

2018 International Conference on Smart Grid and Electrical Automation (ICSGEA 2018)

**Changsha, China
9 – 10 June 2018**



**IEEE Catalog Number: CFP18J11-POD
ISBN: 978-1-5386-6954-9**

**Copyright © 2018 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved**

Copyright and Reprint Permissions: Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP18J11-POD
ISBN (Print-On-Demand):	978-1-5386-6954-9
ISBN (Online):	978-1-5386-6953-2

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

2018 International Conference on Smart Grid and Electrical Automation ICSGEA 2018

Table of Contents

Preface	xvi
Conference Organization	xvii
Program Committee	xviii
Reviewers	xix

Session 1: Power and New Energy

A Method of Distribution Reconfiguration with Micro Grid Considering Dynamic Behavior of Thermal Loads	1
<i>Hualei Wang (State Grid Qingdao Power Supply Company), Hongwei Zhang (State Grid Qingdao Power Supply Company), Lei Chen (State Grid Qingdao Power Supply Company), Longlong Chen (State Grid Qingdao Power Supply Company), Yuanyuan Zhao (State Grid Qingdao Power Supply Company), and Bo Duan (State Grid Qingdao Power Supply Company)</i>	
A Novel Energy Management Approach for the Restraint System Concept Design	6
<i>Lihai Ren (Chongqing University of Technology), Qinyue Luo (Saic-Gm-Wuling Automatic Co. Ltd.), Shasha Fan (Saic-Gm-Wuling Automatic Co. Ltd.), Zhigui Lin (Saic-Gm-Wuling Automatic Co. Ltd.), and Zhipeng Huang (Saic-Gm-Wuling Automatic Co. Ltd.)</i>	
Design of Network Element Intrusion Risk Evaluation Model for Smart Grid Communication System	10
<i>Jie Huang (State Grid Hubei Electric Power Co. Ltd.), Ke Zhang (State Grid Hubei Electric Power Co. Ltd.), Zhiyong Zha (State Grid Information & Communication Branch of Hubei Epc.), Xian Luo (State Grid Information & Communication Branch of Hubei Epc.), Fei Long (State Grid Information & Communication Branch of Hubei Epc.), Huan Xu (State Grid Information & Communication Branch of Hubei Epc.), and Hao Feng (State Grid Information & Communication Branch of Hubei Epc.)</i>	
Design of Power State Test System for Electric Vehicle Battery	16
<i>Nie Jin (Loudi Vocational and Technical College)</i>	

Economic Benefits of Nuclear Power Plant Participating in Peak Load Regulation of Power System .20.....	
<i>Zhang Tao (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute.), Li Hening (Shenyang University of Technology), Li Jiajue (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute.), Li Zhigang (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute.), Chi Cheng (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute.), and Zhang Qiang (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute.)</i>	
Hg ⁰ Removal Capacity of Loaded Copper Sulfide Mercury Adsorbents for Natural Gas .24.....	
<i>Han Zhongxi (Petrochina Research Institute of Petroleum Exploration and Development), Li Na (Southeast University), Duan Yufeng (Southeast University), Li Jian (Petrochina Research Institute of Petroleum Exploration and Development), Yan Qituan (Petrochina Research Institute of Petroleum Exploration and Development), Meng Jialin (Southeast University), and Wei Hongqi (Southeast University)</i>	
Island Partition of Distribution Network with Microgrid and Distributed Generation Based on Floyd-Warshall Algorithm .29.....	
<i>Hongwei Zhang (State Grid Qingdao Power Supply Company), Lei Chen (State Grid Qingdao Power Supply Company), Hualei Wang (State Grid Qingdao Power Supply Company), Yuanyuan Zhao (State Grid Qingdao Power Supply Company), Longlong Chen (State Grid Qingdao Power Supply Company), and Bo Duan (State Grid Qingdao Power Supply Company)</i>	
Peak Load Capacity of Large-Scale Wind Power AC/DC Transmission Line Optimization Method .34.....	
<i>Li Yan (Shenyang University of Technology), Teng Yun (Shenyang University of Technology), Zhao Liang (State Grid Corporation of China), Leng Ouyang (State Grid East Inner Mongolia Electric Power Company), and Yuan Shun (Shenyang University of Technology)</i>	
Performance and Reaction Mechanism of the Sulfur-Loaded Activated Carbon Mercury Sorbents for Natural Gas .37.....	
<i>Yan Qituan (Petrochina Research Institute of Petroleum Exploration and Development), Li Na (Southeast University), Li Jian (Petrochina Research Institute of Petroleum Exploration and Development), Duan Yufeng (Southeast University), Han Zhongxi (Petrochina Research Institute of Petroleum Exploration and Development), Wu Xiang (Southeast University), Li Yinsheng (Southeast University), Wei Hongqi (Southeast University), and Wang Shuying (Petrochina Research Institute of Petroleum Exploration and Development)</i>	
Research on Economic Evaluation Method of Battery Energy Storage Peak .42.....	
<i>Zhang Tao (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute), Yang Jinlu (Shenyang University of Technology), Li Jiajue (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute), Li Zhigang (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute), Shao Baozhu (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute), and Wang Chao (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute)</i>	

