

Contents

01	Marcin KOPYT - Power Flow Forecasts: A Status Quo Review. Part 1: RES Generation Prediction	1
02	Marcin KOPYT - Power Flow Forecasts: A Status Quo Review. Part 2: Electricity Demand and Power Flow Prediction	5
03	Krzysztof SKARŻYŃSKI, Anna RUTKOWSKA - A comparison of the calculations and measurements for a lighting design of the same room	11
04	Marian HYLA O - Large-power synchronous motor braking by field current	15
05	Jacek KLUCZNIK, Grzegorz MAŃKOWSKI - Selection of earth wires in overhead lines due to thermal capabilities	19
06	Tomasz MNICH - On-load voltage regulation system in distribution transformers	27
07	Justyna KRÓL - Determination of a discharge channel resistance in discharges from objects with a constant charge	32
08	Mohamed Zaidan QAWAQZEH, Andrzej SZAFRANIEC, Serhii HALKO, Oleksandr MIROSHNYK, Anton ZHARKOV - Modelling of a household electricity supply system based on a wind power plant	36
09	Wiktoria KALUS¹, Łukasz NAGI¹ and Jarosław ZYGARLICKI - The pull-off test of different materials using electroadhesive pads	41
10	Adam KOWALCZYK - Theoretical and experimental useful models of noises	45
11	Łukasz DYGA, Zbigniew RYMARSKI, Krzysztof BERNACKI - The wavelet-aided methods for evaluating the output signal that is designated for uninterruptible power supply systems	50
12	Riyadh BOUDDOU, Farid BENHAMIDA, Amine ZEGGAI, Ismail ZIANE¹, Moussa BELGACEM – The Dynamic Economic Dispatch in An Integrated Wind-Thermal Electricity Market Using Simulated Annealing Algorithm	55
13	Atef Saleh Al-Mashakbeh - The Integral Parameters of the Mode of a Single-Phase Controlled Compensating Device	61
14	Abderrahmane HEBIB, Tayeb ALLAOUI, Abdelkader CHAKER, Belkacem BELABBAS, Mouloud DENAI - A Comparative Study of Classical and Advanced MPPT Control Algorithms for Photovoltaic Systems	65
15	Shabir Ahmad, Golam Sarwar - Novel Modified Non-Isolated DC-DC Boost Converter Based on Voltage Lift Technique	70
16	Prapapan KHLUABWANNARAT, Deacha PUANGDOWNREONG - Parallel Flower Pollination Algorithm and Its Application to Fractional-Order PID Controller Design Optimization for BLDC Motor Speed Control System	78
17	Ayman Mohammed Ibrahim, Imran Mohd Ibrahim, Noor Azwan Shairi - Compact V-Shaped MIMO Antenna for LTE and 5G Applications	84
18	Pichaya CHAIPANYA, Apirat MANA, Thanet JIAMDENNGAM, Watcharapol MONTREE - Millimeter-Wave switched beam antenna with parasitic ring for 5G applications	90
19	M. Y. Zeain, Z. Zakaria, M. Abu, Ahmed Jamal Abdullah Al-Gburi, Hussein Alsariera, A. Toding, Sameer Alani, Monjed A. Al-Tarifi, Othman S. Al-Heety, H. Lago, Tale Saeidi - Design of Helical Antenna for Next Generation Wireless Communication	96
20	Marcelo PEROTONI, Jorge TOMIOKA, Walter SILVA, Douglas CAMPOS, Kenedy dos SANTOS, Danilo ALMEIDA - UHF Energy Harvesting based on a reflector-backed bowtie antenna	100
21	Marcos da S. Costa, Jadel C. da Silva, David N. Prata, Marilene A. Mantovani, Kathy C. C. O. Senhorini and Humberto X. de Araujo - A Modified Neural Network for Antennas Optimization	104
22	Vasyl MALYAR, Orest HAMOLA, Volodymyr MADAY, Ivanna VASYLCHYSHYN - Mathematical modeling start-up and steady state modes of asynchronous motors operation with capacitive compensation of reactive power	109
23	Mykhaylo PALAMAR, Volodymyr POHREBENNYK, Igor PULEKO, Viktor CHUMAKEVYCH, Vadym PTASHNYK - Automated Decryption of Bodies of Water on the Basis of LANDSAT-8 Satellite Images with Reference to Controlled Classification	115
24	Mykhaylo ZAGIRNYAK, Volodymyr CHENCHEVOI, Vita OGAR, OIha CHENCHEVA, Rostyslav YATSIUK - Refining Induction Machine Characteristics at High Saturation of Steel	119
25	Hocine Abdelhak AZZEDDINE, Djamel-eddine CHAOUCH, Mohammed Berka, Mourad Hebali, Ahmed Larbaoui, Mustapha Tioursi - Fuel cell grid connected system with active power generation and reactive power compensation features	124

