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 Yuancheng Sun, Lina Yao
Zhengzhou University (China)
- SuM6.5 14:45 – 15:05 P1479
Retrofit Reconfigurable Fault Tolerant Control for Mechanical Systems 462
 Bing Xiao, Zhengzhou Fu, Jia Yang, Chaofan Wu, and Xing Huo
Bohai University (China)
- SuM6.6 15:05 – 15:25 P1478
Robust actuator fault detection for an induction motor via genetic algorithms optimization 468
 Sarah Odofin*, Zhiwei Gao*, Xiaoxu Liu*, Kai Sun*
 *University of Northumbria (UK), *Shandong University of Technology (China)

Session	SuM7: Power Electronics (IV)
Date/Time	Sunday, 5 June 2016 / 13:25 – 15:25
Venue	3rd floor VVIP 12
Chairs	Youyuan Ni, <i>Hefei University of Technology</i> Xing Qi, <i>Anhui University</i>

- SuM7.1 13:25 – 13:45 P1145
Research on the Pre-charging Control Strategies of the Series Part of MMC-UPQC 474
 Qian Yeniu, Wang Jianbo, Du changJun, Sun Jian
State Grid Beijing Electric Power Company (China)
- SuM7.2 13:45 – 14:05 P1221
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 Mengmeng Tian, Xiuhe Wang, Guanqun Li
Shandong University (China)
- SuM7.3 14:05 – 14:25 P1205
A Triple Closed-loop Control System for a Sensorless Brushless DC Motor Based on Disturbance Observer 484
 Youyuan Ni, Hao Chen
Hefei University of Technology
- SuM7.4 14:25 – 14:45 P1584
The Influence of Leakage Inductance on Multi Pulse Rectifier Based on the Modulation Theory 489
 Li Yuan, Yang Wei, Yang Shiyan
Harbin Institute of Technology (China)
- SuM7.5 14:45 – 15:05 P1380
Improved Small Signal Modeling and Dynamic Analysis of High Step-up Converter with Charged Pump and Boost Converter 495
 Faqiang Wang, Jing Li
Xi'an Jiaotong University

Session	SuMP1: Poster Session – Network and Communication Technologies
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Venue	3rd floor corridor opposite VVIP 3 and 5

- SuMP1.1 P1707
PFO: Priority-based Flow Scheduling for Online Social Network Datacenter 500
 Xingyan Zhang^{1,2}, Minghao Ding³
¹Huazhong University of Science and Technology (China), ²Jiangnan University (China), ³Tianjin Electronic Information College (China)
- SuMP1.2 P1690
A Novel Efficient Forwarding Protocol for 3-D Underwater Wireless Sensor Networks 506
 Wang Qingwen¹, Cao Fei¹, Li Zhi², Qi Qian³
¹Xi'an Research Institute of High Technology (China), ²Academy of Equipment (China), ³Northwestern Polytechnical University (China)
- SuMP1.3 P1504
Cancellable Multi-Modal Biometric Authentication for Cloud based MobilityFirst like Environment 510
 Muhammad T. Alam, Haozhang Li, Muneera Chowdhury
University of Toronto (Canada)

- SuMP1.4 P1169
Models and Analysis of Video Streaming End-to-End Distortion over LTE Network 516
 Huayong Fu*, Hui Yuan*, Mengyu Li*, Zhenzhen Sun*, Fengrong Li⁺
**Shandong University (China), ⁺Chinese Academy of Sciences (China)*
- SuMP1.5 P1280
A Trellis Coded Pulse Interval Modulation for Measurement While Drilling Telemetry 522
 CHEN Wei*, JIANG Peipei*, GU Qingshui*, ZHANG Songwei⁺
**University of Electronic Science and Technology of China (China), ⁺China Oilfield Services Ltd. (China)*
- SuMP1.6 P1095
A TSOA based Localization Algorithm in Wireless Networks 526
 Shuonan Li*, Jingyu Hua^{1,*}, Guomin Zhong*, Weidang Lu*, Bin Jiang⁺
**Zhejiang University of Technology (China), ⁺Southeast University (China)*

Session	SuMP2: Poster Session – Signal Processing
Date/Time	Sunday, 5 June 2016 / 13:25 – 15:25
Venue	3rd floor corridor opposite VVIP 3 and 5

- SuMP2.1 P1254
Research on Sequence Component Detection Algorithm Based on Sliding-window Mean-value 531
 ZHENG Changbao, ZHANG Jun, LI Guoli
Anhui University (China)
- SuMP2.2 P1329
An Effective Pansharpening Method Based on Guided Filtering 534
 Xu L^{*i}, Weifeng Qi*, Shigang Yue⁺
**Northwestern Polytechnical University (China), University of Lincoln (UK)*
- SuMP2.3 P1046
An Image Encryption Model Based on Hyperchaotic System 539
 Xiaoyu-Hu,Tianshi-Shen,Junkang-Ni,Chongxin-Liu,Kai-Liu,Zece-Zhang
Xi'an Jiaotong University (China)
- SuMP2.4 P1631
Load Parameter Identification Based on Particle Swarm Optimization and the Comparison to Ant Colony Optimization 545
 Li Haoguang^{1,2}, Liu Wenjie², Shen Xuefeng¹, Yu Yunhua¹
China University of Petroleum (East China), Chinese Academy of Sciences (China)
- SuMP2.5 P1786
An Improved CFAR for Life Detection of UWB Radar 551
 Hui Wang, Guohua Wei, Teng Wang, Xu Wang
Beijing Institute of Technology (China)
- SuMP2.6 P1638
Analysis of Chaos characteristics of A large Complex Mechanical Vibrations 555
 Xiao Qijun*, Luo Zhonghui⁺
**Zhaoqing University (China), ⁺Guangdong Polytechnic Normal University*
- SuMP2.7 P1416
A novel image splicing detection method based on the inconsistency of image noise 560
 Jing Dong, Li Chen, Jing Tian,Xin Xu
Wuhan University of Science and Technology (China)

- SuMP2.8 P1617
Eye-Gaze Tracking System By Haar Cascade Classifier 564
 Yunyang Li, Xin Xu,, Nan Mu, and Li Chen
Wuhan University of Science and Technology (China)
- SuMP2.9 P1311
Performance Evaluation of Binary Descriptors for Mobile Robots 568
 Zhen Zeng, Hong Liang*, Ming Su, Chunnian Zeng
Wuhan University of Technology
- SuMP2.10 P1516
Adaptive Similarity Fusion Strategy in Stereo Matching Algorithm 574
 Baoping Li ^{1,2}
¹*Communication University of China (China)*, ²*Henan Polytechnic University (China)*
- SuMP2.11 P1422
Adaptation of the Object Recognition Method Based on Random Ferns for Mobile Robots 579
 Hong Liang, Fan Xu, Yanlin Ji Sihao Deng and Chunnian Zeng
Wuhan University of Technology (China)
- SuMP2.12 P1121
Fornasini-Marchesini Model Realization of MIMO Radar Image by Elementary Operation Approach 585
 Zhihao Fang, Hua Cheng, Gengguo Cheng
Wuhan University of Science and Technology (China)
- SuMP2.13 P1172
Design and Analysis of LFM/Barker RF Stealth Signal Waveform 591
 Fu Yinjuan, Li Yong, Huang Qiongdan, Zhang Kunhui
Northwestern Polytechnical University
- SuMP2.14 P1326
A Study on the Load Model Based on Particle Swarm Optimization 596
 Yan Pang , Yonghai Xu, Shun Tao
North China Electric Power University (China)

Session	SuP1: Power Electronics (V)
Date/Time	Sunday, 5 June 2016 / 15:55 – 17:55
Venue	3rd floor Room 1
Chairs	NingYi Dai, <i>University of Macau</i> Qian Zhang, <i>Anhui University</i>

- SuP1.1 15:55 – 16:15 P1393
A Novel Bridgeless Buck PFC Converter With Half Dead Zones 602
 Xiang Lin, Faqiang Wang
Xi'an Jiaotong University (China)
- SuP1.2 16:15 – 16:35 P1728
Multiband HCC for Cascaded H-bridge Multilevel Inverter based DSTATCOM 607
 Ravikant Pandey, Ravi Nath Tripathi and Tsuyoshi Hanamoto
Kyushu Institute of Technology (Japan)
- SuP1.3 16:35 – 16:55 P1571
The study of the power quality emission characteristics of different types of lamps and its impacts on distribution systems 613
 Shunfu Lin, Nana Huang, Mingxing Zhu
Shanghai University of Electric Power (China), Anhui University (China)

- SuP1.4 16:55 – 17:15 P1181
A Controller of PMSM for Electrical Bicycle with Hall Effect Sensors 619
 Puru Zhang, Qianfan Zhang
Harbin Institute of Technology (China)
- SuP1.5 17:15 – 17:35 P1363
Optimize the series LC design for a Quasi Proportional-Resonant Controlled Hybrid Active Power Filter with Harmonic Compensation
Insulator Contamination 624
 Tao Ye*, NingYi Dai*, Miao Zhu⁺
**University of Macau (China), ⁺Shanghai Jiao Tong University (China)*

Session	SuP2: Power Electronics (VI)
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Venue	3rd floor VVIP 3
Chairs	Xijun Yang, <i>Shanghai Jiao Tong University</i> Quan Chen, <i>Anhui University</i>

- SuP2.1 15:55 – 16:15 P1065
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 Xuzhe Xu, Yinghui Gao
Chinese Academy of Sciences (China)
- SuP2.2 16:15 – 16:35 P1141
A Novel Control Strategy of Parallel Connected Inverters in Microgrid 636
 Xiaobin Zhang^{1,2} Ting Han¹ Guang Zeng¹
¹Xi'an University of Technology (China), National Engineering Laboratory of Energy-saving (China)
- SuP2.3 16:35 – 16:55 P1263
Modeling, Control and Implementation of High Step-up Ratio IDDB Converters for Fuel Cell Applications 640
 WANG Yue¹, GAO Dawei^{1,2}, LIU Jiexun¹
¹Tsinghua University (China), ²Collaborative Innovation Center of Electric Vehicles (China)
- SuP2.4 16:55 – 17:15 P1114
A Novel Efficient Structure Applied to Non-isolated Single-phase Photovoltaic Grid Inverters 645
 Shi-cheng Zheng, Xian-bing Hu, Dan Zhang
Anhui University of Technology (China)
- SuP2.5 17:15 – 17:35 P1463
Discontinuous PWM in Single-phase Grid-connected Inverter 651
 Xi-jun YANG*, Hao QU*, Hou-junTang*, Bin-ruo ZHU‡, Jian-feng JIANG‡, Zhi-hong JIANG†
**Shanghai Jiao Tong University, ‡Shanghai electric power company (China), †Changchun Institute of Technology (China)*
- SuP2.6 17:35 – 17:55 P1075
Field Flashing Control for Large Synchronous Generator 658
 Qiantao Huo, Yixiang Shao and Shaoxing Zhao
NARI Technology Development Co. Ltd (China)

Session	SuP3: Image Processing
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Venue	3rd floor VVIP 5
Chairs	Shiqian Wu, <i>Wuhan University of Science and Technology</i> Changbao Zheng, <i>Anhui University</i>

- SuP3.1 15:55 – 16:15 P1318
Weighted Bilateral Filtering for Near-edge Artifacts Avoidance and Impulse Noise Suppression 663
Ba Thai, Guang Deng, Robert Ross and Phat Huynh
La Trobe University (Australia)
- SuP3.2 16:15 – 16:35 P1048
Superresolution Imaging Using Constrained Iterative Deconvolution 669
Xiongjun Fu¹, Shuilian Peng¹, Shengqi Qian¹, Chengyan Zhang¹, Ming Xie¹, Shuguang Li²
¹*Beijing Institute of Technology (China)*, ²*Shanghai Aerospace Electronic Technology Institute (China)*
- SuP3.3 16:35 – 16:55 P1523
Superpixels-Based Non-local Means Image Denoising 673
Weihua Liu^{1,2}, Shiqian Wu²
¹*Xi'an University (China)*, ²*Wuhan University (China)*
- SuP3.4 16:55 – 17:15 P1629
Fast Stereo Matching with Fuzzy Correlation 678
Mozammel Chowdhury¹, Junbin Gao², Rafiqul Islam¹
¹*Charles Sturt University*, ²*University of Sydney Business School*
- SuP3.5 17:15 – 17:35 P1286
Adaptive Window Algorithm for Stereo Vision Using Successive Disparity Difference Feedback 683
Phat Huyn, Robert Ross, Andrew Martchenko and John Devlin
La Trobe University (Australia)
- SuP3.6 17:35 – 17:55 P1153
Comparative Study of Compressive Classification-based Approaches for Face Recognition 689
Binbin Sun, Huang Bai, Aihua Yu, and Zeru Lu
Zhejiang University of Technology (China)

Session	SuP4: Energy & Environment (II)
Date/Time	Sunday, 5 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP 6
Chairs	Weixiang Shen, <i>Swinburne University of Technology</i> Wenjian Cai, <i>Nanyang Technological University</i>

- SuP4.1 15:55 – 16:15 P1511
H infinity observer based state of charge estimation for battery packs in electric vehicles 694
Fengxian He*, W.X. Shen*, A. Kapoor*, Damon Honnery⁺, Daya Dayawansa⁺
^{*}*Swinburne University of Technology (Australia)*, ⁺*Monash University (Australia)*
- SuP4.2 16:15 – 16:35 P1308
Dynamic Operation Optimization of Micro grid: Model Establishment and Solution Design 700
Shan Cheng, Long-Long Zhao, Xiao-Yu Jiang
China Three Gorges University (China)
- SuP4.3 16:35 – 16:55 P1641
Overview of Advanced Control Technology for Wind Power Generation 706
Wenzhou Liu*, Xun Liu⁺, Zhihong Jiang*, Ning Li⁺, Dengkai Xi⁺
^{*}*Changchun Institute of Technology*, ⁺*Changchun University of Technology*

- SuP4.4 16:55 – 17:15 P1697
Operating Points as Communication Bridge between Energy Evaluation with Air Temperature and Velocity based on Extreme Learning Machine (ELM) Models 712
 Deqing Zhai, Yeng Chai Soh, Wenjian Cai
Nanyang Technological University (Singapore)
- SuP4.5 17:15 – 17:35 P1743
Optimization and Comparison of Boiling-Off Gas re-liquefaction processes for liquid ethylene vessels 717
 Hongbo TAN*, Wenjian CAI⁺, Qing-guo Wang⁺⁺⁺, Nannan Sun*
**Xi'an Jiaotong University (China), ⁺Nanyang Technological University (Singapore), ⁺⁺⁺University of Johannesburg (South Africa)*
- SuP4.6 17:35 – 17:55 P1820
Current Situation and Prospect of Distributed Generation in China 723
 Yang Li^{1,2}, Zhiyuan Cai¹, Yupeng Liu², Haitao Liu², Hui Yu²
¹Shenyang University of Technology (China), ²China Electric Power Research Institute (China)

Session	SuP5: Hybrid Control and Digital Control
Date/Time	Sunday, 5 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP 11
Chairs	Raymond Chuei, Swinburne University of Technology Xing Zhu, InspiRain Technologies Pte Ltd

