



**IEEE 9th INTERNATIONAL CONFERENCE ON
ENERGY SMART SYSTEMS (ESS)
PRE-CONFERENCE
WORKSHOP PROGRAM**



IEEE 
UKRAINE SECTION

IEEE Ukraine Section
IE/PE/PEL Societies Joint Chapter
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October 29-31, 2024

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Pavlo Herasymenko Institute of Electrodynamics NAS of the of Ukraine, Ukraine
Serhii Stepenko Chernihiv Polytechnic National University, Ukraine

SCHEDULE OF CONFERENCE

DATE	TIME	SECTION	ZOOM
29.10.2024	10.00-10.20	OPENING OF THE CONFERENCE	https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09
	10.20-13.00	SECTION 1. SMART GRID	https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09
	13.30-16.00	SECTION 3. ENERGY MANAGEMENT	https://us02web.zoom.us/j/81559680690?pwd=F1g6TJbCUEgdOybbdm2dqXShSBm6jc.1
	13.30-16.00	SECTION 4. INDUSTRIAL CONSUMERS	https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09
30.10.2024	10.00-13.00	SECTION 1. SMART GRID	https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09
	10.00-13.00	SECTION 2. RENEWABLE ENERGY SYSTEMS	https://us02web.zoom.us/j/81559680690?pwd=F1g6TJbCUEgdOybbdm2dqXShSBm6jc.1
	14.00-16.00	SECTION 2. RENEWABLE ENERGY SYSTEMS	https://us02web.zoom.us/j/81559680690?pwd=F1g6TJbCUEgdOybbdm2dqXShSBm6jc.1
	14.00-16.00	SECTION 4. INDUSTRIAL CONSUMERS	https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09
31.10.2024	9.00-11.00	SECTION 4. INDUSTRIAL CONSUMERS	https://us04web.zoom.us/j/4434618677?pwd=ZmI1WEFFRVZ1ckh1YTRubjhhkUU5wZz09
	9.00-12.00	SECTION 5. POLICIES, MARKETS AND CHALLENGES	https://us02web.zoom.us/j/81559680690?pwd=F1g6TJbCUEgdOybbdm2dqXShSBm6jc.1
	12.00-15.00	SECTION 4. INDUSTRIAL CONSUMERS	https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09

TUESDAY, 29.10.2024

OPENING OF THE CONFERENCE

10.00-10.20

Chair: Serhii DENYSIUK

<https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09>

All participants

SECTION 1. SMART GRID

10.20-13.00

Chair: Halyna Bielokha

<https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09>

1. **Mykola P. Bolotnyi** *Decentralization of Management in Ukrainian Power System: Understanding and Challenges*
2. **Oksana Ilchuk, Elina Rebuel, Larysa Tretiakova.** *Monitoring the performance of the safety management system at electricity enterprises*
3. **Miroshnyk, Illia Ladyzhynskii, Oleksandr Moroz, Huthaifa A. Al_Issa, Serhii Halko.** *Analysis of Information Support for the Automated Substantiation of the Plan of Electrical Energy Distribution Systems Technical Operation*
4. **Mykola P. Bolotnyi.** *Relay Protection Functioning under Integration of Distributed Generation: Challenges for Ukraine*
5. **Iryna Hunko, Petro Lezhniuk, Viacheslav Komar.** *Macromodeling of the modes of the local power system as a balancing group within the united energy system.*
6. **Nina Filimonenko, Kostiantyn Filimonenko.** *The Practical Study Of The Implementation Of The Smart Grid System In Ukraine*
7. **Byungchul Kim.** *Frequency Management Strategy with Management of a Hybrid Energy Storage System in Island Microgrid*
8. **Byungchul Kim.** *Frequency Control in the Islanded Smart Microgrid Via Diesel-engine Generator*
9. **Byungchul Kim.** *Policy Iteration Based Microgrid Frequency Control*
10. **Ihor Blinov, Yevhen Parus, Serhii Tancevych, Oleksii Kalaida, Alan Kennedy, Shahid Mughal.** *Optimization of the Daily Load Schedule of the Microgrid According to the Criterion of the Electricity Purchase Cost*
11. **Sima Das. Samik Acharya, Nimay Chandra Giri, Kseniia Minakova, Mykhailo Kirichenko, Roman Zaitsev.** *Smart Grids - IoT Integration: Enhancing Reliability and Efficiency in Electrical Distribution Systems*
12. **Iryna Shvedchykova, Inna Melkonova, Hryhoriy Melkonov, Andrii Pisotskyi.** *Calculation of hybrid self-consumption power system for local objects: information and software support*
13. **Vitalii Roman, Fedir Matiko, Rostyslav Sapeliuk.** *Automated Designing the Multipath Ultrasonic Flow Meters for Energy Carriers Accounting*
14. **Mykola Grebchenko, Mykhailo Sopol, Oleksandr Spodynskyi.** *Adaptive system for determining the parameters of local deterioration of insulation in electrical network elements*