Research on Economic Operation of Multi-source Peak-Shaving Involving Nuclear Power .46.....	
<i>Ge Weichun (State Grid Liaoning Power Co. Ltd.), Sun Peng (Shenyang University of Technology), Li Jiajue (State Grid Liaoning Electric Power Co. Ltd.), Zhang Tao (State Grid Liaoning Electric Power Co. Ltd.), Zhang Qiang (State Grid Liaoning Electric Power Co. Ltd.), and Wang Chao (State Grid Liaoning Electric Power Co. Ltd.)</i>	
Research on Medium-Long Term Power Load Forecasting Method Based on Load Decomposition and Big Data Technology .50.....	
<i>Panfeng Chen (Shanghai University of Electric Power), Haozhong Cheng (Shanghai Jiao Tong University), Yingbei Yao (East China Grid Company Limited), Xuan Li (Shanghai Jiao Tong University), Jianping Zhang (East China Grid Company Limited), and Zonglin Yang (East China Grid Company Limited)</i>	
Stochastic Resonance Based on Energy Analysis and Its Application to Surge Alarm .55.....	
<i>Jin-Jing Zhang (Aecc Commercial Aircraft Engine Co. Ltd.), Yan-Zhao Sun (Tianjin University), and Kai Yin (Aecc Commercial Aircraft Engine Co. Ltd.)</i>	
Study on Grid Planning Method Considering Multiple Energy Access .59.....	
<i>Jiajue Li (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute), Mingyue Zhang (.Shenyang University of Technology), Zhigang Li (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute), Tao Zhang (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute), Qiang Zhang (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute), and Cheng Chi (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute)</i>	
Study on Large-Scale Clean Energy Dissipation Dispatch Method .63.....	
<i>Ge Weichun (State Grid Liaoning Electric Power Co. Ltd.), Wang Cenjiao (Shenyang University of Technology), Gao Kai (State Grid Liaoning Electric Power Co. Ltd.), Li Jiajue (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute), and Wang Shunjiang (State Grid Liaoning Electric Power Co. Ltd.)</i>	
The Application Research Analysis of Natural Products Extraction Based on Supercritical CO ₂ Extraction Technique .67.....	
<i>Jiaying Zhang (Shanghai Institute of Technology)</i>	

Session 2: Electrical Automation

A Method of Building Safety Rule Base for Power Mobile Terminals .72.....	
<i>Nige Li (Global Energy Interconnection Research Institute), Lu Chen (Global Energy Interconnection Research Institute), Mu Chen (Global Energy Interconnection Research Institute), and Ziang Lu (Global Energy Interconnection Research Institute)</i>	
A New Schemes of Joint Clock and Phase Estimation for SOQPSK-TG .76.....	
<i>Huang Yao (China Satellite Maritime and Control Department), Liu Yang (China Satellite Maritime and Control Department), and Qian Yiming (China Satellite Maritime and Control Department)</i>	

