

Contents

01	Johannes SIEVERT, Thierry BELGRAND, David FOX, Xialong GUO, Thomas KOCHMANN, Richard LYKE, Chaoyong WANG, Xing ZHOU - New Data on the Epstein to Single Sheet Tester Relationship	1
02	Lan Jianyu, Tang Houjun, Bai Liangyu, Genxin - Wireless Energy Transmission System Based on LLC Resonant Converter	4
03	Saliha REZINI, Zin Eddine AZZOUC, Benatman KOUADRI - Study of High Frequency Electromagnetic Disturbances Generated by a Rectifier and Chopper Association	8
04	Tien Trung Vo, Josef PALEČEK, Václav KOLÁŘ - Influence of AC Electric Traction on Harmonic Distortion in 110 kV Supply Voltage Network: Measurement and Simulation	13
05	Jacek F. GIERAS - Electrical Ignition of Fuel-Air Mixture in Aircraft Fuel Tanks	17
06	Milan ŠEBŮK, Miroslav GUTTEN, Lubomír OSTRICA, Matej KUČERA, Marek MAKYDA - Analysis of Distributorless Ignition Systems	25
07	Attia EL_FERGANY - Accelerated Particle Swarm Optimization-based Approach to the Optimal Design of Substation Grounding Grid	30
08	C. SENTHIL KUMAR, N. SENTHIL KUMAR, M. ESWARI - Comparative study of conventional and matrix converter fed brushless dc motor drive	35
09	Chandrasekharan STREEKANTH, Rama Swamy MONI - FPGA Based Implementation of Amplitude Modulated Triangular Carrier PWM	41
10	Djamal GOZIM, Kamel GUESMI, Djilali MAHI - On the enhancement of DC-DC converters nonlinear behaviors	45
11	Djordje PERIŠIĆ, Aleksandar ŽORIĆ, Djordje BABIĆ, Djordje PERIŠIĆ - Recursive PLL of the First Order	50
12	Iurii A. SIROTIN - Non-pulsed mode of supply in a three-phase system at asymmetrical voltage	54
13	Tomas HEGR, Leos BOHAC, Zbynek KOCUR, Miroslav VOZNAK, Petr CHLUMSKY - Methodology of the direct measurement of the switching latency	59
14	Radek MARTINEK, Jan ZIDEK - The implementation of channel coding into the digital transmission chain consisting of VSG PXI-5670 - VSA PXI-5661	64
15	Ali KHAQAN, Sardar Muhammad GULFAM, Laeeq RIAZ, Azhar YASIN, Abrar AHMED, Mohsin JAMIL, Bakhtiar ALI, Haider ALI, Fahad SHARIEF, Raja Ali RIAZ - Performance of Time Hopping Impulse Radio in Ultrawideband Propagation Channels: Implications of UWB and Diversity Order Selection	69
16	Shuang Zhang, Yu Ping Qin, Peng Un Mak, Sio Hang Pun, Mang I Vai - Galvanic coupling intra-body communication channel model based on anisotropic muscular tissue	74
17	Aixin CHEN, Weiwei JIANG, Zhizhang CHEN, Ying Li - A Low-Loss Ka-Band Distributed Metal-Air-Metal MEMS Phase Shifter	77
18	Umut ORHAN - Detection of Arrhythmia from ECG Signals by a Robust Approach to Outliers	81
19	Bartosz SAWICKI, Arkadiusz MIASKOWSKI - Numerical model of magnetic fluid hyperthermia	86
20	Marcin OSTROWSKI - Quantum Simulation of the Pauli Particle	89
21	Bartosz CHABER, Jacek STARZYŃSKI - MoM antenna model verified against measurements	92
22	Ryszard KLEMPKA, Bogusław ŚWIĄTEK - In Day-Ahead Electricity Load Forecasting for Large Steel Factory using Neural Networks	95
