

# Lecture Notes in Electrical Engineering

---

Volume 99

Xiaofeng Wan (Ed.)

# Electrical Power Systems and Computers

Selected Papers from the 2011 International  
Conference on Electric and Electronics  
(EEIC 2011) in Nanchang,  
China on June 20–22, 2011, Volume 3



Springer

Xiaofeng Wan  
Nanchang University  
Xuefu Avenue 999  
New Honggutan Zone  
Jiangxi  
Nanchang, 330047  
China  
E-mail: xiaofengwan417@gmail.com

ISBN 978-3-642-21746-3

e-ISBN 978-3-642-21747-0

DOI 10.1007/978-3-642-21747-0

Lecture Notes in Electrical Engineering ISSN 1876-1100

Library of Congress Control Number: 2011929495

© 2011 Springer-Verlag Berlin Heidelberg

This work is subject to copyright. All rights are reserved, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilm or in any other way, and storage in data banks. Duplication of this publication or parts thereof is permitted only under the provisions of the German Copyright Law of September 9, 1965, in its current version, and permission for use must always be obtained from Springer. Violations are liable to prosecution under the German Copyright Law.

The use of general descriptive names, registered names, trademarks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

*Typeset & Cover Design:* Scientific Publishing Services Pvt. Ltd., Chennai, India.

Printed on acid-free paper

9 8 7 6 5 4 3 2 1

springer.com

# EEIC 2011 Preface

The present book includes extended and revised versions of a set of selected papers from the International Conference on Electric and Electronics (EEIC 2011), held on June 20-22, 2011, which is jointly organized by Nanchang University, Springer, and IEEE IAS Nanchang Chapter.

The goal of EEIC 2011 is to bring together the researchers from academia and industry as well as practitioners to share ideas, problems and solutions relating to the multifaceted aspects of Electric and Electronics.

Being crucial for the development of Electric and Electronics, our conference encompasses a large number of research topics and applications: from Circuits and Systems to Computers and Information Technology; from Communication Systems to Signal Processing and other related topics are included in the scope of this conference. In order to ensure high-quality of our international conference, we have high-quality reviewing course, our reviewing experts are from home and abroad and low-quality papers have been refused. All accepted papers will be published by Lecture Notes in Electrical Engineering (Springer).

EEIC 2011 is sponsored by Nanchang University, China. Nanchang University is a comprehensive university which characterized by "Penetration of Arts, Science, Engineering and Medicine subjects, Combination of studying, research and production". It is one of the national "211" Project key universities that jointly constructed by the People's Government of Jiangxi Province and the Ministry of Education. It is also an important base of talents cultivation, scientific researching and transferring of the researching accomplishment into practical use for both Jiangxi Province and the country.

Welcome to Nanchang, China. Nanchang is a beautiful city with the Gan River, the mother river of local people, traversing through the whole city. Water is her soul or in other words water carries all her beauty. Lakes and rivers in or around Nanchang bring a special kind of charm to the city. Nanchang is honored as 'a green pearl in the southern part of China' thanks to its clear water, fresh air and great inner city virescence. Long and splendid history endows Nanchang with many cultural relics, among which the Tengwang Pavilion is the most famous. It is no exaggeration to say that Tengwang Pavilion is the pride of all the locals in Nanchang. Many men of letters left their handwritings here which tremendously enhance its classical charm.

Nothing can be done without the help of the program chairs, organization staff, and the members of the program committees. Thank you.

EEIC 2011 will be the most comprehensive Conference focused on the various aspects of advances in Electric and Electronics. Our Conference provides a chance for academic and industry professionals to discuss recent progress in the area of Electric and Electronics. We are confident that the conference program will give you detailed insight into the new trends, and we are looking forward to meeting you at this world-class event in Nanchang.