SECTION 3. ENERGY MANAGEMENT

13.30-16.00

Chair: Denys Derevianko

<https://us02web.zoom.us/j/81559680690?pwd=F1g6TJbCUEgdOybbdm2dqXShSBm6jc.1>

1. **Sergii Kavun, Ruslana Levkina, Artur Levkin, Anna Petrenko.** *Managing The Business Processes Interrelation*
2. **Mykhailo Spodoba, Oleksandr Spodoba.** *Increasing the Energy Efficiency of the Heating System of Substances in Tanks*
3. **Vladimir Popov, Denys Fedosha, Anatolii Zabolotnyi, Valeriia Prykhno.** *Delopment of Method for Assessment of Power Supply Efficiency of Shop Electricity Network*
4. **Yevhen Rudniev, Julia Romanchenko, Vitalii Popovych.** *Comprehensive approach the energy saving at Ukrainian enterprises in the post-war reconstaction period*
5. **Valerij Zvaritch, Yuriy Gyzhko, Olena Glazkova, Bogdan Samkov, Maryna Gutorova.** *Some Features of Linear Autoregressive Processes Kernel Application to Diagnostic Problems of Power Equipment*
6. **Pylyp Hovorov, Mykola Khvorost, Vladlen Hovorov, Anastasiia Kindinova.** *Energy management of lighting systems of urban objects*
7. **Gennadii Kaniuk, Tetiana Fursova, Maksim Kaniuk, Artem Cherniuk, Andrii Mezeria, Oleksandr Dolmatov.** *Aspects of Energy Audit in Eco-Project Based Learning for Sustainable Development*
8. **V.Sychova, V.Miroshnyk, I.Blinov.** *Forecasting activated balancing energy in Ukraine with Probabilistic neural network*
9. **Dmytro Yatsenko, Vladimir Popov, Vadym Kondratyuk, Anatolii Zamulko, Yuliia Chernetska.** *Forecasting the consumption of electric energy when solving the problem of determining the limit values of consumption*
10. **Borys Basok, Svitlana Goncharuck, Vitalii Opryshko, Yegor Farenjuk, Denys Derevianko.** *Experimental Studies on Enhancing the Thermal Insulation Performance of Window Systems*
11. **Borys Basok, Svitlana Goncharuk, Vitalii Opryshko, Oksana Lysenko, Nataliia Bepala, Maryna Moroz.** *Experimental determination of thermal parameters of an electric heater*
12. **Oleg Zakladnyi,** *Study of factors influencing the energy characteristics of electromechanical systems*
13. **Yuriy Osadchuk, Yurii Sherstnov, Tatiana Beridze, Andrey Kupin, Oleksander Savytskyi.** *Synergetic Approaches to Optimizing Industrial Energy Consumption through Rationalization of Reactive Power Compensation Processes*
14. **Oleksandr Riabenko, Volodymyr Tymoshchuk, Oksana Halych, Natalya Ivanchuk.** *The certain issues of control and measuring equipment operation of pumped storage power plants*
15. **Andrii Ivakhnov, Oleksandr Kulapin, Stanislav Fedorchuk, Kostiantyn Makhotilo, Dmytro Danylchenko, Olexii Bulhakov.** *Prosumer as the smallest Energy Hub and the prerequisites for its operation at a Decentralized Power Grid*
16. **Olena Parshyna, Marharyta Parshyna, Yurii Parshyn, Oleksandr Shapoval, Iurii Savchenko, Ihor Klymenko.** *Mathematical Modelling of Production and Economic Activities of an Enterprise of the Energy Sector*
17. **Volodymyr Voytenko, Andrey Kniukh.** *Energy Efficiency of a Multi-Motor Electric Drive*

