

PRZEGLĄD ELEKTROTECHNICZNY Vol 2013, No 4

Contents

01	Sebastian STYŃSKI, Mariusz MALINOWSKI, Marcin SĘDLAK, Dariusz SOBCZUK - Analysis and comparison of single-phase multilevel PWM flying capacitor converters	1
02	Mariusz KOWALCZYK, Andrea VEZZINI, Lech GRZESIAK - Pseudo-direct drive for aerial applications	8
03	Bartłomiej UFNALSKI, Lech M. GRZESIAK - Artificial neural network based voltage controller for the single phase true sine wave inverter – a repetitive control approach	14
04	Bogdan SAPIŃSKI, Stanisław KRUPA, Andrzej MATRAS - Cogging torque in an electromechanical transducer with rotary motion	19
05	Mariusz KORKOSZ - The influence of magnetic steel on properties of BLDC motor designed to hybrid drive of unmanned aerial vehicle	25
06	Marcin KASPRZAK - Class D-ZVS 300 kHz/1,5 kW inverter for induction heating – possibilities of Class D and DE operation	29
07	Maciej DZIKUĆ - Application of life cycle analysis to assess the environmental impact of electricity generation	33
08	Krzysztof BERNACKI, Artur NOGA - Analysis of the influence of heat sink ground connection on radiated emission	36
09	Grzegorz REDLARSKI, Dawid GRADOLEWSKI - Development of MP-LPC algorithm used in speech signal processing to modeling of phonocardiography signal	40
10	Jerzy SZKUTNIK - Transformer stations with SF ₆ as the indispensable element Smart Grid in the transmission and distributive network of the electrical energy	46
11	Zbigniew HANDZEL - Modifying the rate of evolution using the learning process	50
12	Grzegorz SOBCZAK - Trends in development of phase locked arrays of edge emitting laser diodes	53
13	Ryszard FRĄCKOWIAK, Piotr PIECHOCKI - Czas trwania zwarcia na linii a skutki dynamiczne w rozdzielni 220 kV – badania symulacyjne	62
14	Marek MAGIERA - Methods of supplier selection for producers of electric and electronic equipment	66
15	Rafał JURECKI, Krzysztof LUDWINEK - The control system of mock-ups in the study drivers' behaviour in case of emergency situations	71
16	Andrzej KORDECKI, Henryk PALUS, Artur BAL - Colorimetric calibration in the image acquisition process	80
17	Małgorzata DETKA, Zdzisław KACZMAREK - Distributed strain reconstruction using fiber Bragg grating	84
18	Urszula LIBAL - Wavelet Decomposition of Signal and Feature Selection by LASSO for Pattern Recognition	89
19	Andrzej ZAWADZKI - Applying derivatives of the fractional order for modeling transient states in electrical circuits containing inductance	92
20	Yuriy VARETSKY, Roman PAVLYSHYN, Michał GAJDZICA - Harmonic current impact on transient overvoltages during filter switching-off	95
21	Wojciech KUBICKI, Rafał WALCZAK - Dosing and separation of tracking dyes in glass chip for capillary gel electrophoresis	99
22	Ihor SHCHUR, Andrzej RUSEK, Oleksandr MAKARCHUK, Marek LIS - The Simulation Model of a Synchronous Machine with Permanent Magnets That Takes into Account Magnetic Saturation	102
23	Andrzej RUSEK, Andriy CZABAN, Marek LIS - A mathematical model of a synchronous drive with protrude poles, an analysis using variational methods	106
24	Ji Shengchang, Ou Xiaobo - Research on Current Interruption by Grounding switch Used in 750kV Double-circuit Transmission Lines	109
25	Liu rong, Li ji-sheng, Fan yang-yu, Tian wei-jian - Investigation of the Influence of electrical parameters on dynamic property of Self-integrating Rogowski coil	115
26	LIU Yanli, ZHANG Dexiang, SUN Hong, Gong Xue - Orthogonal Experiment Design Algorithm of a Distribution Network Reconfiguration	120
27	Youyuan Wang, Dawei Zhang, Guojun Lu, Yanguang Huang - Suppression method of partial-discharge interference signal based on the combination of morphological filters and complex wavelet transform	123
28	Sławomir CIĘSZCZYK - Sensors signal processing under influence of environmental disturbances	129
29	Aida Fazliana ABDUL KADIR, Azah MOHAMED, Hussain SHAREEF, Mohd Zamri CHE WANIK, Ahmad Asrul IBRAHIM - Optimal Sizing and Placement of Distributed Generation in Distribution System Considering Losses and THDv using Gravitational Search Algorithm	132
30	Wardiah Mohd DAHALAN, Hazlie MOKHLIS, Ab Halim Abu BAKAR, Jasrul Jamani JAMIAN - The Simultaneous Application of Optimum Network Reconfiguration and Distributed Generation Sizing Using PSO for Power Loss Reduction	137
31	Ruijin Liao, Yiyi Zhang, Hanbo Zheng, Lijun Yang, Ke Wang, Shakeel Akram - A Condition Assessment Model of Oil-immersed Transformers Using Cloud and Matter Element Integrated Method	142
32	M. Shahidul ALAM, Mohammad Tariqul ISLAM - Design of A Wideband Compact Electromagnetic Band Gap Structure for Lower Frequency Applications	147
33	Sohel UDDIN, Hussain SHAREEF, Azah MOHAMED, M A HANNAN - Investigation of harmonic generation from dimmable LED lamps	151
34	Reza MALEKIAN, Abdul Hanan ABDULLAH - Determination of Average Handover Latency in Bi-Directional Tunneling Method in MIPv6 Networks	156
35	Huan Chen, Yongquan Zhou, Peigang Guo, Xinxin Ouyang¹, Sucai He, Hongqing Zheng - A Hybrid Invasive Weed Optimization with Feasibility-Based Rule for Constrained Optimization Problem	160
36	Alexandru LAVRIC, Valentin POPA, Ilie FINIS, Codrin MALES - Performance evaluation of Tree and Mesh ZigBee Network Topologies used in Street Lighting Control Systems	168
37	Róbert BRÉDA, Vladimír BEŇO - Modeling of Control Circuit of Aircraft fuel system	172
38	Yingshuai Hao, Chengjun Huang, Wendong Zheng - Partial Discharge Pattern Recognition of Medium-Voltage Switchgear Based on Association Rules Mining	176
39	Ramiro VELAZQUEZ, Omar BAZAN, Jorge VARONA - Wearable Electronic Tactile Display for the Foot	180
40	Vedat KIRAY, Meirambek K. ZHAPAROV - FPGA Based Digital Electronic Education, Clock-Calendar Design	185

