

Contents

01	Jerzy BAJOREK, Dominika GAWORSKA-KONIAREK , Krzysztof PODLEJSKI - Problems in measurements of magnetic properties of punched parts of electrical steels by means of non-destructive method	1
02	Krzysztof CHWASTEK - Prediction of loss in non-oriented steel laminations	5
03	Stanisław DERLECKI, Zygmunt KUŚMIEREC, Maria DEMS, Jacek SZULAKOWSKI - Magnetic properties of amorphous materials used as corps of electric machines	10
04	Henryk LAMPA - The investigation of magnetostriction of electrical steel produced by Stalprodukt S.A.	14
05	Nkwachukwu CHUKWUHEKWA, Anthony MOSES, Phil ANDERSON - Investigation of the Effects of Strips Thickness and Grain Size on AC Magnetic Barkhausen Noise of Grain-oriented Electrical Steel	18
06	Jacek GOŁĘBIOWSKI - Microelectromechanical Transducer with Optical Readout for Magnetic Flux Density Measurements	22
07	Dariusz KAPELSKI, Bartosz JANKOWSKI, Marcin KARBOWIAK, Marek PRZYBYLSKI, Barbara ŚLUSAREK - Research of magnetic properties of hybrid composite elements	26
08	Marcin KARBOWIAK, Bartosz JANKOWSKI, Dariusz KAPELSKI, Marek PRZYBYLSKI, Barbara ŚLUSAREK, Gabriel MACIEJEWSKI - Research of magnetic properties of permanent magnets in the magnetic circuit with air gap	28
09	Asher YAHALOM, Moshe EINAT - The magnetic dipole moment of a cellular phone	31
10	Janusz RAK, Marek GAŁA, Kazimierz JAGIEŁA, Marian KĘPIŃSKI, Janusz BARAN - Direct measurement and analysis of distorted waveforms in high-current busbars	34
11	Pavel RIPKA, Petr KAŠPAR, Jiri SANEISTR - Geometrical selectivity of current sensors	38
12	Andrzej RUSEK - General mathematical model of the drive system for a polymerization reactor based on the induction motor with a pipe body	40
13	Krzysztof SZEWCZYK , Adam KOŚCIELNIAK, Ryszard KOT - Analysis of magnetic circuits for a hybrid stepper motor with cogging torque reduction	44
14	Wojciech KASPRZAK, Zbigniew NADOLNY - Estimation of direction and value of electric field stress vector using electro-optic Kerr effect	47
15	Witold BRETUJ, Janusz FLESZYŃSKI , Krzysztof WIECZOREK - Diagnostics of composite insulators exploited in power lines	51
16	Krzysztof WALCZAK - Defect localization in post insulator using capacitive sensors	55
17	Dominik DUDA, Zbigniew GACEK - An attempt on assessment of usefulness of ceramic and non-ceramic power insulators in distribution and sub-transmission networks	59
18	Krzysztof KASPRZYK, Krzysztof KOGUT, Beata ZBOROMIRSKA - WNUKIEWICZ - Electric methods of the water sterilization and the wastes utilization	63
19	Grzegorz MASŁOWSKI, Stanisław WYDERKA - Test-measurement system for open-air investigations of lightning hazards	67
20	Piotr PAPLIŃSKI, Przemysław RANACHOWSKI - Investigation on surfaces of internal elements of surge arresters	73