A Survey of Disconnecting Circuit Breaker's Application .80.....	<i>Chen Fang (State Grid Hunan Electric Power Company Technical Training Center), Wang Yan (State Grid Hunan Electric Power Company Technical Training Center), Xu Zhiwei (State Grid Hunan Electric Power Company Technical Training Center), and Yin Zili (State Grid Xiangtan Power Supply Company)</i>
Application of Fiber Splitting Machinery in Natural Fiber Extraction .85.....	<i>Sun Hongxin (Chifeng Industrial Vocational and Technical College)</i>
Application of Neural Networks to Generating the Hot Processing Map of V150 Steel .89.....	<i>Liang Xiong (State Grid Hunan Electric Power Company Research Institute), Liu Jiaojiao (State Grid Hunan Electric Power Company Research Institute), Keyang Wan (State Grid Hunan Electric Power Company Research Institute), and Qingshan Liao (Hunan Xiangdian Boiler & Pressure Vessel Test Center Ltd)</i>
Bias Removal Techniques for Component Pursuit .92.....	<i>Yongjian Zhao (Shandong University) and Bin Jiang (Shandong University)</i>
Condition Maintenance on Secondary Equipment of Relay Protection in Substation .96.....	<i>Wang Lijun (State Grid Hubei Electric Power Co. Ltd.), Wang Youhuai (State Grid Hubei Electric Power Co. Ltd.), Zhang Huanqing (State Grid Hubei Corporation Maintenance Company), Zhou Hubing (State Grid Hubei Electric Power Co. Ltd.), Zhang Hao (State Grid Hubei Electric Power Co. Ltd.), Wang Liwei (Beijing Sifang Automation Co. Ltd.), and Wang Limin (Beijing Sifang Automation Co. Ltd.)</i>
Design of Anomaly Monitoring Framework for Source-Grid-Load Friendly Coordination System .99.....	<i>Huang Xiuli (Global Energy Interconnection Research Institute), Shi Congcong (Global Energy Interconnection Research Institute), Zhang Xiaojian (Global Energy Interconnection Research Institute), Fei Jiaxuan (Global Energy Interconnection Research Institute), Zhang Rui (Global Energy Interconnection Research Institute), and Fan Jie (Global Energy Interconnection Research Institute)</i>
Energy Efficiency Analysis of Power System Based on Optimization of Peak Supply and Demand Regulation .104.....	<i>Wang Shunjiang (State Grid Liaoning Electric Power Co. Ltd.), Yang Jinlu (Shenyang University of Technology), Gao Kai (State Grid Liaoning Electric Power Co. Ltd.), and Li Jiajue (State Grid Liaoning Electric Power Co. Ltd. Electric Power Research Institute)</i>
Evaluation Method of Relay Protection Status and its Application in Maintenance Decision Making .108.....	<i>Zhang Hao (State Grid Hubei Electric Power Co. Ltd.), Wang Youhuai (State Grid Hubei Electric Power Co. Ltd.), Zhang Huanqing (State Grid Hubei Corporation Maintenance Company), Jiang Yuan (State Grid Hubei Corporation Maintenance Company), Wu Di (State Grid Hubei Electric Power Co. Ltd.), Wang Liwei (Beijing Sifang Automation Co. Ltd.), and Wang Limin (Beijing Sifang Automation Co. Ltd.)</i>
Investigation on Wear Resistance of Fe-Cr-Mo-Mn Alloy by Surfacing Technique in Subsoiler .111.....	<i>Jiao Renbao (Jiamusi University), Liu Chunshan (Jiamusi University), Chen Siyu (Jiamusi University), Zhang Xiuhua (Jiamusi University), Yang Hai (Jiamusi University), Ge Yiyuan (Jiamusi University), Zhuang Minghui (Jiamusi University), and Liu Xinzhu (Jiamusi University)</i>

