

PRZEGLĄD ELEKTROTECHNICZNY Vol 2013, No 2a

Contents

01	Grzegorz DZIECHCIARUK, Lech GRZESIAK, Andrea VEZZINI, Hardi HÖIMOJA - Analysis of a flywheel storage system for ultra-fast charging station of electric vehicles with regard to electric machine design and operational speed range	1
02	Janusz GOŁDASZ - Electro-mechanical analysis of a magnetorheological damper with electrical steel laminations	8
03	Lech LIPIŃSKI, Ryszard STRZELECKI - Simulation Model of Energy Optimal Control of Traction Drive with Induction Motors	13
04	Marcin KAMINSKI, Teresa ORLOWSKA-KOWALSKA - Adaptive neural speed control of the induction motor drive	21
05	Jakub BERNATT, Maciej BERNATT - High power squirrel cage motors for heavy starting conditions	25
06	Marcin KASPRZAK - 8 MHz/300 W Class DE Inverter with Class D sinusoidal gate voltage resonant driver	28
07	Łukasz STAWIARSKI, Miłosz SZAREK, Andrzej MONDZIK, Adam PENCZEK - Single-phase Grid-connected Photovoltaic System with variable control structure	34
08	Monika WALKOWICZ, Tadeusz KNYCH, Beata SMYRAK - A study of oxygen-free copper for the electronics and electrical engineering applications	40
09	Bartłomiej GRZEŚKIEWICZ, Eryk WOLARZ, Lesław ŁADNIAK - Analysis of terahertz metamaterial absorbers	45
10	Andrzej KANDYBA - Modelling of gliding arc in non-thermal plasma reactors	51
11	Marcin IWANOWSKI, Bartłomiej ZIELIŃSKI, Sebastian STYGAR - Comparing images using color blob approach	55
12	Piotr LENARCZYK, Zbigniew PIOTROWSKI - Speaker Recognition System Based on GMM Multivariate Probability Distributions built-in a Digital Watermarking Token	59
13	Rafał KOTAS, Marek KAMIŃSKI, Piotr MAZUR, Jakub CHŁAPIŃSKI, Bartosz SAKOWICZ, Andrzej NAPIERAŁSKI, Małgorzata KURPESA - Project of open-source software platform for sudden cardiac death (SCD) risk stratification and advanced ECG analysis	64
14	Krzysztof KOŁEK - Windows7 x64 as real-time measurement and control platform	68
15	Michał KACZMAREK, Ryszard NOWICZ - Proposals for the standardization of testing the accuracy of transformation of current transformers for distorted currents	72
16	Dorota NOWAK-WOŹNY, Wojciech MOROŃ, Grzegorz HRYCAJ, Wiesław RYBAK - Electrical Properties of the Sintered Biomass, Sewage Sludge and Coal Ash	75
17	Hubert WROTEK, Rafał KORUPCZYŃSKI - Analysis of electro-hydraulic drive used in wood industry	78
18	Jacek SKIBICKI, Leszek JARZĘBOWICZ - Determination of the rated power of generating sets powered by combustion engine taking into requirements of the PN-ISO 8528 standard	82
19	Dariusz SAWICKI, Agnieszka WOLSKA - Algorithm of HDR image preparation for discomfort glare assessment	87
20	Tomasz JAWORSKI, Jacek KUCHARSKI - An algorithm for reconstruction of temperature distribution on rotating cylinder surface from a thermal camera video stream	91
21	Piotr URBANEK - Correction of changing emissivity of induction heated rotating steel cylinder	95
