

PRZEGŁĄD ELEKTROTECHNICZNY Vol 2011, Nr. 1

Contents

01	Helmo K. MORALES PAREDES, Alessandro COSTABEBER, Paolo TENTI - Application of Conservative Power Theory to cooperative control of distributed compensators in smart grids	1
02	Herbert L. GINN III - CPC based converter control for systems with non-ideal supply voltage	8
03	Marek T. HARTMAN - Orthogonality of functions describing electric power quantities in Budeanu's concept	14
04	Lidia I. KOVERNICKOVA - Centralized normalization of voltage harmonics in the network with distributed nonlinear loads by the third-order filters	19
05	Stanisław CZAPP - The effect of PWM frequency on the effectiveness of protection against electric shock using residual current devices	24
06	Fernando P. MARAFÃO, Eduardo V. LIBERADO, Helmo K. M. PAREDES, Luiz C. P. da SILVA - Three- phase four-wire circuits interpretation by means of different power theories	28
07	Helmo K. M. PAREDES, Luiz C. P. da SILVA, Danilo BRANDÃO, Fernando MARAFÃO - Possible shunt compensation strategies based on Conservative Power Theory	34
08	Zbigniew FEDYCZAK, Grzegorz TADRA, Paweł SZCZEŚNIAK - Three-phase AC systems interfaced by current source matrix converter with Space Vector Modulation	40
09	Jacek KANIEWSKI, Zbigniew FEDYCZAK - Modeling and analysis of dynamic properties of the hybrid transformer with MRC	45
10	Steffen SCHOSTAN, Klaus-Dieter DETTMANN, Ilir PURELLKU, Detlef SCHULZ Harmonics and powers of doubly fed induction generators at balanced sinusoidal voltages	51
11	Krzysztof KULIKOWSKI, Andrzej SIKORSKI - Comparison of new DPC methods for two- and three-level AC/DC converters	56
12	Ehsan PASHAJAVID, Mohammad Tavakoli BINA - A comprehensive proposition for lowering down the source-end in-phase currents using the APF-based devices	62
13	Alexandru BITOLEANU, Mihaela POPESCU - How can the IRP p-q theory be applied for active filtering under nonsinusoidal voltage operation?	67
14	Michał GWÓDŹ - Power electronics parallel active filter with controlled dynamics and improved EM immunity	72
15	Michał KRYSTKOWIAK, Michał GWÓDŹ - Simulation and experimental models of 3-phase diode rectifier with current modulation in DC circuit	75
16	Igor KOROTYEYEV, Beata ZIEBA - Mathematical modelling of matrix- reactance frequency converter described by nonstationary differential equations	80
17	Ihor SHCHUR - Estimation of electromagnetic compatibility and efficiency of the adjustable load systems of PMSG in wind turbines	85
18	Dawid BUŁA, Marian PASKO - Dynamical properties of hybrid power filter with single tuned passive filter	91
19	Krzysztof Piotr SOZAŃSKI - Control circuit for active power filter with an instantaneous reactive power control algorithm modification	96
20	Iurii A. SIROTIN - Fryze's compensator and Fortescue transformation	101
21	Przemysław OTOMANSKI, Grzegorz WICZYŃSKI - The usage of voltage and current fluctuation for localization of disturbing loads supplied from power grid	107
22	Dunstano del PUERTO-FLORES, Romeo ORTEGA, Jacquelien M.A. SCHERPEN - On Power Factor Improvement by Lossless Linear Filters under Nonlinear Nonsinusoidal Conditions	112
23	Carsten HEISING, Martin OETTMEIER, Volker STAUDT and Andreas STEIMEL - Pole-Restraining Control of three-phase Active Front End- a comparison to state-of-the art controls and its performance under fault-ride-through conditions	118
24	Leszek S. CZARNECKI - Recollections on Professor Fryze and reflections on his place in the Power Theory development	123
25	International School on Nonsinusoidal Currents and Compensation	129
26	Roman GOZDUR, Andrzej MAJOCZA - Metrological analysis of magnetic materials parameters at low frequencies of magnetizing field	130
27	Jacek GOŁĘBOWSKI, Roman GOZDUR, Andrzej MAJOCZA, Ewa RAJ - System to the measurements of thermal flux parameters in cooling arrangements of semi – conductive power structures	134
28	Zbigniew ŚWIERCZYŃSKI, Tomasz GUSZKOWSKI - Extraction of characteristic features of electrogastrographic signal using wavelet transform	137
29	Krzysztof DUDA - Tracking of parameters of discrete sinusoidal signals with an application of adaptive filters	140
30	Janusz JANICZEK - Capacitive displacement sensor	144
31	Jacek RĄBKOWSKI, Mariusz ZDANOWSKI, Henryk SUPRONOWICZ - Three-phase Z-source inverter for the photovoltaic battery - simulation analysis and design	147
32	Sebastian STYNSKI, Marian P. KAŻMIERKOWSKI, Dariusz ŚWIERCZYŃSKI - Analysis of multilevel AC/DC/AC flying capacitor converter fed from single-phase grid	153
33	Janusz SZEWCZYK, Marek ADAMOWICZ, Zbigniew KRZEMIŃSKI - Sensorless control of induction generator during on-the-fly start of wind energy conversion system	159
34	Janusz WALCZAK, Anna PIWOWAR - Generalized model of second order parametric filter	165
35	Marcin WESOŁOWSKI, Ryszard NIEDBAŁA, Adam CZAPLICKI, Jacek HAUSER - Estimation of numerical analysis for designing of induction heating systems	168
36	Maria TRZASKA - Electrical circuits as models of electrochemical corrosion processes of nickel and composite deposits on aluminum and its alloys	173
37	Zdzisław TRZASKA - Strange oscillations in a system containing self exciting homopolar disk dynamo	177
38	Wael A. SALAH, Dahaman ISHAK, Khaleel J. HAMMADI - Minimization of torque ripples in BLDC motors due to phase commutation - a review	182
39	Ali REZIG, Mohamed Rachid MEKIDECHE, Abdesslem DJEDIR - Impact of rotor eccentricity faults on noise generation in permanent magnet synchronous motors	189
40	Bogdan TUŁODZIECKI - High voltage test transformers, construction, design and their application in HV testing system	195