18. **Oleksii Mykhailenko.** *Residential Load Forecasting using Type-2 Fuzzy Inference System for the Demand Response Applications: Case Study*
19. **Kateryna Synylo, Andrii Krupko, Sergiy Karpenko, Olexandr Zaporozhets, Iryna Shkilniuk.** *Green transformation of airports by environmental management system*
20. **Sokolenko Kostiantyn, Yevhen Rudniev, Sokolenko Valeriy, Vitaliy Shvets.** *Research in the problems of restoring heat supply to the reoccupied cities of Donbas*
21. **Viktoriia Vostriakova, Olena Rubanenko, Eleonora Stakh.** *Energy Communities Management: EU Experience and Ukraine's Perspective*
22. **Orest Voznyak, Olena Savchenko, Nadiia Spodyniuk, Iryna Sukholova, Mariana Kasynets, Oleksandr Dovbush, Roman Sheremeta.** *Energy audit of the air distribution system under various modifications*
23. **Nataliia Volosnikova Vitaliy Serzhanov Fedir Abramov Berislav Andrić Vladimir Ristanović Alexei Pavlichev** *The Economic Efficiency of Algorithms for Forced Limitation of Electricity Consumption in Crisis Situations*

SECTION 4. INDUSTRIAL CONSUMERS

13.30-16.00

Chair: Halyna Bielokha

<https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09>

1. **Eduard Khomiak, Roman Trishch, Viktoriia Burdeina, Olga Kosychenko, Olena Cherniak, Oleg Katrich.** *Establishment of the criterion for the tightness of the shell of the fuel element of a nuclear reactor at a nuclear power plant*
2. **G. V. Bezprozvannykh O.G., Kiessaiev M.V., Grynyshyna.** *Peculiarities of Electromagnetic Processes in Renewable Generation Systems with Power High-Voltage Polymer Insulation Cables*
3. **Mykola Ostroverkhov, Liudmyla Spinul, Heorhii Veshchikov, Bogdan Prymak.** *Efficiency of Energy Conversion in the Autonomous Electric Drive of the Metropolitan Rolling Stock*
4. **J. Sreeranganayakulu, A. Suresh Kumar, M. Padma Lalitha, Nimay Chandra Giri, Olena Rubanenko, Oleksander Rubanenko, Inna Vishnak, Iryna Hunko.** *Remission of Torque Pulsations in Power system using UPFC including PI and Fuzzy controllers*
5. **Anton Toropov, Liliia Toropova, Volodymyr Dubovyk.** *Increasing the energy efficiency of the electric drive of the conveyor for bulk cargo using the linear loading stabilization system*
6. **Liubov Marchuk, Patrick Henaff, Olivier Deck, Viktor Slidenko, Sofiia Dokshyna.** *Simulation Model Of The Percussion Device In The Matlab-Simulink Simscape Environment*
7. **Artur Postil, Oleksii Bialobrzheskyi, Maxim Oliynichenko.** *A Feature of the Three-phase Active Filter Power Spectrum in the Reactive Current Generation Mode*
8. **Valentin Oleschuk, Vasyl Chopyk, Ivan Shapoval.** *Synchronous PWM Regulation of Inverters in Transformer-Based Photovoltaic Installations*
9. **Joaquim Monteiro, V. Fernão Pires, J. Fernando Silva, Sónia Pinto.** *A Dual Inverter Based Unified Power Flow Controller Using Sliding Mode Decoupled Direct Power Compensators*
10. **Nina Filimonenko, Kostiantyn Filimonenko, Nataliia Smyrynska, Viacheslav Levandovski.** *Test Stand for Tentative Determination of Criterion Levels of Damage to Radio-Electronic Components Under the Influence of Powerful Pulses of Electromagnetic Energy*
11. **Andrii V. Dymereets, Roman D. Yershov** *Comparative Analysis of Zero-Current-Switching Quasi-Resonant Buck Converter Topologies*

