

PRZEGLĄD ELEKTROTECHNICZNY Vol 2013, No 3b

Contents

01	Baoguo FAN, Xingguo LIU, Xiaolei QIAO, Yan JIN - Modeling on Char Combustion Characteristics in Fly-ash and Its Countermeasure Improved for Circulating Fluidized Bed Boilers	1
02	Yunpeng ZHANG, Xianwei ZHANG, Bochen FU, Taigang HE - Construct DNA Symmetric Encryption Based on the Problem of Fragment stitching	4
03	Yan LI, Yu GUO, Xiping WANG - Research of the fault location method of distribution network	7
04	Slo-Li CHU, Geng-Siao LI, Ren-Quan LIU - Caliburn: a MIPS32 VLIW Processor with Hardware Instruction Morphing Mechanism	10
05	Shoucheng DING, Limei XIAO, Rui HUANG, Jie LIU, Shizhou YANG, Xiao CHAI - Apply to the Township's Small Substation	13
06	Zhi LIU, Baifen LIU - Sensorless Vector Control for Permanent Magnet Synchronous Motor based on Estimation of Model Error	15
07	Yanan WEI, Dongxiao NIU, Yan LU - A Novel Multi-objective Optimization Dispatch Model for Hybrid Thermal-Wind-PV Power System	18
08	Desheng LI - A hybrid cooperative quantum particle swarm optimizer with dynamic varying search area for function optimization	21
09	Ming ZENG, Ku er ban-Nu er mai mai TI, Hongzhi LIU, Song XUE, Lilin PENG - Research on Optimal Bidding Strategies for Gas-Fired Distributed Generation in a Day-Ahead Electricity Market with Bilateral Contracts	25
10	Zhenlan DOU, Han WANG, Zhibin LING, Xu CAI - Individual pitch control for torque fluctuation reduction in large-scale wind turbine generator systems	29
11	Kui WANG, Yongdong LI, Zedong ZHENG, Lie XU, Jianghua FENG - DC-Link Voltage Balancing Method with Reduced Common-Mode Voltage for a Five-Level ANPC Inverter	32
12	Dongmei DU, Qing HE, Zirui HE - A Novel Vibration Monitoring System Based on Wireless Sensor Networks	35
13	Jianping HU, Haiyan NI - Minimum Operating Supply Voltage of MCML Circuits	38
14	Yan CAO, Yu BAI, Jiang DU, Jiasheng ZHAO - Research and Simulation of a Full-Scale Attitude Algorithm for Strapdown Inertial Navigation Based on a Rotation Vector	41
15	Xiaolong SHEN, Laixi ZHANG, Yunlong LIU - Processing Method of Spatial Complicated Curved Surface of High-speed WEDM	44
16	Yabo LUO - The experiment of convergence property for circuit layout demonstrates the defect in evolutionary mechanism	47
17	Xuesong YAN, Chengyu HU, Hong YAO, Yuanyuan FAN, Qingzhong LIANG, Chao LIU - Electronic Circuit Optimization Design Algorithm based on Particle Swarm Optimization	50
18	MA Hongwei, XU Lie, LI Yongdong - Research on the Direct Power Control Based Multi-objective Control for DFIG Asymmetrical LVRT	53
19	Lin QIU, Lie XU, Zedong ZHENG, Yongdong LI - Control Strategy for Micro-grid system in islanded mode	57
20	Ai-hua Dong, Xinlin Geng, Yi Yang, Ying Su, Mengyao Li - Overhead Line Fault Section Positioning System Based on Wireless Sensor Network	60
21	Hongwei MA, Yongdong LI, Zedong ZHENG, Lie XU - Model Predictive Control of a PWM Rectifier on Unbalanced Grid Voltage Conditions	63
22	Yong XIE, Wei XU, Yilai ZHANG - Design and Research on Passive Controller for Three-phase Voltage-source PWM Rectifier	68
23	Yanbo CHE, Wen ZHANG, Wei LI - The Design of MPPT Controller in Photovoltaic System	71
