2017 13th IEEE International Conference on Electronic Measurement & Instruments (ICEMI 2017)

Yangzhou, China
20-22 October 2017

Volume 1
Pages 1-575

IEEE Catalog Number: CFP1733C-POD
ISBN: 978-1-5090-5036-9

Copyright © 2017 by the Institute of Electrical and Electronics Engineers, Inc.
All Rights Reserved

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

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

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

IEEE Catalog Number: CFP1733C-POD
ISBN (Print-On-Demand): 978-1-5090-5036-9
ISBN (Online): 978-1-5090-5035-2

Additional Copies of This Publication Are Available From:

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

Table of Contents

VOL 1

EM17005 **Correlation Particle Filter** ***1***
Liang Jun, Wu Yan

EM17006 **A Novel Multiple Dies Parallel NAND Flash Memory Controller for High-speed Data Storage** ***6***
Tao Li , Zhou Lei

EM17012 **Magnetic performance measurement and mathematical model establishment of main core of magnetic modulator** ***12***
Zhou Liren, Yang Xin, Pan Yang, Zhu Li

EM17019 **Synchronization method of multiple multiplexed DACs** ***17***
Yang Xing, Xiao Yindong,Wang Houjun,Guo Guangkun,Yin Linglong

EM17023 **Design and analysis of signal processing circuit for clamping force measurement** ***24***
ZhangHui，Dong Chan，LiZiyuan，ZhangYang

EM17037 **Study on enhancing features of digital oscilloscope to analyze the envelope of signal** ***30***
Zhang Qinchuan,Huang Wuhuang, Zeng Hao

EM17038 **Diagnosis via arithmetic circuit compilation of bayesian network and calculation on FPGA** ***35***
Xie Pan,Yu Jinsong

EM17039 **A relay-based cooperative spectrum sensing in cognitive radio networks** ***42***
Hu Lin, Zhao Yijiu, Wang Houjun

EM17040 **Filter analysis in the quadratic DDC structure** ***49***
Guo Lianping, Meng Jie, Tan Feng, Zeng Hao, Qiu Duyu

EM17067 **Design of data editor for deep storage data generator** ***54***
Fu Zaiming, Zhang Lizhong , Zhou Wenjian, Zhao Yijiu

EM17069 **Addressing scheme based on three-dimensional space over 6LoWPAN for internet of things** ***59***
Gao Yousheng, Yuan Lingyun, Han Lijing

EM17071 **Current mode third-order high-pass filter based on CCⅡ** ***65***
Xu Jie, Zhang Zheng-hua, Li Renren

EM17075 **Blind calibration method for two-channel time-interleaved ADCs based on cross correlation and polynomial regression** ***70***
Bai Xu, Hu Hui, Li Wanjun,Yang Xiaodong,Liu Tianbiao

EM17077 **Power spectral density estimation from random interleaved samples** ***76***
Zhao Yijiu , Yang Xi , Wang Qi, Liu Jingjing, Fu Zaiming , Zhang Peng, Hu Lin

EM17093 **A rolling CRC based HDMI function testing method design** ***80***
Gao Jian

EM17095 **Integrator structure for reducing drift voltage influence** ***87***
Wang Haiqiang, Hou Ligang, Ye Tongyang, Wang Jinhui, Geng Shuqin

EM17098 **Research on the hardware co-processing technology for waveform character Searching with a digital oscilloscope** ***92***
Zeng Hao, Guo Lianping, Meng Jie, Ye Peng

EM17100 **Approaches and simulation for receiver sensitivity test of ZigBee module** ***98***
Zhan Zhiqiang, Wang Yunling, Yu Lei

EM17101 **Stability and influence evaluation of calibrating pyrgeometers outdoors with different pyrgeometer coefficients** ***103***
Chong Wei, Lv Wenhua, Ding Lei, Xue Fengguo

EM17105 **A UHF Pulse Cluster Generator with Programmable Envelope** ***108***
He Wei, Tian Xiaosi, Huang Zhaoyang, Zhang Ling, Lin Yingcheng

EM17108 **A time interval measuring technique with high speed and high resolution** ***113***
Qiu Duyu,Guo Lianping,Tan Feng,Zeng Hao

EM17109 **The design of time marker generator** ***120***
Liu Ke, Su Shixi, Xiao Yindong, Guo Guangkun, Zhao Zhenkai

EM17110 **The design and experimental verification of neutron dosimeter** ***130***
Guo Siming, Ma Zhongjian, Wang Panfeng, Wu Jinjie