23	Jacek SKIBICKI - The new version of contact-less method for localisation of catenary contact wire – theoretical assumption	100
24	Stanisław ZIEMIANEK - A mathematical model – for fault analyses – of transformer set with (trapezium form) complex ratio control	105
25	Krzysztof MUSIOŁ, Andrzej MET - Dynamic properties and stability investigation of constant temperature chamber for impedance standards	111
26	Dariusz LITWIN, Adam CZYŻEWSKI, Jacek GALAS, Maciej KOCHANOWSKI, Stefan SITAREK, Maciej SOCJUSZ, Piotr WIKLIŃSKI - A fast optical scanner with confocal sensors	116
27	Teodor SERWICKI, Józef KUŚMIERZ, Jerzy AUGUSTYN, Sławomir SPADŁO - System for contactless electrical conductivity measurement of non-ferromagnetic materials	121
28	Janina RZAŚA - Space vector PWM of two-modular matrix converter with use of rotating vectors	124
29	Tadeusz KACZOREK - Constructability and observability of standard and positive electrical circuits	132
30	Leszek CEDRO - Differential filters in real time systems	137
31	Łukasz KOLIMAS - The modelling and analysis of the syneresis of the temperature in parallel large power-driven paths	142
32	Zbigniew HANDZEL, Mirosław GAJER - Computer simulations of emergence of syntactic structures in protolanguage	146
33	Zygmunt PIATEK, Bernard BARON, Tomasz SZCZEGIELNIAK, Dariusz KUSIAK, Artur PASIERBEK - Numerical method of computing impedances of a three-phase busbar system of rectangular cross section	150
34	Sebastian JUCHIM - Nanoporous structure of alumina in one- and two-step anodisation process	155
35	Tomasz KUCZYŃSKI - Modeling of combined surge protective devices type 1 purposed for low voltage electrical network	158
36	Aneta BUGAJSKA - Fault location of transverse in an open coaxial cable	161
37	Tomasz DZIWIŃSKI, Piotr WŁODARCZYK - The Application of the Exact State Estimation Method in Electric Power Systems	164
38	Krzysztof KEĆCIK - Energy harvesting of a pendulum vibration absorber	169
39	Marcin KAMIŃSKI, Than TRAN VAN, Krzysztof SZABAT - Structure optimization of the neuro-fuzzy state variable estimators for the two-mass drive system	173
40	Krzysztof SZUBERT - Influence of phase shift transformer on distance protection's operation	177
41	Mariusz ZYCH - Ground penetrating radar simulations of non-homogeneous soil with CST Studio Suite	182
42	Jakub BERNAT, Jakub KOŁOTA, Sławomir STĘPIEŃ - The FEM analysis of electromagnetic torque of hybrid stepper motor with different load	186
43	Artur ROJEK - Conformity tests with standards of high-speed circuit-breakers DC	190
44	Tomasz ŁUKASZEWICZ, Zenon KIDOŃ, Dariusz KANIA, Krystyna PETHE-KANIA - Postural symmetry evaluation using bilateral and rotational symmetry degrees calculated for stabilographic trajectories	197
45	Zbigniew GOMÓŁKA, Bogusław TWARÓG, Paweł KRUTYS - Prediction mechanism for the face tracking algorithm	202