24	Ming ZENG, Limin CHEN, Minjuan MA, Song XUE, Min CHENG - The best scheduling model of wind power pumped-storage power station based on improved harmony search algorithm	74
25	Kun LI - Day-ahead Electricity Price Prediction Based on Improved ANN Information Fusion	78
26	Shifeng OU, Xianyun WANG, Ying GAO - Adaptive Improved RLS Algorithm for Blind Source Separation	81
27	Qing XIE, Shuyi CHENG, Fangcheng LÜ - Partial Discharge Location in Oil Using Ultrasonic Phased Array	84
28	Jiangang HAN, Tianhao TANG - A multilevel active rectifier based on series connection of asymmetrical H-bridge cells	88
29	Jianting NING, Xinchun YIN - A Dynamic Self-healing Key Management Scheme For Wireless Sensor Networks Based on EBS	92
30	Yehua TANG, Chunlan ZHOU, Wenjing WANG, Su ZHOU, Yan ZHAO¹, Jianming FEI¹, Hongbin CAO - EL and ITG Characterization of Large Areas Black Silicon Solar Cells VIA Screen Printing	95
31	Weili SHI, Huamin YANG, Yu MIAO, Yinlong HU - Study Actuality of Immune Optimization Algorithm	98
32	Xizhen HU, Chongchao HUANG, Aihua LUO, Hua CHEN - A non-interior-point algorithm predictor-corrector algorithm for Variational Inequality Problem with equality linear constraints	101
33	Yuan-bin MO, Xin-quan ZHAO, Shu-jian XIANG - Estimating Parameters in Production Function based on Quadratic Synchronous Artificial Fish- Particle Swarm Optimization	104
34	Shijun HE, Wenjun ZHOU - Separating Storm surge from Tidal Level Based on Wavelet Packet Transform	107
35	Dongwei GUO, Jing CHEN, Bing LI, Xinquan LI - The Revelation of Traffic Congestion Drift and Induction Mechanism under Information Modification	110
36	Ziqiang WANG, Xia SUN, Lijun SUN, Xu QIAN - Tissue Classification Using Efficient Local Fisher Discriminant Analysis	113
37	Xueying LIU, Yuwu LU - A hybrid optimization algorithm based on population migration algorithm and chaos theory	116
38	Yanfeng XING, Yansong WANG - Assembly Operation Optimization Based on A Hybrid Particle Swarm Optimization and Genetic Algorithm	119
39	Hua CHEN, Jianhua CHEN, Guangxing CAI, Aihua LUO - Explicit Formulas for the Fourth Moment of Exponential Sums and Dirichlet Character Sums	122
40	Xiaoqiu XU, Junpeng SHAO, Yunfei WANG, Yanqin ZHANG, Xiaodong YU, Xiaodong YANG - Research on the Effect of Reinforcing Plate on Thermal Deformation Field of Hydrostatic Bearing Worktable	125
41	Aihua LUO, Chongchao HUANG, Zhengshun RUAN, Xizhen HU, Hua CHEN - Trust Region Method for Equilibrium Network Design Problem	128
42	Song JI, Haiming HUANG, Guo HUANG, Xiaofeng QIN, Guoshuang SHUI - Experimental study on fatigue damage of train K6 spring	131
43	Ya ZHANG, Jianzhong FU, Zichen CHEN - A Simple Modeling Method to Identify the Kinematic Errors of Machine Tool Rotary Table	134
44	Zhehuang HUANG, Yidong CHEN - A reconstruction algorithm of prototype pattern of SNN based on TD-IDF and QPSO algorithm	136
45	Kai YU, Zhenming YUAN, Jiangqin WU - Style Consistent Calligraphy Tablet Design	138

PRZEGLĄD ELEKTROTECHNICZNY Vol 2013, No 3b

Contents

46	Xianglei SONG , Fengshan DOU, Chunhui DAI - Analysis and Design of Ground Speed and Position Detection System Based on Crossed Inductive Looped-cable	140
