov, Stanislav A. Chuprikov, Mikhail D. Strakhov, Alexey S. Dutov, Anastasiia Rozhok</i>	Attend
9.	<b>Moving Objects Tracking Method Based on Discharged Optical Flow</b>	<i>Ivan Aleksandrovich Vozvakhov, Mikhail Dmitrievich Strakhov, Vladislav Aleksandrovich Ershov, Marat Yuryevich Agapov, Viktor Viktorovich Tatarinov, Anastasiia Rozhok</i>	Attend
10.	<b>Cellular Automata Simulation of Heterogeneous Freeway Traffic Flow in a Smart City</b>	<i>Nikita V. Bykov</i>	Attend

### *Coffee Break 12:45-13:30*

### **The End of Conference, Discussions, Certificates (13:30-14:00)**

- A- General Chair of the conference:** Dr. Rinat Nasirov, Associate Professor at Electric Power System department, Moscow Power Engineering Institute.
- B- Co-Chair and Technical Program Chair of the conference:** Dr. Mohamed A. Tolba, Assistant Professor, Ph.D., Electric Power System department, Moscow Power Engineering Institute.  
Assistant Professor, Ph.D., Egyptian Atomic Energy Authority, Cairo, Egypt.