21	Andrzej GRACZKOWSKI, Piotr PRZYBYŁEK, Hanna MOŚCICKA-GRZESIAK - Adsorption and desorption of water in bushing insulators – the consequences of phenomenon and diagnostics of the state	77
22	Krzysztof SIODŁA - Voltage tests of medium voltage reactance post insulators	83
23	Jan SUBOCZ, Marek ZENKER, Andrzej MROZIK - Diagnostics of thermal aging of transformer bushings with solid insulation	86
24	Bartłomiej ADAMCZYK, Marek FLORKOWSKI - Modeling of electrical stresses in power transformer insulation system	90
25	Krzysztof MAŻNIEWSKI, Zbigniew GACEK - Similarities and differences in design of suspension line ceramic and composite insulators	94
26	Jerzy BIELECKI, Marek SZADKOWSKI, Jacek WAŃKOWICZ - Conception of mechanical strength research of composite station post insulators under the cyclic loads	100
27	Marek FLORKOWSKI, Jakub FURGAŁ, Maciej KUNIEWSKI - Impact of transformers from overvoltages transferred through windings	104
28	Marek SZADKOWSKI - Short-circuit forces affecting support insulators HV	108
29	Mariusz STOSUR, Tomasz KUCZEK, Marcin SZEWCZYK, Wojciech PIASECKI, Marek FLORKOWSKI, Marek FULCZYK - Impact of high voltage GIS substation configuration on lightning overvoltages	112
30	Witold BRETUJ, Janusz FLESZYŃSKI, Krzysztof WIECZOREK - On shapes and construction parameters of composite insulators in the light of laboratory results of model tests	116
31	Wojciech PIASECKI, Marek FLORKOWSKI, Marek FULCZYK, Paweł KŁYS, Piotr GAWĄD - High dU/dt transients resistant distribution transformers comprising filtering bushings	120
32	Janina POSPIESZNA, Maciej JAROSZEWSKI, Artur HENRYKOWSKI, Grzegorz SZAFRAN - Effect of plasma process parameters on the obtained form of carbon structures on the polypropylene non-woven substrate	124
33	Paweł ŻYŁKA - Superhydrophobicity and its loss in silicone elastomeric materials with biomimetic surface	128
34	Piotr PAPLIŃSKI, Piotr POŁOCZANIN, Agnieszka WIELONEK, Jacek WAŃKOWICZ - Magnetic fields in vicinity of multicircuit high voltage at different current values and directions of current flow	132
35	Krzysztof KASZA, Łukasz MATYSIAK - Modeling of the manufacturing process of the electrical apparatus with composite insulation	135
36	Krzysztof KOGUT, Krzysztof KASPRZYK, Beata ZBOROMIRSKA–WNUKIEWICZ - The current and voltage figures during discharges for the solid dielectric constructions	139
37	Marek SZUBA - Environmental impact of high voltage overhead powerlines with low-sag wires	143
38	Krzysztof Leonard CHRZAN, Ewa LIANA, Jacek RZEPECKI, Ryszard KOLASIŃSKI, Antoni KRAMARZEWSKI - 30 years of research at Glogow pollution test station	147
39	Zbigniew POHL, Krzysztof WIECZOREK - Polish electrical scientific and engineering achievements related to development of outdoor high voltage insulation lines	152
40	Bartosz SAWICKI, Bartosz CHABER - 3D Mesh Viewer Using HTML5 Technology	155