- SuP5.1 15:55 – 16:15 P1607
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 Xianhua Ou^{1,2}, Xiongiong He¹, Wenjian Cai², Qingguo Wang³, Yiming Wu¹
¹Zhejiang University of Technology (China), ²Nanyang Technological University (Singapore), ³University of Johannesburg (South Africa)
- SuP5.2 16:15 – 16:35 P1796
PSO tuned Fuzzy based Pitch Blade Controller of Grid-tied Variable Speed Wind Turbine 737
 Hasan Wahhab Salih^{1,a}, Shaorong Wang¹, Bashar Sakeen Farhan^{1,b}, Asad Waqar¹
¹Huazhong University of Science and Technology (China), ^aMinistry of Electricity, Al Furat-Middle General Directorate of Electricity Region (Iran), ^bBaghdad governorate – Republic of Iraq (Iran)
- SuP5.3 16:35 – 16:55 P1560
Discrete Extended State Observer based Repetitive Control System for Improved Disturbance Rejection Performance 743
 A H M Sayem, Zhenwei Cao, Zhihong Man, Raymond Chuei
Swinburne University of Technology (Australia)
- SuP5.4 16:55 – 17:15 P1487
An Active Splitting Strategy Space Reduction Method Based on Flow Tracing Technique 747
 Qiangming Zhou*, Hongqiao Yu*, Qian Pu*, Yifan Zhou⁺, Wei Hu⁺
**Hubei Electrical Power Company (China), ⁺Tsinghua University (China)*
- SuP5.5 17:15 – 15:05 P1232
Permanent Magnet Synchronous Motor Parameter Identification with Multi- Innovation Least Squares 752
 Baolong Jin, Yanxia Shen, Dinghui Wu
Jiangnan University (China)
- SuP5.6 15:05 – 17:55 P1548
Design of Super Twisting Repetitive Control 758
 Raymond Chuei, Zhenwei Cao, and Zhihong Man
Swinburne University of Technology (Australia)

Session	SuP6: Invited Session – Design for Electrical Components and Systems
Organizers	Prof. Yaoguang Hu, <i>Beijing Institute of Technology</i> Dr. Jin Xiao, <i>Beihang University</i>
Date/Time	Sunday, 5 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP 11
Chairs	Jin Xiao, <i>Beihang University</i> Wenxiang Xie, <i>Seagate Technology International</i>

- SuP6.1 15:55 – 16:15 P1769
A high efficiency DC-DC converter based on bidirectional half-bridge 763
Bin Cao, Jin Xiao, Jingfang Chen, Wenyan Qin, Changbo Fan
Beihang University (China)
- SuP6.2 16:15 – 16:35 P1684
The research on the distribution of the spacecraft energy utilization 769
Liu Jing¹, Xia Hui², Liu Yihong¹, Li Xiaofei¹
¹*Beijing Institute of Spacecraft System Engineering (China)*, ²*Beijing Spacecrafts (China)*
- SuP6.3 16:35 – 16:55 P1686
Research on a distributed detection system model and its application in engineering 774
Xia Wenyue, Yuan Haiwen
Beijing University of Aeronautics and Astronautics (China)
- SuP6.4 16:55 – 17:15 P1762
Joint optimization of delivery constraint and capacity adjustment for electronic component production system 779
Yu Guan, YaoGuan Hu, Rui Zhou
Beijing Institute of Technology (China)
- SuP6.5 17:15 – 17:35 P1674
Auxiliary power supply system of passenger train based on photovoltaic and energy storage 784
MA Wei^{1,2}, WANG Wei^{1,2}, HU Ruonan^{1,2}, WANG Ziyi¹
¹*National Active Distribution Network Technology Research Center (China)*, ²*Collaborative Innovation Center of Electric Vehicles in Beijing (China)*
- SuP6.6 17:35 – 17:55 P1663
A Novel Design of Variable Stiffness Linkage with Distributed Leaf Springs 789
Xingming Wu, Zijian Zhao*, Jianhua Wang, Dong Xu, Weihai Chen
Beihang University (China)

Session	SuP7: Best Paper Selection Session
Date/Time	Sunday, 5 June 2016 / 15:55 – 17:55
Venue	3rd floor Room 5
Chairs	Huiqi Li, <i>Beijing Institute of Technology</i> Lijun Jiang, <i>Republic Poly</i>

- SuP7.1 15:55 – 16:15 P1744
Automatic Detection of Arteriovenous Nicking in Retinal Images 795
Jieliang Kang*, Zhiyang Ma*, Huiqi Li*, Liang Xu⁺, Li Zhang⁺
^{*}*Beijing Institute of Technology (China)*, ⁺*Beijing Tongren Hospital*

- SuP7.2 16:15 – 16:35 P1644
Open Circuit Switch Fault Diagnosis for Three Level Active NPC Converter 801
 Bo Zhang^{1,2}, Qiongquan Ge¹, Dongdong Cui^{1,2}, Xiaoxin Wang¹, Yang Yu^{1,2}
¹*Institute of Electrical Engineering, Chinese Academy of Sciences*, ²*University of Chinese Academy of Sciences (China)*
- SuP7.3 16:35 – 16:55 P1608
Model-driven soft sensor for predicting biomass calorific value in combustion power plants 807
 Fethi Belkhir, Georg Frey
Saarland University (Germany)
- SuP7.4 16:55 – 17:15 P1662
Two-dimension dynamic thermal circuit network model of cylinder 813
 Manyi Guo¹, Shaoping Wang¹, Xingjian Wang¹, Di Wu¹, Mileta M. Tomovic²
¹*Beihang University (China)*, ²*Old Dominion University (USA)*
- SuP7.5 17:15 – 17:35 P1527
Face Recognition Based on Stretchy Regression 819
 Kar-Ann Toh
Yonsei University (Korea)
- SuP7.6 17:35 – 17:55 P1220
Observer-based Real-Time DDoS Detection 825
 Fengling Han*, Long Xu*, Xinghuo Yu*, Zahir Tari*, Yong Feng⁺, Jiankun Hu⁺⁺
 **RMIT University (Australia)*, ⁺*Harbin Institute of Technology (China)*, ⁺⁺*University of New South Wales (Australia)*

Session	SuPP1: Poster Session – Combined Session
Date/Time	Sunday, 5 June 2016 / 15:55 – 17:55
Venue	3rd floor corridor opposite VVIP 3 and 5

- SuPP1.1 P1104
Establishment and Case Analysis of a Photovoltaic Cloud Management System 831
 Kuo-Hsiung Tseng, Hung-Ju Wu, Guan-Hong Lin, Po-Tang Cheng
National Taipei University of Technology
- SuPP1.2 P1106
Planning and Setup of Grid-Connected Photovoltaic Generation Systems 837
 Kuo-Hsiung Tseng*, Chih-Ju Chou*, To-Cheng Liu*, Kang-Chin Liu⁺
 **National Taipei University of Technology*, ⁺*National Penghu University of Science and Technology (Taiwan)*
- SuPP1.3 P1140
A Solution for Intelligent Street Lamp Monitoring and Energy Management 843
 Kuo-Hsiung Tseng, Chin-Liang Hsieh
National Taipei University of Technology
- SuPP1.4 P1332
Resource Allocation for Multicarrier Secure Communications in Energy Harvesting Decode-and-Forward Relay Network 848
 Yuan Lin, Jianli Huang, Huajun Chen, Liming Chen, Fuzheng Zhang, Yixin Jiang, Aidong Xu, Xiaobin Guo, and Baoren Chen
Electric Power Research Institute, CSG (China), Sun Yat-Sen University (China)
- SuPP1.5 P1265
Imaging Reconstruction with the Compensation of Inhomogeneous Microwave Energy Distribution 852
 Xin Bi, Jinsong Du, Yang Gao, Wei Wang
Shenyang Institute of Automation, Chinese Academy of Science (China)

- SuPP1.6 P1573
Automatic Generation of High-Coverage Tests for RTL Designs using Software Techniques and Tools 856
 Yu Zhang, Wenlong Feng and Mengxing Huang
Hainan University
- SuPP1.7 P1074
Simulation of 30kV High-Frequency High-Voltage Power Supply with Phase Shifted Control 862
 Liu Kun, Gao Yinghui
Chinese Academy of Sciences (China)
- SuPP1.8 P1112
Research and simulation on Modular Multilevel Topology 866
 Shi-cheng Zheng, Wang-fang Wang, Meng-lin Cao
Anhui University of Technology (China)
- SuPP1.9 P1139
A Novel Localization Algorithm using Iterative Ranging Scaling under NLOS Environments 872
 Xiaoya Huang*, Jingyu Hua^{1,*}, Shuonan Li *, Kai Zhou*, Bin Jiang⁺
**Zhejiang University of Technology (China), ⁺Southeast University (China)*
- SuPP1.10 P1188
Design of Photovoltaic MPPT Controller Using Interleaving Parallel Buck Circuit 876
 Li Li*, Cun-gang Hu*, Chang-bao Zheng*, Li Wan⁺
**Anhui University (China), ⁺Gold star M&E Technical Development co., LTD (China)*
- SuPP1.11 P1245
Effect on Harmonic Performance for Three-Level ANPC Converter with Small Change in SHEPWM Switch Angles 881
 Dajun Ma, Cungang Hu ,Qiubo Ye and Qunjing Wang
Anhui University (China)
- SuPP1.12 P1812
JL1X1/LHA1-1040/550 Development of aluminum alloy core forming aluminum twisted line pair splicing sleeve 886
 Hai-Jun NIU*, Kuan-Jun ZHU*, Jia-Jun SI*, Shengchun LIU*, Huang Tianfang⁺, Dong Kaijie⁺, Li Duanling⁺
**China Electric Power Research Institute (China), ⁺University of Posts and Telecommunications (China)*
- SuPP1.13 P1576
Control of Single-Stage AC-AC Solid State Transformer for Power Exchange Between Grids 892
 Yupeng Liu^{1,2}, Wencheng Wang¹, Yushan Liu², Haitham Abu-Rub²
¹China Agriculture University (China), ²Texas A&M University at Qatar (Qatar)
- SuPP1.14 P1279
Research on Three-phase Phase-controlled Rectifier Bridge Load Simulation Method 897
 Pengxian Song¹, Yuqi Zhang², Qinghua Tang¹, Yaohua Li³
¹State Grid Tianjin Electric Power Research Institute (China), ²State Grid Customer Service Center (China), ³Chinese Academy of Sciences
- SuPP1.15 P1154
New Control Strategy Based on Model Predictions and PI for Three-Phase Off-grid Inverter 903
 Qingqing Hou, Cungang Hu ,Qiubo Ye and Guoli Li
Anhui University (China)
- SuPP1.16 P1341
Master-Slave Control Strategy for Input-Series Output-Parallel Connected Flyback Converters 907
 Ling Yuesheng, Liu Da, Song Guiying, Tang Yanbin
Hebei University of Technology (China)
- SuPP1.17 P1709
Design of IoT-based Energy Efficiency Management System for Building Ceramics Production Line 912
 Jianhua Wang, Jianxiang Huang, Weihai Chen, Jingmeng Liu
Beihang University (China)

- SuPP1.18 P1445
SOC estimation scheme of super capacitor based on Calman filter 918
 Zheng Tao Gui Shaoting Li Xin Jin Jing
Hefei University of Technology
- SuPP1.19 P1237
Self-Balancing DC-link Capacitor Voltages in Seven-Level Inverter using Selective Harmonics Elimination PWM 922
 Khoukha Imarazene¹, El Madjid Berkouk², Hachemi Chekireb³
¹ *Electrical and Industrial System Laboratory, U.S.T.H.B.*, ² *Control Process Laboratory, ENP*, ³ *Control Process Laboratory, ENP (Algérie)*
- SuPP1.20 P1303
The Harmonic Probability Distribution of Power Grid with Multi-Harmonic Sources 928
 Wang Yaqi, Xu Yonghai, Tao Shun
North China Electric Power University

Session	MoA1: Industrial Informatics & Computational Intelligence (II)
Date/Time	Monday, 6 June 2016 / 10:45 – 12:25
Venue	3rd floor Room 1
Chairs	Charles Liu, <i>Macquarie University</i> Quan Jiang, <i>Anhui University</i>

- MoA1.1 10:45 – 11:05 P1747
Fuzzy Knowledge Based Enhanced Matting 934
 Charles Z. Liu, Manolya Kavakli
Macquarie University (Australia)
- MoA1.2 11:05 – 11:25 P1146
Software for Automated Theorem Proving Based on the Calculus of Positively Constructed Formulas 940
 Igor Bychkov*, Evgeny Cherkashin⁺, Artem Davydov* and Alexander Larionov*
^{*}*Matrosov Institute for System Dynamics and Control Theory of Siberian Branch of Russian Academy of Sciences (Russia)*
- MoA1.3 11:25 – 11:45 P1214
An Innovative Sensor Selection and Optimization Method Considering Reliability and Detectability 946
 Wang Jian, Sun Wuji, Li Ting, Cao Yuyan, Wang Xinmin
Northwestern Polytechnical University (China)
- MoA1.4 11:45 – 12:05 P1640
Wind Turbine Gearbox Fault Diagnosis Based on EEMD and Fractal Theory 952
 Dongdong Li, Wenlei Zhou, Xiaoxia Zheng, Xiaolin Ge, Shunfu Lin
Shanghai University of Electric Power (China)
- MoA1.5 12:05 – 12:25 P1320
Electromagnetic Gun Loading Control System based on Cloud Model 957
 Jin Ma^{1,2}, Dongdong Zhang¹, Weiqun Yuan¹, Kun Liu¹, Weidong Xu¹, Ping Yan¹
¹*Chinese Academy of Sciences (China)*, ²*University of Chinese Academy of Sciences (China)*

Session	MoA2: Power Electronics (VII)
Date/Time	Monday, 6 June 2016 / 10:45 – 12:25
Venue	3rd floor VVIP 3
Chairs	Pengfei Tu, <i>Nanyang Technological University</i> Shichuan Ding, <i>Anhui University</i>

- MoA2.1 10:45 – 11:05 P1371
Analytical Evaluation of IGBT Turn-on Loss with Double Pulse Testing 963
 Pengfei Tu*, Peng Wang*, Xiaolei Hu*, Chen Qi*, Shan Yin*, Michael A. Zagrodnik⁺
**Nanyang Technological University (Singapore), ⁺Rolls-Royce Singapore Pte Ltd (Singapore)*
- MoA2.2 11:05 – 11:25 P1192
Investigation on the Electromagnetic Transient of Parallel Transmission Lines Considering the Interference from Magnetic Storms 969
 Richang Xian¹, Hanwu Luo², Lingqiang Fan³, Fan Yang⁴, Peng Cheng⁵ and Liu Kai⁶
¹Shandong University of Science and Technology, ²East Inner Mongolia Electric Power Company Limited, ³Chongqing University (China)
- MoA2.3 11:25 – 11:45 P1257
A Bidirectional Switched-Capacitor based AC-AC Resonant Converter 973
 Yajie Mu*, Xiaofeng Yang*, Yao Xue*, Zhiqin Lin*, Trillion Q. Zheng*, Seiki IGARASHI⁺
**Beijing Jiao Tong University (China), ⁺Fuji Electric Co., Ltd (Japan)*
- MoA2.4 11:45 – 12:05 P1055
Control Strategy Design for Line-Commutated Converter Based Special Series Multi-Terminal DC Transmission 978
 Shaohua Li*, Xiuli Wang*, Jianming Gao*, Yun Mo⁺, Wang Zhang⁺
**Xi'an Jiaotong University (China), ⁺XJ Electric Co., Ltd (China)*
- MoA2.5 12:05 – 12:25 P1081
Disturbance Rejection Using Direct Thrust Control in Permanent Magnet Linear Synchronous Motor 984
 Yunsheng Su, Fei Dong, Jiwen Zhao, Siliang Lu, Zhenbao Pan
Anhui University (China)

Session	MoA3: Computer Vision
Date/Time	Monday, 6 June 2016 / 10:45 – 12:25
Venue	3rd floor VVIP 5
Chairs	Wenxiang Xie, <i>Seagate Technology International</i> Lijun Jiang, <i>Republic Poly</i>