12. **Seyyedmilad Ebrahimi, Juri Jatskevich** *Modeling of Synchronous Generators for Power Quality Analysis of Electrified Ship Propulsion Systems*
13. **Baya Reddy Lomada, Nimay Chandra Giri, Olena Rubanenko, Mareddy Padma Lalitha, Vladislav Kuchanskyy, Oleksandr Rubanenko** *Interleaved Converter Based on Cascaded Non-Inverting Converter*
14. **Volodymyr Martynenko.** *Increasing of the Rotary Machine Efficiency by the Numerical-Analytical Identification of Active Magnetic Bearing Stiffness and Damping Properties*

WEDNESDAY, 30.10.2024

SECTION 1. SMART GRID

10.00-13.00

Chair: Halyna Bielokha

<https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09>

1. **Ivan Kriuchkov, Volodymyr Sokolov, Pavlo Skladannyi.** *Determining the Bandwidth of a Multilayer VPN*
2. **Serhii Denysiuk, Kateryna Hilevich, Halyna Bielokha** *Assessment of the Levels of Non-optimal Modes of Transactive Energy Systems with Unevenness of Energy Generation and Consumption*
3. **Vitalii Kalinchyk, Larysa Tretiakova.** *Features of Measurement Parameters in Monitoring at Electric Power Enterprises*
4. **Andrii Antonov, Dmytro Bosyi, Potapchuk Iryna,** *Problems and ways of improving the calculations of overhead power lines*
5. **Volodymyr Pavlenko, Ihor Ponomarenko, Oksana Morhulets, Dmytro Ponomarenko, Olena Hrygorevska, Maryna Melnyk.** *Blockchain and AI for Smart Cities Energy Systems*
6. **Natália Gecejevová, Marek Češkovič, Anna Yakovlieva.** *Concept of the Alternative Protection of the High and Very High-Voltage Power Lines During Flights of the Conventional Aircraft and Unmanned Aerial Vehicles*
7. **Petro Baran, Yuriy Varetsky, Viktor Kidyba, Igor Sabadash.** *Digital protection for 35 kV overhead lines against single-line-to-ground faults*
8. **Danylo Filyanin, Anatolii Voloshko, Vasyl Kalinchyk, Olexandr Meita.** *Application of FFT and DFT detection and assessment of current and voltage distortion*
9. **Anatolii Voloshko, Danylo Filyanin.** *Comparative analysis of determining the characteristics of voltage sags in the electrical network*
10. **Serhii Denysiuk, Halyna Bielokha, Volodymyr Khilenko.** *Transactive Energy Management of Local Electricity Systems*
11. **Alexander Shram, Yuriy Kachan, Artem Sverhun.** *Possibilities to Reduce the Impact of Harmonics on Power Quality in Industry*
12. **Viacheslav Bezruchko, Roman Buinyi, Andrii Strohii, Anatolii Sereda, Mariia Demchenko.** *Assessment of the reduction of economic losses from faults in medium voltage networks due to the installation of devices for determining the location of a single-phase-to-earth fault*
13. **Anatoly Omelchuk, Maria Lozova.** *Simulation of Operation Modes of Remote Protection of Networks with Distributed Generation Sources*
14. **Vladislav Kuchanskyy, Ievgen Zaitsev.** *Measurements of the Corona Discharge Field of an Extra-high voltage Transmission Line*

15. **Yuriy Varetsky.** *Voltage Fluctuations in MV Distribution Grid Containing Renewable Energy Sources*

