

**XX-th International Symposium on  
Electrical Apparatus and Technologies**

***SIELA 2018***



**PROGRAMME**

**3 - 6 June 2018**

**Hotel Bulgaria**

**Bourgas, Bulgaria**

**SIELA 2018** is organized by:



**Union of Electronics, Electrical Engineering and Telecommunications (CEEC)**



**IEEE Bulgaria Section**

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- **House of Science and Technology – Plovdiv**
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### **Notes**

- Oral presentations – up to 15 min including discussions (laptop and multimedia projector available)
- Invited paper presentations – up to 30 min including discussions
- Poster size: 0.8x1.2 m

### **Information and registration desk**

The Information and Registration desk will be open at Hotel Bulgaria as follows:

- Sunday, 3 June - from 17:00 to 19:00
- Monday, 4 June - from 8:30 to 16:00
- Tuesday, 5 June - from 8:30 to 13:00

Phones: (+359) 896 803 915; (+359) 895 588668

### **Symposium dinner**

The Symposium Dinner will be in restaurant “Bulgaria” on Monday, 4 June 2018.

### **Cultural programme**

Excursion – Wednesday, 06 June, 12:30 – 16:30

## SIELA 2018 General Schedule

Day	Hour	Event
Sunday 3 June	17:00 - 19:00	Registration
	19:00 - 20:00	Welcome Cocktail
Monday 4 June	9:30 - 10:30	Opening Session, Compass Hall
	10:30 - 11:00	Coffee Break
	11:00 - 12:00	Invited Papers 1, Compass Hall
	13:00 - 15:00	Oral Session <b>O1</b> , Compass Hall
	15:00 - 15:30	Coffee Break
	15:30 - 17:00	Poster Session <b>P1</b> , Captain's Hall
	17:00 - 18:30	Oral Session <b>O2</b> , Compass Hall
	19:30	Symposium Dinner
Tuesday 5 June	9:00 - 9:30	Invited Papers 2, Compass Hall
	9:30 - 11:00	Oral Session <b>O3</b> , Compass Hall
	11:00 - 11:30	Coffee Break
	11:30 - 13:00	Poster Session <b>P2</b> , Captain's Hall
	14:00 - 16:00	Oral Session <b>O4</b> , Compass Hall
	16:00 - 16:30	Coffee Break
	16:30 - 18:00	Poster Session <b>P3</b> , Captain's Hall
Wednesday 6 June	9:00 - 10:30	Poster Session <b>P4</b> , Captain's Hall
	10:30 - 11:00	Closing Session, Compass Hall
	12:30 - 16:30	Excursion

## INVITED PAPERS 1

**Monday, 4 June, 11:00 - 12:00, COMPASS Hall**

Jan SYKULSKI United Kingdom  
**Recent advances in design optimisation and future challenges**

Yasushi KANAI Japan  
**Micromagnetic model analysis of spin-torque oscillator  
and write head for microwave-assisted magnetic recording**

## ORAL SESSION O1

**Monday, 4 June, 13:00 - 15:00, COMPASS Hall**

Hariharan VENKATRAMANAN, Hamid SHAHNASSER USA  
**Scoop motion detection based on MEMS accelerometer**

Hartmut BRAUER, Jan Marc OTTERBACH, Marek ZIOLKOWSKI,  
Hannes TOEPFER, Michael GRAETZEL, Jean Pierre BERGMANN Germany  
**Motion induced eddy current testing of friction stir welding**

Nick RIGOGIANNIS, Dionisis VOGLITSIS, Nick PAPANIKOLAOU Greece  
**Microcontroller based implementation of peak current control method  
in a bidirectional buck-boost DC-DC converter**

Nena APOSTOLIDOU, Nick PAPANIKOLAOU,  
Elias KOLLIAS, Paraskevas KAMPOURAKIS Greece  
**Survey on regenerative potential of Athens trolleybuses**