EM17118 **An analog channel calibration method for bandwidth interleave** ***135***
Yin Linglong, Tian Shulin, Liu Ke, Huang Lei, Yang Xing

EM17121 **Research on the parallel FFT based on digital down conversion and phase difference correction techniques** ***140***
Meng Jie, Wang Houjun, Guo Lianping, Zeng Hao

EM17122 **Object tracking based on depth sparse learning** ***145***
Zhou Yang , Hu Xuelong , Li Chunxiao, Yang Chenhui

EM17124 **A memory-logic separated 3D chip physical design method** ***151***
Zhang Shier, Hou Ligang, Ye Tongyang,Wang Jinhui, Peng Xiaohong

EM17126 **Roll estimation algorithm based on Sage-Husa adaptive Kalman filtering with rotation criteria** ***155***
Wang Jiawei, Qi Keyu, Xu Guotai, Qian Rongzhao, Yan Jie

EM17129 **Robust time delay estimation based on asinh transform under α-stable noises** ***162***
Wang Liping,Hu Xuelong,Nan Jiang

EM17137 **Research on denoising methods of linear CCD spectrum data using combined filter based on wavelet threshold** ***167***
Zhang Long, Wu Guoxin, Ding Chunyan, Lu Jiwei

EM17139 **Design and implementation of Beidou anti-jamming antenna** ***173***
Yan Shuangshan, Hu Xuelong,Quan Jichao

EM17143 **A novel dual-band dipole antenna based on triangular shaped fractal parasitic elements** ***179***
Xu Lu, Zhang Zucun, Wu Suyun, Li Zhe

EM17147 **Nonlinear characteristics and pre distortion modeling of a non memory RF power amplifier** ***184***
Leng TianJiu

EM17149 **The application of random equivalent sampling in acquisition system with 5Gsps real-time sampling** ***188***
Dai Zhijian, Wang Qi, Yang Xi, ZhaoYijiu

EM17150 **Design and numerical simulation of multi direction jet flow generator** ***193***
Chang Xingyuan, Piao Linhua, Piao Ran

EM17152 **Research on subway acceleration measurement method based on magnetic levitation technology** ***197***
Kong Deshan, Jiang Dong, Liu Xukun,Wang Deyu

EM17159 **Effective critical gate identification for mitigating circuit aging using gate replacement** ***204***
Wu Qingwu, Yi Maoxiang, Yuan Shiqi, Zhang Yao, Ding Li, Liang Huaguo

EM17161 **Research on application of intelligent jamming based on spectrum sharing technique of signal** ***209***
Deng Xingsong,Xu Wenjun,Wang Jinfeng

EM17162 **Application of benchmark nonlinear load in UPS power supply testing** ***216***
Li Shuming, Sun Yi, Men Bolong, Luo Zheng, Song Hailong

EM17164 **The Design of baseband signal generator** ***221***
Liu Ke, Ma Qiang, Zhang Xingpeng, Guo Guangkun, Yang Xing, Huang Lei

EM17167 **Radial Simulation Research of Gas-solid Two Phase Annular Flow with Ultrasonic fluid Measurement** ***229***
Zang Yaoyao,Wang Yueming, Liu Meng, Lu Shuwei, Ge Pengcheng

EM17172 **De-noising algorithm for digital oscilloscope based on wavelet packet** ***233***
Wei Wentao, Ye Peng, Yang Kuojun, Gao Jian, Huang Wuhuang, Yan Liyue

EM17173 **Design of acquisition system with real time sampling rate of 5Gsps** ***239***
Dai Zhijian, Xiao Shuangman, Liu Jingjing, Yang Xi, Wang Qi, Zhao Yijiu

EM17177 **A high-precision memory hicorder based on SoC** ***244***
Tong Yazhen, Wang Jun, Song Jiayun, Ding Wei, Li Bin

EM17179 **The Development of differential programmable josephson voltage standard toward quantum voltmeter with microvolt range** ***249***
Li Honghui, Wang Zengmin, Cao Wenhui, Gao Yuan

EM17181 **The Research and design of single relay coded cooperative system based on Polar codes** ***254***
Jin Ming，Wang Junming，Zhang Yan，Gu Bin

EM17185 **Calibration for time domain reflectometry modular in digital communication analyzer** ***259***
Lu Fumin

EM17186 **Research on test scheduling of 3D NoC based the strategy of bandwidth division multiplexing and multi-clock** ***263***
Xu Chuanpei, Guo Rong, Zhao Tongzhou