# EEIC 2011 Organization

## Honor Chairs

Prof. Chin-Chen Chang	Feng Chia University, Taiwan
Prof. Jun Wang	Chinese University of Hong Kong, HongKong

## Scholarship Committee Chairs

Chin-Chen Chang	Feng Chia University, Taiwan
Jun Wang	Chinese University of Hong Kong, HongKong

## Scholarship Committee Co-chairs

Zhi Hu	IEEE IAS Nanchang Chapter, China
Min Zhu	IEEE IAS Nanchang Chapter, China

## Organizing Co-chairs

Jian Lee	Hubei Normal University, China
Wensong Hu	Nanchang University, China

## Program Committee Chairs

Honghua Tan	Wuhan Institute of Technology, China
-------------	--------------------------------------

## Publication Chairs

Wensong Hu	Nanchang University, China
Zhu Min	Nanchang University, China
Xiaofeng Wan	Nanchang University, China
Ming Ma	NUS ACM Chapter, Singapore

# Contents

<b>A Study on Equivalent Circuit of Short Wavelength Coplanar Waveguide Employing Periodic Ground Structure on Silicon RFIC</b> .....	1
<i>Jeong-Gab Ju, Young-Bae Park, Bo-Ra Jung, Jang-Hyeon Jeong, Eui-Hoon Jang, Young Yun</i>	
<b>Fault Diagnosis of Rolling Bearing Based on Wavelet Packet Transformation</b> .....	9
<i>Zhitong Jiang, Chengfei Zhu, Guangqing Chang, Hongxing Chang</i>	
<b>Study on UV Detection of High-Voltage Discharge Based on the Optical Fiber Sensor</b> .....	15
<i>Yuanzhe Xu, Hongzhen Chen</i>	
<b>Automatic Kidney Segmentation Using Gaussian Mixture Model on MRI Sequences</b> .....	23
<i>Evgin Goceri</i>	
<b>A Power Controller with Load Current Sensing for the Lundell Automotive Alternator</b> .....	31
<i>Paiboon Nakmahachalasint, Werachai Pattanapiboon</i>	
<b>An Iterative Sub-pixel Interpolation Centroid Algorithm</b> .....	39
<i>Zhang Yan, Peng Qingyu</i>	
<b>Electronic Sealed-Bid Auctions with Incoercibility</b> .....	47
<i>Chongzhi Gao, Zheng-an Yao, Dongqing Xie, Baodian Wei</i>	
<b>Methods of Superior Design for the Full Scale Output of Piezoresistive Pressure Sensors</b> .....	55
<i>Ruirui Han, Zhaohua Zhang, Tianling Ren, Huiwang Lin, Bo Pang</i>	

<b>A Design of Passively Omnibearing Directivity Acoustic Cylinder Array</b> .....	63
<i>Haiyan Wang, Jun Bai, Xiaohong Shen, Fu-zhou Yang</i>	
<b>A Multitarget Passive Recognition and Location Method Fusing SVM and BSS</b> .....	73
<i>Jun Bai, Haiyan Wang, Xiaohong Shen, Zhao Chen</i>	
<b>A Novel Rhenium(I) Tricarbonyl Complex with 4,5-Diazafluoren-Driven Ligand: Synthesis, Spectroscopic and Theoretical Studies</b> .....	83
<i>Jiexiu Wang, Ya-qian Wu, Feng Zhao</i>	
<b>A Novel Data Embedding Method for High Payload Using Improved Pixel Segmentation Strategy</b> .....	89
<i>Wien Hong, Che-Lun Pan, Tung-Shou Chen, Wan-Yi Ji, Yeon-Kang Wang</i>	
<b>Design of Wireless and Motor Control System for Amoeba-Like Robot</b> .....	97
<i>Rong-rong Qian, Min-zhou Luo, Bing Li</i>	
<b>A Fast Frame Synchronous Methodology Used in the Chip Implementation for 10Gb/s FEC-Coded Ethernet Frame</b> .....	105
<i>Bin Zhang, Lijun Zhang, Wenshi Li, Canyan Zhu</i>	
<b>Simple Feedback with Priority List Radio Resource Scheduling Scheme for 3GPP LTE Networks</b> .....	113
<i>Modar Safir Shbat, Md. Rajibur Rahaman Khan, Vyacheslav Tuzlukov</i>	
<b>Image Threshold Segmentation Technology Research Based on Adaptive Genetic Algorithm</b> .....	123
<i>Deying Gu, Zhiliang Ren</i>	
<b>Adaptive Sliding Mode Control of Networked Control Systems with Variable Time Delay</b> .....	131
<i>Yang Yin, Li Xia, Lizhong Song, Mei Qian</i>	
<b>Design and Implement of a High-Frequency Bridge Type AC-AC Direct Converter for Contactless Power Transfer Systems</b> .....	139
<i>Xiaomei Chen, Wangqiang Niu, Xiong Zhang</i>	
<b>Impact of the Hybrid Multi-channel Multi-interface Wireless Mesh Network on ETX-Based Metrics Performance</b> .....	147
<i>Hassen Mogaibel, Mohamed Othman, Shamala Subramaniam, Nor Asila Wati Abdul Hamid</i>	