- MoA3.1 10:45 – 11:05 P1285
3D Anomaly Inspection System for Sewer Pipes Using Stereo Vision and Novel Image Processing 988
 Phat Huyn , Robert Ross, Andrew Martchenko and John Devlin
La Trobe University (Australia)
- MoA3.2 11:05 – 11:25 P1412
An efficient 3D partial face recognition approach with single sample 994
 Yinjie Lei*, Siyu Feng*, Xinzhi Zhou*, Yulan Guo⁺
**Sichuan University (China), ⁺National University of Defense Technology (China)*

- MoA3.3 11:25 – 11:45 P1447
Learning-based Leaf Occlusion Detection In Surveillance Video 1000
 Jiaxiang Liu, Li Chen, Jing Tian, Dawei Zhu
Wuhan University of Science and Technology (China)
- MoA3.4 11:45 – 12:05 P1610
Depth Estimation from a Single Image in Pedestrian Candidate Generation 1005
 Yali Guo, Shihao Zou, Huiqi Li
Beijing Institute of Technology (China)
- MoA3.5 12:05 – 12:25 P1401
Weighting Linear Matching for Stereo Vision 1009
 Bin Chen, Shiqian Wu
Wuhan University of Science and Technology (China)

Session	MoA4: Mechatronics (II)
Date/Time	Monday, 6 June 2016 / 10:45 – 12:25
Venue	3rd floor VVIP 6
Chairs	Guoli Li, <i>Anhui University</i> Wenjian Cai, <i>Nanyang Technological University</i>

- MoA4.1 10:45 – 11:05 P1605
Indoor Localization of Transport Vehicle Using RSSI Constraints and UHF Transponders Installed on Planar Floor 1015
 Gi-Dong Kim¹, Yun-Won Choi², Chan-Gyu Park³, Suk-Gyu Lee¹
¹*Yeungnam University*, ²*ETRI*, ³*Yeungnam University College (Korea)*
- MoA4.2 11:05 – 11:25 P1125
Development of a Prototype of Puncturing Robot for CT-guided Intervention 1020
 Hajime Ishii*, Tetsushi Kamegawa*, Hiroki Kitamura*, Takayuki Matsuno*, Takao Hirakiy⁺ and Akio Gofuku*
 **Okayama University (Japan)*, ⁺*Okayama University Hospital (Japan)*
- MoA4.3 11:25 – 11:45 P1369
Adaptive Backstepping Dynamic Surface Tracking Control of Nonholonomic Mobile Robots 1026
 Jeng-Tze Huang, Ying-Liang Sung
Chinese Culture University (Taiwan)
- MoA4.4 11:45 – 12:05 P1519
Improved Numerical Technique for Industrial Robots Model Reduction and Identification 1032
 Khalid Bouabaz, Qidan Zhu
Harbin Engineering University (China)

Session	MoA5: Cyber Physical Systems (I)
Date/Time	Monday, 6 June 2016 / 10:45 – 12:25
Venue	3rd floor VVIP 11
Chairs	Carsten Schleyer, <i>University of Applied Sciences</i> Xing Zhu, <i>InspiRain Technologies Pte Ltd</i>

■ MoA5.1 10:45 – 11:05 P1702
A Framework to Mitigate Social Engineering through Social Media in Enterprise 1039
 Heidi Wilcox, Maumita Bhattacharya
Charles Sturt University (Australia)

■ MoA5.2 11:05 – 11:25 P1632
Discrete Firefly Algorithm Based Distribution Networks Reconfiguration 1045
 Yaomin Chen¹, Ying Sun¹, Hongxin Zhang², Liqiang Gao¹
¹*Shandong University (China)*, ²*State Grid Shandong Electric Power Company (China)*

■ MoA5.3 11:25 – 11:45 P1335
A Comparative Study and Future Research Directions in Cloud Service Discovery 1049
 Asma Musabah Alkalbani yand Farookh Khadeer Hussain
University of Technology, Sydney (Australia)

■ MoA5.4 11:45 – 12:05 P1234
Smart Factory and Education 1057
 Marcus Kurth, Carsten Schleyer, Daniel Feuser
University of Applied Sciences (Germany)

■ MoA5.5 12:05 – 12:25 P1572
On Identifying Vulnerable Nodes for Power Systems in the Presence of Undetectable Cyber-Attacks 1062
 Ting Zhao, Yun Xu, Yinan Wang, Zhiyun Lin, Wenyuan Xu and Qiang Yang
Zhejiang University (China), *Smart Grid Research Institute State Grid (China)*

Session	MoA6: Combined Session
Date/Time	Monday, 6 June 2016 / 10:45 – 12:25
Venue	3rd floor VVIP 12
Chairs	Bing Xiao, <i>Bohai University</i> Guilin Yang, <i>Chinese Academy of Sciences</i>

■ MoA6.1 10:45 – 11:05 P1722
A Decision-making approach to field service delivery under mixed maintenance policy 1068
 Rui Zhou, Yaoguang Hu, Shasha Xiao, Jingqian Wen
Beijing Institute of Technology (China)

■ MoA6.2 11:05 – 11:25 P1526
Finger-Knuckle-Print for Identity Verification Based on Difference Images 1073
 Jooyoung Kim, Kangrok Oh, Andrew Beng-Jin Teoh and Kar-Ann Toh
Yonsei University (Korea)

■ MoA6.3 11:25 – 11:45 P1678
Numerical analysis of rotary lip seal performance deterioration 1078
 Di Liu¹, Shaoping Wang¹, Jian Shi¹, Chao Zhang¹, Mileta Tomovic²
¹*Beihang University (China)*, ²*Old Dominion University (USA)*

- MoA6.4 11:45 – 12:05 P1788
Kinematic Design of a 3-DOF Force-controlled End-effector Module 1084
 Kaichao Ma and Guilin Yang
Chinese Academy of Sciences (China)
- MoA6.5 11:25 – 11:45 P1464
Cell Voltage Balancing Control of Isolated Modular Multilevel Using Inter-Submodule Phase-Shift Modulation Scheme 1090
 Changjiang SUN, Yudong MOU, Jianwen ZHANG, Miao ZHU, and Xu CAI
Shanghai Jiao Tong University (China)

Session	MoAP1: Poster Session – Energy and Environment
Date/Time	Monday, 6 June 2016 / 10:45 – 12:25
Venue	3rd floor corridor opposite VVIP 3 and 5

- MoAP1.1 P1269
A rotating magnetic guidance method for measurement while drilling 1095
 Zong Yanbo*, Wang Lei*, Shi Xiaofeng⁺
**Sinopec Research Institute of Petroleum Engineering (China), ⁺Beihang University (China)*
- MoAP1.2 P1475
A discontinuous coordinated charging strategy for electric vehicle 1099
 HOU Yanjin^{1*}, YANG Yong², LIU Zhizhen², SUN Linlin³
¹Energy Research Institute of Shandong Academy of Science (China), ²Shandong University (China), ³Huaneng Liao Cheng Thermal Power Co., Ltd (China)
- MoAP1.3 P1260
A New Fire Protection System of Power Cable Tunnel Based On Wireless Sensor Network Monitoring System 1103
 Yongzhong Chen*, Deyi Zhang*, Jiaping Chen*, Fan Yang⁺, Kai Liu⁺
**Development & Design Institute Co., Ltd, ⁺Chongqing University*
- MoAP1.4 P1102
BART-based Prediction of Cache Reliable Energy-Efficiency 1107
 Cheng Yu, Chen Qinbi, Yu Bao
Jiuquan Satellite Launch Center (China)
- MoAP1.5 P1604
Research on STATCOM/BESS Control Strategy for Wind Turbine with Squirrel-cage Induction Generator 1111
 Wenping Wang, Shengtie Wang, Guizhen Tian
Inner Mongolia University of Technology (China)
- MoAP1.6 P1470
CFD simulation of structured packing in Liquid Desiccant Dehumidification System (LDDS) 1117
 Suping Shen*, Wenjian Cai*, Haoren Yon*, Qing-Guo Wang⁺
**Nanyang Technological University (Singapore), ⁺The University of Johannesburg (South Africa)*
- MoAP1.7 P1127
Voltage Profile and Power Loss Improvement in Distribution System using MVDS Considering Economic Enticements 1122
 Firas M. F. Flaih^{1,2}, Lin Xiangning¹, Asad Waqar¹ and Rasool M. Imran¹
¹Huazhong University of Science and Technology (China), ²Ministry of Electricity (Iraq)
- MoAP1.8 P1309
Multi-objective optimization model of combined cooling heating and power system based on solar energy 1127
 Zheng Tao, Sheng Tingting, Li Xin, Pan Wangyang
Hefei University of Technology (China)

- MoAP1.9 P1502
Evaluation of Impact Mode-Based Piezoelectric Power Generator 1131
 Seiji Hashimoto*, Amat Amir Basari*, Takahiro Iwase*, Bunji Homma⁺, Hiroaki Okada⁺, Hideki Okuno⁺
 *Gunma University (Japan), ⁺Mitsuba Corporation (Japan)
- MoAP1.10 P1239
Artificial Neural Networks applied in the forecast of pollutants into the Rio Santiago, based on the sample of a pollutant, by Data Fusion 1135
 Marco A. Pérez Cisneros, J. Miguel Morán L, Alicia García Arreola
 Universidad de Guadalajara (Mexico)

Session	MoAP2: Poster Session – Special Invited Session
Organizers	Prof. Weihai Chen, <i>Beihang University</i> Prof. Chi Zhang, <i>Ningbo Institute of Industrial Technology; Chinese Academy of Sciences</i>
Date/Time	Monday, 6 June 2016 / 10:45 – 12:25
Venue	3rd floor corridor opposite VVIP 3 and 5

- MoAP2.1 P1097
Proportional Reactive Power Sharing for Islanded Microgrids 1139
 M. I. Azim*, M. A. Hossain*, S. M. Mohiuddin*, M. J. Hossain** and H. R. Pota*
 *The University of New South Wales (Australia), **Griffith School of Engineering Griffith University (Australia)
- MoAP2.2 P1752
Development of Simulation Platform for Physicochemical Regenerative Environment Control and Life Support System in Space Station 1145
 Mingbo Lv, Yunhua Li, Wei Liu, Rui Guo, Liman Yang, Liping Pang, Yunze Li, Jun Wang
 Beihang University (China)
- MoAP2.3 P1760
Testability Virtual Verification Technique Based on Modelica 1151
 Chunling Yang*, Jianmin Yue*, Yang Jiao⁺, Min Zhu*
 *Harbin Institute of Technology (China), ⁺2311 Secondary Metrology Station of Science, Technology and Industry for National Defense (China)
- MoAP2.4 P1764
Object detection on robot operation system 1155
 Dong Xu*, Qian Huang*, Hanwu Liu⁺
 *Beihang University (China), ⁺Special Machinery Research Institute (China)
- MoAP2.5 P1801
Study on the Method of Capacity Increase for the Main Lifting System of the Casting Crane 1160
 Jintao Cui*, Xiumei Tao*, Dazhi Xin*, Chao Lyu⁺
 *Chaoyang Teachers College (China), ⁺Harbin Institute of Technology (China)
- MoAP2.6 P1802
The Design of a Four DOFs Light Manipulator Used for a Dangerous Environment Detection Robot 1165
 Xiumei Tao*, Jintao Cui*, Dazhi Xin*, Chao Lyu⁺
 *Chaoyang Teachers College (China), ⁺Harbin Institute of Technology (China)
- MoAP2.7 P1510
Design of Data Communication System for Space Manipulator Teleoperation 1169
 Zhongwei Guo, Sibbo Zhang, Yue Wang, Danni Nian
 China Academy of Space Technology (China)
- MoAP2.8 P1669
Reliability Analysis for NC Machines Based on Doubly-Truncated Weibull Distribution 1175
 Nan Dongle, Jia Zhixin, Li Wei
 University of Science and Technology Beijing (China)

- MoAP2.9 P1676
Design of Control System for Dual-arm Manipulator Considering Coordinated Manipulation 1179
 Yiru Wang, Qingxuan Jia, Gang Chen
Beijing University of Posts and Telecommunications (China)
- MoAP2.10 P1569
Phase-Shift and Wavefront Retrieval in Two-Step-Only Phase-Shifting Holography 1185
 Jianyang Zhou*, Shuqun Zhang⁺
 *Xiamen University (China), ⁺City University of New York (USA)

Session	MoM1: Power Electronics (VIII)
Date/Time	Monday, 6 June 2016 / 13:25 – 15:25
Venue	3rd floor Room 1
Chairs	Fanglin Luo, <i>Anhui University</i> Weihai Chen, <i>Beihang University</i>

- MoM1.2 13:45 – 14:05 P1090
High-power and High Repetitive Rate Charging Techniques of Laser Power Supply 1189
 Gao Yinghui , Liu Kun, Fu Rongyao, Sun Yao-hong, Pin Yan
Chinese Academy of Sciences (China)
- MoM1.3 14:05 – 14:25 P1116
Voltage and Power Management in AC Micro-Grids with Exponential Droop Control 1195
 Qiuye Sun*, Rui Wang*, Yue Han⁺
 *Northeastern University (China), ⁺State Grid Liaoning Electric Power Supply Co.Ltd (China)
- MoM1.4 14:25 – 14:45 P1216
Dual-Input DC-DC power converter for Solar Battery Charger 1201
 Ting-Lien Wu, Jia-Sheng Hu
National University of Tainan (Taiwan)
- MoM1.5 14:45 – 15:05 P1372
Study of Predictive Direct Power Control for Three-level NPC Converter 1207
 Quan Chen, Qunjing Wang, Long Cheng, Changbao Zheng
Anhui University (China)
- MoM1.6 15:05 – 15:25 P1462
Dynamic Model Predictive Voltage Control for Single-Input Dual-Output Flyback Converter 1212
 Benfei Wang, Liang Xian, and King Jet Tseng
Nanyang Technological University (Singapore)

Session	MoM2: Power Electronics (IX)
Date/Time	Monday, 6 June 2016 / 13:25 – 15:25
Venue	3rd floor VVIP 3
Chairs	Weixiang Shen, <i>Swinburne University of Technology</i> Yunhua Li, <i>Huazhong University of Science and Technique</i>

- MoM2.1 13:25 – 13:45 P1517
Robust Adaptive Backstepping Controller Design for DC-DC Buck Converters with External Disturbances 1218
 T. K. Roy, M. A. Mahmud, Weixiang Shen, M. E. Haque, A. M. T. Oo
Swinburne University of Technology (Australia)

- MoM2.2 13:45 – 14:05 P1626

Influence of Diode Reverse Recovery on the Commutation Behavior of Doubly Salient Brushless DC Generator 1224

Zhangming Bian, Li Yu, Zhuoran Zhang, Senior Member, IEEE, and Yuke Shi

Nanjing University of Aeronautics and Astronautics (China)
- MoM2.3 14:05 – 14:25 P1223

Power Transfer Efficiency Analysis of the 4-coil Wireless Power Transfer System Based on Circuit Theory and Coupled-mode Theory 1230

Shuo Wang¹, Dawei Gao^{1,2}

¹*Tsinghua University (China)*, ²*Collaborative Innovation Center of Electric Vehicles (China)*
- MoM2.4 14:25 – 14:45 P1294

Position Estimation in Permanent Magnet Synchronous Linear Motor Without Position Sensor 1235

Sixing Dong, Fei Dong, Jiwen Zhao*, Siliang Lu, Jian Huang

Anhui University (China)
- MoM2.5 14:45 – 15:05 P1289

A Carrier-based Control Scheme for Five-leg Back-to-Back Converter-Fed Induction Motor Drive 1239