Kadir OZEN, Osman Bulent TOR, Mahmut Erkut CEBECI,  
Muslum CETINTAS, Atakan AKGUN, Adela BARA, Simona Vasilica OPREA Turkey  
**Arc-flash risk level calculations based on computer  
simulations and measures to avoid hazards**

Cristian RAVARIU, Elena MANEA, Catalin PARVULESCU, Dan MIHAIESCU Romania  
**A nothing on insulator - NOI - nanotransistor configuration  
suitable for the Zaidman model**

Cristian RAVARIU, Dan Eduard MIHAIESCU,  
Daniela ISTRATI, Bogdan PURCAREANU Romania  
**Nano-core-shell technologies suitable for thin film transistors implementation**

Ebrahim RAHIMPOUR, Vahid RASHTCHI, Reza AGHMASHEH Germany  
**Estimation of series resistance of transformer winding for fast transient analysis**

## POSTER SESSION P1

**Monday, 4 June, 15:30 - 17:00, Captain's Hall**

- Sergey RYVKIN, Aleksei ROZHNOV, Igor LOBANOV Russia  
**Convergence of technologies of the evolving prototype of an energy efficient large-scale system**
- Sergey RYVKIN, Aleksei ROZHNOV, Igor LOBANOV, Lev CHERNYSHOV Russia  
**Investigation of the stratified model of virtual semantic environment for modifiable vehicles**
- Aurel Sorin LUP, Mihai POPESCU, Gabriela CIUPRINA, Daniel IOAN Romania  
**Parallel simulations in the static multiphysics analysis of RF-MEMS switches**
- Boris EVSTATIEV, Dimcho KIRIAKOV, Dimitar TRIFONOV Bulgaria  
**Phase shift tuning for measurement of hysteresis losses in inductors with magnetic core**
- Szabolcs KOCSIS SZÜRKE, István LAKATOS Hungary  
**The lithium polymer battery swelling test with high-precision displacement sensors**
- Krisztian HORVATH Hungary  
**Cubature Kalman filter-based speed sensorless control of induction machines**
- Pavel DERGACHEV, Pavel KURBATOV, Ekaterina KURBATOVA, Oleg MOLOKANOV Russia  
**Electromagnetic analysis of HTS generator with bulk superconductor**
- Pavel KURBATOV, Ekaterina KURBATOVA, Oleg MOLOKANOV Russia  
**Improvement in characteristics of linear generators for wave energy power plants**
- Konstantin KRYUKOV, Yuri TSERKOVSKY, Yuri ROZANOV Russia  
**Sensorless controller of permanent magnet linear generator for wave energy systems**
- Julian WOSIK, Bogdan MIEDZINSKI, Artur KOZLOWSKI, Marcin HABRYCH, Xin WANG, Grzegorz WISNIEWSKI Poland  
**Performance of an active power filter when combined with static compensation units under non-linear loads**
- Grzegorz DEBITA, Marcin HABRYCH, Grzegorz WISNIEWSKI, Andrzej TOMCZYK, Bogdan MIEDZINSKI Poland  
**Investigation and evaluation of coupling effect of BPL transmission units in MV cable network**
- Markus HOLBEIN Germany  
**Investigation and improvement of transient behavior for a three-phase PWM converter with active power decoupling in terms of DC-link voltage**
- Hakan AYDOGAN, Faruk ARAS Turkey  
**Noise reduction of the measured current signal using Kalman filter**
- Pepe BEAVOGUI, Sergei L. NAZAROV Russia  
**Experimental study of the influence of operation of the twelve-pulse transformer with bridge rectifiers of the harmonic composition on the primary current**
- Tatiana Mileydy LEAL DEL RIO, Ramon Sidonio Aparicio GARCIA, Antonio Gustavo Juarez GRACIA, Roberto Vazquez ARREGUIN Mexico  
**Evaluation and analysis of fog dispersion under the influence of an electric field**
- Iliana MARINOVA, Miglenna TODOROVA, Valentin MATEEV Bulgaria  
**Measurement system for magnetic gear testing**