<b>Time-Spatial Recursive Denoising for LLL Images Based on Motion Detection</b> .....	161
<i>Xia Penghao, Zhang Junju, He Junfeng, Nie Welie, Xu Hui, He Tingting</i>	
<b>Research of Social Insurance System Based on DW</b> .....	169
<i>Yuhua Feng, Ming Peng, Longzhen Duan</i>	
<b>Adaptive Resource Discovery in Grid Computing Based on Reinforcement Learning</b> .....	175
<i>Mohammad Ali Jabraeil Jamali, Yalda Sani</i>	
<b>Modeling and Control of Electro-Hydraulic-Controlled Stepping Cylinder for Mold Oscillation</b> .....	183
<i>Shenghao Zhou, Min Xiao, Jinchun Song</i>	
<b>Test Case Design Methods and Strategy for Software Component Test of Digital Safety System in Nuclear Power Plants</b> .....	191
<i>Zhicheng Zhang, Shuhui Zhang, Zhicai Ma, Dongling Xu</i>	
<b>Frequency Measurement and Tracking Algorithm for Integrated Grids</b> .....	201
<i>P. Meena, K. UmaRao, Ravishankar Deekshit</i>	
<b>Cognitive Ultra-Wideband Key Technology Research</b> .....	213
<i>Li Zimu</i>	
<b>Realization of Sound Reproduction in a Specified Region Based on Transfer Function Interpolation</b> .....	221
<i>Jie Cao, Ming Wu, Jun Yang</i>	
<b>Deep-Sea Riser Fatigue Monitoring</b> .....	229
<i>Mengyang Zhu, Haiyan Wang, Xiaohong Shen, Baojun Li, Wanzheng Ning</i>	
<b>Forced Oscillations in Second Order SISO Systems</b> .....	237
<i>Jun Fu, A.P. Loh</i>	
<b>Research on Locomotive Evolution Based on Worm-Shaped Configuration of Self-reconfigurable Robot HitMSR II</b> .....	245
<i>Yanhe Zhu, Xiaolu Wang, Xindan Cui, Jingchun Yin, Jie Zhao</i>	
<b>The Influence of the University Teachers' Psychological Contract on Knowledge Sharing</b> .....	253
<i>Li Xiaojun, Zhou Zongkui, Zhang Yumei</i>	