Machine Learning-Based System Electromagnetic Environment Anomaly Detection Method .115.....	<i>Zhang Weisha (University of Electronic Science and Technology of China), Sun Jinguang (University of Electronic Science and Technology of China), and Lu Jiazhong (University of Electronic Science and Technology of China)</i>
Modeling and Simulation of Hydraulic Motor Tracking Servo Motor Driving Load .118.....	<i>Ze-Ming Long (Jiamusi University), Bao-Jin Guan (Jiamusi University), Si-Yu Chen (Jiamusi University), Guang-Jun Chen (Jiamusi University), and Shi-Qing Guo (Jiamusi University)</i>
Optimize the Mechanical Processing Parameters Taking the Distance Concentration Immune Algorithm Into Account .122.....	<i>Wen-Ge Zhang (Chifeng Industrial Vocational Technical College)</i>
Power Mobile Terminal Security Risk Assessment Based on AHP .126.....	<i>Chen Lu (Global Energy Interconnection Research Institute), Li Nige (Global Energy Interconnection Research Institute), Chen Mu (Global Energy Interconnection Research Institute), Li Yong (Global Energy Interconnection Research Institute), and Xi Zesheng (Global Energy Interconnection Research Institute)</i>
Research and Mining of Intelligent Home User Behavior Pattern Based on Machine Learning .131.....	<i>Zhao Yan (Beijing Polytechnic), Zhang Jinglu (Beijing Polytechnic), and Zhao Wanfang (Beijing Polytechnic)</i>
Research on Maintenance and Fault Treatment of TD-LTE Equipment .135.....	<i>Liu Wannu (Xi'an Eurasia University)</i>
Study on Application of Visualization in Optimum Structural Design .139.....	<i>Yuhong Sun (Xi'an Shiyou University)</i>
The Smart Home System Based on ARM Platform .144.....	<i>Xiong Yaohua (Dalian Neusoft University of Information) and Luo Wei (Dalian Neusoft University of Information)</i>

Session 3: Measuring Technology and Signal Processing

Component Pursuit from Noisy Measurements .147.....	<i>Yongjian Zhao (Shandong University) and Bin Jiang (Shandong University)</i>
Intrusion Detection Method Based on Improved Neural Network .151.....	<i>Tang Hai-He (Rizhao Polytechnic)</i>
Preliminary Study on a Fiber Optic Extrinsic Fabry-Perot Interferometer Sensor of Acoustic Detection for Partial Discharge .155.....	<i>Si Wen-Rong (East China Electric Power Test & Research Institute Co. Ltd.), Fu Chen-Zhao (East China Electric Power Test & Research Institute Co. Ltd.), Gao Kai (East China Electric Power Test & Research Institute Co. Ltd.), Yuan Peng (Xi'an Maorong Power Equipment Co. Ltd.), and Huang Hua (East China Electric Power Test & Research Institute Co. Ltd.)</i>