Vasily E. FRIZEN, Aleksandr S. ANTIPIN, Sergej L. NAZAROV, Vladimir N. UDINTSEV <b>The contactless power take-off from the high voltage power line</b>	Russia
Kristina BERZINA, Inga ZICMANE, Jevgenijs KUCKOVSKIS, Konstantins KASPERUKS <b>The analysis of street light pollution effect in Latvia, Riga</b>	Latvia
Wang XIN, Zhang YUANYUAN, Wang YUXIANG, Zhang MENG, Liu YONG <b>Development status and trend of greenhouse environment control systems and intelligent equipments</b>	China
Vultchan GUEORGIEV <b>Optimization of lighting distribution in road lighting luminaire</b>	Bulgaria
Iva PETRINSKA, Valchan GEORGIEV, Dilyan IVANOV <b>Lighting control system for public premises, based on evolutionary optimisation algorithm</b>	Bulgaria
Dilyan IVANOV, Iva PETRINSKA, Valchan GEORGIEV <b>Lighting energy savings accomplished by implementation of a lighting control system based on evolutionary optimisation algorithm</b>	Bulgaria
Valchan GEORGIEV, Dilyan IVANOV, Iva PETRINSKA <b>Automated system for measurement of natural lighting and utilization of the results for lighting control</b>	Bulgaria
Zvezditz NENOVA, Nedyu NEDEV, Stephan KOZHUKHAROV, Toshko NENOV <b>Humidity sensors based on doped titania-silica surface layers</b>	Bulgaria
Georgi ENCHEV, Nikolay DJAGAROV, Zhivko GROZDEV <b>Plug and play system for monitoring of electrical and non-electrical data</b>	Bulgaria
Aleksandr S. ANTIPIN, Vasily E. FRIZEN, Pavel P. SANNIKOV, Michael S. VOLHIN <b>Application of the drive systems through the stepper motors in the process equipment, manipulators, and pushers without feedback</b>	Russia
Ivan HADZHIEV <b>Experimental and numerical studies of the heating in a low voltage switchboard</b>	Bulgaria
Ivan HADZHIEV <b>Influence of the current-carrying elements material on the thermal field distribution in a low voltage switchboard</b>	Bulgaria
Ivan HADZHIEV, Dian MALAMOV, Ivan YATCHEV <b>Influence of the heating on the force of a solenoid actuator with T-shaped armature</b>	Bulgaria



## ORAL SESSION O2

**Monday, 4 June, 17:00 - 18:30, COMPASS Hall**

Lev KHRUSLOV, Mikhail ROSTOVIKOV, Vladimir SHISHOV, Sergei KIREEV Russia  
**Cyber-physical power system of micro smart grid on the base of transformer substation 7000kVA**

Iman Gerami MOGHADDAM, Leyla Bashiri KHOUZESTANI Iran  
**The role of electrical heat pump in multi energy systems**

Francisco GONZALEZ-LONGATT, Jose Luis RUEDA, Dimitar BOGDANOV UK, Bulgaria  
**Assessment of the critical clearing time in low rotational inertia power systems**

Angelos I. NOUSDILIS, Eleftherios O. KONTIS, Georgios C. KRYONIDIS, G. K. PAPAGIANNIS, Georgios C. CHRISTOFORIDIS Greece  
**Combined PV and lithium-ion battery storage systems in nearly zero energy buildings**

Onur AYAN, Belgin Emre TURKAY Turkey  
**Energy management algorithm for peak demand reduction**

Boris DEMIRKOV, Zahari ZARKOV Bulgaria  
**Study of MPPT methods for high inertia wind turbine with direct driven PMSG**

## INVITED PAPERS 2

**Tuesday, 5 June, 9:00 - 9:30, COMPASS Hall**

Istvan VAJDA Hungary  
**Electrical Machines for Electrical Vehicles**

## ORAL SESSION O3

**Tuesday, 5 June, 9:30 - 11:00, COMPASS Hall**

Nikolay KHRENKOV Russia  
**Calculation of currents, inducted in screens of three-phase cable systems**