<b>Generator Parameters' Impact on Power System Stability and Their Engineering Testing Methods</b> .....	259
<i>Xiaoming Sun, Dabo Chen, Mengping Gao, Dichen Liu, Tao Zhu</i>	
<b>A New Strategy for Incremental Maintenance of Cover Quotient Cube</b> .....	277
<i>Peng Xiang-kai, Chen Fu-qiang</i>	
<b>An Optimal Design for the Stackable Piezoelectric Power Generation Device and Its Rapid Energy-Saving Method</b> .....	283
<i>Ming-Han Hsu, Ching-Wu Wang, Tsun-Kai Hsu</i>	
<b>The Improved Method for Unitary Space-Time Signal Sets Partitioning</b> .....	291
<i>Jin Wang</i>	
<b>The Application of Complex Torque Coefficient Method in Multi-generator System</b> .....	299
<i>Kun Xu, Chengyong Zhao, Jie Zhang, Chunlin Guo</i>	
<b>Design and Implementation of Cultural Relic Image Storage Based on SVG</b> .....	307
<i>Shen Hong, Ji Quan-zhi</i>	
<b>Contextual Information Guided Image Categorization Algorithm</b> .....	315
<i>Hong Shen, Tian_Gong Li, Zhen-heng Zhang</i>	
<b>Design of an Improved Multiplier Unit for an Experimental RISC CPU</b> .....	323
<i>Ajay Joshi, Siew Lam, Yee Chan</i>	
<b>A Fingerprint Image Enhancement Method Based on Contourlet Transform</b> .....	331
<i>Xiukun Yang, Yong Chai, Zhigang Yang</i>	
<b>Compression Performance of Wide-Band Chirp Pulse in the Fractional Fourier Domain</b> .....	339
<i>Deng Bing, Xiao Mei-ping, Wang Hong-xing</i>	
<b>A Modified Bit-Serial Montgomery Multiplier Algorithm in Fault Detection Method</b> .....	345
<i>M. Prabu, R. Shanmugalakshmi</i>	
<b>An Intelligent Approach for Medium Term Hydropower Scheduling Using Ensemble Model</b> .....	353
<i>Thais Gama de Siqueira, Ricardo Menezes Salgado</i>	

<b>Research on Grid Resource Scheduling Algorithm Based on Multi-attribute Constraints</b> .....	363
<i>Jing Chen, Duanjun Chen</i>	
<b>Mining Equipment Line Detection and Remote Control System Base on PLC</b> .....	369
<i>Qiang Zhang, Qiushuang Song, Li yong Tian</i>	
<b>Signal Enhancement and Complex Signal Analysis of GPR Based on Hilbert-Huang Transform</b> .....	375
<i>De-shan Feng, Cheng-shen Chen, Kai Yu</i>	
<b>Granular Structure Model Based on Artificial Emotion</b> .....	385
<i>Jun Hu, Chun Guan</i>	
<b>Empirical Study on Company Scale Economies Based on the DEA Model</b> .....	393
<i>Chongming Liu, Yirong Jiang</i>	
<b>Research on Electricity-Purchase Risk Optimization Model of Provincial Grid Companies in Provincial and Regional Markets Considering Price Fluctuations</b> .....	399
<i>Lijun Tan, Hua Zheng, Xiaofei Li</i>	
<b>Automatic Speech Recognition in Real Environments: A Methodology for Evaluation of New Noises</b> .....	407
<i>David D. e Silva, Carlos A. Ynoguti, Marcelo R. Stemmer</i>	
<b>Calibration of Pressure Sensor Array Based on Information Fusion</b> .....	415
<i>Bing Guo, Xiaohong Zeng</i>	
<b>A New Distributed Multi-parameter Remote Wireless Monitoring System</b> .....	425
<i>Bing Guo, Xiaohong Zeng</i>	
<b>Detection of Faint Objects between Streak-Like Stellar Images</b> .....	433
<i>Haijeng He, Qingyu Peng, Zhenghong Tang</i>	
<b>Design and Realization of a Real-Time Detection Device for Insect Pests of Field Crops</b> .....	439
<i>Zhang Hongtao, Gu Bo, Hu Yuxia</i>	
<b>A Comparison of PCA and 2DPCA in Face Recognition</b> .....	445
<i>Zhang Haiyang</i>	
<b>Face Recognition Based on DCT and PCA</b> .....	451
<i>Zhang Haiyang</i>	