PRZEGLĄD ELEKTROTECHNICZNY Vol 2013, No 7

Contents

46	Zygmunt Jacek ZAWISTOWSKI - Diffused mode of vacuum arc in high current interrupters	206
47	Dariusz CZYŻEWSKI - Monitoring of the subsequent LED lighting installations in Warsaw	210
48	Elżbieta JANOSIK, Stanisław MARZEC, Marcin ŁACIAK, Jolanta NOWICKA, Jolanta ZACHARA - Evaluation of the lighting conditions influence on the visual efficiency in elderly workers	212
49	Andrzej PAWLAK, Krzysztof ZAREMBA - A Monte-Carlo simulation of an indirect lighting installation using light emitting diodes (LEDs)	215
50	Krzysztof WANDACHOWICZ - An optimisation of the reflector shape subject to the linear inequalities	218
51	Piotr GAJEWSKI, Jan M. KELNER, Cezary ZIÓŁKOWSKI - Dynamic location of the emission sources based on Doppler effect	223
52	Jarosław KRYGIER, Mariusz BEDNARCZYK, Krzysztof MAŚLANKA - Effective data transfer in wireless mesh and sensor networks	227
53	Roman KUBACKI, Marian WNUK - The biophysical effects of interaction of high power pulses of the electromagnetic weapon	232
54	Jan MATUSZEWSKI - The Specific Radar Signature in Electronic Recognition System	236
55	Jarosław MICHALAK, Bogdan ULJASZ, Cezary ZIÓŁKOWSKI - Experimental verification of the MIMO channel simulation model using STBC Alamouti coding	240
56	Kazimierz PIWOWARCZYK, Rafał PRZESMYCKI, Leszek NOWOSIELSKI, Marek BUGAJ, Marian WNUK - Shielding techniques of objects with compromising emanations	245
57	Rafał PRZESMYCKI, Leszek NOWOSIELSKI, Marek BUGAJ, Kazimierz PIWOWARCZYK, Marian WNUK - Design and optimization of microstrip wearable antenna	249
58	Tomasz CZAPKA - The influence of the properties of the perforated layer on the back discharge phenomenon	253
59	Jarosław GIELNIAK, Andrzej GRACZKOWSKI, Hubert MORANDA, Piotr PRZYBYŁEK, Krzysztof WALCZAK, Hanna MOŚCICKA-GRZESIAK - Frequency Dielectric Response Patterns of Ester-impregnated Cellulose Insulation of Various Moisture Content	258
60	Maciej GWOŹDZIEWICZ, Jan ZAWILAK - Synchronous motor with permanent magnets inside and outside the rotor	261
61	Alicja IDZIASZEK-GONZALEZ, Stefan WÓJTOWICZ - Analysis of material separation process performed in wet drum magnetic separators	265
62	Janusz JEWULSKI, Marek SKRZYPKIEWICZ - Direct carbon fuel cells based on solid oxide electrolyte technology	268
63	Anna KISIEL, Jan ZIAJA, Radosław CHOWANIEC - Photovoltaic properties of Zn-In-O thin films	271
64	Zbigniew KOŁACIŃSKI, Łukasz SZYMAŃSKI, Grzegorz RANISZEWSKI, Dariusz KOZA - Thermal plasma for materials engineering	274
65	Piotr KOLASIŃSKI - Use of the Renewable and Waste Energy Sources in Heat Storage Systems Combined with ORC Power Plants	277
66	Marcin LEBIODA, Jacek RYMASZEWSKI - Simulation of electromagnetic and thermal processes in superconducting systems	280
67	Ryszard PAWLAK, Mariusz TOMCZYK, Maria WALCZAK - Nontypical electrical connections – a new method for laser microwelding	284
68	Ryszard PAWLAK, Ryszard KAWCZYŃSKI, Ewa KORZENIEWSKA, Marcin LEBIODA, Adam ROSOWSKI, Jacek RYMASZEWSKI, Maciej SIBIŃSKI, Mariusz TOMCZYK, Maria WALCZAK - Photovoltaic cells of unconventional shapes	288
69	Adam PELESZ, Anna KISIEL, Ryszard KACPRZYK - The influence of environmental exposure on Volta potential of E-U transducer	293
70	Piotr PRZYBYŁEK, Hubert MORANDA, Krzysztof WALCZAK, Hanna MOŚCICKA-GRZESIAK - Bubble effect in paper - synthetic ester and paper - mineral oil insulation systems	296
71	Maciej SIBIŃSKI, Katarzyna ZNAJDEK, Michał GÓRSKI - Application of ZnO:Al layer as a transparent emitter electrode in solar cells	300
72	Jan SUBOCZ - The influence of the moisture contents on the dielectric relaxation of oil impregnated Nomex on the base of FDS measurements	304
73	Katarzyna TADASZAK - Nanocomposites deposited by reactive magnetron sputtering and their applications	307
74	Sylwia TALIK, Agnieszka BIELEWSKA, Anna J. WIECZOREK - Low-carbon economy in Poland – the challenges of transformation	310
75	Stefan WOLNY, Artur ADAMOWICZ - Analysis of the impact of the degree of moisture and temperature on the parameters substitute schema paper-oil insulation on the basis the model of Cole-Cole	315
76	Marek ZENKER - The analysis of dielectric relaxation in PET/MWCNT nanocomposite	318
77	Jan ZIAJA, Krystian KRAWCZYK - Research over influence of temperature and humidity on to surface resistivity of composites fabrics for electromagnetic shields	321
78	Jan ZIAJA, Mariusz OZIMEK - Optical emission spectra of Zn and Bi in pulsed magnetron plasma	324
79	Paweł ŻYŁKA - Silicone elastomers with improved hydrophobicity obtained from etched Si and Al templates	327
80	Barbara GÓRNICKA, Katarzyna GRYZŁO, Lech GÓRECKI - Thermal endurance of the nanofilled polyesterimide varnish	330
81	Witold MIELCAREK, Krystyna PROCIÓW, Joanna WARYCHA - Phase composition influence on physico-mechanical properties of varistor separators	333
82	Andrzej SIKORA, Przemysław KRYLA, Marek WAŁECKI, Łukasz BEDNARZ - The comparison of practical and economical aspects of utilization of various light sources	336
83	Robert BRZOZA-WOCH, Jacek DŁUGOPOLSKI, Piotr NAWROCKI, Krzysztof ZIELIŃSKI - Application of FPGA integrated circuits for acquisition and providing information in compliance with Web service model	340
84	Zbigniew PIOTROWSKI, Krzysztof SAWICKI, Arkadiusz ŻELECHOWSKI - E-learning system for assessing the susceptibility of a subscriber to manipulation of identity and voice in telephony	348
85	PKTMM	352
86	Kazimierz Tadeusz SZPOTAŃSKI (1887 – 1966)	354
87	PROF.DR HAB. INŻ. MIROSLAW INNOCENTY DĄBROWSKI (1926-2013)	356