Research on Field Test of Impulse Grounding Impedance for Small Substation .159.....	<i>Si Wen-Rong (State Grid Shanghai Electric Power Research Institute), Fu Chen-Zhao (State Grid Shanghai Electric Power Research Institute), Chen Lu (State Grid Shanghai Electric Power Research Institute), Lu Qi-Yu (State Grid Shanghai Electric Power Research Institute), Bao Hai-Long (State Grid Shanghai Electric Power Research Institute), and Yuan Peng (Xi'an Maorong Power Equipment Co. Ltd.)</i>
Research on Intelligent Measure of Influencing Factors of Traditional Culture Classics on Contemporary Female Education .163.....	<i>Mou Hualin (Hezhou University)</i>
Research on Processing the Output Signal from the Capacitive Gate Sensor Based DSP .167.....	<i>Fu Zongchun (Hunan Railway Professional Technology College), Liu Zhicheng (Hunan Railway Professional Technology College), and Tan Chuanwu (Hunan Railway Professional Technology College)</i>
Safety Detection Method of Android App Based on Drozer .170.....	<i>Li Xiaopeng (National University of Defense Technology), Wang Ning (906 Army of Naval Aeronautical University), Xiao Fei (National University of Defense Technology), Qian Fengchen (National University of Defense Technology), and Ma Simin (National University of Defense Technology)</i>
Study on Pretreatment Technology of Image of Disease Leaf Spot .173.....	<i>Zhang Xiuhua (Jiamusi University), Jiao Renbao (Jiamusi University), Chen Siyu (Jiamusi University), Jiang Yongcheng (Jiamusi University), and Liu Xiaomin (Jiamusi University)</i>
Track 3D Coordinate Fast Measurement Algorithm Based on Trajectory Method .177.....	<i>Zhang Hang (Central South University), Zhao Yufei (Central South University), Yang Jianzhong (Central South University), and Shao Yinxu (Central South University)</i>
VB-based Small-Granary Monitoring System Design .183.....	<i>Qin Xiao (Jilin University), Wu Wenfu (Jilin University), Wu Yuzhu (Jilin University), Chen Long (Jilin University), and Han Feng (Jilin University)</i>

Session 4: Modeling and Simulation

A New Tracking Algorithm Based on Mean Shift and Frame Difference .187.....	<i>Yu Gusheng (Unit 9550), Liu Zongang (Unit 9550), Pan Diansheng (Unit 9550), Zhuang Yifu (Unit 9550), and Zhang Bin (Unit 9550)</i>
Analysis of Linux Kernel's Real-Time Performance .191.....	<i>Zhang Yanyan (Jilin Business and Technology College) and Ran Xiangjin (Jilin University)</i>
Application of Convolutional Neural Network in B-Rep Models Classification .195.....	<i>Li Mengge (Shandong Normal University) and Wang Jihua (Shandong Normal University)</i>
Attribute Reduction Algorithm Based on Rough Vague Sets .199.....	<i>Hu Yaxi (Yiyang Medical College) and Chen Tiejun (Yiyang Medical College)</i>

Comparison and Analysis of the Coal Enterprises Environmental Performance in Our Country Based on the DEA .206.....	<i>Ruohong Peng (Beijing University of Posts and Telecommunications) and Lei Pang (Beijing University of Posts and Telecommunications)</i>
Consumption Risk Model of National Sports Tourism Based on the Integration of Intelligent Interactive System Model .213.....	<i>Yue Jun (Hezhou University), Long Jifeng (Hezhou University), Xie Xianzhi (Hezhou University), and Yue Yanyu (East China Jiaotong University)</i>
Linear Discriminant Analysis Algorithm for Consignment Model (LDAACM) Based on Game Theory .217....	<i>Lei Jiang (Hengdu Textile College)</i>
Research on Software Reliability Model Based on Improved Bp Neural Network .221.....	<i>Li Mei (Xi'An Eurasia University)</i>
Research on the Predicting Model of Convenience Store Model Based on Digital Twins .224.....	<i>Chen Xiuyu (Dalian Neusoft University of Information) and Guan Tianyi (Dalian Environment Protection Volunteers Association)</i>
Synthesis and Properties of Polyer and its Cupric Complex Containing Bithiazole Rings .227.....	<i>Guo Xuan Xiong (East China Institute of Technology), Hai Qing Huang (East China Institute of Technology), and Yu Fen Zhou (East China Institute of Technology)</i>
The Algorithm Research of Image Classification Based on Deep Convolutional Network .231.....	<i>Wu Daqin (Jilin Business and Technology College) and Hu Haiyan (Jilin Business and Technology College)</i>
The Datamining Algorithm on Knowledge Dependence .234.....	<i>Mingfeng Ye (Heilongjiang University of Science and Technology)</i>
The Research of G- expansive Map and Devaney's G-Chaos Condition on Metric G-Space .237.....	<i>Ji Zhan-Jiang (Wuzhou University), Zhai Cong (Fo Shan University), and Xu Cheng-Zhang (Wuzhou University)</i>
The Development of Folklore Tourism Integrating the Function Differentiation Model of Folklore Culture .241.....	<i>Ya Ji (Hulunbeier University)</i>