<b>Research on Monitor System of Distant Coal Mine Gas Based on Labview</b> .....	457
<i>Liu Hong, Huang Chaozhi, Xiao Fayuan</i>	
<b>Electronics Design for an Interline CCD Camera Based on FPGA</b> .....	463
<i>Binhua Li, Jianhui Jin, Lin He, Jing Liu, Yuanyuan Shang</i>	
<b>Ferroresonance Evaluation at Boushehr 230/400 kV GIS Substation of Iran's Power Network</b> .....	471
<i>M. Majidi, H. Javadi, M. Oskuoee</i>	
<b>A Research for Improved BUCK-BOOST Circuit</b> .....	479
<i>Jingying Shi, Huailiang Wang, Xiaoxiao Peng, Chunling Li</i>	
<b>Design and Implementation of NCO in Broadband Zero-IF Digital Trunking System</b> .....	487
<i>Xingjing Zhou, Xiaoming Xie</i>	
<b>Research on Mobile Digital Health System Based on Internet of Things</b> .....	495
<i>Jingzhao Li, Xueqin Wu, Hui Chen</i>	
<b>A Back Propagation Neural Network Sliding Mode Controller for Ship Course Nonlinear System</b> .....	503
<i>Xiao Hai-rong, Li Yi-bin, Zhou Feng-yu, Han Yaozhen</i>	
<b>Fictitious Correlation-Based Tuning Integrating the Data-Based Stability Test at Each Parameter Update</b> .....	511
<i>Kazuhiro Yubai, Hiroki Fujii, Junji Hirai</i>	
<b>A Feature-Based Requirement Analysis Method</b> .....	519
<i>Musheng Chen, Junhua Wu</i>	
<b>Reliability Evaluation of Wind Energy Conversion Systems Incorporating Well-Being Model</b> .....	527
<i>Yinsha Wang, Wenyi Li, Ruigang Wang, B. Bagen</i>	
<b>Ka Band Frequency Reconfigurable Microstrip Antenna Based on MEMS Technology</b> .....	535
<i>Zhongliang Deng, Yidong Yao</i>	
<b>Optimization and Experimental Research of DRM Data Transmission Based on LT Code</b> .....	543
<i>Yahui Hou, Le Jin, Yi Chen, Jinhui Xie</i>	
<b>Coal Gas Predication Based on Improved C-C Chaotic Time Series Algorithm</b> .....	551
<i>Xian-Min Ma</i>	

<b>Novel Algorithm for Hand Vein Recognition Based on Retinex Method and SIFT Feature Analysis</b> .....	559
<i>Hua-bin Wang, Liang Tao, Xue-you Hu</i>	
<b>Knowledge and Data Engineering for Analyzing the Quality of Education Using Fuzzy Logic</b> .....	567
<i>Sergio Valdés-Pasarón, Bogart Yail Márquez, Luis Gaxiola</i>	
<b>eLearning Virtual Environments Multi-agent Model</b> .....	575
<i>Luis Gaxiola Vega, Manuel Castanon-Puga, Bogart Yail Márquez, José Magdaleno-Palencia, Miguel A. Cadena Alcantar</i>	
<b>Study on Highway Network Operational Monitor Analysis Index Extraction</b> .....	581
<i>Jianjun Wang, Jing Zhao, Jingwei LI, Leihong Dong</i>	
<b>Protecting Measures of Lifting Move Transversely Parking</b> .....	589
<i>Hong Chen, Na Bao, Meng Xue, Juan Sun</i>	
<b>Xi'an Vehicle Exhaust Control System Design under the Trend of Low Carbon</b> .....	595
<i>Hong Chen, Meng Xue, Na Bao, Jibiao Zhou, Xiaowei Li, Bin Chen</i>	
<b>Evaluation of Comprehensive Transportation's Development Environment Based on the SWOT</b> .....	601
<i>Hong Chen, Yong-na Liu</i>	
<b>Design and Realization of Heterogeneous Database Data Migration</b> .....	607
<i>Lixia Dong, Liming Wu, Yaohua Deng</i>	
<b>Global Model of PMLSM Drive System Using Bond Graph Method</b> .....	615
<i>Teng Li, Yanjie Liu, Lining Sun</i>	
<b>High-Nonlinearity Negative Dispersion Effect of Crystal Fiber with Elliptical Holes Square-Mesh Cladding</b> .....	623
<i>Yani Zhang</i>	
<b>Design of Monitoring Terminal System for Airport Snow Removal Vehicles</b> .....	631
<i>Liwen Wang, Guopeng Yao, Tao Jing, Xudong Shi</i>	
<b>Research the Effect of Component Deterioration Based on the Cloud Particle Swarm Optimization</b> .....	637
<i>Wang Yonghua, Li Dong</i>	