Anton MATASOV Russia  
**Characteristic lengths and superconductivity of LA1.85SR0.15CUO and YBA2CU3O7**

Grzegorz WIŚNIEWSKI, Marcin HABRYCH, Bogdan MIEDZIŃSKI Poland  
**Approach to prediction the transition of a small power low voltage switching arc into glowing**

Tatyana GOLUBEVA, Sergey KONSHIN, Boris TSHUKIN Kazakhstan  
**Investigation of sensors for use in the management system of earthmoving and construction machines**

Elissaveta GADJEVA, Petya POPOVA, Marin HRISTOV Bulgaria  
**RF performance analysis of carbon-based interconnects**

Marjan BLAGOJEVIC, Sasa SPASIC, Nebojsa RAICEVIC and Slavoljub ALEKSIC Serbia  
**The multiprobe system for magnetic field mapping and coordinate metrology**

## POSTER SESSION P2

**Tuesday, 5 June, 11:30 - 13:00, Captain's Hall**

- Vasiliy E. FRIZEN, Ivan A. SMOLIANOV, Fedor N. SARAPULOV Russia  
**Induction crucible furnace with non-symmetrical compensation of average**
- Krastin YORDANOV, Iliya HADZHIDIMOV, Penka ZLATEVA, Aneliya STOYANOVA Bulgaria  
**Testing and clearing the high temperature module error from 0 to 1250 °C for measurement with 16 K-type thermocouples**
- Viktor LEONTIEV, Mirza BICHURIN, Roman PETROV, Nikolay KOLESNIKOV, Slavcho BOZHKOVA, Ivan MILENOV, Georgi TONKOV, Vladislav BOINOVSKI, Lyubomir LYUBOMIROV, Penko BOZHKOVA Russia, Bulgaria  
**Researching the characteristics of the magnetolectric position sensor for automotive application**
- Viktor LEONTIEV, Mirza BICHURIN, Roman PETROV, Slavcho BOZHKOVA, Ivan MILENOV, Georgi TONKOV, Hristo DIKOV, Vladislav BOINOVSKI, Penko BOZHKOVA Russia, Bulgaria  
**Hybrid design of magnetolectric position sensor with CAN compatibility**
- Nikola GEORGIEV, Dimitar IORDANOV, Stojan STOIANOV Bulgaria  
**Single-phase two-rotor axial generator with rotating permanent magnets in the stator**
- Nikola GEORGIEV Bulgaria  
**Study of three-phase axial flux generators**
- Raina TZENEVA, Valentin MATEEV, Yanko SLAVTCHEV Bulgaria  
**3D coupled thermal-electric analysis of bolted busbar connections**
- Ilona IATCHEVA, Rumena STANCHEVA, Nikolina PETKOVA Bulgaria  
**Parameterized study of high-frequency welding system**
- Nadezhda TSVETKOVA, Ilona IATCHEVA, Hristofor TAHRILOV Bulgaria  
**Specific features of the design of small resistive art glass melting furnace**
- Julia GARIPOVA, Anton GEORGIEV, Toncho PAPANCHEV Bulgaria  
**E-Bayesian point estimation and comparative analysis of the operational reliability related to electronic items for medical purpose**
- Anton GEORGIEV, Nikolay NIKOLOV, Toncho PAPANCHEV, Julia GARIPOVA Bulgaria  
**Providing medical apparatus with a high reliability at the design stage**
- Bohos APRAHAMIAN, Mariya MARINOVA, Tatyana DIMOVA Bulgaria  
**Assessment of the influence of the technological parameters on the magnitude of the transitional contact resistance of current-carrying busbars with magnetron sputtered thin coatings**
- Bohos APRAHAMIAN, Mariya MARINOVA, Tatyana DIMOVA Bulgaria  
**Assessment of the influence of magnetron sputtered coatings on the electrodynamic forces of current-carrying busbars**
- Dmitriy DUBOV, Bohos APRAHAMIAN, Meline APRAHAMIAN Bulgaria  
**Comparison of wind data measurement results of lidar device and calibrated cup anemometers mounted on a met mast**
- Georgi ZHELEV, Marin MARINOV, Maik STREBLAU Bulgaria  
**Distribution of the electromagnetic field in a metal disc, located on a three-phase induction device**