Session 5: Artificial Intelligent and its Application

A Stereoscopic Parallax Generation Algorithm in a Virtual Reality Scene That Takes the Viewpoint-Related LOD Quadtree into Account .245.....	<i>Jiang Tao (Dalian Neusoft University of Information) and Li Fang (Dalian Neusoft University of Information)</i>
A Study of Graphic Symbol Design Based on Visual Efficiency .249.....	<i>Yu Jing (Xi'an Shiyong University), Xu Jianbo (Xi'an Shiyong University), and Ji Ting (Xi'an Shiyong University)</i>
Design and Implementation of Intelligent Kitchen System Based on Internet of Things .253.....	<i>Sun Jian-Mei (Dalian University of Science and Technology), Wang Li-Juan (Dalian University of Science and Technology), Yu Xi (Dalian University of Science and Technology), and Yang Jun-Shan (Dalian University of Science and Technology)</i>

Exploration of Virtual Reality System of Dimensionality Reconstruction Technique .257.....	<i>Wang Ronghua (Anhui Open University)</i>
Intelligent Evaluation System for Comprehensive Qualities of Students in Normal Colleges Based on Integration of Dynamic Update Structure Model of Local Sports Tourism .262.....	<i>Zhang Linbao (Shangrao Normal University)</i>
Intelligent System Development Based on Empirical Cases of Fitness Index Promoted by Intercity Marathon .266.....	<i>Ying Shujuan (Jiangxi Science and Technology Normal University)</i>
Low Visibility License Plate Area Detection Based on Dark Channel Prior Method and Top Hat Operation.270	<i>Xin Xin (Research Institute of Highway Mot), Yang Cai (Beijing Jiaotong University), Li Changcheng (Research Institute of Highway Mot), Wang Xiaokang (Beijing Jiaotong University), and Zhao Jiandong (Beijing Jiaotong University)</i>
Ni60A and WC Wear Resistance Test Optimization Analysis .274.....	<i>Qiu Xinwei (Jiamusi University), Li Yaqin (Jiamusi University), Wang Junfa (Jiamusi University), Ge Yiyuan (Jiamusi University), and Wen Xiaoxin (Jiamusi University)</i>
Optimization Design of Binocular Telescope Lens Fixture Based on Finite Element Method .279.....	<i>Zhang Wu (Yunnan Open University) and Xu Lianjiang (Yunnan Open University)</i>
Research on Differentiated Instructional Intelligence System Based on the Accurate Probability Persuasion Model in Chinese and Western Cultural Thinking .283.....	<i>Liu Chang (Inner Mongolia Electronic Information Vocational Technical College)</i>
Research on Reform Intelligent Effect Evaluation System (RIEES) of Teaching Methods of Ideological and Political Theory Course in Colleges and Universities .287.....	<i>Kong Yanchun (Yunnan Technology and Business University)</i>
Speech Visualization Technology and Its Application in English Listening Teaching .291.....	<i>Fang Li-Xia (Fuyang Normal University)</i>
The Construction of a Cloud Computing-Based Intelligent Pension Service Platform .295.....	<i>Yang Yuan-Yuan (Shandong Provincial Key Laboratory of Computer Networks), Shu Ming-Lei (Shandong Provincial Key Laboratory of Computer Networks), and Wei Nuo (Shandong Provincial Key Laboratory of Computer Networks)</i>

Session 6: Control Engineering

Coordination Control for Multi-microgrid System with Parallel Structure Based on Improved Droop Control Strategy .299.....	<i>Wan Qingzhu (North China University of Technology Power System Research Laboratory) and Xue Chan (North China University of Technology Power System Research Laboratory)</i>
--	---

