

Contents

01	Michał SZEWCZYK - Selected analyses of teletransmission and teleinformatic structures in electrical power	1
02	Jan IŻYKOWSKI, Eugeniusz ROSOŁOWSKI, Piotr PIERZ, Przemysław BALCEREK - Fault locator for three-terminal power line associated with current differential relays – measurement of fault-loop impedance	06
03	Adrian HALINKA, Marcin NIEDOPYTALSKI - Using unconventional decision taking methods in distance protection of HV overhead line with widely varying capacity limit, part I	10
04	Adrian HALINKA, Marcin NIEDOPYTALSKI - Using unconventional decision taking methods in distance protection of HV overhead line with widely varying capacity limit, part II	15
05	Mariusz TALAGA, Adrian HALINKA, Michał SZEWCZYK - Selective detection of earth-faults in medium voltage networks of the industrial plants – part I	20
06	Mariusz TALAGA, Adrian HALINKA, Michał SZEWCZYK - Selective detection of earth faults in medium voltage networks of the industrial plants – part II	24
07	Paweł PIJARSKI, Piotr KACEJKO - Optimization the electric power system balancing costs using heuristic methods	28
08	Piotr KACEJKO, Michał WYDRA - A new method for estimating connection potential of wind power into National Power System with power balancing constraints	32
09	Ireneusz GRZĄDZIELSKI, Krzysztof SROKA, Arkadiusz ŁACNY - Island operation of CHP plants under the wide catastrophic failure of the power system	36
10	Dominik J. BĄK, Xin Z. DONG, Waldemar REBIZANT - Estimation of the fundamental component parameters of the secondary CT current distorted due to magnetic core saturation	46
11	Małgorzata BINEK, Andrzej KANICKI - Applying Artificial Neural Networks in the Identification Process of Fault Values	51
12	Bernard WITEK - Cooperation of the PMSG-based Wind Sources with Power Networks During Transients – Chosen Problems	58
13	Adrian HALINKA, Mateusz SZABLICKI - The new criterion of sums impedances for the distance protection	63
14	Michał PUDEŁKO, Waldemar SKOMUDEK - The use of open technologies for building application of the Smart Grids	68
15	Waldemar SKOMUDEK, Piotr SZPINDLER - Comparative analysis of the inductive voltage drop across the tower lattice and tubular tower in terms of the current surge	75
16	Michał SZEWCZYK - Standard requirements for systems realizing synchronous measurements in the power system infrastructure	80
17	Michał SZEWCZYK - Analysis of the requirements of reliability and quality for systems and data transmission equipment in modern power plants	84
18	Bartosz BRUSIŁOWICZ, Janusz SZAFRAN - Analysis of influence of transformer tap changer operation on voltage stability	90
19	Andrzej KANICKI - The Methods Used in Contingency Analysis of an Electrical Network	94
20	Stefan PASZEK, Adrian NOCOŃ, Andrzej BOBOŃ - The influence of the values of generating unit mathematical model parameters on selected transient waveforms in the Polish Power System	98
21	Marek SZADKOWSKI - New method of analysis of partial discharges	103
22	Marcin SOWA - Analysis of numerical efficiency of TD-FEM computation with BDF	107
23	Dorota TYPĀNSKA, Łukasz PUTZ - Analysis of the light and energy performance inside a lobby with an illumination made in LED technology	111
24	Carlos E. CAPOVILLA, Humberto X. ARAUJO, Luiz C. KRETRY - An Integrated Analog Demultiplexer for Spatial Multiplexing of Local Elements Scheme Using MOS Transistors	115
25	Omar A. C. Vilcanqui, Antonio C. de C. Lima, Luiz A. L. de Almeida - Design and Analysis of Amplifiers for Protective Relay Testing	119
26	Valeryi ROGOZA, Joanna BOBKOWSKA - The object behaviour analysis, control and prognosis in a state space	124
27	Igor PETROVIĆ, Dalibor PURKOVIĆ, Neven MALE - The Comparison of the Measured Clearness Index for Different Locations in the Moderate Continental Climate Region	128
28	Michał KACZMAREK - Frequency characteristics of the inductive CT metrological properties	132
29	Krzysztof SZUBERT - Series compensator's influence on the distance protection operation	136
30	Bogdan SAPIŃSKI, Andrzej MATRAS - Analysis of magnetic field in a magnetorheological vibroisolator in the squeeze mode	139
31	Krzysztof POLAKOWSKI, Jan SIKORA - Modelling of mesh with use of computer methods	143
32	Zdzisław TRZASKA - Dynamical processes in sequential-bipolar pulse sources supplying nonlinear loads	147
33	Grzegorz WOJTASIEWICZ, Michał MAJKA, Janusz KOZAK - Experimental Investigation of 10 kVA Superconducting Transformer	153
34	Janusz KOZAK, Michał MAJKA - Soldering technology of HTS 2G tapes in windings of superconducting devices	157
35	Dawid GRADOLEWSKI, Grzegorz REDLARSKI - Heart sound identification system based on LPC algorithm and artificial neural network	161