PRZEGLĄD ELEKTROTECHNICZNY (Electrical Review) Vol 2012, No 5a

Contents

41	Marian GILEWSKI - A control algorithm of programmable driver with optical feedback	158
42	Lech GRODZKI - The control of the RGB LED's colour during pulse driving	162
43	Andrzej WIŚNIEWSKI - LED lamps evaluation of basic parameters	166
44	Sławomir ZALEWSKI, Piotr PRACKI - The concept of LED road lighting concurrent with vehicles	169
45	Małgorzata GÓRCZEWSKA, Sandra MROCZKOWSKA - Illumination of the courtyard of Collegium Maius in Poznan	173
46	Elżbieta JANOSIK, Stanisław MARZEC, Marcin ŁACIAK, Jolanta NOWICKA, Jolanta ZACHARA - Comparative assessment of incandescent lamps' and compact fluorescent lamps' light impact on the efficiency and comfort vision of people with different age's groups	177
47	Krzysztof WANDACHOWICZ - Optimization of reflector shape according to uniformity of illuminance distribution criterion	181
48	Piotr BICZEL, Arkadiusz SADOWSKI, Marcin KONIAK - Power Supply of Street-lighting Using Direct Current	184
49	Tadeusz KACZOREK - Positive unstable electrical circuits	187
50	Wojciech GREGA - Information Technologies Supporting Control and Monitoring of Power Systems	193
51	Adam GUŁA, Paweł WAJSS, Wojciech GORYL - Is Using Biomass for Power Generation a Good Solution? The Polish Case	198
52	Marcin SZEWCZYK, Tomasz KUCZEK, Mariusz STOSUR, Wojciech PIASECKI, Marek FLORKOWSKI, Marek FULCZYK - Influence of HV LC filter on lightning overvoltages in Gas-Insulated Switchgear substations	204
53	Stanisław PIRÓG, Marcin WAWRO - SPWM and SVPWM methods for two- and three-leg VSI-fed two-phase high-speed AC motors and limitations associated with them	208
54	Maciej SIWCZYŃSKI, Andrzej DRWAŁ, Sławomir ŻABA - The application of the hyperbolic digital filters of an fractional order in analysis of wave processes	218
55	Oleksandra HOTRA, Oleg DEKUSHA - A device for thermal conductivity measurement based on the method of local heat influence	223
56	Robert SAŁAT, Michał AWTONIUŁ - Dynamics mapping of the work of the PID controller implemented in the PLC by means of Least Squares-Support Vector Machines	227
57	Adam GŁOWACZ, Witold GŁOWACZ - Diagnostics of Direct Current motor with application of acoustic signals, reflection coefficients and K-Nearest Neighbor classifier	231
58	Paweł DYBOWSKI, Wacław ORLEWSKI - Laboratory researches of the self-excited induction generator	234
59	Arkadiusz JAMROZIK, Karol CUPIAŁ, Michał GRUCA, Janusz GRZELKA, Arkadiusz KOCISZEWSKI, Michał PYRC, Wojciech TUTAK - Analysis of correlation between an electric current fluctuation and selected operating parameters of the gas generator set	237
60	Sławomir KARYŚ - Mixed Commutation Techniques and their Influence on Loss in the Three-Phase Voltage-Feed Zero Current Switching Inverter	244
61	Adam SZCZEŚNIAK, Zynovij MYCHUDA - The Analysis of leakage currents of logarithmic analog-to-digital converter with successive approximation	247
62	Andrzej Ł. CHOJNACKI - Failures of medium voltage insulators operating in domestic distribution networks including their type	251
63	Aneta BUGAJSKA - The influence of the conductor skin effect on the characteristic impedance in a coaxial power cable	256
64	Grzegorz REDLARSKI - Prediction phase angle discrepancy during the connecting process of electrical power units to work in parallel	260
65	Agnieszka CHOROSZUCHO, Bogusław BUTRYŁO - Inhomogeneities and dumping of high frequency electromagnetic field in the space close to porous wall	263
66	Tomasz TRAPKO, Jarosław MICHĄLEK - Using of composite materials for strengthening of spun concrete electrical poles	267
67	Aleksander LEICHT, Krzysztof MAKOWSKI - A dynamic simulation model of single-phase self-excited induction generator	274
68	Adam GRACZYK, Krzysztof PACHOLSKI, Artur SZCZĘSNY - A measuring set for testing of flickermeters	280
69	Joanna BUDZISZ, Zbigniew WRÓBLEWSKI - Modeling of switching effects in capacitive circuit with a vacuum switch and varistor surge protection	284
70	Marek DŹWIAREK, Olgierd HRYNIEWICZ - Practical examples of determination of periodical inspection of safety related control systems of machinery	290
71	Dariusz SMUGAŁA, Wojciech PIASECKI, Magdalena OSTROGORSKA, Marek FLORKOWSKI, Marek FULCZYK, Paweł KŁYS - Distribution transformers protection against High Frequency Switching Transients	296