47	Jinghua ZHOU, Bin JIA, Xiaowei ZHANG, Zhengxi LI - A Three-level Inverter Neutral Voltage Balancing Control Method	143
48	Qiongxiang Zhong, Song Xue, Zhijie Wang, Jinhui Duan, Ming Zeng, Ge Zhang - Environmental and Economic Dispatch Model for Smart Microgrid Based on Shuffled Frog Leap Algorithm Optimized by Random Nelder Mead	147
49	Yunjie Xu - Research on Hybrid Ray-tracing at 2.4 GHz in Man-Made Forests	152
50	Changyou ZHENG, Song HUANG, Xiaoming LIU, Yi YAO - A Modelling Approach for Workflow Constrained by Inputs and Output	156
51	Xiaojia Wang, Bengong Yu, Zhiqiang Chen, Liqiang Hou - Forecasting Modeling and Analysis of Power Engineering in China Based on Semi-Parametric Regression Model	161
52	Liqiang Hou, Shanlin Yang, Xiaojia Wang, Jianxin Shen - Short Term Load Forecasting Based on WLS-SVR and TGARCH Error Correction Model in Smart Grid	170
53	Kuo-Cheng Kuo, Chi-Ya Chang, Wen-Cheng Lin - To predict military spending in China based on ARIMA and artificial neural networks mod	176
54	Fengyu XU, Guoping JIANG - Climbing Robot Modelling Based on Grab Claws	182
55	Tian ZHOU, Haisen LI, Jian XU, Chao XU - Research on the dot-by-dot imaging algorithm for multi-beam SAS with multi-frequency in azimuth	188
56	Guohua Dong, Xiangjing An, Dewen Hu - Contributions to the Horn-Schunck Optical Flow Equations -Part III: Alternating Iteration Algorithms	193
57	Hang Yin, Tao Guo, Baizhou Li, Jianxin Zhu¹, Xibo Sun - The Theoretical Analysis Model and Statistical Test Research on Enterprises Development----A Study of Data from 195 Large and Medium Manufacturing Enterprises in China	198
58	Wei SONG, Kun ZHANG, Lingyun LI, Ming ZENG, Ge ZHANG - Optimization model of the Joint operation of Pumped-Storage Hydro Plant and Wind Farm: Considering the Imbalances of Wind Power Output	207
59	Zhongfeng ZHANG, Qiu XUE, Kai HUANG, Qingzhi MA, Yucheng GUO - Study on Dissociation of Nano Bamboo Extractive	212
60	Guihe WANG, Qinxi ZHANG, Xuegang HUANG, Xiaoming TU - Analysis of Monitoring and Numerical Simulation on Anchor Force of Foundation Pit	216
61	RUI Xiao-ping, SONG Xian-feng, JU Yi-wen, LU Jin, DING Zhen - Flow Adaptive Simulation of Dynamic Water Body Based on River Velocity Field	221
62	LI YAN FENG, DAI JING, LIU HUAN - Optimization of distribution lines based on "Farm-link-supermarket"	228
63	Wei Li, Weidong Shi, Xiaoping Jiang, Ting Jiang, Bin Chen - Impact of the Volute Basic Circle Diameter of Sewage Pump on Pressure Pulsation	232
64	Tian Fei, Shi Weidong, Zhang Qihua, Jiang Hua, Zhang Desheng - The characteristics of two-blade Submersible Mixers' flow field inner the pool	236
65	Hongfei LIU, Lijun LI, Baohong MA, Chaoyang PAN, Dongye SUN - Throughput and Reliability Analysis of Single-Hop Broadcasting Protocol in VANETs	242
66	Wei XIAO, Yaqing TU, Liangbing LIU, Yanlin SHEN, Lei ZHANG - Frequency Estimation Algorithms by Fusion Spectra of Multi-section Sinusoids	246
67	SHEN Huicun, LIANG Jifeng, LAN Shuailing - Comprehensive Evaluation on Design Scheme of Cartesian Robot	254
68	Waldemar WÓJCIK, Piotr KISAŁA, Sławomir CIĘSZCZYK, Leszek KOBYLIŃSKI - The strain distribution measurement by the use of the optoelectronic method based on the fibre bragg gratings	258