- Marin MARINOV, Radko STOYANOV, Vencislav VALCHEV, Pavel ANDREEV Bulgaria  
**An approach to the electrical sizing of the electric motorcycle drive**
- Plamen YANKOV, Peitcho POPOV, Nikolay NIKOLAEV, Julian RANGELOV Bulgaria  
**Wireless controlled solar array simulator**
- Rositsa DIMITROVA, Margreta VASILEVA, Marinela YORDANOVA, Milena IVANOVA Bulgaria  
**Simulation model of unsymmetrically - shaped grounding grids for investigation of the touch voltages during lightning stroke**
- Nikolay NIKOLAEV Bulgaria  
**Tuning of power system stabilizer PSS3B and analysis of its properties**
- Mediha MEHMED-HAMZA, Plamen STANCHEV Bulgaria  
**Coordination of the relay protection settings against phase-to-phase faults in electric power lines 20 kV**
- Plamen STANCHEV, Dimitar GEORGIEV, Yoncho KAMENOV Bulgaria  
**Influence of the high voltage underground cable lines on the electric power system behavior**
- Emil PANOV, Emil BARUDOV, Milena IVANOVA Bulgaria  
**Exploration of the electric processes in discrete alternating step-voltage regulators**
- Chavdar ALEXANDROV, Miroslav TSVETKOV, Nikolay KOLEV, Yordan SIVKOV, Avgustin HRISTOV Bulgaria  
**Sentinel - 1 SAR images of inland waterways traffic**
- Zlatan GANEV Bulgaria  
**Log-normal shadowing model for outdoor propagation between sensor nodes**
- Mariyana TODOROVA, Reneta PARVANOVA Bulgaria  
**Biorthogonal wavelet filtration of signals used in the industrial automation systems**
- Pavel ANDREEV, Bohos APRAHAMIAN Bulgaria  
**Analytical comparison of bluetooth low energy beacons**
- Viktor PETROV, Yulian RANGELOV Bulgaria  
**Application of the fuzzy logic for information analysis in communication networks and systems for power utility automation**
- Rosen RADKOV Bulgaria  
**An approach to choosing an optimal IT infrastructure in accordance with an assignor's requirements**
- Dimitar YUDOV, Daniela MAREVA, Vencislav VALCHEV Bulgaria  
**Two-stage inverter supply for pulse arc welding**

## ORAL SESSION 04

**Tuesday, 5 June, 14:00 - 16:00, COMPASS Hall**

- Dimitar SPIROV Bulgaria  
**The operation of a three-phase induction motor in single-phase power supply under Smith's scheme**
- Petar DARJANOV, Denitsa DARZHANOVA Bulgaria  
**Steady state transient response evaluation of a first order dynamic circuit on a ground of short series experimental data**

- Andon LAZAROV Bulgaria  
**ISAR polar to Cartesian interpolation algorithm**
- Inga ZICMANE, Kristina BERZINA, Jevgenijs KUCKOVSKIS Latvia  
**Assessment of the quality of power supply in distributed generation networks**
- Bahodir YAKUBOV, Tatyana GOLUBEVA, Mubarak YAKUBOVA, Sergey KONSHIN Kazakhstan  
**Protection of information transmitted in the management system of earthmoving and construction machines**
- Onur AYAN, Belgin TURKAY Turkey  
**An examination of the effects of distributed generation on distribution system by load flow analysis**
- Rad STANEV, Tanio TANEV Bulgaria  
**Mathematical model of crystalline photovoltaic generator with defined ideality factor**
- Alexandra KHALYASMAA, Stanislav EROSHENKO, Dimitar BOGDANOV Russia  
**Adaptive approach to the high-voltage power lines life cycle management**