Yunhua Li, Chengguang Huang, Dehong Zhou, Jin Zhao

Huazhong University of Science and Technology (China)

Session	MoM3: Image Processing (II)
Date/Time	Monday, 6 June 2016 / 13:25 – 15:25
Venue	3rd floor VVIP 5
Chairs	Prof. Xin Xu, <i>Wuhan University of Science and Technology</i> Xing Qi, <i>Anhui University</i>

- MoM3.1 13:25 – 13:45 P1400

Salient object detection via multi-scale local-global superpixel contrast 1245

Xiaolong Zhang, Jia Hu, Xin Xu, and Li Chen

Wuhan University of Science and Technology (China)
- MoM3.2 13:45 – 14:05 P1061

Digital Image Edge Detection Based on LVQ Neural Network 1251

Xiaofeng Li*, Yinhui Zhang⁺

**Renai College of Tianjin University (China), Samsung Mobile R&D Center China-Tianjin (China)*
- MoM3.3 14:05 – 14:25 P1007

A Quadratic Distortion Criterion with Lagrangian Multiplier for Depth Map Coding 1256

Hui Yuan*, Zhixin Guo*, Ju Liu*, Fengrong Li⁺

**Shandong University (China), ⁺Chinese Academy of Sciences (China)*
- MoM3.4 14:25 – 14:45 P1163

A High Embedding Capacity Image Watermarking Method With Rank-Based Embedder And Decoder 1260

Tianrui Zong¹, Yong Xiang¹, Peng Chen², Saeid Nahavandi¹ and Gleb Beliaikov¹

¹*Deakin University (Australia)*, ²*Sichuan University (China)*
- MoM3.5 14:45 – 15:05 P1574

A Novel Solo Dictionary Learning Method for Single Image Super-resolution 1265

Rui Dong^{1,2}, Dongfang Chen^{1,2}, Xiaofeng Wang^{1,2}

¹*Wuhan University of Science and Technology (China)*, ²*Hubei Province Key Laboratory of Intelligent Information Processing and Real-time Industrial System (China)*
- MoM3.6 15:05 – 15:25 P1083

Vision Model based Image Fusion in Nonsubsampled Contourlet Transform Domain 1270

Yanxiang Hu, Rui Zhang

Tianjin Normal University (China)

Session	MoM4: Mechatronics (III)
Date/Time	Monday, 6 June 2016 / 13:25 – 15:25
Venue	3rd floor VVIP 6
Chairs	Zheng Li, <i>Hebei University of Science and Technology</i> Chinyin Chen, <i>Chinese Academy of Sciences</i>

- MoM4.1 13:25 – 13:45 P1543
Design and Motion Control of a Spherical robot with Stereovision 1276
 Ye Ping, Sun Hanxu Qiu, Zhongjiang, Chen Jiazhen
Beijing University of Posts and Telecommunications (China)
- MoM4.2 13:45 – 14:05 P1568
Control System Design of a Teleoperated Omni-directional Mobile Robot Using ROS 1283
 Andres Belzunce, Ming Li, Heikki Handroos
Lappeenranta University of Technology (Finland)
- MoM4.3 14:05 – 14:25 P1580
Data Driven Machine Learning Approach for Predicting Volumetric Moisture Content of Concrete Using Resistance Sensor Measurements 1288
 Karthick Thiyagarajan, Sarath Kodagoda, Nalika Ulapane
University of Technology Sydney (Australia)
- MoM4.4 14:25 – 14:45 P1639
A New Method for Robot Path Planning Based Artificial Potential Field 1294
 Xing Yang^{1,2}, Wei Yang¹, Huijuan Zhang¹, Hao Chang¹, Chin-Yin Chen¹
¹Ningbo Institute of materials Technology & Engineering, CAS (China), ²North University of China (China)
- MoM4.5 14:45 – 15:05 P1513
Application of ECS in metal material separation based on ANSYS 1300
 Guihua Li*, Zhengkui Wei*, Zhe Qian*, Xiushui Ma⁺
**Anhui University (China), Zhejiang University (China)*
- MoM4.6 15:05 – 15:25 P1616
Electromagnetic System Modeling and Analysis of a 3-DOF Type Combined Drive Motor 1305
 Zheng Li, Shuanghong Li
Hebei University of Science and Technology (China)

Session	MoM5: Cyber Physical Systems (II)
Date/Time	Monday, 6 June 2016 / 13:25 – 15:25
Venue	3rd floor VVIP 11
Chairs	Changbao Zheng, <i>Anhui University</i> Quan Jiang, <i>Anhui University</i>

- MoM5.1 13:25 – 13:45 P1409
Human Detection and Localization in Secure Access Control by Analysing Facial Features 1311
 Mozammel Chowdhury¹, Junbin Gao², Rafiqul Islam¹
¹Charles Sturt University, ²University of Sydney Business School
- MoM5.2 13:45 – 14:05 P1062
Research on MapReduce-based Cloud Storage Batch Auditing 1317
 Yu Jin^{1,2}, Dong Yan^{1,2}, Heng He^{1,2}
¹Wuhan University of Science & Technology (China), ²Hubei Province Key Laboratory of Intelligent Information Processing and Real-time Industrial System (China)

- MoM5.3 14:05 – 14:25 P1333
A New Safety Theory: Concept, Methodology, and Application 1323
 M.Y. Cai*, C.J. Liu*, C.A. van Luttervelt⁺, J.W. Wang⁺⁺, W.J. Zhang^{*,+++}
^{*}East China University of Science and Technology (China), ⁺Delft University of Technology (Netherlands),
⁺⁺⁺University of Saskatchewan
- MoM5.4 14:25 – 14:45 P1334
Statistical Analysis of Energy-aware Real-Time Automotive Systems in EAST-ADL/Stateflow 1328
 Eun-Young Kang, Jianda Chen*, Liu Ke* and Shangyu Chen *
^{*}University of Namur (Belgium), ^{*}Sun Yat-Sen University (China)
- MoM5.5 14:45 – 15:05 P1533
A New Framework of Electrical Cyber Physical Systems 1334
 Yinan Wang, Zhiyun Lin, Sicheng Zeng, Wenyan Xu, Qiang Yang, Gangfeng Yan
^{*}Zhejiang University (China)
- MoM5.6 15:05 – 15:25 P1115
Analysis of Transient Performance of Capacitorcoupled 1340
 Zhang peng, Zhu mingxing, Wang Qunjin
^{*}Anhui University (China)

Session	MoM6: Invited Session – System Design and Test (I)
Organizers	Prof. Chi Zhang, <i>Ningbo Institute of Industrial Technology; Chinese Academy of Sciences</i> Prof. Qiang Zhou, <i>Beihang University</i>
Date/Time	Monday, 6 June 2016 / 13:25 – 15:25
Venue	3rd floor VVIP 12
Chairs	Zhengguo Li, <i>Institute for Infocomm Research</i> Guoli Li, <i>Anhui University</i>

- MoM6.1 13:25 – 13:45 P1683
Control Architecture Design for Intelligent Robot Assisted Intervention for Children with Autism 1345
 Yongli Feng, Qingxuan Jia, Gang Chen, Chaochao Li
^{*}Beijing University of Posts and Telecommunications (China)
- MoM6.2 13:45 – 14:05 P1706
Error Compensation Analysis of the Probe-radius of the Online Measurement Device for Joint Internal Thread 1350
 Qiang Zhou*, Qiushuang Zhang*, Yanfei Yin⁺
^{*}Beihang University (China), ⁺Beijing Information Control Institute (China)
- MoM6.3 14:05 – 14:25 P1659
Hot-swap and Redundancy Technology for CPCI Measurement and Control Systems 1355
 Dan Li, Xiaoguang Hu
^{*}Beihang University (China)
- MoM6.4 14:25 – 14:45 P1675
Leakage model and failure factors analysis of mechanical seals 1359
 Xuemeng Zhang¹, Jian Shi¹, Shaoping Wang¹, Chao Zhang¹, Mileta Tomovic²
¹Beihang University (China), ²Old Dominion University (USA)
- MoM6.5 14:45 – 15:05 P1763
An Design of batch electronic thermometers automatic verification system based on LabVIEW 1365
 Chenglang Li, Yaqiong Fu, Da Shen, Le Chen
^{*}China Jiliang University (China)

Session	MoMP1: Poster Session – Industrial Informatics & Computational Intelligence
Date/Time	Monday, 6 June 2016 / 13:25 – 15:25
Venue	3rd floor corridor opposite VVIP 3 and 5

- MoMP1.1 P1494
A hybrid genre-based personalized recommendation algorithm 1369
 Yajie Hu*, Yi Yang*, Caihong Li*, Yachen Wang*, Lian Li⁺
**Lanzhou University (China), ⁺Hefei University of Technology (China)*
- MoMP1.2 P1799
Exploring the discrepancies between users' and designers' perception to identify users' real needs 1374
 Yu Fu, Xusheng Zhang
Zhejiang University (China)
- MoMP1.3 P1164
A Simple FPGA System for ECG R-R Interval Detection 1379
 Hadeel N. Abdullah, Bassam H. Abd
University of Technology (Iraq)
- MoMP1.4 P1428
An Intelligent Medicine Recommender System Framework 1383
 Youjun Bao, Xiaohong Jiang
Zhejiang University
- MoMP1.5 P1456
Transient signal period detection for bearing fault diagnosis using amplitude demodulation and signal segmentation and labeling 1389
 Siliang Lu, Fang Liu, Hui Yang, Wenrui Li, Rui Zhou
Anhui University (China)
- MoMP1.6 P1544
Study of Method on Parking Guidance Based on Video 1394
 Liyan Xie, Jihong Liu, Chenchen Miao, Mo Liu
Northeastern University (China)
- MoMP1.7 P1331
On the Membership of Black-box or White-box of Artificial Neural Network Models 1400
 Z.F. Wu¹, Jin Li¹, M.Y. Cai¹, W.J. Zhang^{1,2}, Y. Lin³
*¹East China University of Science and Technology (China), ²University of Saskatchewan (Canada),
 Northeastern University (USA)*
- MoMP1.8 P1023
Multicriteria Group Decision Making for Selecting Human Resources Management Information Systems Projects 1405
 Santoso Wibowo¹, Xibao Zhang², Hepu Deng³
¹CQUniversity, Melbourne (Australia), ²Qingdao University (China), ³RMIT University (Australia)
- MoMP1.9 P1795
An Improved Genetic Algorithm Based on Fuzzy Inference Theory And Its Application in Distribution Network Fault Location 1411
 Lin Yu, Ying Sun, Ke-jun Li, Mi Xu
Shandong University
- MoMP1.10 P1590
A Novel Camera Calibration Method Combined with Calibration Toolbox and Genetic Algorithm 1416
 Yuanyuan Dong, Xuanzuo Ye, Xiongxiang He
Zhejiang University of Technology
- MoMP1.11 P1546
Research on Parallel Algorithms For Calculating Static Characteristics of Electromagnetic Relay 1421
 Jiaxin You*, Hongda Kezhong*, Huimin Liang*, Bin Xiao⁺
**Harbin Institute of Technology, ⁺Zhenhua Qunying Electrical Apparatus Ltd (China)*

- MoMP1.12 P1336
A New Approach to Classification of Devices and its Application to Classification of In-Pipe Robots 1426
 Zhao Li*, Q. Z. Wang*, Jin Li*, Y. F. Liu*, C. J. Liu*, Lin Cao⁺, W. J. Zhang⁺
**East China University of Science and Technology (China), ⁺University of Saskatchewan (Canada)*

Session	MoMP2: Poster Session – Power Electronics
Date/Time	Monday, 6 June 2016 / 13:25 – 15:25
Venue	3rd floor corridor opposite VVIP 3 and 5

- MoMP2.1 P1319
The 9-kJ Modular Pulsed Power Units for Electromagnetic Launching Application 1432
 Xin Fu^{1,2}, Zhimin Huang^{1,2}, Jin Ma^{1,2}, Xingmin Hou^{1,2}, Dongdong Zhang¹, Ping Yan¹
¹Chinese Academy of Sciences (China), ²University of Chinese Academy of Sciences (China)
- MoMP2.2 P1340
Investigation of the Effects of Insulation Defects on the 3-D Electromagnetic-Thermal Coupling Fields of Power Cable Joint 1436
 Fu Jin*, Cheng peng⁺, Chen Wei *, Hu Xiaorui *, Wang Qian*, Yang Qi⁺, Yang Fan⁺
**State Grid Chongqing Electric Power Corporation Research Institute (China), ⁺Chongqing University (China)*
- MoMP2.3 P1387
An Improved Control Strategy for Three-Phase Four-Wire Active Power Filter Based on Vector-Resonant Control 1440
 Yuhao Chen*, Runquan Meng*, Lei Wang*, Yizhao Liu*, Xiaoqing Han*, Yu Yang⁺
**Taiyuan University of Technology (China), ⁺Shanxi Electric Power Corporation (China)*
- MoMP2.4 P1170
A Grid-connected Battery Charger with Power Factor Correction 1446
 Chih-Yi Hung*, Jinn-Chang Wu*, Yong-Lin Chen*, Hurng-Liahng Jou⁺
**National Kaohsiung Marine University (Taiwan), ⁺National Kaohsiung University of Applied Sciences (Taiwan)*
- MoMP2.5 P1173
Novel Active Power Line Conditioner Integrating Fuel Cell and Battery Set 1453
 Ci-Mou Cai*, Hurng-Liahng Jou*, Kuen-Der Wu*, Yun-Hao Shen*, Jinn-Chang Wu⁺⁺⁺
**National Kaohsiung University of Applied Sciences (Taiwan), ⁺⁺⁺National Kaohsiung Marine University (Taiwan)*
- MoMP2.6 P1348
Diagnosis of faults in wind power generation systems 1459
 Paul Juinn Bing Tan, Ming-Hung Hsu
National Penghu University of Science and Technology, Magong (Taiwan)
- MoMP2.7 P1349
Crack Effects on the Dynamic Behavior of Orthotropic Composite Pre-Twisted Blades Using Radial Basis Function Model 1463
 Paul Juinn Bing Tan, Ming-Hung Hsu
National Penghu University of Science and Technology, Magong (Taiwan)
- MoM1.1 P1088
Bi-directional AC-DC Converter for Distributed DC Power System with Wide Bus Voltage 1469
 Yang Chen, Zhang Binfeng, Li Juan, Xie Shao-jun, MAO Ling
Nanjing University of Aeronautics and Astronautics (China)

Session	MoP1: Power Electronics (X)
Date/Time	Monday, 6 June 2016 / 15:55 – 17:55
Venue	3rd floor Room 1
Chairs	Qunjing Wang, <i>Anhui University</i> Quan Chen, <i>Anhui University</i>

- MoP1.1 15:55 – 16:15 P1298
Disturbance Suppression Research in Parallel Dual Permanent Synchronous Linear Motors Based on 2DOF PID Controller 1475
 Jiaojiao Tang, Fei Dong, Jiwen Zhao, Siliang Lu, Jian Huang
Anhui University (China)
- MoP1.3 16:35 – 16:55 P1490
The Basic Research of Novel Hybrid Excitation Brushless Claw Pole Alternatorl 1479
 CONG Min, WANG Xiuhe, ZHU Changqing
Shandong University (China)
- MoP1.4 16:55 – 17:15 P1066
Thrust Ripple Reduction According to Coil Arrangement in PMLSM with Double Secondary Side 1484
 Le Li, Fei Dong, Jiwen Zhao, Lufeng Ju, Siliang Lu, Dan Zhang, Guoli Li
Anhui University (China)
- MoP1.5 17:15 – 17:35 P1373
Reducing Cogging Torque in Permanent-Magnet Synchronous Motors by Auxiliary Teeth Method 1488
 Qingling He, Xiaohua Bao
Hefei University of Technology (China)
- MoP1.6 17:35 – 17:55 P1210
Demagnetization Study of Line-start Permanent Magnet Synchronous Motor Under Out-of-step and Supersynchronous Faults 1496
 Xu Tang, Xiuhe Wang, Guanqun Li, Mengmeng Tian
Shandong University (China)