SECTION 2. RENEWABLE ENERGY SYSTEMS

10.00-13.00

Chair: Denys Derevianko

<https://us02web.zoom.us/j/81559680690?pwd=F1g6TJbCUEgdOybbdm2dqXShSBm6jc.1>

1. **Serhii Dudnikov, Oleksandr Savchenko, Iryna Trunova, Volodymyr Pazyi, Lina H. Hussienat, Andriy Milenin.** *Analysis of Prospects for the Use of Biogas Installations in the United Energy System*
2. **Viktor Denysov, Tetiana Nechaieva.** *Technical and economic indicators of the energy node, which supports the average daily WPP generating power*
3. **Yana Suchikova, Sergii Kovachov, Zhakyp Karipbaev, Yaroslav Zhydachevskyy, Ihor Bohdano, Anatoli I. Popov.** *Design of Cadmium-Tellurium Oxide Heterostructures for Portable Solar Cells*
4. **Yurii Skob, Oksana Pichugina, Mykola Kalinichenko.** *Mathematical Modeling of Negative Environmental Consequences due to Thermal Radiation*
5. **Andrii Stepanchenko, Dmytro Rindyuk.** *The use of low-capacity gas generators in the context of rising prices for traditional fuel resources*
6. **Andreas Livera Spyros, Theocharides Michalis Florides, Charalambos Anastassiou.** *Intelligent platform for photovoltaic park operation and maintenance*
7. **Sergii Saukh, Andriy Borysenko.** *Representative and Cluster Models of Renewable Energy Sources and Energy Storage Systems in Local Grids*
8. **Alena Dyadenchuk, Serhii Halko, Kateryna Halko, Oleksandr Miroshnyk, Mohamed Qawaqzeh, Roman Buinyi.** *Impact of Different Parameters on the Efficiency of GaN/porous-GaAs/GaAs Solar Cell*
9. **Vozniak Oleksandr, Shtuts Andrii, Kolisnyk Mykola, Zozulyak Igor, Burlaka Serhii.** *Studying the biogas temperature control system to be used at stand-alone power plants*
10. **Yevhen Pistun, Halyna Matiko, Hanna Krykh.** *Device for metering He-Xe gas mixture composition for gas-cooled reactor power systems*
11. **Oleksandr Shkurpela, Dmytro Kovalenko, Andrii Kutinov.** *Modeling the operation of a wind power plant with full energy conversion*
12. **Sergey Shevchenko, Dmytro Danylchenko, Andrii Potryvai.** *Mode analysis and MPPT simulation modelling for solar power plants*

SECTION 3. RENEWABLE ENERGY SYSTEMS

14.00-16.00

Chair: Denys Derevianko

<https://us02web.zoom.us/j/81559680690?pwd=F1g6TJbCUEgdOybbdm2dqXShSBm6jc.1>

1. **Andriy Pavlov, Oleksandr Moroz, Oleksandr Miroshnyk, Sergii Moroz, Andriy Milenin, Mohamed Qawaqzeh.** *Predictive Model Of Solar Power Plant Generation After Missile Attack*
2. **Mykhailo Spodoba, Oleksandr Spodoba.** *Energy Efficient Control of Electric Heaters in Biogas Reactors*
3. **Oleksandr Zaporozhets, Valentyn Glyva, Larysa Levchenko, Patrycja Chacinska, Natalia Auscheva, Nataliia Burdeina.** *Noise exposure and impact assessment for new wind farm developments in Ukraine and Poland*

4. **Natalia Savchenko, Oksana Dovgalyuk, Andrii Tretiak.** *Investigation of the Energy Efficiency of the Mobile Wind-Solar Power Plant “Hybrid Umbrella”*
5. **Maxim Oliynichenko, Oleksii Bialobrzheskyi, Maksim Bezzub, Artur Postil.** *Power Harmonics Distribution Study in System with a Complex Load and Solar Power Station*
6. **Augusto C. Venerando, José F.C Castro, Pedro A.C. Rosas, Rafael C. Neto, Newmar Spader, Adriano P. Simões, Pérolla Rodrigues, Luiz C.P. Silva, Wesley Machado Rhoden.** *Operation model and economic feasibility assessment of an electric vehicle smart charging hub equipped with a battery storage system*
7. **Olexandr Shavolkin, Yurii Haman.** *Grid-connected hybrid renewable energy system for livestock farm using electric vehicles*
8. **Anton Vorushylo, Serhii Stepenko, Anatolii Kvitsynskyi, Roman Buinyi, Dmytro Zakharchenko, Olexandr Bondarenko.** *Development of the Methodology for Technical and Economic Justification of the Storage Batteries Selection for Electric Power Objects*
9. **Byungchul Kim.** *Cloud Distributed Optimal Control of ESS-PV Residential Inverters*
10. **Volodymyr Khilenko, Shvydenko Mykhailo, Halyna Bielokha, Oleksii Stepanov, Sergii Denysiuk, Rohoza Kostiantyn.** *Implementation of forecasting models and dynamic assessment of correlation to improve smart control in Microgrid systems*
11. **Volodymyr Khilenko, Bence Ladoczki, Halyna Bielokha, Oleksii Stepanov, Sergii Denysiuk, Vasyl Khylenko Jr.** *Analysis of routing problems in payment channels and optimization of the payment system in trading platforms of Microgrid networks*