<b>Research of Engine Performance Deterioration Based on Optimal BP with GE Algorithm .....</b>	<b>645</b>
<i>Wang Yong-Hua, Li Dong, Meng Lu</i>	
<b>Research on Algorithm for Ultrasonic Array Geometric Location of Partial Discharge Based on Common Perpendicular Midpoint of Direction Finding Lines .....</b>	<b>653</b>
<i>Yanqing Li, Ling Li, Lijun Zhang, Qing Xie, Shuyi Cheng</i>	
<b>Layout Planning of Electrical Vehicle Charging Stations Based on Genetic Algorithm .....</b>	<b>661</b>
<i>Yanqing Li, Ling Li, Jing Yong, Yuhai Yao, Zhiwei Li</i>	
<b>Application of ID3 Algorithm in Exercise Prescription .....</b>	<b>669</b>
<i>Quancheng Zhang, Kun You, Gang Ma</i>	
<b>Application of Accessory Ingredient Semi-automatic Weighing System in Dyeing and Printing Industry .....</b>	<b>677</b>
<i>Xie Shui-ying, Jiang Lei, Yin Li, Han Cheng-jiang</i>	
<b>An Analysis of Global Exponential Stability of Genetic Regulatory Networks with Time-Varying Delay .....</b>	<b>685</b>
<i>Zhixiong Zong, Weirui Zhao, Yunxiang Zhou</i>	
<b>Diagnosis of Skin Diseases with Spectrum Analysis .....</b>	<b>691</b>
<i>Meng Xianjiang, Wang Junjie</i>	
<b>Fixed-Frequency Quasi-Sliding Mode Controller for Single-Inductor-Dual-Output Buck Converter in Pseudo-Continuous Conduction Mode .....</b>	<b>697</b>
<i>Qing Liu, Xiaobo Wu, Liang Yin</i>	
<b>An Optimized Low-Power and Low-Complexity Interpolation Filter for Delta-Sigma DAC .....</b>	<b>705</b>
<i>Tong Wu, Xiaobo Wu, Menglian Zhao, Jinchen Zhao</i>	
<b>An Efficient Digital Front-End for 16-Bit Audio Delta-Sigma D/A Converter .....</b>	<b>713</b>
<i>Jinchen Zhao, Xiaobo Wu, Menglian Zhao, Tong Wu</i>	
<b>Automatic Test Purpose Generation for Web Services .....</b>	<b>721</b>
<i>Sébastien Salva</i>	
<b>Design of Current Transformer for Power Transmission Lines Inspection Robot .....</b>	<b>729</b>
<i>Mingbo Yang, Zize Liang, En Li, Kailiang Zhang, Guodong Yang</i>	