EM17193 **Redundancy routing mechanism based on hierarchical forwarding tree for IPv6 communication in power line carrier networks** ***269***
Xiang Min, Qu Qinqin, Yu Xiangchun, Sun Yongmin

EM17197 **Development of airborne distributed analog data acquisition system** ***276***
Yu Jinxiang, Peng Yu, Pan Dawei, Wang Benkuan

EM17201 **Operation and control of pressure retarded osmosis for maximum power** ***282***
Jonathan Maisonneuve, Zhu Lianqing ,Dong Mingli

ICEMI20170003 **Design of low-voltage switch phase-sensitive protector based on STM32** ***287***
Wu Yaohui, Liu Si, Wu Haozhen, Wu Tianbo

ICEMI20170005 **Real-Time Blind Calibration for Frequency Response Mismatches in Two-Channel TI- ADCs** ***293***
Liu Guiqing, Wang Yinan, Liu Husheng, Diao Jietao,

ICEMI20170012 **Research on the uncertainty of calibrated bandwidth of broadband sampling oscilloscope** ***299***
Zhu Jiangmiao , Zhao Linxiao , Miao Jingyuan, ZhangYueqian

ICEMI20170014 **A Novel Carrier Synchronization Structure Using Reduced Constellation for 32/64APSK** ***307***
Li Hao, Wang Zhigang, Wang Houjun, Chen Yujuan

ICEMI20170018 **Design of precision timing circuit for X-ray speed measuring instrument** ***313***
Yang Bo

ICEMI20170020 **Analysis for propagation characteristics of longitudinal mode and torsional mode guided waves in rod** ***319***
Kang Weixin, Liu Lingxi, Zhao Yuchen

ICEMI20170024 **Research on calibration work of selective filtering characteristics for transformer winding deformation tester** ***325***
Peng Qian, Wang Jian

ICEMI20170026 **Strategy for soft fault diagnosis on analog circuits with tolerance** ***331***
Dong Haidi, Liu Gang, Wang Junti, Pan Dianheng, Xie Hui

ICEMI20170029 **Building vibration measurement with double magnetic suspension vibratorsbased on wavelet analysis** ***336***
Jiang Dong, Zhang Zhengnan, Liu Xukun, Kong Deshan, Wang Deyu

ICEMI20170031 **Study on the method of indoor wireless channel characteristic measurement and analysis based on Vector Network Analyzer** ***343***
Hu Aihua，Deng Zhongliang，Zhang Yao

ICEMI20170034 **Chaotic identification of Maglev vibration measurement system based on Neural Network** ***349***
Liu Xukun, Jiang Dong,Kong Deshan, Wang Deyu

ICEMI20170035 **Research on network timing system based on NTP** ***356***
Xu Jie, Xu Liang, Dong Lian , Zeng Delin

ICEMI20170036 **A method of testability analysis and design based on FMEA extension** ***361***
Wang Long, Li Yue, Qian Yanling, Xu Tengfei, Wu Minhao

ICEMI20170037 **Development of offset frequency generator based on programmable modulus DDS** ***368***
Tang Sheng, Li Changlong, Tao Cui, Hou Yuqing

ICEMI20170044 **Design and implementation of 250MSPS wireless smart virtual oscilloscope** ***373***
Huang Wuhuang, Pan Zhixiang, Gao Jian, Chang Haozhe, Ye Peng , Qiu Duyu

ICEMI20170046 **A TIADC mismatch calibration method for digital storage oscilloscope** ***379***
Yang Kuojun, Shi Jiali, Yang Huizhi

ICEMI20170047 **Study of high-accuracy data acquisition in mixed-signal boundary scanning test system** ***384***
Hou Xingna, Ma Jun, Chen Shouhong

ICEMI20170051 **Phase difference measurement of low-frequency sinusoidal signals based on LabWindows/CVI** ***388***
Lei Haodan, Hou Yuqing, Tang Sheng

ICEMI20170061 **Spectrum leakage suppression for multi-frequency based on DFT** ***394***
Wang Qian, Yan Xiao, Ren Yong

ICEMI20170062 **Decoupled Kalman filter based on SINS/GPS integrated navigation** ***400***
Yang Weixiu, Wang liang, Wang xiaoyun,Chen songyue

ICEMI20170067 **Research on the influence of vias on signal transmission in multi-layer PCB** ***406***
Gao Dong, Yang Biao, Duan Xidong, Li Yuan