Session	MoP2: Power Electronics (XI)
Date/Time	Monday, 6 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP 3
Chairs	Qian Zhang, <i>Anhui University</i> Jingbing Zhang, <i>IDC Asia/Pacific</i>

- MoP2.1 15:55 – 16:15 P1060
Research of the Thrust Fluctuation in TPMLSM with Unequal Pole-Pitch 1502
 Ning-Ning Ren, Huai-Shu Li, Zhi-Qiang Xue
Naval University of Engineering (China)
- MoP2.2 16:15 – 16:35 P1156
Sensorless Control of BLDC Motor Drive for a Drilling Rig System in Shale Gas Development 1508
 CHEN Yongjun, RUAN Bo
Yangtze University (China)
- MoP2.3 16:35 – 16:55 P1165
Fault-Tolerant Control of Novel Axial Field Flux-Switching Permanent Magnet Machine 1514
 Xingyan Liang, Wei Zhang, Wenlin Wang
Nantong University (China)

- MoP2.4 16:55 – 17:15 P1203
Direct Torque Control of Interior Permanent Magnet Synchronous Motor with Maximum Torque per Ampere 1519
 Zhang Xinghua, Tang Qitai, Wen Ting
Nanjing Tech University (China)
- MoP2.5 17:15 – 17:35 P1226
Vector Control Strategy for PMSM Using Rotor Kinetic Energy 1525
 Anbang Wang, Qian Zhang, Qiubo Ye
Anhui University (China)
- MoP2.6 17:35 – 17:55 P1271
Monitoring Magnetic Field of Stator Yoke to Detect Eccentricity Fault in Induction Motor 1530
 Xiaohua Bao, Cheng Zhang, Hanfeng Wang
Hefei University of Technology (China)

Session	MoP3: Acoustic Signal Processing
Date/Time	Monday, 6 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP 5
Chairs	Yuqiang Dou, <i>Communication University of China</i> Lijun Jiang, <i>Republic Poly</i>

- MoP3.1 15:55 – 16:15 P1136
Robustness and Embedding Capacity Enhancement in Time-Spread Echo-Based Audio Watermarking 1536
 Iynkaran Natgunanathan*, Yong Xiang*, Lei Pan*, Peng Chen⁺, Dezhong Peng⁺
**Deakin University (Australia), ⁺Sichuan University (China)*
- MoP3.2 16:15 – 16:35 P1388
Voice Recognition Based on Adaptive MFCC and Deep Learning 1542
 Hyan-Soo Bae, Ho-Jin Lee, Suk-Gyu Lee
Yeungnam University (Korea)
- MoP3.3 16:35 – 16:55 P1461
An Algorithm of Sound Source Localization Using Range Differences of Arrival and Energy Ratios of Arrival 1547
 Yuqiang Dou^{1,2}, Hui Wang¹, Sai Ma¹
¹Communication University of China (China), ²Henan Normal University (China)
- MoP3.4 16:55 – 17:15 P1370
De-noising of acoustic signal by natural gas pipeline leakage based on DTCWT-SVD 1551
 Ye Yingchun, Zhang Laibin
China University of Petroleum (China)
- MoP3.5 17:15 – 17:35 P1648
A variable step size LMS equalization algorithm in the satellite communication system 1557
 Changhao Du, Xue Sun, Yixia Wang, Nan Lu
Beijing Institute of Technology (China)
- MoP3.6 17:35 – 17:55 P1466
Characteristic Analysis of Single-phase Grounding Fault in Resonant Grounded Systems based-on HHT 1563
 Yingwei Xiao, Hongbin Wu, Lin Zhang, Benxian Xiao
Hefei University of Technology (China)

Session	MoP4: Energy & Environment (III)
Date/Time	Monday, 6 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP 6
Chairs	Hongbo Tan, <i>Xi'an Jiaotong University</i> Fanglin Luo, <i>Nanyang Technological University</i>

- MoP4.1 15:55 – 16:15 P1821
A Control Method of Microgrid Based on The Life Model of Battery 1569
 Weiwen Li¹, Jieming Zhang¹, Xiaowen Qi², Jun Li³, Xunru Zhang³
¹Zhaoqing Power Supply Bureau of Guangdong Power Grid (China), ²Shanghai Holleysoft System Co. (China), ³Power supply branch of Shanghai Metro maintenance and support Co., Ltd. (China)
- MoP4.2 16:15 – 16:35 P1379
Optimal Placement and Optimal mix of RDG for Improving Voltage Stability/Maximum Loadability using PSAT 1574
 Mohammed Kdair Abd, Shi Jie Cheng, Hai Shun Sun
Huazhong University of Science & Technology (China)
- MoP4.3 16:35 – 16:55 P1539
Optimal DG Placement and Sizing for Power Loss Reduction in a Radial Distribution Systems using MPGSA and Sensitivity Index Method 1579
 Mohammed Kdair Abd, Shi Jie Cheng, Hai Shun Sun
Huazhong University of Science & Technology (China)
- MoP4.4 16:55 – 17:15 P1028
Experimental study on a self-refrigerated auto air conditioning system based on LNG-fuelled trucks 1586
 Hongbo TAN, Nannan SUN, Chen LIN, Yanzhong LI
Xi'an Jiaotong University (China)
- MoP4.5 17:15 – 17:35 P1550
Experimental Research on the Performance of Ultracapacitor in EVs's Application 1592
 Wen Chen, Shichuan Ding, Changbao Zheng, Guoli Li
Anhui University (China)
- MoP4.6 17:35 – 17:55 P1202
The Electric Power Source Structure Optimization Based on Capital Investment Efficiency 1596
 Lei Tang, Xifan Wang, Can Dang, Weijun Teng, Shenquan Liu and Pengwei Sun
Xi'an Jiaotong University (China)

Session	MoP5: Process Control
Date/Time	Monday, 6 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP 11
Chairs	Qingwei Gao, <i>Anhui University</i> Wenjian Cai, <i>Nanyang Technological University</i>

- MoP5.1 15:55 – 16:15 P1701
Study on Dual-loop λ Control Model of Gasoline Engine Based on Unilateral Time Delay PI Controller 1601
 Yong-Jun Huang, Guo-Hua Chen
Huazhong University of Science and Technology (China)
- MoP5.2 16:15 – 16:35 P1131
A New Defensive Line of Central China Power Grid Based on Application and Evaluation Criteria of Dynamic ACE 1607
 Hang Dong*, Wei Hu*, Xianzhuang Liu*, Wei Xu⁺, Faqi Yan⁺
^{*}Tsinghua University (China), ⁺Centre China Grid Company Limited (China)

- MoP5.3 16:35 – 16:55 P1449
Study on the Control of Photovoltaic inverter based on Virtual Synchronous Generator 1612
 Li Xin, Wang Ning
Hefei University of Technology (China)
- MoP5.4 16:55 – 17:15 P1440
Research on Rotor Magnet Loss in Fractional-Slot Concentrated-Windings Permanent Magnet Motor 1616
 Yu Xia, Guoli Li, Zhe Qian, Qiubo Ye, Zhenggen Zhang
Anhui University (China)
- MoP5.5 17:15 – 17:35 P1472
A Case Study of Underground Bus Chiller SCADA System and The Development of Custom Design Systems 1621
 Chin-Tsung Chen¹, Kang-Chin Liu², To-Cheng Liu³
¹Tungnan University of Science and Technology New Taipei ²²⁰, ²National Penghu University of Science and Technology Penghu 880, ³National Taipei University of Technology Taipei ¹⁰⁶⁰⁸ (Taiwan)
- MoP5.6 17:35 – 17:55 P1773
Logistic Regression and Feature Extraction based Fault Diagnosis of main bearing of Wind Turbines 1628
 Muhammad Kamran Bodla*, Sarmad Majeed Malik*, Muhammad Tahir Rasheed*, Muhammad Numan⁺,
 Muhammad Zeeshan Ali⁺, Jimmy Baimba Brima⁺
 *National University of Science and Technology (Pakistan), ⁺North China Electric Power University (China)

Session	MoP6: Invited Session – Performance and Algorithm Optimization
Organizers	Prof. Qingxuan Jia Prof. Hiawen Yuan
Date/Time	Monday, 6 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP 12
Chairs	Chi Zhang, <i>Chinese Academy of Sciences</i> Jiwen Zhao, <i>Anhui University</i>

- MoP6.1 15:55 – 16:15 P1719
Study on Brush Gesture Feature Recognition Based on the 3D Point Cloud 1634
 Huang Mingji, Li Lin
University of Science and Technology Beijing (China)
- MoP6.2 16:15 – 16:35 P1710
Learning Contextual Information for Indoor Semantic Segmentation 1639
 Jianhua Wang, Chuanxia Zheng, Weihai Chen and Xingming Wu
Beihang University (China)
- MoP6.3 16:35 – 16:55 P1653
An improved regularized extreme learning machine based on Symbiotic Organisms Search 1645
 Boyang Zhang¹, Lingjie Sun^{1,2}, Haiwen Yuan¹ and Jianxun Lv¹, Zhao Ma³
¹Beihang University (China), ²Taizhou Vocational and Technical College (China), ³China Electric Power Research Institute (China)
- MoP6.4 16:55 – 17:15 P1668
Improved RBF Neural Network Algorithm for Reliability Data 1649
 Nan Donglei, Jia Zhixin, Li Wei
University of Science and Technology Beijing (China)
- MoP6.5 17:15 – 17:35 P1781
Design and comparison of three-type VCMs for Nano-positioning system 1656
 Liang Dong^{1,2}, Jinhua Chen¹, Chi Zhang^{*1}, Dingbing Wu^{1,2}, Guangwei Yu², Qiang Liu¹
¹Chinese Academy of Sciences (China), ²Shanghai University (China)

MoP6.6 17:35 – 17:55 P1818

A Novel Approach based on Spectral-Temporal Information Fusion for Multi-Target Detection 1661

Guoliang Zhanga, Chunling Yanga*, Yan Zhanga, Yang Jiaob

^aHarbin Institute of Technology (China), ^bSecondary Metrology Station of Science, Technology and Industry for National Defense (China)

Session	MoPP1: Poster Session – Special Invited Session
Organizers	Prof. Weihai Chen, <i>Beihang University</i> Prof. Chi Zhang, <i>Ningbo Institute of Industrial Technology; Chinese Academy of Sciences</i>
Date/Time	Monday, 6 June 2016 / 15:55 – 17:55
Venue	3rd floor corridor opposite VVIP 3 and 5

MoPP1.1 P1714

Measurement of Multi-DOF Error Based on Microvision for Optical Fiber Assembly 1666

Fei Yu, Weihai Chen*, Haosong Yue, Jianbin Zhang

BeiHang University (China)

MoPP1.2 P1654

Variance Adaptive SLIC 1671

Fei Kou^{1,2}, Zhengguo Li³, Changyun Wen² and Weihai Chen¹

¹Beihang University (China), ²Nanyang Technological University (Singapore), ³Signal Processing Department, Institute for Infocomm Research (Singapore)

MoPP1.3 P1692

A Decoupled Flexure-based Alignment Mechanism for Micromanipulation 1676

Shang Yang, Weihai Chen, Jingmeng Liu, Jianbin Zhang

Beihang University (China)

MoPP1.4 P1696

Aliasing signal separation of oil debris monitoring 1682

Zhi Zhong⁺, Shaoping Wang⁺, Wei Hong⁺, Mileta Tomovic*

⁺Beihang University (China), *Old Dominion University (USA)

MoPP1.5 P1715

A novel closed-loop robotic fish experimental system based on ROS 1688

Dong Xu, Xiang Peng, Jingmeng Liu, Jianhua Wang

Beihang University (China)

MoPP1.6 P1680

Research and Realization of Digital Export Boards in CPCI Test System Based on High Availability

Hot-swap Technology 1693

Tianxu Yang, Xiaoguang Hu

Beihang University

MoPP1.7 P1693

A Dynamic Decoupling Control Structure for Permanent Magnet Spherical Actuators Based on Active Disturbance Rejection Control 1697

Jingmeng Liu, Huiyang Deng, Weihai Chen, Jianbin Zhang

Beihang University (China)

MoPP1.8 P1726

Fault Diagnosis Method for Vacuum Pump of Space Environment Simulator 1703

Haiyang Zhan¹, Na Li¹, Yu Wang¹, Xingjian Wang², Siru Lin²

¹Beijing Institute of Spacecraft Environment Engineering Beijing (China), ²Beihang University (China)

- MoPP1.9 P1725
Fuzzy Petri Net-Based Fault Diagnosis for Vacuum System in Space Environment Simulator 1708
 Na Li¹, Haiyang Zhan¹, Yu Wang¹, Xingjian Wang²
¹Beijing Institute of Spacecraft Environment Engineering (China), ²Beihang University (China)
- MoPP1.10 P1565
Stability enhancement of DFIG wind turbine using LQR pitch control over rated wind speed 1714
 Kazi Shariful Islam¹, Weixiang Shen¹, Apel Mahmud², Md Ayaz Chowdhury³, Jingxin Zhang¹
¹Swinburne University of Technology (Australia), ²Deakin University (Australia), ³University Malaysia (Malaysia)
- MoPP1.11 P1204
Cogging Torque Reduction of a Permanent Magnet Canned Motor 1720
 Youyuan Ni, Qiang He
 Hefei University of Technology
- MoPP1.12 P1021
Sustainability Performance Evaluation of Automotive Manufacturing Companies 1725
 Srimannarayana Grandhi, Santoso Wibowo
 Central Queensland University (Australia)

Session	MoPP2: Poster Session – Control and Systems
Date/Time	Monday, 6 June 2016 / 15:55 – 17:55
Venue	3rd floor corridor opposite VVIP 3 and 5

- MoPP2.1 P1063
The Research on Multi-target Control Strategy of EVs Based on Real-time Price 1731
 Tu Yiyun
 Shanghai University of Electric Power (China)
- MoPP2.2 P1581
Design and Simulation of Control Systems for Electric-Assisted Bikes 1736
 Jin-Shyan Lee*, Jun-Wei Jiang*, Yuan-Heng Sun⁺
 National Taipei University of Technology* (Taiwan), ⁺Industrial Technology Research Institute (Taiwan)
- MoPP2.3 P1429
Design and implementation of the monitoring interface for the combustion process based on C# language 1741
 Qingchao Ning, Guoli Li, Qian Zhang, Dong Chen, Tong Liu, Zhenglei Ma, Lei Sun
 Anhui University (China)
- MoPP2.4 P1025
Research on Road Feeling Control Strategy for Electric Forklift Steer-by-wire System 1744
 Zuxun Xiao, Benxian Xiao
 Hefei University of Technology (China)
- MoPP2.5 P1255
An Improved Method Based on Wavelet for Power Quality Compression 1750
 Zhang Li, Ma Shiqiang, ZHENG Chang-bao, Li Guoli
 Anhui University (China)
- MoPP2.6 P1031
Evaluating the Sustainability Performance of Thermal Power Enterprises 1754
 Santoso Wibowo, Srimannarayana Grandhi
 Central Queensland University (Australia)