22	Bohdan BOROWIK, Igor Piotr KURYTNIK - Measuring Vibration Parameters with ZigBee Sensor Network in Aspects of Driver Safety	98
23	Xue-Guang ZHANG, Da-Kun Duan, Jia-Ming CHEN, Yi-Cheng LIU, Dian-Guo XU - A robust synchronization method for grid sequence extraction	101
24	Mohammadali ABBASIAN, Vahid HANAINEJAD, Mehdi MOALLEM - Experimental Evaluation of Static torque Characteristics of a Double-Stator Switched Reluctance Machine	110
25	Nenad MARKOVIĆ, Slobodan BJELIĆ, Jeroslav ŽIVANIĆ, Uroš JAKŠIĆ - Numerical simulation and analytical model of electrical arc impedance in the transient processes	113
26	Jingjiao LI, Dong AN, Dan ZHAO, Caoqun RONG, Shuang MA - TEO-CFCC Characteristic Parameter Extraction Method for Speaker Recognition in Noisy Environments	118
27	Ye Haifeng, Man Yuyan, Qian Yong, Cao Lingyu, Sheng Gehao, Jiang Xiuchen - Simulation study of attenuation of ultrahigh frequency electromagnetic wave by salver-shaped insulator in GIS	122
28	Milan ŠEBŮK, Miroslav GUTTEN, Daniel KOREŇCIÁK, Mikołaj BARTŁOMIEJCZYK - Analysis of pressure ratio in the intake in dependence on high-voltage behaviours	126
29	Mihailo STANIĆ, Aleksandar LEBL, Dragan MITIĆ, Žarko MARKOV - Detection of Pre-alarm State in Mixed Telephone Network of Electric Power Utility	130
30	VIKRAM, Sunil K. SINGLA, Lillie DEWAN - Preview Control: A Review	134
31	Mohd Noor ABDULLAH, Nasrudin Abd RAHIM, Abd Halim Abu BAKAR, Hazlie MOKHLIS, Hazlee Azil ILLIAS, Jasrul Jamani JAMIAN - Efficient Evolutionary Particle Swarm Optimization Approach for Nonconvex Economic Load Dispatch Problem	139
32	Ahmed BELKHEIRI, Said AOUGHELLANET, Mohammed BELKHEIRI - Reconfigurable three-phase SPWM implementation on DE2 FPGA	144
33	Meysam RADMEHR, Masoud RADMEHR, Salman AMIRKHAN - Kalman Filter Based Controller Design for Wind Energy Conversion	150
34	Mehmet Sait CENGİZ, Sabir RÜSTEMLİ, Mehmet Nuri ALMALI - The Advantages of the Applicability of New Generation Sectionalisers and Reclosers Over the Pole	155
35	Nasim ULLAH, Shaoping WANG - State Observer based Adaptive Fuzzy Backstepping Compensation Control of Passive Torque Simulator	160
36	Miha MOŠKON, Nikolaj ZIMIC, Martin STRAŽAR, Miha MRAZ - Comparison of selected performances of biological and electronic information processing structures	166
37	Jasrul Jamani JAMIAN, Abdullah Asuhaimi MOHD ZIN, Makmur SAINI, Mohd Wazir MUSTAFA, Hazlie MOKHLIS - A Novel TVA-REPSO Technique in Solving Generators Sizing Problems for South Sulawesi Network	170
38	Guan XU, Xiaotao LI, Jian SU, Rong CHEN, Xiugang WANG - Wear Measurement of the Vehicle Brake Shoe and Determination Method of the Optimal Position for Inspection	175
39	Yong CHEN, Wen-ping DAI - Classification and Comparison of BPFC Techniques: A Review	179
40	J. A. Laghari, H. Mokhlis, A. H. A. Bakar, M. Karimi, H. Mohammad - Comparison of Fuzzy and PID Based Governor's Response in Utilization of DG Spinning Reserve	187