ICEMI20170075 **DOA estimation of partially polarized signals using conjugate MUSIC** ***410***
Wu Minjie, Meng Tianzhen, Huang Jingjian, Zhang Xiaofa, Yuan Naichang

ICEMI20170082 **Study on calibration of impulse current measuring system** ***415***
Yuan Yuan, Feng Jianqiang, Jiang Ning, Jia Zhuanzhuan, Li He

ICEMI20170087 **Applications research of sigma-delta modulator in high precision measurement system of motor current** ***421***
Liang Xuexiu, Wu Tong, Sun Rongyi, Jiang Jie, Li Bing, Yu Hua

ICEMI20170088 **Filter bank spectrum analysis and application in vortex flowmeter** ***426***
Fan Na, Li Bin

ICEMI20170089 **Classification and recognition of voltage sags based on KFCM - SVM** ***432***
Mei Fei , Zhang Chenyu, Sha Haoyuan , Zheng Jianyong

ICEMI20170091 **Precision 1000-V DC voltage standard produced by HVDAC** ***438***
Jiao Haini, Wang Bin, Wang Yizhou, Hou Xuwei, Cui Yumei

ICEMI20170094 **Compensation for magnetic moment measurement error of dynamic loop method** ***442***
Liu Chaobo, Meng Lifei, Yi Zhong, Zhang Limei

ICEMI20170097 **Novel algorithm of channel estimation for CP-OFDM systems with pilot symbols in frequency domain** ***448***
Yuan Jiangbin , Hua Yu,Yan Wenhe, Li Shifeng

ICEMI20170098 **Study of calibration of three-axis fluxgate magnetometers on unmanned helicopter** ***453***
Wu Peilin, Zhang Qunying, Chen Luzhao, Fang Guangyou, Liu Wei

ICEMI20170099 **The research of performance testing about watt-hour meter plug** ***458***
Zhang Zhi, Dong Xianguang，Li Congcong, Wang Pingxin, Xu Ziqian

ICEMI20170100 **The research and rectification on the test of immunity to electromagnetic RF fields for electrical energy meter** ***462***
Wang Pingxin，Li Congcong, Zhang Zhi，Dai Yanjie，Du Yan，Dong Xiangguang，Chen Zhiru，Yang Jie,Li Lin

ICEMI20170103 **Research status of digital electrical energy metering technology** ***466***
Pan Feng, Lin Guoying, Wang Lingyun, Song Qiang

ICEMI20170104 **Study on the asymmetric bistability of the vibration energy harvester based on diamagnetic levitation** ***473***
Zhang Zhenyu, Ding Jianqiao, Qin Lizhen, Duan Zhiyong, Su Yufeng

ICEMI20170105 **A novel hybrid architecture for ultra-fast and high-resolution data acquisition** ***479***
Gao Jian, Huang Wuhuang, Ye Peng, Wei Wentao, Pan Zhixiang, Yang Kuojun

ICEMI20170107 **A 2-layered structure sea-sky-line detection algorithm based on regional optimal variance** ***486***
Liu Xiyao, Zhao Chenbing, Zhang Suoping, Li Mingbing, Qi Zhanhui

ICEMI20170120 **Design of broadband millimeter Sum-difference Network** ***491***
Sun Biao, Li Changyou, Zhang Xingwen, Zhao Xianzhang

ICEMI20170123 **A joint detection method of cycle-identification for Loran-C signal** ***497***
Yan Wenhe, Hua Yu,Yuan Jiangbin, ,Zhao Kunjuan, Li Shifeng

ICEMI20170126 **Characteristics of electrical matching for power piezoelectric transducer** ***503***
Fang Peisen, Chen Bingyan, Zhu Changping, Zhou Yan

ICEMI20170130 **Application of State Evaluation of Electric Energy Metering Device** ***510***
Zhang Dingqu, Lin Guoying, Song Qiang, Pan Feng, Tan Dan, Liu Chang

ICEMI20170138 **A Multi-Channel sub-nyquist sampling method based on spectrum co-prime permutation** ***516***
Yan Yimin, Qian Hui, Huang Yufang

ICEMI20170140 **Research on the Pearson correlation coefficient evaluation method of analog signal in the process of unit peak load regulation** ***522***
Xia Zhi, Song Yuexin, Ma Jin, Zhou Lujie, Dong Zijian

ICEMI20170147 **Digital EEG signal acquiring system based on FPGA** ***528***
Zhang Pengju, Zheng Dezhi, Zhang Shuailei, Huang Kai