- MoPP2.7 P1364
Design and Simulation of Inverted pendulum system based on the fractional PID controller 1760
 Chunyang Wang, Gaofeng Yin, Canglong Liu, Weicheng Fu
Changchun University of Science and Technology (China)
- MoPP2.8 P1700
An overall structure optimization for a light-weight robotic arm 1765
 Haibin Yin, Shansheng Huang, Mingchang He, Junfeng Li
Wuhan University of Technology (China)

Session	TuA1: Industrial Informatics & Computational Intelligence (III)
Date/Time	Tuesday, 7 June 2016 / 10:45 – 12:25
Venue	3rd floor Room 1
Chairs	Mohammad Rashid, <i>Massey University</i> Weihai Chen, <i>Beihang University</i>

- TuA1.1 10:45 – 11:05 P1528
Distance-Weighted Manifold Learning In Facial Expression Recognition 1771
 DU Jing, LI Bo
Wuhan University of Science and Technology (China)
- TuA1.2 11:05 – 11:25 P1054
The Symplectic Multi-Resolution Time-Domain Scheme for Waveguide Simulation 1776
 Min Wei*, Fang Xie*, Wei Chen⁺
**Anhui University (China), ⁺Anhui Agricultural University (China)*
- TuA1.3 11:25 – 11:45 P1634
Filling Modules into Spaces for Rapid Prototyping of Mechanical Assembly: Algorithm 1779
 Zhiqin Qian*, Bin Han*, Ying Lin⁺, Wenjun Lin⁺⁺, Wenjun Zhang⁺⁺
**East China University of Science and Technology (China), ⁺Northeastern University (China), ⁺⁺University of Saskatchewan (Canada)*
- TuA1.4 11:45 – 12:05 P1384
Research on Torque Optimization of the Spherical Motor Based on SVM 1786
 Lufeng Ju*, Zhe Qian*, Guoli Li⁺, Rui Zhou⁺
**National Engineering Laboratory of Energy-Saving Motor & Control Technology (China),
⁺Anhui University (China)*
- TuA1.5 12:05 – 12:25 P1177
Gesture and Voice Control of Internet of Things 1791
 Xiao Han, M A Rashid
Massey University (New Zealand)

Session	TuA2: Industrial Informatics & Computational Intelligence (IV)
Date/Time	Tuesday, 7 June 2016 / 10:45 – 12:25
Venue	3rd floor VVIP 3
Chairs	Xiwei Liu, <i>Tongji University</i> Wenxiang Xie, <i>Seagate Technology International</i>

■ TuA2.1 10:45 – 11:05 P1703

An Investigation on Experimental Issues in Financial Fraud Mining 1796

Jarrold West, Maumita Bhattacharya
Charles Sturt University (Australia)

■ TuA2.2 11:05 – 11:25 P1321

Bridge the Gap Between Network-Based Inference Method and Global Ranking Method in Personal Recommendation 1802

Xiwei Liu
Tongji University (China), The Key Laboratory of Embedded System and Service Computing, Ministry of Education (China)

■ TuA2.3 11:25 – 11:45 P1454

Semantic Phormone Walking: a Semantic Clue Discovering Scheme based on Concept Relatedness in Open Domain Knowledge Network 1807

Zhang Bo¹, Hu Sihui¹, Peng Ruxiang², Lu Yajun³

¹*Shanghai Normal University (China)*, ²*The Third Research Institute of Ministry of Public Security (China)*, ³.
Changzhou Institute of Technology (China)

■ TuA2.4 11:45 – 12:05 P1600

User Preference with Trust and Rating in Collaborative Filtering 1813

Jiwei Qin, Wendong Zhang
Xinjiang University

Session	TuA3: Data Processing
Date/Time	Tuesday, 7 June 2016 / 10:45 – 12:25
Venue	3rd floor VVIP 5
Chairs	Teng Li, <i>Anhui University</i> Xing Qi, <i>Anhui University</i>

■ TuA3.1 10:45 – 11:05 P1483

Data Aware QoE-QoS Management 1818

Charles Z. Liu, Manolya Kavakli
Macquaire University (Australia)

■ TuA3.2 11:05 – 11:25 P1486

Signal Propagation in Neuronal Networks with Hierarchical Structure 1824

Zhihong Wang, Chongqing Hao, Zheng Li
Hebei University of Science and Technology (China)

■ TuA3.3 11:25 – 11:45 P1816

A Fast Verification Method for Timing Related Faults by Forming Special Testbench Group on Critical Paths in Simulation 1828

Can Gao, Ligang Hou
Beijing University of Technology (China)

- TuA3.4 11:45 – 12:05 P1108
Enhanced bearing fault diagnosis using adaptive stochastic resonance 1832
 Siliang Lu*, Fang Liu*, Yongbin Liu*, Jiwen Zhao*, Qingbo He⁺, Xiwen Guo*
 *Anhui University (China), ⁺University of Science and Technology of China (China)

Session	TuA4: Energy & Environment (IV)
Date/Time	Tuesday, 7 June 2016 / 10:45 – 12:25
Venue	3rd floor VVIP 6
Chairs	Jiwen Zhao, <i>Anhui University</i> Quan Chen, <i>Anhui University</i>

- TuA4.1 10:45 – 11:05 P1467
Effects of Initial Temperature on the Performance of Free Piston Linear Generator 1837
 Dequan Zeng^{1,2}, Chi Zhang¹, Shuai Guo², Fei Zhao¹, Jinhua Chen¹, Peng Sun¹, Lianlian Mao^{1,2}
¹Chinese Academy of Sciences (China), ²Zhejiang Key Laboratory of Robotics and Intelligent Manufacturing Equipment Technology (China), ²Shanghai University (China)
- TuA4.2 11:05 – 11:25 P1553
Influence of Anode Flow Field on Mass Transport in a Air-breathing Micro Direct Methanol Fuel Cell 1843
 Jie Yang*, Zhenyu Yuan*, Hongyuan Shen*, Xiaoyang Li⁺, Jia Di⁺⁺
 *Northeastern University (China), ⁺University of Arkansas (USA), ⁺⁺Shanghai University, Shanghai (China)
- TuA4.3 11:25 – 11:45 P1521
PID Control for Improving P&O-MPPT Performance of Grid-Connected Solar PV System With Ziegler-Nichols Tuning Method 1847
 Emmanuel Kwaku Anto*, Johnson A. Asumadu⁺, Philip Yaw Okyere*
 *Kwame Nkrumah University of Science & Technology (Ghana), ⁺Western Michigan University (USA)
- TuA4.4 11:45 – 12:05 P1398
Design and Implementation of a Visio-Based Planning-Design and Techno-Economic Evaluation Software for Microgrid 1853
 Xinhao Lin*, Nian Liu* and Jinyong Lei⁺
 *North China Electric Power University (China), ⁺China Southern Power Grid, Guangdong, China
- TuA4.5 12:05 – 12:25 P1244
Forecast of pollutants in the Rio Santiago, using data fusion technique using statistical and regression methods. 1858
 Marco A. Pérez Cisneros, Alicia García Arreola, J. Miguel Morán L.
 Universidad de Guadalajara (Mexico)

Session	TuA5: Networked control, Cooperative control and Bio-control
Date/Time	Tuesday, 7 June 2016 / 10:45 – 12:25
Venue	3rd floor VVIP 11
Chairs	Cungang Hu, <i>Anhui University</i> Chun-Liang Lin, <i>National Chung Hsing University</i>

- TuA5.1 10:45 – 11:05 P1004
Synchronization of Stochastic Complex Networks Using Nonlinear Optimal Control 1863
 Ziqian Liu*, Qunjing Wang⁺, and Guoli Li⁺
 *State University of New York Maritime College (USA), ⁺Anhui University (China)

- TuA5.2 11:05 – 11:25 P1646
Coordination Control Strategy between Human Vision and Wheelchair Manipulator Based on BCI 1872
 CHEN Naijian, WANG Yantao, Cai Xinglai, Yang Hao and CHEN Hui
University of Jinan (China)
- TuA5.3 11:25 – 11:45 P1525
An Undergraduate Research Platform for Cooperative Control and Swarm Robotics 1876
 Edward Bear, Teddy Maxwell, Timothy Anglea, Dhvani Raval, Ian Buckley, Yongqiang Wang
Clemson University (USA)
- TuA5.4 11:45 – 12:05 P1468
Networked-based Distributed Cooperative Voltage Control for Power Electronics Interfaced Microgrids 1880
 Jingang Lai*, Cungang Hu⁺, Guoli Li⁺, Xiaoqing Lu⁺⁺, Hong Zhou*
**Wuhan University (China), ⁺Anhui University (China), ⁺⁺Hunan University (China)*
- TuA5.5 12:05 – 12:25 P1076
On the Design of Static Genetic Memory 1886
 Chun-Liang Lin, and Yu-Jia Hu
National Chung Hsing University (Taiwan)

Session	TuA6: Invited Session – System Control and Modeling
Organizers	Prof. Wei Wang Prof. Chunling Yang
Date/Time	Tuesday, 7 June 2016 / 10:45 – 12:25
Venue	3rd floor VVIP 12
Chairs	Shaoping Wang, <i>Beihang University</i> Zhengguo Li, <i>Institute for Infocomm Research</i>

- TuA6.1 10:45 – 11:05 P1789
A Novel Localization Method based on Sharp Corners for Indoor Mobile Robots 1892
 Wei Yang, Guilin Yang, Hao Chang, Huijuan Zhang, Xing Yang
Chinese Academy of Sciences (China)
- TuA6.2 11:05 – 11:25 P1787
Parameters Identification and Adaptive Feedforward Control of Permanent Magnet Linear Synchronous Motor 1898
 Rui Liu^{1,2}, Chi Zhang^{1*}, Linyong Shen², Fei Zhao¹, Yanlong Zhang¹, Shuangchi Zhang³
¹Chinese Academy of Sciences (China), ²Shanghai University (China), ³ChinFong (China) Machine Industry Co., Ltd
- TuA6.3 11:25 – 11:45 P1765
Nonlinear ODE Parameter Identification of Electro-hydraulic servo system Based on Trust-Region Optimization Algorithm 1904
 Yixin Zhang, Shaoping Wang, Xingjian Wang, Jun Wang
Beihang University (China)

Session	TuAP1: Poster Session – Control and Systems
Date/Time	Tuesday, 7 June 2016 / 10:45 – 12:25
Venue	3rd floor corridor opposite VVIP 3 and 5

- TuAP1.1 P1347
Research on an improved cross coupling control algorithm based on disturbance compensation 1910
Junbo Zhang¹, Hong Lu^{*1,2}, Shaojun Wang³, Wei Fan¹, Yongquan Zhang¹
¹Wuhan University of Technology (China), ²Key Laboratory of Hubei Province for Digital Manufacture (China), ³Southeast Missouri State University (USA)
- TuAP1.2 P1175
An Improved Nonlinear State Observer Based on BP Neural Network for Coal-fired Power Unit 1915
Guolian Hou, Huan Guo, Yu Yang, Jianhua Zhang
China Electric Power University (China)
- TuAP1.3 P1375
Design of a stabilization control system for high-speed crafts based on robust techniques. Two different approaches 1920
Rocío Muñoz-Mansilla, José Manuel Díaz, Dictino Chaos, Joaquín Aranda
Department of Computer Science and Automatic Control. UNED (Spain)
- TuAP1.4 P1259
Design of Water Tank Level Cascade Control System Based on Siemens S7--200 1926
Hong Ying Cao, Na Deng
Kaifeng University (China)
- TuAP1.5 P1157
Development of Shale Gas Fracturing Digital Network Control System Based on Programmable Logic Controller 1929
CHEN Yongjun, RUAN Bo
Yangtze University (China)
- TuAP1.6 P1302
Research on Multilevel inverter control system based on PWM algorithm 1935
Li Xin, Pan Wangyang, Zheng Tao, Sheng Tingting
Hefei University of Technology (China)
- TuAP1.7 P1133
Coupling Analysis and Loop Pairing method via an Information-theoretic Approach 1939
Jianhua Zhang, Yamin Kuai, Mingming Lin, Rui Wang, Guolian Hou
North China Electric Power University (China)
- TuAP1.8 P1570
On Definitions of Bandwidth and Response Time 1945
Bernard Friedland
New Jersey Institute of Technology (USA)
- TuAP1.9 P1138
Study on a dual-motor driving electric power steering system for commercial vehicle 1949
Li Yaohua, Xu Peng, Hou Shuo
Chang'an University (China)
- TuAP1.10 P1426
Co-Simulation of Field Oriented Control in Induction Motor Drive System 1955
Bing Hang, Guoli Li, Fang Xie
Anhui University (China)
- TuAP1.11 P1433
Sensorless Vector Control System of Induction Motor by Nonlinear Full-order Observer 1959
Jin Cao, Guoli Li, Xing Qi, Qiubo Ye, Qian Zhang, and Qunjing Wang
Anhui University (China)

- TuAP1.12 P1434
Electric Vehicle Differential System Based on Co-simulation of Carsim/Simulink 1963
 Huamei Cui, Quan Chen, Xing Qi, Hu Wang
Anhui University (China)
- TuAP1.13 P1098
Analysis on Security Standards for Industrial Control System and Enlightenment on Relevant Chinese Standards 1967
 Xin HAO, Feng ZHOU, Xi CHEN
China Software Testing Center (China)
- TuAP1.14 P1524
Exploratory Simulation Models for Fraudulent Detection in Bitcoin System 1972
 Haozheng WEI, Vincent Lee
Monash University (Australia)
- TuAP1.15 P1770
Modeling and Control for Swing and Anti-swing of a Wind Pendulum 1978
 Yue Long, Jin Xiao*, Tian Zhang, Hao Cheng
Beihang University (China)

Session	TuAP2: Poster Session – Cyber-physical Systems
Date/Time	Tuesday, 7 June 2016 / 10:45 – 12:25
Venue	3rd floor corridor opposite VVIP 3 and 5
Chairs	

- TuAP2.1 P1739
A new manufacturing resources integration and sharing modes in big data environment 1984
 Feng Xiang, XiaoWu Chen, GuoZhang Jiang
Wuhan University of Science and Technology (China)
- TuAP2.2 P1738
Green Manufacturing Service Composition in Cloud Manufacturing System: an Introduction 1988
 Feng Xiang, LuLu Xu
Wuhan University of Science and Technology (China)
- TuAP2.3 P1087
Smartphone Based Car-Searching System for Large Parking Lot 1994
 Junhuai Li, Yang An, Rong Fei, Huaijun Wang
Xi'an University of Technology (China)
- TuAP2.4 P1742
Potential Applications of IoT-based Product Lifecycle Energy Management 1999
 Yiwen Wang*, Meng Zhang⁺, Ying Zuo*
**Northeastern University at Qinhuangdao (China), Beihang University (China)*
- TuAP2.5 P1507
A New Spindle Rotation Error Measurement System Based on Three Point Method 2003
 Hong Lu^{1,2}, Qiang Wu¹, Shucheng Wu¹, Zilong Wang¹, Yifeng Ren³
¹Wuhan University of Technology (China), ²Key Laboratory of Hubei Province for Digital Manufacture (China), ³Texas A&M University (USA)

Session	TuM1: Power Electronics (XII)
Date/Time	Tuesday, 7 June 2016 / 13:25 – 15:25
Venue	3rd floor Room 1
Chairs	Yan Lv, <i>China University of Mining and Technology</i> Guoli Li, <i>Anhui University</i>