## POSTER SESSION P3

**Tuesday, 5 June, 16:30 - 18:00, Captain's Hall**

- George TODOROV, Bozhidar STOEV Bulgaria  
**Characteristics of IPMSM in constant torque and field-weakening mode**
- George TODOROV, Bozhidar STOEV Bulgaria  
**Parameters and torque ripple of synchronous reluctance motors with different rotor topology**
- Mert AYYILDIZ, Ferdi SHOK, Osman Can SOYGENC, Lale T. ERGENE Turkey  
**A Soft Starter Circuit Design for Single Phase Squirrel Cage Induction Motor**
- Valentin MATEEV, Miglenna TODOROVA, Iliana MARINOVA Bulgaria  
**Eddy current losses in permanent magnets of a coaxial magnetic gear**
- Valentin MATEEV, Georgi IVANOV, Iliana MARINOVA Bulgaria  
**Seismic analysis of high voltage bushing**
- Plamen PETROV, Veska GEORGIEVA Bulgaria  
**Adaptive velocity control for a differential drive mobile robot**
- Plamen PETROV, Veska GEORGIEVA Bulgaria  
**Vision-based position regulation of differential drive mobile robots**
- Kostadin MILANOV, Mihaela SLAVKOVA Bulgaria  
**Dimensioning of saturable choke for reduction of switching-on losses of IGBT**
- Mihaela SLAVKOVA, Kostadin MILANOV Bulgaria  
**Reduction of switching-on losses of IGBT through saturable choke with F characteristic**
- Iosko BALABOZOV, Hartmut BRAUER, Ivan YATCHEV Bulgaria, Germany  
**Obtaining resonance frequency and corresponding circuit parameters in an induction heating system**

- Ivan YATCHEV, Iosko BALABOZOV, Krastyo HINOV,  
Vultchan GUEORGIEV, Mincho MINCHEV Bulgaria  
**Electromagnetic field analysis of a hybrid electromagnetic system with magnetic flux modulation with one permanent magnet and two collecting coils**
- Borislav DIMITROV, Suleiman SHARKH, Andrew CRUDEN, Iosko BALABOZOV UK, Bulgaria  
**Implementation of a DC current sensing transformer with H-bridge MOSFET rectifier in a resonant LLC converter**
- Georgi KUNOV, Ilona IATCHEVA, Elissaveta GADJEVA Bulgaria  
**Bidirectional DAB DC-DC converter with predictive hysteresis current mode control**
- Iordan STOEV, Valentin MUTKOV Bulgaria  
**Multisensor system for collecting microclimate data for energy model in residential building**
- Dimitar ARNAUDOV, Stoyan VUCHEV, Nikolay HINOV Bulgaria  
**Modelling and research of high-efficiency converter for energy storage systems**
- Nikolay HINOV, Tsveti HRANOV Bulgaria  
**Evaluation and verification of LLC operating regimes**
- Dragomir GROZDANOV, Nikolay HINOV Bulgaria  
**Design consideration of induction brazing systems**
- Zahari ZARKOV Bulgaria  
**Application of dSPACE platform in the study of electric generators with RES**
- Ivaylo BELOVSKI, Plamena YOVCHEVA,  
Stanimir SURCHEV, Anatoliy ALEKSANDROV Bulgaria  
**Thermoelectric generator power prediction based on artificial neural network**
- Marina RASHEVSKAYA, Sergey YANCHENKO Russia  
**Assessment of non-stationary harmonic distortion related to adjustable speed induction motor and soft starters**
- Francisco SANCHEZ, Francisco GONZALEZ-LONGATT, Dimitar BOGDANOV UK, Bulgaria  
**Enhanced frequency support by electric vehicles: Great Britain scenario 2025**
- Desislav TODOROV, Bogdan GILEV Bulgaria  
**Fault section estimation in electric power distribution system with Elman neural network**
- Francisco SANCHEZ, Francisco GONZALEZ-LONGATT, Dimitar BOGDANOV UK, Bulgaria  
**Probabilistic assessment of enhanced frequency response services using real frequency time series**
- Dimcho HVARCHILKOV, Vladimir DIMITROV, Peter GORANOV Bulgaria  
**Experimental results on the use of flux concentrators in an IPT system**
- Victor DEMIDOVICH, Yury PEREVALOV and Ilyas ABDULHAKOV Russia  
**Induction heat treatment of steel products with group work of static frequency converters**
- Ludmil STOYANOV, Zahari ZARKOV, Vladimir LAZAROV, Bulgaria, France,  
Ivan BACHEV, Boris DEMIRKOV, Gilles NOTTON, Andrei DAMIAN Romania  
**Hybrid system sizing using per unit approach – application to Bulgaria, France and Romania**
- Konstantin-Kiril SAVOV, Kristina HADZHIYSKA,  
Vesselina TRASHLIEVA, Dimo STOILOV, Plamen TZVETANOV Bulgaria  
**A model for optimisation of the production structure in a power system**
- Kristian KADIEV, Vesselina TRASHLIEVA, Dimo STOILOV Bulgaria  
**Modelling of uninterruptible work cycle of controllable loads**