<b>Design for AC/DC Converter with High Power Factor Based on UC3854</b> .....	737
<i>Tingjian Zhong, Zhongqing Du, Zunnan Min, Ye Mao</i>	
<b>Research of Video Image Acquisition System Based on ARM9</b> .....	747
<i>Li-bo Ding, Li-hua Sun</i>	
<b>The Application of Asterisk-Based IP-PBX System in the Enterprise</b> .....	753
<i>Duo Xiang, Li-hua Sun</i>	
<b>The Measurement and Analysis for Complex Permittivity of Microwave Dielectric Based on Coaxial Measurement System</b> ...	759
<i>Yi-qiang Wu, Chen Qian, Guo-ping Du</i>	
<b>Research on the Resonance Over-Voltage of Power Distribution Network with Different Arc Suppression Coil</b> .....	765
<i>Jun Zhang, Fenghua Wang, Bo Xu, Xu Cai</i>	
<b>A Distributed Speech Remote Control System Based on Web Service and Automatic Speech Recognition</b> .....	771
<i>Baohua Tan</i>	
<b>An Accurate Equivalent Circuit Method of Open Ended Coaxial Probe for Measuring the Permittivity of Materials</b> .....	779
<i>Kun-ming Liao, Yi-qiang Wu, Chen Qian, Guo-ping Du</i>	
<b>On Image Collection and Transmission System Based on the S3C6410 and CC2430</b> .....	785
<i>Weiya Wang, Gui Hu, Li Gao, Zhanfeng Lu</i>	
<b>Analysis of Dual Three-Phase Fractional-Slot PM Brushless AC Motor with Alternate Winding Connections</b> .....	793
<i>Ge Qi, Ding Ma, Libing Zhou, Li Shi</i>	
<b>Modeling Single-Phase PV HB-ZVR Inverter Connected to Grid</b> .....	801
<i>Yougui Guo, Ping Zeng, Jieqiong Zhu, Lijuan Li, Wenlang Deng, Frede Blaabjerg</i>	
<b>Speed Loop Control of PMSM Driving Electric Vehicle</b> .....	809
<i>Yougui Guo, Ping Zeng, Jieqiong Zhu, Lijuan Li, Wenlang Deng, Frede Blaabjerg</i>	
<b>Achievements and Prospects of Hydropower Dispatching Management in China</b> .....	817
<i>Zheyi Pei, Changming Ji, Jun Xu, Yong Jing, Yanke Zhang, Litong Dong</i>	

<b>Invasive Blood Pressure Simulator Electronics Device Bed Side Monitor Testing</b> .....	823
<i>Marek Penhaker, Jan Kijonka</i>	
<b>Audiometry for Teaching Experiment in PowerLab Systems</b> ....	831
<i>Marek Penhaker, Jan Kijonka</i>	
<b>Phase Selection Component for Power Line Protection in Smart Grid</b> .....	839
<i>Wang Su-hua, Zhou Xin, Liu Zhong-jing, Liu Jing</i>	
<b>Model-Based Vehicle Trajectory and Its Properties for Automatic Steering Systems</b> .....	845
<i>Xijun Zhao, Tao Hong, Huiyan Chen</i>	
<b>Level Sets, the Representation Theorem and the Extension Principle for Interval Valued Fuzzy Sets</b> .....	853
<i>Hongmei Ju</i>	
<b>CSFs for Service Industry SMEs Successfully Adopting E-Commerce System: A Study from China</b> .....	861
<i>Mingxuan Wu, Ergun Gide, Li Zhang, Qiudan Xing</i>	
<b>Design of MRI Digital-to-Analog Conversion Card Based on USB2.0</b> .....	869
<i>Bei Dai, Zhaoxue Chen, Piding Li</i>	
<b>Overview of Low Switching Frequency Control of High Power Three-Level Converters</b> .....	877
<i>Xiao Fu, Peng Dai, Qingqing Yuan, Xiaojie Wu</i>	
<b>Electrically Excited Synchronous Motor Reduced-Order Flux Observer</b> .....	885
<i>Peng Dai, Fengchao Fu, Xiao Fu, Weilin Zong, Erlei Zhou</i>	
<b>Dead-Time Compensation of Three-Level Optimal PWM Based on On-Line Switching Angle Adjustment</b> .....	893
<i>Xiao Fu, Peng Dai, Xiaojie Wu, Bingjie Zhao</i>	
<b>FPGA Based Real-Time Emulation of Single Phase H-Bridge Inverter</b> .....	899
<i>Peng Dai, Hongshun Zhu, Xiao Fu, Guangzhou Wang</i>	
<b>Research on Viewing Zones of Autostereoscopic Display System Based on Lenticular Lens</b> .....	907
<i>Jing Yin, Yao-hui Hu, Guo-qiang Lv, Juan Wu</i>	