PRZEGŁĄD ELEKTROTECHNICZNY Vol 2011, Nr. 1

41	Shahram JAMALI, Akbar EFTEKHARI - PSO-Vegas: PSO-based enhanced Vegas	199
42	Miroslaw GAJER - Accelerating the rate of evolutionary processes with the use of constant learning	204
43	Muhammad Imran RAZZAK, Muhammad Khurram KHAN, Khaled ALGHATHBAR, Rubiyah YUSOF - CSLDA and LDA fusion based face recognition	210
44	Hui WANG, Chengjun HUANG, Linpeng YAO, Yong QIAN, Xiuchen JIANG - Application of Gustafson-Kessel clustering algorithm in the pattern recognition for GIS	215
45	Adam SKOPEC, Czesław STEC - Reactive power absolute as an basis for the theory of full compensation in the domain time of nonsinusoidal current in the single-phase and three phase systems	220
46	Marcin MORAWIEC - Control of interior permanent magnet synchronous motor fed by current source inverter	230
47	Jerzy MARTYNA - Scheduling algorithm for delay and jitter reduction of periodic tasks in real-time systems	236
48	Rafał ŁOPATKA, Dominik OLSZEWSKI - Employing Probabilistic Dissimilarity for Feature Discovery in a Game of Chess	240
49	Joanna PAWLAT, Jarosław DIATCYK, Henryka Danuta STRYCZEWSKA - Low-temperature plasma for exhaust gas purification from paint shop - a case study	245
50	Toshiyuki NAKAMIYA, Fumiaki MITSUGI, Shota SUYAMA, Tomoaki IKEGAMI, Kenji EBIHARA, Yoshito SONODA, Yoichiro IWASAKI, Shin-ichi AOQUI, Henryka STRYCZEWSKA, Joanna PAWLAT - Acoustic spectra characteristics of atmospheric pressure plasma using optical wave microphone	249
51	Jacek REZMER, Zbigniew LEONOWICZ, Radomir GONO - Analysis of distorted waveforms in power converter systems	254
52	Abdelkader RAMI - Structure optimization of power system using Simulated Annealing Algorithm	258
53	Josef SLEZAK, Jiri PETRZELA, Roman SOTNER - On the derivation of Piecewise-Linear Chaotic Oscillators using Simulated Annealing Method and Hspice	262
54	Roman ŠOTNER, Břetislav ŠEVČÍK, Josef SLEZÁK, Jiří PETRŽELA, Lubomír BRANČÍK - Sinusoidal oscillator based on Adjustable Current Amplifier and Diamond Transistors with Buffers	266
55	Damian BISEWSKI, Janusz ZAREBSKI - Investigations of thermal parameters of GaAs and SiC MESFETs	271
56	Radosław KŁOSIŃSKI, Grzegorz GŁOWACKI - The simulation tests the accuracy of MDFT and IFFT determining the spectrum of noncoherently sampled signals	275
57	Janusz DULAS - Automatic digits recognition for Polish – noisy phonemes identification	280
58	Tao ZHU, Xiong-wei ZHANG - Frame distortion estimation and its application to extraction priority assignment for MGS of H.264/SVC	284
59	Michał KUBINYI, Ondrej KREIBICH, Jan NEUZIL, Radislav SMID - Novel S-transform information fusion for filtering ultrasonic pulse-echo signals	290
60	Ondrej KREJCAR, Robert FRISCHER - Inexpensive discrete PSD controller with PWM power output	296
61	Marián FLIMEL - Complex ergonomic subsystem management on workplaces from point of light climate view	300
62	International Doctors Workshop	303