PRZEGLĄD ELEKTROTECHNICZNY Vol 2013, No 4

Contents

41	Alexandru BALOI, Adrian PANA - Particularities of Capacitor Bank Overstressing within Detuned Filters	190
42	Miloš STOJANOVIĆ, Miloš BOŽIĆ, Zoran STAJIĆ, Marko MILOŠEVIĆ - LS-SVM model for electrical load prediction based on incremental training set update	194
43	Salehin KIBRIA, M. T. ISLAM, B. YATIM - Compact Dual Band RFID Reader Antenna Designed using Ramped Convergence Particle Swarm Optimization	199
44	Mostafa SHARIFI, Kourosh KIANI, Mazaher KHEIRKHAHAN - A Graph-Based Image Segmentation Approach for Image Classification and Its Application on SAR Images	202
45	SHEN Yu, DANG Jianwu, REN Enen, LEI Tao - A Multi-structure Elements Based Lane Recognition Algorithm	206
46	Tadeusz SKUBIS, Anna PIASKOWY - Accuracy measure of complex ratio errors of the precise voltage transformers	211
47	Michał GRZENIK, Marian KAMPIK - Mathematical model of the AC voltage standard	214
48	Adam CICHY - Possibility of building parallel quasi-balanced circuits and their realizations	217
49	Sławomir GRYŚ, Waldemar MINKINA - Determination of size of the subsurface defect by active thermography – simulation results	221
50	Henryk URZĘDNICZOK - Correction of transfer curves linearity of the resistance semiconductor gas sensors	224
51	Anna GOLIJANEK-JĘDRZEJCZYK - Combined standard uncertainty estimation of loop impedance measurement determined by the shift Ψ method	227
52	Sławomir WIAK, Paweł DRZYMALA, Henryk WELFLE - Nonlinear phenomena in tank of transformer and power losses computations	230
53	Dorota STACHOWIAK - The influence of magnetic bias and prestress on magnetostriction characteristics of a giant magnetostrictive actuator	233
54	Konrad URBANSKI - Position estimation for PMSM drive equipped with the motor choke	237
55	Janusz JANICZEK, Tomasz JANICZEK, Dorota NOWAK-WOZNY, Wiesław RYBAK - Fractional electric model of sintered ash from coal and biomass	242
56	Michał MUSZYŃSKI, Kazimierz MIKOŁAJUK, Andrzej TOBOŁA - Control of dc capacitor voltage in active power filters	245
57	Piotr FIGOŃ, Paweł IRZMAŃSKI, Adam JÓSKO, Remigiusz RAK, Zbigniew STAROSZCZYK - QRS detector approach for on-line purposes	248
58	Dominik KRASOWSKI, Bolesław KUCA - Computer Simulations of Protection Devices for Proper Overvoltage Protection Creation	251
59	Zbigniew STAROSZCZYK, Piotr FIGOŃ, Paweł IRZMAŃSKI, Adam JÓSKO - Detection algorithm for pacemaker impulses identification and localisation	254
60	Piotr FIGOŃ, Paweł IRZMAŃSKI, Adam JÓSKO - ECG signal quality improvement techniques	257
61	Paweł IRZMAŃSKI, Adam JÓSKO - Research tools for evaluation, development and optimisation of the QRS detection algorithm	260
62	Yuriy BOBALO, Mykola DYVAK, Petro STAKHIV - The estimation of radio-electronic devices reliability on the basis of interval data analysis	263