Design and Implementation of Debris Search and Rescue Robot System Based on Internet of Things .303.....	<i>Cao Xin (Dalian Neusoft Institute of Information), Dou Qiao (Dalian Neusoft Institute of Information), Shi Hongjie (Dalian Neusoft Institute of Information), Li Chunhe (Dalian Neusoft Institute of Information), and Zhang Haikuan (Dalian Neusoft Institute of Information)</i>
Design of Electric Control Platform Based on Digital Media .308.....	<i>Yu Da-Hai (Guanghua College of Changchun University)</i>
Feedback Control of the Car Following Model Considering the Effect of Traffic Jerk .312.....	<i>Xiao Yingping (Fo Shan University) and Zhai Cong (Fo Shan University)</i>
Robot Cars Navigation by Color Detection .316.....	<i>Li Duan (University of Electronics Science and Technology of China) and Zichun Yu (University of Electronics Science and Technology of China)</i>
Simulation Design of Cyclic Code Error Control System Based on Simulink .324.....	<i>Ma Xiao-Qing (Xi'An Eurasia University)</i>
The Optimal Control and Optimized Algorithm of a Generalized Nonstationary Stochastic Process .327.....	<i>Xiao Xiaonan (Xiamen University Tan Kah Kee College)</i>

Session 7: Network, Communication and Big Data

Application of Vlan and HSRP Technology in the Dual Core Campus Network .332.....	<i>Yan Haiyan (Hunan Railway Professional Technology College)</i>
Design and Application of Website Data Analysis Software in the Era of Big Data .334.....	<i>Du Xiaochun (Xian Eurasia University) and Wang Bing (Xian Eurasia University)</i>
E1 Link Binding Technology Applied in the Communication Ip Network .338.....	<i>Cao Chong (China Satellite Maritime Tracking and Control Department)</i>
Research on 3D GIS Platform Construction of Expressway Based on 3D Data Model .341.....	<i>Liu Jianping (National ITS Research Center), Zhang Jisheng (National ITS Research Center), Wang Hua (National ITS Research Center), Sun Xiaoliang (National ITS Research Center), and Zhu Lili (National ITS Research Center)</i>
Research on Carrier Communication Technology by Railway Train Catenary in Industrial and Mining Enterprises .346.....	<i>Fu Zongchun (Hunan Railway Professional Technology College), Liu Zhicheng (Hunan Railway Professional Technology College), and Tan Chuanwu (Hunan Railway Professional Technology College)</i>
Research on Electronic Data Forensics Model under Cloud Computing .349.....	<i>Tu Min (Jiangxi Police College), Xiong Jianying (Jiangxi Police College), and Yang Tao (Third Research Institute of the Ministry of Public Security)</i>

Research on Expressway State Recognition Based on Beidou Positioning and Navigation Data .354.....	<i>Su Hang (National Engineering Laboratory for Transportation Safety and Emergency Informatics), Bai Zhiming (Beijing Jiaotong University), Deng Lei (National Engineering Laboratory for Transportation Safety and Emergency Informatics), She Shaoyi (National Engineering Laboratory for Transportation Safety and Emergency Informatics), Qi Yuqian (National Engineering Laboratory for Transportation Safety and Emergency Informatics), and Zhao Jiandong (Beijing Jiaotong University)</i>
Research on Method of Large Capacity Conference System Based on Single Server .358.....	<i>Zhang Long (Xi'An Eurasia University) and Zhang Han (Xi'An Eurasia University)</i>
Research on Network Teaching Mode Based on Multi-agent .362.....	<i>Jie Liang (Chengdu Medical College) and Wen He (Chengdu Medical College)</i>
Research on Reliability of PPP Link Routing in the Communication IP Network .365.....	<i>Luo Qian (China Satellite Maritime Tracking and Control Department), Cao Chong (China Satellite Maritime Tracking and Control Department), and Xie Min (China Satellite Maritime Tracking and Control Department)</i>
Study on Application of Adoptive CP-OFDM in Tactical UAV Downlink Transmission .368.....	<i>Lin Shao-Feng (National University of Defense Technology), Wang Ning (906 Army of Naval Aeronautical University), Guo Chao-Ping (National University of Defense Technology), and Shi Yong-Hong (6906 Troop)</i>
The Design of Self-Help Cabinet Based on ModBus Communication Protocol .373.....	<i>Dou Qiao (Dalian Neusoft Institute of Information Computer Science and Technology Dept) and Cao Xin (Dalian Neusoft Institute of Information Computer Science and Technology Dept)</i>
The Performance Comparison of Native and Containers for the Cloud .378.....	<i>Xiao-Lan Xie (Guilin University of Technology), Peng Wang (Guilin University of Technology), and Qi Wang (Guilin University of Technology)</i>