- TuM1.1 13:25 – 13:45 P1337
Speed Sensorless Control of Electrically Excited Synchronous Motor Based on the Reduce-order State Observer Flux Observation 2009
Peng Dai, Yan Lv, Nan Xu, Houqing Xie
China University of Mining Technology
- TuM1.2 13:45 – 14:05 P1342
Fault diagnosis of a Permanent Magnet Synchronous Generator Connected to a Uncontrolled Rectifier Bridge 2015
Jun Hang^{1,2}, Shichuan Ding¹, Guoli Li¹, Fang Xie¹
¹*Anhui University (China)*, ²*Southeast University (China)*
- TuM1.3 14:05 – 14:25 P1343
Fault Tolerant Control for a Five-Phase Permanent Magnet Synchronous Machine Driving System 2021
Shichuan Ding¹, Wen Chen¹, Minghao Tong^{1,2}, Fang Xie¹, Changbao Zheng¹
¹*Anhui University (China)*, ²*Southeast University (China)*
- TuM1.4 14:25 – 14:45 P1512
Design and Test for High Speed Permanent Magnet Wind Generator and Research on Rotor Protection Measures 2026
Dingwang Xu, Xiuhe Wang, Guanqun Li
Shandong University (China)
- TuM1.5 14:45 – 15:05 P1540
Harmonic Analysis Based Fault Detection for a Five-phase PMSG Diode Rectifier Conversion Chain 2032
Chenchen Liang^{1,2}, Gang Yao², Mourad Aït-ahmed¹, Jean-Claude Le Claire¹, Mohamed-Fouad Benkhoris¹
¹*Université de Nantes (France)*, ²*Shanghai Maritime University (China)*
- TuM1.6 15:05 – 15:25 P1615
The Balanced Control of Dual-redundancy Brushless DC Motor Servo System 2038
LI Jing¹, LI Shanfeng¹, ZHANG Yanqing¹, YU Shaolei², WU Xiangyang¹
¹*Beijing Specialized Machinery Institute (China)*, ²*Beihang University, Beijing*

Session	TuM2: Power Electronics (XIII)
Date/Time	Tuesday, 7 June 2016 / 13:25 – 15:25
Venue	3rd floor VVIP 3
Chairs	Shuye Ding, <i>Harbin University of Science and Technology</i> Qian Zhang, <i>Anhui University</i>

- TuM2.1 13:25 – 13:45 P1685
Investigation of Characteristics of Fluid Flow Pattern for Air-Cooled Motor 2044
Shuye Ding, Hailing Li
Harbin University of Science and Technology (China)
- TuM2.2 13:45 – 14:05 P1315
Emergency Energy Management Strategy for Commercial Building Microgrid Consisting of PV and Energy Storage 2049
Yi Cui, Nian Liu
North China Electric Power University (China)

- TuM2.3 14:05 – 14:25 P1389
Study of Photovoltaic Three-Phase Grid-Connected Inverter based on the Grid Voltage-Oriented Control 2055
 Tao ZHAO^{1,2}, Qian ZONG¹, Tao ZHANG¹, You XU¹
¹Nanjing Institute of Technology (China), ²Jiangsu Key Laboratory of Advanced Numerical Control Technology (China)
- TuM2.4 14:25 – 14:45 P1231
Research on control strategy of load voltage unbalance problem for three-phase combined inverter 2061
 BiYing Ren, Meng Zhang, XinRong Zhao, XiangDong Sun
 Xi'an University of Technology (China)
- TuM2.5 14:45 – 15:05 P1588
Power System Probabilistic Production Simulation Including Large Scale Grid-connected Photovoltaic Generation 2066
 Fan Hong, Lu Ru, Jiang Yanbin
 Shanghai University of Electric Power (China)
- TuM2.6 15:05 – 15:25 P1230
Local Control Strategy of PV Inverters for Overvoltage Prevention in Low Voltage Feeder 2071
 BiYing Ren, Meng Zhang, ShaoLiang An, XiangDong Sun
 Xi'an University of Technology (China)

Session	TuM3: Design and Performance Evaluation
Date/Time	Tuesday, 7 June 2016 / 13:25 – 15:25
Venue	3rd floor VVIP 5
Chairs	Changyun Wen, <i>Nanyang Technological University</i> Qingwei Gao, <i>Anhui University</i>

- TuM3.1 13:25 – 13:45 P1386
Pulse Shaping Approach to PAPR Reduction for Multiuser OFDM Systems 2076
 Regina Reine, Zhuquan Zang
 Curtin University Sarawak Campus (Malaysia)
- TuM3.2 13:45 – 14:05 P1272
Design of Hardware-in-the-loop Simulation System for LTE –A System based on USRP 2081
 Zhaoming Chen¹, Yanjun Hu¹, Xue Wang², Haowen Wang², Delin Cai³
¹Anhui University (China), ²Shanghai Research Center for Wireless Communications (China), ³China Electronics Technology Group Corporation (China)
- TuM3.3 14:05 – 14:25 P1541
Calculation Method of Network reliability with Multi-constraint Quality of Service 2086
 Xuecai Bao^{1,2}
¹Nanchang Institute of Technology (China), ²Jiangxi Province Key Laboratory of Water Information Cooperative Sensing and Intelligent Processing (China)
- TuM3.4 14:25 – 14:45 P1766
A New Method to Parallel Implementation for Batching Vast Small-scale Computing Tasks Based on GPU 2092
 Jun Zhu*, Haifeng Yao*, Tao Yang*, Qiaomei Zhou⁺, Kai Li⁺
 *Anhui University (China), ⁺Shanghai Research Center for Wireless Communications (China)
- TuM3.5 14:45 – 15:05 P1040
Research and Analysis of GNSS Performance Test Methods 2096
 He He, Ershen Wang, Tao Pang
 Shenyang Aerospace University (China)

■ TuM3.6 15:05 – 15:25 P1377

Wireless Building Automation Devices Supporting Multiple Standards: Challenges and Feasibility 2101

Gargi Bag*, Zhibo Pang*, Morgan E. Johansson*, Xiaoyu Min⁺, Shaoling Zhu⁺

*ABB Corporate Research (Sweden), ⁺KTH Royal Institute of Technology (Sweden)

Session	TuM4: Mechatronics (IV)
Date/Time	Tuesday, 7 June 2016 / 13:25 – 15:25
Venue	3rd floor VVIP 6
Chairs	Zaichun Feng, <i>University of Missouri</i> Xing Zhu, <i>InspiRain Technologies Pte Ltd</i>

■ TuM4.1 13:25 – 13:45 P1488

CORDIC-based implementation architectures for the second-harmonic excitation of a micro-gyroscope 2107

Huijie Zhu^{1,2}, Yizhou Ge^{1,2}

¹Science and Technology on Communication Information Security Control Laboratory (China),

²No. 36 Research Institute of China Electronics Technology Group Corporation (China)

■ TuM4.2 13:45 – 14:05 P1567

Dynamic Compensation of Temperature Sensors Using a Continuum Model 2111

Z.C. Feng and Yuwen Zhang

University of Missouri (USA)

■ TuM4.3 14:05 – 14:25 P1135

Modeling of a 3D Force Flexible Tactile Sensor and Its Structural Optimization 2118

Shanhong Li*, Zhong Chu*, Qinglong Wang*, Fangfang Meng*, Yubing Wang⁺, Yunjian Ge⁺

*Hefei University (China), ⁺Chinese Academy of Sciences (China)

■ TuM4.4 14:25 – 14:45 P1392

Design and Simulation of an Aerial Robotic Arm 2124

Xiaofeng Wu, Yijun Huang and Sherad Kueh

University of Sydney (Australia)

■ TuM4.5 14:45 – 15:05 P1355

Sliding Mode Control of the Planar Switched Reluctance Motor for Interference Suppression 2130

Zhan-Zhi Xu¹, Guang-Zhong Cao¹, Su-Dan Huang^{1,2} and Hong-Xin Zheng¹

¹Shenzhen University, ²Southwest Jiaotong University (China)

Session	TuM5: Robust Control and Nonlinear System & Control
Date/Time	Tuesday, 7 June 2016 / 13:25 – 15:25
Venue	3rd floor VVIP 11
Chairs	Salim Ibrir, <i>King Fahd University of Petroleum and Minerals</i> Jingbing Zhang, <i>IDC Asia/Pacific</i>

■ TuM5.1 13:25 – 13:45 P1105

Dynamic-output Stabilization and Tracking of Uncertain Linear Systems with mixed H2/Hinf Performance 2135

Salim Ibrir, Adeel Sabir

King Fahd University (Saudi Arabia)

- TuM5.2 13:45 – 14:05 P1147
A Combined Robust Terminal Sliding Mode Controller with Perturbation Estimator for Piezoelectric Actuated Positioner 2141
 Ali Al-Ghanimi, Jinchuan Zheng, and Zhihong Man
Swinburne University of Technology (Australia)
- TuM5.3 14:05 – 14:25 P1367
Path Tracking Control for Eight-Rotor Aircraft Based on Linear ADRC Algorithm 2147
 Chunyang Fu*, Yantao Tian*, Cheng Peng⁺, Xun Gong⁺, Yue Bai⁺
**Jilin University (China), ⁺Chinese Academy of Sciences Changchun (China)*
- TuM5.4 14:25 – 14:45 P1295
Control of Piezoelectric Inertia-Friction Actuator with Consideration of Thermal Effects 2153
 Y.F. Liu*, J. Li*, W.J. Zhang*, X. H. Hu⁺, W.J. Zhang⁺
**East China University of Science and Technology (China), ⁺University of Saskatchewan (Canada)*
- TuM5.5 14:45 – 15:05 P1284
Nonlinear predictive control of a boiler-turbine system based on T-S fuzzy model 2159
 Guolian Hou*, Yu Yang*, Feng Yin⁺, Quan Li⁺, Jianhua Zhang*
**China Electric Power University (China), ⁺State grid zhejiang electric power research institute (China)*
- TuM5.6 15:05 – 15:25 P1532
Optimal Motion Control for Multi-Robot System by Multilayer Network Operator 2164
 A. I. Diveev, E. Yu. Shmalko
Federal Research Center “Computer Science and Control” of Russian Academy of Sciences (Russia)

Session	TuM6: Invited Session – Electric Motor & System Test and Analysis (II)
Organizers	Prof. Shaoru Zhang, <i>Hebei Normal University</i>
Date/Time	Tuesday, 7 June 2016 / 13:25 – 15:25
Venue	3rd floor VVIP 12
Chairs	Cungang Hu, <i>Anhui University</i> Fanglin Luo, <i>Anhui University</i>

- TuM6.1 13:25 – 13:45 P1756
An Improved Active Frequency Drift Anti-islanding Detection Method 2170
 Shuai Wang¹, Shaoru Zhang^{1,2}, Lingling Liu¹, Yikun Jia¹, Chenjie Qie¹
¹ Hebei Normal University (China), ² Anhui University (China)
- TuM6.2 13:45 – 14:05 P1727
Performance Degradation Model of Roots Pump in Vacuum System Based on Leakage of Rotor Wear 2174
 Quan Zhang*, Shaoping Wang*, Jian Shi*, Xingjian Wang*, Mileta Tomovic⁺
**Beihang University (China), ⁺Old Dominion University (USA)*
- TuM6.3 14:05 – 14:25 P1754
Complete Control of Radial Suspension Force for Bearingless Induction Motors 2180
 Shaoru Zhang^{1,2}, Lingling Liu¹, Shuai Wang¹, Yikun Jia¹ and Chenjie Qie¹
¹Hebei Normal University (China), ²Anhui University (China)
- TuM6.4 14:25 – 14:45 P1755
Compensation Control for Radial Suspension Force in Bearingless Induction Motors 2185
 Shaoru Zhang^{1,2}, Lingling Liu¹, Yikun Jia¹, Shuai Wang¹ and Chenjie Qie¹
¹Hebei Normal University (China), ²Anhui University (China)
- TuM6.5 14:45 – 15:05 P1720
Sealing Mechanism and Failure Analysis of Actuator Reciprocating Seal 2190
 Yanwei Zhang¹, Jian Shi¹, Shaoping Wang¹, Chao Zhang¹, Mileta M. Tomovic²
¹Beihang University (China), ²Old Dominion University (USA)

■ TuM6.6 15:05 – 15:25 P1699

Adaptive Control for Motion Synchronization of HA/EHA System by Using Modified MIT Rule 2196

Waheed Ur Rehman¹, Shaoping Wang¹, Xingjian Wang¹, Cun Shi¹, Chao Zhang¹, Mileta Tomovic²

¹Beihang University (China), ²Old Dominion University (USA)

Session	TuMP1: Poster Session – Power Electronics
Date/Time	Tuesday, 7 June 2016 / 13:25 – 15:25
Venue	3rd floor corridor opposite VVIP 3 and 5
Chairs	

■ TuMP1.1 P1193

Effect of Removing the Filter Capacitor in Rectifier Circuit on the Steady-state Performances of the Permanent Magnet Direct Current Motor 2202

Haoxia Yu, Xiuhe Wang, Guanqun Li

Shandong University (China)

■ TuMP1.2 P1059

Research of Heat Transfer Characteristic for PMSM with Two-way Ventilation Structure 2206

Shuye Ding, Shanshan Li

Harbin University of Science and Technology (China)

■ TuMP1.3 P1503

Experimental Researches on the Novel Single-phase Induction Motor 2211

Ying Pei*, Xinghua Liu⁺, Xiuhe Wang⁺⁺, Dingwang Xu⁺⁺

**State Grid of China Technology College (China), ⁺State Grid Zibo Power Supply Company (China),*

⁺⁺Shandong University (China)

■ TuMP1.4 P1577

Maximum Power Point Tracking for Photovoltaic Power Based on the Improved Interleaved Boost Converter 2215

Tian Xue, Zheng Minxin and Yang Songtao

Beihang University (China)

■ TuMP1.5 P1473

The Starting Performance Research on the Novel Single-phase Induction Motor 2219

Ying Pei*, Xinghua Liu⁺, Xiuhe Wang⁺⁺, Mengmeng Tian⁺⁺

**State Grid of China Technology College (China), ⁺State Grid Zibo Power Supply Company (China),*

⁺⁺Shandong University (China)

■ TuMP1.6 P1194

Design of High-power Buck-Boost LED Constant Current Drive Circuit 2223

Yin Lu, Qunjing Wang, Yi Hong, Changbao Zheng

Anhui University (China)

■ TuMP1.7 P1356

Junction Temperature Acquiring System of The 3L-ANPC Inverter Base on Labview 2227

Yuqing He, Quan Chen, Changbao Zheng, Long Cheng

Anhui University (China)

■ TuMP1.8 P1338

Simulation and Analysis of Propagation Characteristics of Partial Discharge signal in XLPE Cable Joint 2232

Wang Qian¹, Yang Qi², Hu Xiaorui¹, Fu Jin¹, Chen Wei¹, Yang Fan²

¹State Grid Chongqing Electric Power Corporation Research Institute (China), Chongqing University (China)

■ TuMP1.9 P1358

LCL Filter Design In T-Type Three-Level Grid-Connected Inverter 2236

Mengyan Wang, Quan Chen, Guoli Li, Cungang Hu, Long Cheng, and Rui Zhou

Anhui University (China)