SECTION 4. INDUSTRIAL CONSUMERS

14.00-16.00

Chair: Halyna Bielokha

<https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09>

1. **Borys Kuznetsov, Tatyana Nikitina, Ihor Bovdui, Valerij Kolomiets, Kostiantyn Chunikhin, Olena Voloshko.** *Single-circuit Power Lines Magnetic Field Silence Effectiveness in Multi-story Building by Combined Active and Electromagnetic Passive Means*
2. **Borys Kuznetsov, Tatyana Nikitina, Ihor Bovdui, Valerij Kolomiets, Kostiantyn Chunikhin, Olena Voloshko.** *Power Lines Magnetic Field Silence based on Geometric Inverse Problem Solution*
3. **Yevgeniy Trotsenko, Julia Peretyatko, Olexandr Protsenko.** *Application of Three-Capacitance Model for Simulation of Partial Discharges Generated at Ripple Voltage Waveform*
4. **Yevgeniy Trotsenko, Olexandr Yandulskyi, Julia Peretyatko, Mandar Dixit.** *On Assessment of Wind Influence on Lightning Shielding Performance of Overhead Transmission Lines Based on Electro-Geometric Model*
5. **Sergii Saukh, Oleg Godun,** *Modeling Safe Variability Areas of Power for NPP Power Unit Models*
6. **Natalia Smetankina, Serhii Morhun.** *Experimental Investigation of the Marine Gas Turbine Blades and Disks Endurance Level*
7. **Stanislav Maliborskyi, Mykola Pechenik, Serhii Burian, Mykola Pushkar.** *Investigation the Principles of Energy-Efficient Regulation the Belt Conveyor With Changing Technological Characteristics of Automated Metal Processing Line*
8. **Sergei Peresada, Yevhen Nikonenko, Sergey Edward Lyshevski, Serhii Kovbasa, Andrii Lukianchikov.** *Load-dependent control of bidirectional DC-DC converters for vector controlled IPMSM drives*

9. **Kateryna Bratkovska, Yulia Liush, Alexander Shram.** *Use of Maneuverable Loads by Industrial Enterprises*
10. **Oleksandr Zabolotnyi, Andrii Khodieiev, Roman Trishch.** *Investigation of the Possibility to Detect the Moment of Water in Diesel Emulsion Layering with the help of Infrared Turbidity Sensors*
11. **Dmytro Kulagin, Igor Maslov.** *Peculiarities of technical operation of ship's unified electric power systems*