PRZEGLĄD ELEKTROTECHNICZNY Vol 2020, No 11

Contents

26	Sergey CHIZHMA, Artyom ZAKHAROV - Methods of calculating solar insolation for the assessment of energy efficiency of solar power plants	128
27	Mikhail MOISEEV, Vitaliy AVDONIN, Andrey NELIN, Larisa RAGULINA, Mikhail RYZHAKOV - Ka-band Antennas Simulation for LTCC Antenna-on-Chip Solution	132
28	Vladislav KUCHANSKY, Paul SATYAM, Olena RUBANENKO, Iryna HUNKO - Measures and technical means for increasing efficiency and reliability of extra high voltage transmission lines	135
29	Nnamdi NWULU - A Novel Method for Electricity Price Determination in Deregulated Markets	142
30	Přemysl JANŮ¹, Radim ŠRÁMEK - Intelligent distance measuring module using ultrasonic piezoelectric ceramic transducers	147
31	MICHAL ŠÍR, IVAN FEŇO - Cooling of minimized surface-mount packages in power electronics applications	151
32	Mustapha SABOUR, Ghalem BACHIR Noureddine HENINI - Deep Learning Approach for open switch Fault Diagnosis in Matrix Frequency Converter	155
33	Abdelkrim ZEBAR - Static Synchronous Compensator and Superconducting Fault Current Limiter for Power Transmission System Transient Stability Regulation Including Wind Generator	161
34	Kalina DETKA, Krzysztof GÓRECKI - The measurement method of the magnetization curve of the inductor core	166
35	Piotr KAPLER - An application of facility location problem for electricity supply cost minimization at the stage of preliminary high voltage network development planning	169
36	Paweł PIOTROWSKI - The use of chaos theory to forecast the number of building fires caused by faulty electrical installation and connected to it electrical appliances	173
37	Łukasz KOLIMAS, Sebastian ŁAPCZYŃSKI, Michał SZULBORSKI - Simulations of electrical parameters in high current busbars	178
38	Adam SMOLARCZYK, Tadeusz DASZCZYŃSKI, Sławomir FISZER - Testing of LV switchgear for powering cellulose fiber breaking systems	182
39	Tadeusz DASZCZYŃSKI, Zbigniew POCHANKE, Marcin SZEWCZYK, Szymon STOCZKO, Przemysław KAŻMIERCZAK I - Impact of the receiving transformer on the measurements of long-term load capability of the innovative LV switchgear	186
40	Jerzy MARZECKI, Mariusz DRAB - Quality regulation and distribution networks reliability	190
41	Adam CZAPLICKI, Marcin WESOŁOWSKI - Thermal management of Li-Ion battery	194
42	Anatolii NIKITENKO, Angela SHVETS - Software and Hardware Simulators for Train Drivers Training: Overview of Possibilities and Effects of Application	198
43	Marcin JANUSZEWSKI, Ryszard KOWALIK, Karol KUREK, Emil BARTOSIEWICZ, Adam SMOLARCZYK, Désiré D. RASOLOMAMPIONA - Tests of selected distance protection functions of modern protective relay used for HV and EHV transmission lines protection	202
44	Tomasz KOŹBIAŁ - Photovoltaic generators in the context of the selection of components and fire protection	208
45	Adam SZELAĞ, Mirosław LEWANDOWSKI, Tadeusz MACIOŁEK - History and perspectives of development modern electric traction in Warsaw University of Technology	213
46	Sylwester ROBAK, Łukasz NOGAL, Karol PAWLAK - 50 years of Electrical Power Engineering Institute - history and the present day	225