- TuMP1.10 P1017
Research on Cross-regulation Characteristic of Flyback Power Converter with Multiple-output Port and Its Controlling Technique 2241
 Lijun Zhang, Xianghua Ma, Yinzong Ye
Shanghai Institute of Technology (China)
- TuMP1.11 P1092
Design of Pulse Generator and Drive Circuit for High-Voltage Repetition-Frequency Thyristor Series Switch 2247
 Liu Kun*, Gao Yinghui*, Wang Lei⁺, Fan Ailong⁺
 *Chinese Academy of Sciences (China), ⁺University of Chinese Academy of Sciences (China)
- TuMP1.12 P1035
Mechanism analysis and modeling research of novel hybrid excitation guiding system 2251
 Yaping Liu, Xiaozhuo Xu, Xudong Wang, Haichao Feng
Henan Polytechnic University (China)
- TuMP1.13 P1155
Research on Reactive Compensation in Ultra-high Voltage Power Grid Using Shunt Reactors 2257
 ZHANG Yonggao, LIU Wanqing, GAO Yanli
EastChina JiaoTong University (China)
- TuMP1.14 P1179
A New Method of Islanding Detection Based on Voltage Positive Feedback 2261
 Ying Cheng*, Long Zhao⁺, Yaqiao Luo³, Cungang Hu^{*+}, Tao Rui⁺ and Xing Qi^{*+}
 *Anhui University (China), ⁺Anhui Electric Power Science Research Institute (China)
- TuMP1.15 P1189
Investigation of Contact Resistance Influence on Power Cable Joint Temperature Based on 3-D Coupling Model 2265
 Hanwu Luo¹, Peng Cheng², Haibo Liu³, Kai Kang³, Fan Yang⁴, Qi Yang⁴
¹East Inner Mongolia Electric Power Company Limited, ²Chongqing University, ³East Inner Mongolia Electric Power Company Limited, ⁴Chongqing University (China)
- TuMP1.16 P1190
Investigation of Propagation Characteristics of UHF Electro-magnetic Wave Due to PD in Switchgear 2269
 Hanwu Luo¹, Peng Cheng², Haibo Liu³, Kai Kang³, Fan Yang⁴, Qi Yang⁴
¹East Inner Mongolia Electric Power Company Limited, ²Chongqing University, ³East Inner Mongolia Electric Power Company Limited, ⁴Chongqing University (China)
- TuMP1.17 P1191
Research on the UHF Microstrip Antenna for Partial Discharge Detection in High Voltage Switchgear 2273
 Hanwu Luo¹, Peng Cheng², Haibo Liu³, Kai Kang³, Fan Yang⁴, Kai Liu⁴
¹East Inner Mongolia Electric Power Company Limited, ²Chongqing University, ³East Inner Mongolia Electric Power Company Limited, ⁴Chongqing University (China)
- TuMP1.18 P1256
Variable-Order Fractional Equivalent Circuit Model for Lithium-ion Batteries 2277
 Qi Zhang, Yun-long Shang, Yan Li, Bin Duan, Cheng-hui Zhang
Shandong University (China)
- TuMP1.19 P1222
Design of Bi-directional DC-DC Converter 2283
 Xiaohu Xu^{1,2}, Changbao Zheng^{1,2,3}, Cungang Hu^{1,2,3}, Yin Lu^{1,2}, Qunjing Wang^{1,2,3}
¹Anhui University (China), ²Collaborative Innovation Center of Industrial Energy-saving and Power Quality Control (China), ³Engineering Research Center of Power Quality (China)
- TuMP1.20 P1771
Wind Pendulum Modeling based-on Improved PID Algorithm 2288
 Hao Cheng, Jin Xiao*, Yue Long, Tian Zhang
Beihang University (China)

Session	TuP1: Power Electronics (XIII)
Date/Time	Tuesday, 7 June 2016 / 15:55 – 17:55
Venue	3rd floor Room 1
Chairs	Muhammad Numan, <i>North China Electric Power University</i> Jiwen Zhao, <i>Anhui University</i>

- TuP1.1 15:55 – 16:15 P1552
Research on CMV Reduction and NPV Balance for a T type Three Level Inverter Controller 2294
Shaoliang An, Junni Li, Xiangdong Sun, Biying Ren, Lu Lai
Xi'an University of Technology (China)
- TuP1.2 16:15 – 16:35 P1559
An Online Lyapunov-based Algorithm of Resource Sharing for Interconnected DC Nanogrids 2299
Wei Fan, Nian Liu, Jianhua Zhang
North China Electric Power University
- TuP1.3 16:35 – 16:55 P1563
Requirements driven implementation of Smart Grid applications and technology 2305
Muhammad Numan, Prof. Zhou Ming, Jimmy B. Brima, Ibrahim J. Sowe, M. Kamran Bodla
North China Electric Power University (China)
- TuP1.4 16:55 – 17:15 P1611
Multi-scenarios PV-based microgrids investment decision considering feed-in-tariff regulation 2311
Nan Zhou, Nian Liu, Jianhua Zhang
North China Electric Power University (China)
- TuP1.5 17:15 – 17:35 P1660
Voltage Sags/Swells Subsequent to Islanding Transition of PV-Battery Microgrids 2317
Pan Zhongmei, Hou Tonghui, Wang Yuqing
Xi'an University of Technology (China)
- TuP1.6 17:35 – 17:55 P1471
Research on Zero-sequence Circulating Current Suppression Strategy Based on T-type Three-level Photovoltaic Grid-connected Inverters 2322
Xiang-dong Sun, Shu-you Liu, Bi-ying Ren, Yu-han Jing
Xi'an University of Technology (China)

Session	TuP2: Power Electronics (XIV)
Date/Time	Tuesday, 7 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP3
Chairs	Bin Duan, <i>Shandong University</i> Qi Zhang, <i>Shandong University</i>

- TuP2.1 15:55 – 16:15 P1249
An Automatic Equalization Method Without Voltage Sensing Circuits for Series Connected Battery String 2327
Yao Han, Yunlong Shang, Bin Duan, Chenghui Zhang
Shandong University (China)
- TuP2.2 16:15 – 16:35 P1614
Input-Parallel Output-Parallel DC-DC Converter with MPPT Technique for Grid Connection of Multiple Distributed Generators 2329
Da Fang*, Weiyu Xu*, Ling Bu*, Lei Song⁺
**China University of Geosciences (China), ⁺State Grid Jibei Electric Power Co., Ltd*

- TuP2.3 16:35 – 16:55 P1790
The electromagnetic compatibility analysis of experimental apparatus based on wireless power transmission 2334
 Yaodong Li, Li Zhang, Tong Zhao, Liang Zou
Shandong University (China)
- TuP2.4 16:55 – 17:15 P1199
Study on coordinate control strategy for photovoltaic generation and hybrid energy storage system 2339
 Hui Yang, Xiangdong Sun, Ya Zhang, YangFei Chen, BiYing Ren
Xi'an University of Technology (China)
- TuP2.5 17:15 – 17:35 P1339
Research on energy management system of hybrid electric vehicle based on permanent magnet synchronous motor 2345
 Peng Dai, Weinan Sun, Nan Xu, Yan Lv, Xiaoying Zhu
China University of Mining Technology
- TuP2.6 17:35 – 17:55 P1376
Finite Control Set Model Predictive Control-A Powerful Control Algorithm for Grid-Connected Power Converters 2350
 Mahlagha Mahdavi Aghdam¹, Li Li¹, Jianguo Zhu¹, Omid Palizban²
¹*University of Technology Sydney (Australia)*, ²*University of Vaasa (Finland)*

Session	TuP3: Estimation and Identification
Date/Time	Tuesday, 7 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP5
Chairs	Guoan Bi, <i>Nanyang Technological University</i> Shichuan Ding, <i>Anhui University</i>

- TuP3.1 15:55 – 16:15 P1579
Weighted MUSIC algorithm based on delay correlation function 2356
 Ping Chu
Shenzhen University (China)
- TuP3.2 16:15 – 16:35 P1587
Real-Time Estimation of Vehicle's Lateral Dynamics at Inclined Road Employing Extended Kalman Filter 2360
 Kun Jiang, Alessandro Corrêa Victorino, Ali Charara
Université de Technologie de Compiègne (France)
- TuP3.3 16:35 – 16:55 P1613
A Detection Method for Abnormal Harmonic Current Monitoring Data Using Three-parameter Weibull Distribution 2366
 Tian-Lei Zang*, Yan Wang*, Zhi-Yuan Ma⁺
 **Southwest Jiaotong University (China)*, ⁺*Guangzhou Power Supply Bureau (China)*
- TuP3.4 16:55 – 17:15 P1049
Normalized Radar Cross Section Measurement for Space Objects 2372
 Xiongjun Fu^{1*}, Shuilian Peng¹, Chengyan Zhang¹, Ming Xie¹, Shuguang Li²
¹*Beijing Institute of Technology (China)*, ²*Shanghai Aerospace Electronic Technology Institute (China)*
- TuP3.5 17:15 – 17:35 P1152
A Gradient-based Algorithm for Optimizing Sensing Matrix with Normalization Constraint 2376
 Zeru Lu, Huang Bai, and Binbin Sun
Zhejiang University of Technology (China)

- TuP3.6 17:35 – 17:55 P1694
A Sparsity-Driven Auto-focus Technique for Radar Imaging 2381
 Lifan Zhao¹, Lu Wang², Guoan Bi¹, Lei Yang¹ and Haijian Zhang³
¹Nanyang Technological University (Singapore), ²Northwestern Polytechnical University (China), ³Wuhan University (China)

Session	TuP4: Mechatronics (V)
Date/Time	Tuesday, 7 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP6
Chairs	Lijun Jiang, <i>Republic Poly</i> Changbao Zheng, <i>Anhui University</i>

- TuP4.1 15:55 – 16:15 P1390
Grey Control Strategy of Predictive Current for PMSM 2386
 Rong Zhang*, Guangzhao Luo*, Wencong Tu*, Zhe Chen⁺, Ralph Kennel⁺
 *Northwestern Polytechnical University (China), ⁺Technical University of Munich (Germany)
- TuP4.2 16:15 – 16:35 P1082
Design on a kind of multi-channel electric spark source system 2391
 Ailong Fan^{1,2}, Yaohong Sun¹, Ping Yan¹, Xuzhe Xu¹, Rongyao Fu¹, Kun Liu¹
¹Chinese Academy of Sciences (China), ²Liaoning institute of science and technology (China)
- TuP4.3 16:35 – 16:55 P1500
Insertion Force Quality Consistency Investigation of Electrical Connector 2395
 Le Xu*, Sanqiang Ling*, Dawei Li⁺
 *Harbin Institute of Technology (China), ⁺Institute of China Aerospace Vehicle Technology (China)
- TuP4.4 16:55 – 17:15 P1305
Research on straightening process model based on iteration and self-learning 2400
 LU Hong, XIAO Xiong
 Wuhan University of Technology (China)

Session	TuP5: Nonlinear System & Control
Date/Time	Tuesday, 7 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP 11
Chairs	Puren Ouyang, <i>Ryerson University</i> Chen Naijian, <i>University of Jinan</i>

- TuP5.1 15:55 – 16:15 P1273
Nonlinear PD-type Control in Position Domain 2407
 P.R. Ouyang^{1,2}, V. Pano¹, J. Tang² and W.H. Yue²
¹Ryerson University (Canada), ²Hunan University of Science and Technology (China)
- TuP5.2 16:15 – 16:35 P1410
A Problem of Identification Synthesis for Mobile Robot by the Network Operator Method 2413
 T.P. Dang, A.I. Diveev, E.A. Sofronova
 Peoples' Friendship University of Russia (Russia)
- TuP5.3 16:35 – 16:55 P1101
Higher-order NTSM Control of chaos in Permanent Magnet Synchronous Generators 2419
 Xuemei Zheng, He Li, Rui Song, Yong Feng
 Harbin Institute of Technology (China)

- TuP5.4 16:55 – 17:15 P1647
Adaptive Robust Control of the Mobile Manipulator Based on Neural Network 2425
 CHEN Naijian*, YANG Hao*, AI Changsheng*, TANG Chenglong⁺, LI Xiangkui⁺
**University of Jinan (China), ⁺Shandong Shuaike Machinery Manufacturing Limited Co. (China)*
- TuP5.5 17:15 – 17:35 P1450
Event-Triggered Output-Feedback Control for Switched Linear Systems with Applications to a Boost Converter 2431
 Guoqi Ma, Linlin Qin, Xinghua Liu, Gang Wu
University of Science and Technology of China (China)
- TuP5.6 17:35 – 17:55 P1453
Predictive Current Control of The Three-Phase Inverter In A Stand-Alone Wind Energy System 2437
 Son Nguyen Thanh, Tuan Pham Van, Hoa Ha Xuan, Cong Nguyen The, Phi Pham Hung
Hanoi University of Science and Technology (Vietnam)

Session	TuP6: Invited Session – Design of Mechanical and electrical system
Organizers	Prof. Liman Yang, <i>Beihang University</i> Prof. Jian Shi, <i>Beihang University</i>
Date/Time	Tuesday, 7 June 2016 / 15:55 – 17:55
Venue	3rd floor VVIP 12
Chairs	Yunhua Li, <i>Beihang University</i> Jian Shi, <i>Beihang University</i>

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 Huang Mingji, Meng Lingzhao
University of Science and Technology Beijing (China)
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 Li Duanling, Huang Tianfang ,Bai Lei ,Dong Kaijie,Wang Zhe
Automation School of Beijing University of Posts and Telecommunications (China)
- TuP6.3 16:35 – 16:55 P1677
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 Xunchao Hong, Qingxuan Jia, Gang Chen, Long Zhang
Beijing University of Posts and Telecommunications (China)
- TuP6.4 16:55 – 17:15 P1782
Design and Dynamic Response Analysis of A Flexure-Based Nano-positioning System 2456
 Dingbing Wu^{1,2}, Chi Zhang^{1*}, Aolei Yang², Guilin Yang¹, Liang Dong^{1,2}, Qiang Liu¹
¹Chinese Academy of Sciences (China), ²Shanghai University (China)
- TuP6.5 17:15 – 17:35 P1748
Bearing Characteristics Analysis and Multi-Field Coupling Simulation on Slipper-Piston Component 2462
 Liman Yang, Hengbo Li, Yunhua Li and Kunyuan Dang
Beihang University (China)
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Improved switching boost inverter 2468
 Yikun Jia¹, Shaoru Zhang^{1,2}, Lingling Liu¹, Shuai Wang¹, Chenjie Qie¹
¹Hebei Normal University (China), ²Anhui University (China)

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Monash University (Australia)
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A. H. Beg, Md Zahidul Islam
Charles Sturt University (Australia)
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A. H. Beg, Md Zahidul Islam
Charles Sturt University (Australia)
- TuPP1.4 P1080
Extract the Backbone links and the Weakness nodes via Community Detection 2490
Guangquan Lu^{1,2}, Jian Li², Zhiyi Mo², Faliang Huang³, Wenzhong Liang^{1,2,*}
¹Guangxi Normal University (China), ²Wuzhou University (China), ³Fujian Normal University (China)
- TuPP1.5 P1481
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Shensi Tong*, Hanlong Zhang*, Beijun Shen*, Yongjian Wang⁺ and Bo Jin⁺
**Shanghai Jiao Tong University (China), ⁺The Third Research Institute of Ministry of Public Security (China)*
- TuPP1.6 P1052
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Yan Xu*, Chung-Hsing Yeh⁺
**Northwestern Polytechnical University (China), ⁺Monash University*

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FAN Hong, CHEN Si
Shanghai University of Electric Power (China)
- TuPP2.2 P1253
An Any-Cell(s)-to-Any-Cell(s) Equalizer Based on Bidirectional Inductor Converters for Series Connected Battery String 2511
Zhongkai Zhou, Yunlong Shang, Bin Duan, Chenghui Zhang
Shandong University (China)
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Jiaxin You*, Hao Chen*, Ruichao Wang*, Zhaowen Cai⁺, Fubiao Luo⁺
**Harbin Institute of Technology, ⁺G&A Technologies Co., Ltd., (China)*
- TuPP2.4 P1609
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Fan Hong, Lu Ru, Jiang Yanbin
Shanghai University of Electric Power (China)

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 Jun Liu, Yonggao Zhang
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 Dingwang Xu, Xiuhe Wang, Guanqun Li
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 Fan Hong, Ma Lian
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Anhui University (China)
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