<b>Experimental Study on Wind Turbine Characteristic Emulator System Based on the Blade Element Theory</b> . . . . .	915
<i>Zhenlan Dou, Qiuqiong Zhang, Zhibin Ling, Xu Cai</i>	
<b>Encoding-Based Algorithm for Minimization of Inductive Cross-Talk Based on Off-Chip Data Transmission</b> . . . . .	923
<i>Souvik Singha, Debarshi Saha</i>	
<b>Research on the Devices Fault Diagnosis Based on PSO Elman Neural Network</b> . . . . .	931
<i>Jiejia Li, Hao Wu, Jinxiang Pian</i>	
<b>Wavelet Neural Network Process Control Technology in the Application of Aluminum Electolysis</b> . . . . .	937
<i>Jiejia Li, Chengdong Wu, Hao Wu</i>	
<b>A Fault Diagnosis Method of Switch Current Based on Genetic Algorithm to Optimize the BP Neural Network</b> . . . . .	943
<i>Chengjun Tang, Yigang He, Lifen Yuan</i>	
<b>Equipment Acquisition Information Service Management</b> . . . . .	951
<i>Yanmei Wu, Kai Guo, Pengwen Xu, Ziran Li</i>	
<b>Topological Variable-Density Algorithm Based Design Method for Lightweight Machine Tools</b> . . . . .	957
<i>Pengzhong Li, Jie Liu, Shousheng Liu</i>	
<b>Study on Effect of Wind Power System Parameters for Hopf Bifurcation Based on Continuation Method</b> . . . . .	965
<i>Li Ji, Zhou XueSong</i>	
<b>Computer Network: Control Infrastructure of Large Astronomical Telescopes</b> . . . . .	973
<i>Lingzhe Xu, Xinqi Xu</i>	
<b>Radiation Analysis of Dielectric Conical Conformal Log-Spiral Antennas</b> . . . . .	981
<i>Huilin Hu, Yunhua Tan, Bocheng Zhu, Lezhu Zhou</i>	
<b>Influence of Fine Particle Content to Sediment Transport</b> . . . . .	987
<i>Zhang Min, Wu Hua-Qin, Luo Li-qun</i>	
<b>High Frequency Dielectric Properties of Bismuth Substituted Barium Hexaferrite</b> . . . . .	995
<i>Leah M. Ridgway, Ian Harrison</i>	



<b>Dielectric Resonator Antenna Using High Permittivity Bismuth Substituted Barium Hexaferrite</b> .....	1001
<i>Leah M. Ridgway, Ian Harrison</i>	
<b>Estimation of Failure Rate with the Help of Risk Monitors</b> .....	1007
<i>Muhammad Zubair, Zhang Zhijian</i>	
<b>Research on FoMs of SAR ADC</b> .....	1015
<i>Libin Hu, Wenshi Li</i>	
<b>Sparse Signal Representation with Dispersion Dictionary</b> .....	1023
<i>Zhang Yanhong, Guo Jinku, Wu Jinying</i>	
<b>Author Index</b> .....	1029