63	Volodymyr EMETS, Jan ROGOWSKI - Diffraction of Longitudinal Shear Waves on a Thin Piezoelectric Inclusion of Low Rigidity	266
64	Wiesław BROCIK, Robert WILANOWICZ - Influence of supplying voltage on deformation of current in transformer	269
65	Petro STAKHIV, Yuriy KOZAK, Oksana HOHOLYUK - Discrete mathematical macromodel of electric transmission line	272
66	Dmitro TRUSHAKOV, Serhiy RENDZINYAK - Research of the Reliability of Personal Computer "IBM PC" Type	275
67	Bernard BARON, Zygmunt PIĄTEK, Tomasz SZCZEGIELNIAK, Dariusz KUSIAK, Artur PASIERBEK - Impedance of an isolated rectangular conductor	278
68	Zygmunt PIĄTEK, Bernard BARON, Tomasz SZCZEGIELNIAK, Dariusz KUSIAK, Artur PASIERBEK - Mutual inductance of two thin tapes with parallel widths	281
69	Natalya SHAKHOVSKA, Mykola MEDYKOVSKY, Petro STAKHIV - Application of algorithms of classification for uncertainty reduction	284
70	Nikolay KUZNIETSOV, Valeriy ZHUIKOV - Determining of the transformer operating modes by means of vibroacoustic signals	287
71	Sebastian BORUCKI - The Analysis of the Influence of Voltage Electricity Power Transformer on the Parameters of Recorded Vibration	290
72	Marek HORYŃSKI - The application of dispersed processing networks in order to optimize the energy consumption in contemporary buildings	293
73	Sebastian STYŁA, Wiktor PIETRZYK - The evaluation of alternator technical condition on the basis of thermovision tests	296
74	Leszek SZCZEPANIAK - Using transient of pulse ionization to high vacuum measurement	299
75	Jerzy POMIANOWSKI - Configuration of electrodes in the setup for nanosecond discharges	302
76	Jan BURSA, Jerzy POMIANOWSKI - Modified chemically-hardened resins in electrical engineering	305
77	Mariusz DUK, Katarzyna SOBAŃSKA - The reliability of aircraft propulsion unit control systems	308
78	Krzysztof KRÓL, Jan SIKORA - Neurocomputing of Inverse Problem approximated by Boundary Element Method	311
79	Waldemar WÓJCIK, Andrzej KOTYRA, Tomasz ŁAWICKI - Analysis of biomass and pulverized coal co-combustion using curvelet transform	314
80	Paweł KOMADA, Sławomir CIĘSZCZYK, Waldemar WÓJCIK - Influence of medium heterogeneity in power boiler on measurement accuracy in absorption spectroscopy	317
81	Katarzyna GARASZ, Robert BARBUCHA, Michał NEJBAUER, Jerzy MIZERACZYK, Czesław RADZEWICZ - Femtosecond laser micromachining system	320
82	Artur BOGUTA - Modern light sources in automotive engineering	323
84	Tomasz KACZMAREK - Optimization of step index fiber for bright soliton propagation	329
85	Piotr FILIPEK, Adam WRÓŃSKI - The Cogeneration of Energy in House Building	332
86	Piotr LECH - A low computationally video based algorithms for control of personal safety in industrial zone	335
87	Baladhandapani ARUNADEVI, Subramaniam Nachimuthu DEEPA - Texture Analysis for 3D Classification of Brain Tumor Tissues	338
88	Mirosław DĄBROWSKI - First Polish authors of publications on electricity and magnetism	343