THURSDAY, 31.10.2024

SECTION 4. INDUSTRIAL CONSUMERS

9.00-11.00

Chair: Stefan Zaichenko

<https://us04web.zoom.us/j/4434618677?pwd=ZmI1WEFFRVZlckh1YTRubjhhUU5wZz09>

1. **Mykhailo Kovalenko, Tkachuk Ihor, Kovalenko Iryna, Kryshnov Oleh, Reutskyi Mykola, Zhuk Serhiy.** *Mathematical simulation of brushless double stator axial flux magnetolectric generator for small power electric complexes*
2. **Mykhailo Kovalenko, Tkachuk Ihor, Kovalenko Iryna, Kryshnov Oleh, Reutskyi Mykola, Zhuk Serhiy.** *Mathematical simulation of a hybrid magnetic gear for low-power autonomous wind turbines*
3. **Oleksii Shevchuk, Vladimir Voytenko, Alexander Kalinin** *Increasing the Energy Efficiency of Mobile Industrial Robots*
4. **Olga Chernousenko, Vitalii Peshko, Dmitro Rindyuk, Oleksii Konovaliuk** *Assessment of Accumulated Damage and Resource Exhaustion of the Low-Pressure Rotor of T-100/120-130 Turbine*
5. **Stefan Zaichenko, Andrii Trachuk, Kostiantyn Pochka, Goktay Ediz, Nataliia Shevchuk, Vadym Shalenko.** *Determinants of forecasting the development of renewable national energy industry of Ukraine*
6. **Oleksandr Temchenko, Nataliia Shecvhuk, Anatolii Temchenko, Stefan Zaichenko, Anton Kleshchov.** *Estimation of ecological costs and environmental pollution in energy equivalent*
7. **Andrii Boiko, Volodymyr Semenyuk, Elena Naidenko, Yaroslav Sokolov.** *Synthesis of Rope Pulley for Elevator Gearless Winch of Parallel Structure*
8. **Pavlo Kuznietsov, Olha Biedunkova.** *Bench tests of phosphonate (HEDP) against corrosion of carbon steel in cooling water of a power plant circulation system*
9. **Roman Voliansky, Nina Volianska, Yunifa Miftachul Arif.** *Modeling and Simulating of Dynamical Systems with External Harmonic Excitation*
10. **Serhiy Kobzar, Liudmyla Haponych, Iryna Holenko** *Research of the process o combustion of RDF/SFR with coal in pulverize coal boilers.*
11. **Oleksandr Savoiskyi, Leonid Chervinsky, Viktor Sirenko, Tetiana Volvach, Olga Rysnaya, Yulia Sirenko.** *Study of the efficiency of using direct electric heating in the technological process of drying fruit raw materials*
12. **Leonid Vyshnevskyi, Mykola Mukha, Oleg Vyshnevskyi, Alla Drankova.** *High-speed three-phase voltage sensor of the ship autonomous generator sets*

SECTION 5. POLICIES, MARKETS AND CHALLENGES

9.00-11.00

Chair: Denys Derevianko

<https://us02web.zoom.us/j/81559680690?pwd=F1g6TJbCUEgdOybbdm2dqXShSBm6jc.1>

1. **Nataliia Derzhak, Maryna Morneva, Svitlana Golubieva.** *Management of system elements of regional critical infrastructure in the context of military actions in Ukraine*

2. **Olena Parshyna, Marharyta Parshyna, Yurii Parshyn, Oleksandr Shapoval, Iurii Savchenko, Oleksandr Piven.** *Efficiency Increasing of Information Security in Complex Energy Systems*
3. **Inna Khomenko, Anastasiia Soroka** *Innovative approaches to the formation of electricity tariffs: challenges and opportunities for the Ukrainian market*
4. **Sergii Boichenko.** *COMPARATIVE CHARACTERISTICS OF AVIATION FUELS PROPERTIES OF DOMESTIC AND FOREIGN PRODUCTION ACCORDING TO ASTM AND NATO STANDARDS*
5. **Roman Trishch, Olena Cherniak, Romualdas Ginevičius, Oleksandr Zabolotnyi, Eduard Khomiak, Oleh Katrych.** *Assessment of energy efficiency of the European Union countries and their grouping by qualimetric methods*
6. **Sergii Boichenko, Iryna Shkilniuk, Linfei Chen, Oleksandr Danilin.** *MODERN TRENDS IN THE USE OF HYDROGEN AS A MOTOR FUEL: ANALYSIS, RECENT ADVANCEMENTS AND PROSPECTS*
7. **Volodymyr Zdanovsky, Hryhoriy Melkonov, Inna Melkonova.** *Modern Environmental Problems and Ways to Overcome them*
8. **Nataliia Volosnikova, Vitaliy Serzhanov, Fedir Abramov, Vladimir Ristanović, Liudmyla Sakharnatska, Viktoriya Hotra.** *Institutional Determinants of the Formation of the Strategy of Grid Balancing*
9. **Ravi Kumar, Chopdar Namrata Sengar, Nimay Chandra Giri, Olena Rubanenko Oleksander Rubanenko, Iryna Hunko** *Agrivoltaics in Developing Countries - Status, Opportunities, and Challenges*
10. **Victor Kaplun, Volodymyr Osypenko, Serhiy Yefimenko, Yevhen Kulibaba, Sergiy Prokopenko.** *Investigation of Territorial Communities Combined Electricity Supply Based on Renewable and Biofuel Energy Sources*
11. **Iryna Lysenko, Oleksandr Novoseltsev, Serhii Stepenko, Anna Verbytska, Tetyana Yevtukhova, Hanna Dyvnych.** *Challenges and Marketing Strategies of Renewable Energy Market Development*
12. **Denys Derevianko, Maryna Shovkaliuk, Stefan Zaichenko, Oleksandr Danilin, Oleg Zakladnyi** *Evaluation of the Support Actions for Energy and Blue Economy Start-ups*
13. **Anatolii Voloshko, Danylo Filyanin.** *HARMONIZATION OF STANDARDS IN THE FIELD OF COMMUNICATION NETWORKS AND SYSTEMS FOR AUTOMATION OF ELECTRIC POWER ENTERPRISES. PART 2. APPLIED MODELING APPROACH*
14. **Maryna Gutnyk Vitalii Kondratiev** *Smart Grid in Ukraine: Experience and Prospects*