## POSTER SESSION P4

**Wednesday, 6 June, 9:00 - 10:30, Captain's Hall**

- Maxim FEDIN, Alexander KUVALDIN, Aleksey KULESHOV,  
Svyatoslav AKHMETYANOV, Marina VOVK Russia  
**Development of the mathematical model for the calculation of electrical characteristics of inductive tigerous ovens with a conducting ferromagnetic tygle with two-layer loading**
- Grigore A. CIVIDJIAN Romania  
**Corner 2D capacitance**
- Ljubomir DIMITROV, Bozidar RAKOVIC,  
Ivan GARVANOV, Maja LJUBIC, Slavoljub ALEKSIC Serbia  
**Risk management in the field electrostatic charge**
- Mikhail KISELEV, Mikhail LEPANOV, Yuriy ROZANOV Russia  
**Voltage regulator for induction generator based on AC/DC converter**
- M.D. SENYUK, A.I. KHALYASMAA, S.A. EROSHENKO Russia  
**High-voltage circuit breakers technical state pattern recognition methodology based on machine learning**
- Alexandra KHALYASMAA Russia  
**Intelligent risk-oriented approach to developing the electrical grid equipment repair scheme**
- Maria CHEREPANOVA, Alexandra KHALYASMAA, Stanislav EROSHENKO Russia  
**Probabilistic load flow modeling as a tool to optimize schemes and programs of energy system development**
- Lenko ERBAKANOV, Liliya STANEVA, Ivelina VARDEVA Bulgaria  
**Using a long time constant integrator in rainfall intensity measuring via acoustic method**
- Nikolay HINOV, Dimiter VAKOVSKY Bulgaria  
**Distributed environment for model-based design of power electronic devices**
- Veselina BUREVA, Evdokia SOTIROVA, Hristo BOZOV Bulgaria  
**Generalized net model of biometric identification process**
- Dimo DIMOV, Yuliyana TSONEV Bulgaria  
**Semi-automated system updates deployment solution assuring zero business disruption**
- Stoyanka MOLLOVA, Penka GEORGIEVA, Atanas KOSTADINOV Bulgaria  
**Fault-tolerance of a laboratory computer cluster**
- Stanka HADZHIKOLEVA, Todor RACHOVSKI, Emil HADZHIKOLEV Bulgaria  
**Generalized net model for building responsive design of web pages**
- Emil HADZHIKOLEV, Stanka HADZHIKOLEVA, Daniela OROZOVA Bulgaria  
**Digital model of a document in a university document repository**
- Emil HADZHIKOLEV, Stanka HADZHIKOLEVA, Todor RACHOVSKI Bulgaria  
**Architecture of mobile online: an application for creating mobile versions of web pages**
- Alexander IVANOV Bulgaria  
**Fractional activation functions in feed-forward artificial neural networks**

<i>Daniela OROZOVA, Angel IVANOV</i> <b>Generalized net model of virtual collaboration space</b>	Bulgaria
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