Session 8: Information Management

A Study of Ergonomic Evaluation with a Simulation Analysis of Workover Rig Driller Operation .382.....	<i>Xu Jianbo (Xi'an Shiyou University), Yu Suihuai (Northwestern Polytechnical University), Ji Ting (Xi'an Shiyou University), Yu Jing (Xi'an Shiyou University), and Qu Wentao (Xi'an Shiyou University)</i>
Construction of Evaluation System for Reader Training Effect at University Libraries Considering Information Exchange .386.....	<i>Xu Cheng (Hunan International Economics University)</i>
Depth Information Estimation of Image Texture Direction and Spatial Distribution Features .391.....	<i>Wang Jihua (Shandong Normal University), Zhang Quanying (Shandong Normal University), and Miao Huicui (Shandong Normal University)</i>

Design and Implementation of Patent Data Automatic Acquisition System .395.....	
<i>Zhang Quan (College of Information and Automation &Tianjin Tianshi College), Dong Jing (Tianjin University of Commerce Boutead College), and Liu Bohan (Chinalink Professional Services Co. Ltd)</i>	
Design Conception of Communication Electronic Business Processing Platform .400.....	
<i>Zhang Fen (China Satellite Marine Track &Control Department)</i>	
Information Acquisition Structure of Internet of Things Based on Intelligent Gateway between ZigBee and Ethernet .404.....	
<i>Wei Shao (Xi'an University of Technology), Haoran Guo (Xi'an University of Technology), Peng Peng (Xi'an University of Technology), and Awei Zhou (Xi'an Polytechnic University)</i>	
Multi-information Fusion Technology for Positioning System .408.....	
<i>Zhang Xiuhua (Jiamusi University), Zhang Lianjun (Jiamusi University), Jiao Renbao (Jiamusi University), Liu Chunshan (Jiamusi University), and Chen Siyu (Jiamusi University)</i>	
Online Fake Comments Detecting Model Based on Feature Analysis .412.....	
<i>Li Jing (Guangxi University of Finance and Economics)</i>	
Personalized Recommendation Method Based on Web Log Mining .416.....	
<i>Li Yongqin (Shandong Normal University) and Xu Budong (Shandong Normal University)</i>	
Research on University Online Education Resource Management Platform Based on Cloud Computing .420....	
<i>Wan Xiang (Wuhan University of Technology) and Li Fan (Wuhan University of Technology)</i>	
The Application of Multi-perception User Experience in Emotional Design Characteristic Parameter Models .424.....	
<i>Ji Ting (Xi'an Shiyong University), Yu Jing (Xi'an Shiyong University), and Xu Jianbo (Xi'an Shiyong University)</i>	
The Xi'an Construction Market Supervision Information System .428.....	
<i>Wei Fan (Xi'An Shiyong University), Ge Huijing (Xi'An Shiyong University), and Zhang Xianwei (Xi'An Shiyong University)</i>	
The Design of Intelligent Grid System of Ideological and Political Education in Colleges and Universities Based on Internet .432.....	
<i>Zhang Wei (Marxism College of Wuhan University of Technology)</i>	
Author Index 435.	