PRZEGŁĄD ELEKTROTECHNICZNY Vol 2014, No 3

Contents

36	Pawel DRZYMALA, Henryk WELFLE - DB2 pureXML - advanced of data storage in the relational - hierarchical structures	165
37	Artur BUGAŁA, Grażyna FRYDRYCHOWICZ-JASTRZĘBSKA - Assessment of convergence between current – voltage characteristics of photovoltaic modules from mathematical calculations and measurements in real conditions	169
38	Adam POWRÓZEK, Piotr BOGUSZ - Nonlinear simulation model of four-phase 8/6 Switched Reluctance Generator	172
39	Piotr GAS, Jacek CZOSNOWSKI - Calculation of the Coaxial-Slot Antenna Characteristics used for the Interstitial Microwave Hyperthermia Treatment	176
40	Sebastian STYŁA - Examination of an electromagnetic mill structure by means of infrared radiation	179
41	Agnieszka CHOROSZUCHO - The analysis of the diameter of reinforcement, spacing between bars and the electrical parameters of the concrete on the values of the electric field intensity	156
42	Piotr BOGUSZ - Analysis of chosen control parameters influence on properties of electric vehicle switched reluctance drive	161
43	Tomasz LISEWSKI - Validity of the FAR validation using Site Reference Method	165
44	Wojciech SAŁABUN - Processing and spectral analysis of the raw EEG signal from the MindWave	169
45	Grzegorz KARNAS, Stanisław WYDERKA, Robert ZIEMBA, Kamil FILIK, Grzegorz MASLOWSKI - Analysis of lightning current distribution in lightning protection system and connected installation	174
46	Andrzej SZYMANIUK, Krzysztof ZAREMBA - Influence of geometry lens LED luminaire on the lighting parameters	179
47	Marek SZULIM, Katarzyna CIOSK, Marek KUCHTA, Andrzej DUKATA - Uncertainty of assessing the effectiveness of object security system	182
48	Piotr GRZEJSZCZAK, Mieczysław NOWAK, Roman BARLIK - Simulation and laboratory investigations of switching power losses in dual active bridge MOSFET's	186
49	Piotr FABIJAŃSKI - Unified Power Quality Conditioner	191
50	Piotr KOZIERSKI, Marcin LIS, Karol ONOSZKO, Adam GULCZYŃSKI - The use of Particle Filter and Neurocontroller for Current Converter Control	195
51	Mariusz ZDANOWSKI, Jacek RĄBKOWSKI, Roman BARLIK - High frequency DC/DC converter with Silicon Carbide devices - simulation analysis	201
52	Arkadiusz GARDECKI - Analysis of the calculations cost of selected variants ODE algorithm parallelization during state observer calculations	205
53	Joanna BUDZISZ, Zbigniew WRÓBLEWSKI - The phenomenon of asynchronicity opening contacts in the vacuum switch	209
54	Waldemar CHMIELAK - Review of methods of diagnostics of the vacuum in vacuum circuit breakers	213
55	Mirosław WCIŚLIK, Karol SUCHENIA - Modeling of switched reluctance motor and its active power balance	217
56	Damian MAZUR - The rotor eccentricity and the permanent magnets arrangement on the rotor influence on the cogging and electromagnetic torque of the low-speed multi-pole generator	221
57	Marcin WESOŁOWSKI, Ryszard NIEDBAŁA - Simulation of multi-zone, multi-frequency induction heating systems	225
58	Wiktoria GRYCAN, Bogumiła WNUKOWSKA, Zbigniew WRÓBLEWSKI - Modelling of electric energy conditions in region	230
59	Jerzy MARZECKI - Development planning of points of common coupling (PCC) in the condition of risk	234
60	Juliusz JAKUBASZKO, Dariusz SZTAFROWSKI, Zbigniew WRÓBLEWSKI - Influence of magnetic field with variable frequency at 50 Hz on the human cardiac chemo-dynamic processes	238
61	Maciej A. DZIENIAKOWSKI - LCL topology variability and a low quality factor Q issue in the VSI-LCL system	242
62	Warsaw University of Technology - Information	246
63	New books: <i>Techniki zabezpieczeń elektroenergetycznych</i> - Adrian Halinka (Tadeusz Glinka)	245
64	Roman Dzieślewski	248
65	Jerzy Hickiewicz – After Dzieślewski year 2013	251