SECTION 4. INDUSTRIAL CONSUMERS

12.00-14.00

Chair: Halyna Bielokha

<https://us02web.zoom.us/j/85893182813?pwd=RUFyTnhidlNMZkQzNDNGeFZzYWtyUT09>

1. **Oleksandr Siryi, Michael Abbdulin, Ilya Shahbazov, Olha Kobylanska. Matvii Storozhuk.** *Experimental studies of combustion modes of gaseous fuels mixed with hydrogen in jet-niche burners*
2. **O. Hemakesavulu, N. Chellammal, M. Padma Lalitha, Nimay Chandra Giri, Kseniia Minakova, Mykhailo Kirichenko, Roman Zaitsev, Svitlana Bondarenko.** *Investigation on Resonance Damping Techniques using LCL Filter*

3. **Vladyslav S. Markov Natalia V. Kriukova Yevgen V. Honcharov Ihor V. Polyakov** *The Use of Statistical Methods in the Study of an Autonomous Induction Generator with a Single Excitation Capacitor*
4. **Andrii Safonyk Oleksandr Riabenko Oksana Halych Serhii Sunichuk Roman Zaichuk** *The using smart monitoring for control and measurement of seepage flow in earth dams*
5. **Viktoriia Zhebka Pavlo Anakhov Andrii Aronov Pavlo Skladannyi Volodymyr Sokolov** *Telecommunication Network Availability after Hydroelectric Power Plant Reservoir Dam Incident*
6. **Volodymyr Grinchenko Uliana Pyrohova Oleksandr Tkachenko** *Calculation of Shield Current in Solidly Bonded Single-Core Cable System*
7. **Volodymyr Zinovkin Iurii Krysan Vira Savchenko** *The equivalent parameters of losses in inactive parts of transformers under nonsinusoidal loads*
8. **I.Trach P. Shymaniuk I.Senko** *A Model Of Nonlinear Multiparametric Regression Of Power Losses Dependence On Distributed Sources Of Reactive Power In Distribution Electrical Grids*
9. **Anton Silvestrov, Mykola Ostroverkhov, Liudmyla Spinul, Valery Chibelis, Heorhii Veshchykov.** *Convergence Study of the Process of Nonlinear Evaluation of Parameters of Dynamic Objects when Using Series-Parallel Models*
10. **Mykhailo Artemenko, Yurii Kutafin, Ivan Shapoval, Vasyl Chopyk, Valerii Mykhalskyi, Serhii Polishchuk.** *Apparent Power Definitions in Reduced Coordinate Basis*
11. **Hraniak Valerii, Shtuts Andrii, Kolisnyk Mykola, Zozulyak Igor** *DEVELOPMENT OF A TECHNIQUE FOR CALCULATING THE INDUCTANCES OF HIGH-PASS FILTERS BASED ON THEIR CONSTRUCTIVE PARAMETERS*
12. **Oleksandr Kyrychenko, Olha Melnyk, Olha Liashko.** *Modeling of thermoelectric modules with two-layer thermal stress damping for transport electrical equipment*
13. **Tetiana Rymar, Volodymyr Kuchynskyi.** *Thermal-Hydraulic Analysis of the Efficiency of Al₂O₃-water nanofluids In the Heat Exchanger of Emergency Planned Cooling of a NPP Power Unit*
14. **Gennadii Kaniuk, Olena Blyznychenko Tetiana Fursova Andrii Mezeria Maksym Kaniuk Tetiana Vasylets** *Improving the Quality of Electricity Generation at Nuclear Power Stations Based on the Analysis of Frequency and Power Regulation Errors of Turbo-Generator Plants*