ICEMI20170148 **A small buoy for flux measurement in air-sea boundary layer** ***534***
Zhao Chenbing, Wang Xinpeng, Liu Xiyao, Zhang Suoping, Wang Haitao

ICEMI20170154 **Design and implementation of motor control unit in XBT cluster launch and measurement system** ***539***
Wang Xinpeng, Men Yabin, Zhao Chenbing, Dang Chaoqun, Kong Youdi

ICEMI20170156 **Traceable measurement methods for dynamic pressure calibration** ***545***
Yang Jun , Zhang Li , Xue Bin, Huang Riheng, Li Bo

ICEMI20170160 **Calibration accuracy analysis of satellite channel zero-value based on TtC measurement** ***552***
Zhu Feng, Li Xiaohui, Li Dandan, Li Bo

ICEMI20170163 **A gas flowrate calibration facility with adjustable pressure and temperature** ***556***
Li Xia, Qi Ningwu, Wang Shuo

ICEMI20170164 **Measurement for thin film transistor electrical performance based on PXIe bus** ***562***
Han Xili, Zhang Lei, Dai Zhijian

ICEMI20170165 **Error Prediction method of Electronic Transformers Based on RBF Neural Network** ***567***
Wu Qiao,Xu Xin,Yang Shihai,Lu Shufeng,Chen Gang

Author Index ***572***

2017 13th IEEE International Conference on Electronic Measurement & Instruments (ICEMI 2017)

Yangzhou, China
20-22 October 2017

Volume 2
Pages 1-576

IEEE Catalog Number: CFP1733C-POD
ISBN: 978-1-5090-5036-9

VOL 2

EM17004 **A SEU test and simulation method for Zynq BRAM and flip-flops** ***1***
Ji Yao, Wang Shaojun, Ma Ning, Peng Yu

EM17020 **Design of genetic algorithm optimized PID controller for gas mixture system** ***6***
Wang Chunchen, Chen Feng, Zhang Guang, Yu Ming, Li Liangzhe, Wu Taihu

EM17034 **Distributed test system based on publish/subscribe middleware** ***10***
Weng Zeyu, Yu Jinsong, Sheng Wubin

EM17041 **A Humidity control system based on T&H-decoupling and PID self-tuning fuzzy algorithm** ***16***
Li Jingjie, Yang Dongmei, Zhou Ruiyi, Zhang Hui

EM17043 **Study on the oil quantities calculation method of coriolis mass flow meter in oil dynamic measurement** ***22***
Xu Hongguang, Chen Mei

EM17045 **Transit time measurement for ultrasonic tomographic velocimeters** ***27***
Liu Jiannan, Li Liang, Wang Min

EM17048 **FPGA based echo delay control method for pulse radar testing** ***34***
Zhang Peng, Wang Ping, Wang Houjun, Li Li, Guo Lianping

EM17058 **Design method of automatic calibration software based on intelligent fitting** ***39***
Fu Zaiming , Yu Xia , Zhou Wenjian, ZhaoYijiu

EM17065 **The merging design method of instrument software based on the SCPI command set** ***44***
Fu Zaiming , Zhang Zhixiang, Zhao Yijiu, Ma Min

EM17074 **Reaserch and applications based on full automation measurement service management platform testing mode** ***49***
Liu Chen, Han Qiaochu, Li Nuo

EM17076 **The design and implementation of roller's calibration system in steel plant based on total station** ***56***
Wang Zhaojia, Wan Guangdi, Liu Yang, Ge Zhixia

EM17081 **The study of in-Situ Measurement simulation test of MOI for the LIDM docking performance test-bed** ***63***
Zhao Jiliang, Ni Bo, Su Yu, Li Hongbo, Luo Haifeng

EM17088 **Design of the laser gun bullets based on microcontroller** ***68***
Pan Nan, Kan Lifeng, Liu Yi, Sun Yajun

EM17090 **The design of a clamping force measuring instrument based on MSP430 microcontroller** ***73***
Wang Xueqi, Zhang Yang,

EM17094 **High accuracy virtual electronic fence management technique based on GNSS** ***79***
XuYuan, Jin Senlin, Zhong Chongxia, Liang Wei, Huang Yan, Yao Hejun

EM17096 **Shifting control system design for hydraulic mechanical transmission of wet clutch** ***84***
Yang Zhida, Wang Liyong, Chen Tao