PRZEGLĄD ELEKTROTECHNICZNY Vol 2013, No 2a

Contents

41	David KUBANEK, Fabian KHATEB, Kamil VRBA - Square Wave Generator with Voltage-Controlled Frequency Based on Universal Current Conveyor	191
42	Andriy LOZYNSKYI, Lyubomyr DEMKIV - Investigation of multicriteria optimal control with time-variable weight coefficients	195
43	Mehmet Ali AKINLAR, Muhammet KURULAY, Aydin SECER - A Fast and Efficient 3D Medical Image Registration Method	199
44	Zdenek Martinasek, Vaclav Zeman, Petr Sysel, Krisztina Trasy - Near electromagnetic field measurement of microprocessor	203
45	Masoud FARHOODNEA, Azah MOHAMED, Hussain SHAREEF, Hadi ZAYANDEHROODI - Power Quality Analysis of Grid-Connected Photovoltaic Systems in Distribution Networks	208
46	TengkuJuhana TENGKU HASHIM, Azah MOHAMED, Hussain SHAREEF - Comparison of Decentralized Voltage Control Methods for Managing Voltage Rise in Active Distribution Networks	214
47	Mahdiyeh ESLAMI, Hussain SHAREEF, Mohammad KHAJEHZADEH - Genetic algorithm for damping of power system oscillations	219
48	Yuancheng Li, Ruixian Yang - A hybrid algorithm combining auto-encoder network with Sparse Bayesian Regression optimized by Artificial Bee Colony for short-term Wind Power Forecasting	223
49	Mehmet AKAR¹, Mustafa EKER - Demagnetization Fault Diagnosis in Permanent Magnet Synchronous Motors	229
50	HU Gang, CHEN Minyou, HE Wei, ZHAI Jinqian - A novel forward problem solver based on meshfree method for electrical impedance tomography	234
51	Anirut IAMAREJIN, Suwat MANEEWAN, Peerawut SUWANJAN, Winai JAIKLA - Current-mode variable current gain first-order allpass filter employing CFTAs	238
52	Peter DINEFF, Valentin DIKOV, Raina TZENEVA - Stress Relaxation in Copper Bolted Busbar Assemblies with New Design Concept of the Bolt Holes	242
53	Stevica CVETKOVIC, Marko JELENKOVIC, Sasa V. NIKOLIC - Video summarization using color features and efficient adaptive threshold technique	247
54	Mohsin JAMIL, Fahad SHARIEF, Azhar YASIN, Abrar AHMED, Sardar Muhammad GULFAM, Ali Khaqan, Raja A. RIAZ - DSP Based Hardware Implementation of Repetitive Current Controller for Interleaved Grid Connected Inverter	251
55	Orest HAMOLA - Application of integral equations for analysis of electric circuit transients	256
56	Mariana BEŇOVÁ, Daniela GOMBÁRSKA, Branislav DOBRUCKÝ - Using Euler's and Taylor's expansion method for solution of non-linear differential equation system in pharmacokinetics	259
57	Daniela GOMBÁRSKA, Mariana BENOVA - Computer model of anticoagulation treatment	262
58	Konrad SOBOLIEWSKI - Analysis of lightning current distribution in the lightning protection system (LPS) with using numerical simulations	264
59	Andrzej KUCZYŃSKI, Marek OSSOWSKI - Optimization of the test conditions for fault detection in nonlinear analog circuits using supply current	267
60	Yuriy BOBALO, Myroslav KISELYCHNYK, Leonid NEDOSTUP, Pavlo ZAYARNYUK - Forecasting the Quasi-Deterministic Parameters' Drifts of Radioelectronics Apparatus on the Basis of Quantile Zones Techniques	270
61	Mykolay KOSTIN, Anatoliy NIKITENKO - Statistics and Probability Analysis of Voltage on the Pantograph of DC Electric Locomotive in the Recuperation Mode	273
62	Piotr BILSKI - Application of clustering method for the ambiguity groups detection in the diagnostic of analog systems	276
63	Krzysztof SIWEK, Stanisław OSOWSKI, Tomasz MARKIEWICZ, Jacek KORYTKOWSKI - Analysis of medical data using dimensionality reduction techniques	279
64	Marek KORZYBSKI, Marek OSSOWSKI - An algorithm for fault diagnosis in analogue circuits based on correlation	282
65	Marek OSSOWSKI, Marek KORZYBSKI - Data mining based algorithm for analog circuits fault diagnosis	285
66	Yuriy SHAPOVALOV, Bohdan MANDZIY, Dariya SMAL - The Modified Frequency Symbolic Models (FSMs) of Linear Periodically Time-Variable Circuits	288
67	Paweł JABŁŃSKI - Magnetic field analysis nearby fractures of magnetic medium by means of BEM	291
68	Yuri GYZHKO, Mykhailo MYSLOVYCH, Roman SYSAK - The Use of Spectral Windows in Analysis of Vibration Signals	294
69	Konrad NITA, Marcin MATA CZ, Stefan F. FILIPOWICZ - Electrical Impedance Tomography in medical research	297
70	Jacek F. GIERAS - Electric Power System of Tu-154M Passenger Aircraft	300