69	Andrzej MISIUK, Jadwiga BAK-MISIUK, Marek PRUJSZCZYK, Przemysław ROMANOWSKI - Pressure-assisted generation of thermal donors in doped Cz-Si	261
70	Igor O. TROYANCHUK, Nina V. TERESHKO, Dmitry V. KARPINSKY, Vera V. FEDOTOVA, Michał KOPCEWICZ, Czesław KOZAK - Morphotropic phase boundary in $Bi_{1-x}Ca_xFe_{1-x/2}Nb_{x/2}O_3$ multiferroics	264
71	Andrzej SUMOREK - The Comparison of Potential Use of Electric Filters with Bifilar Winding and Discharge Filters	267
72	Szymon BANASZAK - Sensitivity of FRA measurements to various failure modes	270
73	Cezary WOREK - A contactless battery power supply system with bidirectional energy transfer	273
74	Tomasz IZDEBSKI, Mirosław DORS, Jerzy MIZERACZYK - Spark discharge in water for bacteria inactivation	276
75	Andrzej KOTYRA, Waldemar WÓJCIK, Konrad GROMASZEK, Piotr POPIEL, Tomasz ŁAWICKI, Krzysztof JAGIEŁŁO - Detection of biomass-coal unstable combustion using frequency analysis of image series	279
76	Jakub PEKSINSKI, Grzegorz MIKOŁAJCZAK - The preparation of input data in digital image processing	282
77	Igor S. TASHLYKOV, Anton I. TURAVETS, Valery F. GREMENOK, Paweł ZHUKOWSKI - The elemental composition, topography and wettability of $Pb_{0.25}Sn_{1.75}S_2$ thin films	285
78	Zivile RUTKUNIENE, Alfonsas GRIGONIS, Lina VIGRICAITE - The influence of metal impurities to a-C:H films	288
79	Rafał WIDÓREK, Sławomir LIGENZA, Cezary WOREK - Magnetic component design and switching technique in high efficiency flyback SMPS	291
80	Arūnas ANDZIULIS, Mindaugas KURMIS, Jonas VAUPŠAS, Sergej JAKOVLEV, Valdemaras PAREIGIS - Trust based authentication scheme for latency reduction in vehicular ad-hoc networks (VANETs)	294
81	Adam KURNICKI - Needle type GMR sensor in biomedical applications	297
82	Jacek MAJEWSKI - Measurement techniques concerning droplet size distribution of electrosprayed water	300
83	Viktor LOZBIN, Piotr BYLICKI, Vitali CUBA - New method of determining electric and thermal characteristics of Peltier device	303
84	Andrew SKOBLIAKOV, Alexey KUBARKO, Vladimir FIRAGO, Ivan GOURSKI, Oleksandra HOTRA - Oculographic means for human retina functional state integral estimation	306
85	Alexey KUBARKO, Oleksandra HOTRA, Nadejda KUBARKO, Denis ALEXANDROV, Julia KUBARKO, Ivan GOURSKY - Photometric methods for assessing the state of the light sensitivity of the visual system and its light-sensitivity changes in terms of hemodynamic disorders	309
86	Przemysław MAZUREK - Light estimation using light probe devices	312
87	Aleksander D. POGREBNJAK, Abid A. MUHAMMED, Emad T. KARASH, Nawfal Y. JAMIL, Janusz PARTYKA - Effects of Al dopant on structural and optical properties of ZnO thin films prepared by sol-gel	315
88	Iya TASHLYKOVA-BUSHKEVICH, Czesław KOZAK - Hydrogen profiling in rapidly solidified Al-Fe alloy foils	318
89	Krzysztof OKARMA - Image and video quality assessment with the use of various verification databases	321
90	Sławomir PRZYŁUCKI, Daniel SAWICKI - Resource security in the cloud computing	324
91	Jakub KAZUBEK, Andrzej KOCIUBIŃSKI - Universal acceleration measurement unit for energy harvesting sources	327