EM17099 **Research and experimental validation of the method for barometric altimeter aid GPS in challenged environment** ***88***
Li Bo, Xu Chao, Li Xiaohui, Wang Wenli

EM17102 **Application of EMD in motive time-frequency system** ***93***
Li Bian,Chen Yongqi, Qu Lili

EM17119 **Design of comprehensive test platform for pollution tolerance of the convergent planetary trains exhaust oil** ***99***
Meng Xiangliang, Wang Liyong, Chen Tao

EM17120 **Novel GNSS receiver test bench based on scenario database and signal playback technology** ***104***
Ji Chen, Ying Rendong, Zhu Xiaoguang, Liu Peilin

EM17127 **The Verification of SHA-256 IP using a Semi-Automatic UVM platform** ***111***
Xu Qiuyun,Hou Ligang,Luo Qiming,Wang Jinhui,Geng Shuqin

EM17136 **Research on optimized control of braking force redistribution** ***116***
Zhang Changfan, Yin Xiaofei, He Jing, Dou Bingbing

EM17141 **Evaluation method on use and maintenance test of armored equipment in coastal environment** ***123***
Shi Shengbing, Yang Ningguo, Gao Ye

EM17144 **Study on impact effects of electronic system based on working conditions** ***128***
Yang Ningguo, Shi Shengbin, Hou Xiping, Ren Xintao

EM17146 **Performance test of laser power meter verification system** ***132***
Fu Yongjie, Cai Ying

EM17148 **Design of intelligent car control system based on new energy** ***136***
Sun Jianghong, Li Gang, Yu Mei, Du Hongchen

EM17153 **Study on the position of multi - probe ultrasonic wave in measuring pipeline** ***142***
Wang Yueming, Liu Meng, Wang Peng, Zhang Yaoyao

EM17158 **Multi-Vth technique based on potential critical paths for NBTI effect and leakage tradeoff** ***146***
Zhang Yao, Yi Maoxiang, Wang Keke, Wu Qingwu, Ding Li, Liang Huaguo

EM17180 **Study on spatial-temporal variations of PM2.5 concentrations in the Beijing-Tianjin-Hebei and northeastern three provinces of China** *152*
Deng Qiongfei, Liu Xinang, Luo Yi, Zhu Yanhui, Yang Kun, Yu Zhenyu

EM17183 **Dynamic resource scheduling of cloud-based automatic test system using reinforcement learning** *159*
Yang Zhao, Xiao Mingqing., Ge Yawei

EM17184 **Measurement method of magnetic field spatial distribution based on plane measuring ring** *166*
Chen Rongbao, Duan Zemin, Li Zhibao, Liu Yang, Si Xiaoliang, Qiu Shanliang, Li Runtian

EM17196 **A bandwidth in-sensitive low stall sparse matrix vector multiplication architecture on reconfigurable FPGA platform** *171*
Syed Mohsin Ali, Wang Shaojun, Ma Ning, Peng Yu

EM17199 **Design and realization of integrated patrol-robot system for underground pipe gallery** *177*
Chen Tao , Yun Lijun, Cheng Hengyu,Zhang Jingchao,Song Wenjun

ICEMI20170006 **Design of near probe high precision signal acquisition array circuit for threedimension acoustic logging tool** *183*
Zhang Wei , Shi Yibing ,Ma Dong

ICEMI20170033 **Improvement of RFID locating algorithm in warehouse security system** *190*
Wang Yong，Liu Qing，Wang Lei，Shen Hao

ICEMI20170045 **A FMEA method for electronic devices based on annotating functional roles** *196*
Wang Long, Qian Yanling, Li Yue, Xu Tengfei, Liu Yanbin

ICEMI20170049 **Test wrapper algorithm for scan chain balance based on entropy increase hybrid differential evolution** *204*
Deng Libao, Zhang Baoquan, Wang Sha, Qiao Liyan

ICEMI20170063 **The Automatic Measurement System of Large Vertical Storage Tank Volume Based on 3D Laser Scanning Principle** *211*
Hao Huadong, Liang Xuemin, Chen Xianlei, Shi Haolei, Yi Pengju

ICEMI20170072 **Boiler combustion condition monitoring and optimization system based on LabVIEW** *217*
Wang Dongfeng, Li Yingbao

ICEMI20170073 **Research on kinematic parameter calibration of handling robot** *224*
Shi Yun, Fang Jie,Weng Zhiyuan

ICEMI20170076 **A serial structure for digital microfluidic biochips online testing** *229*
Deng Libao, Sun Ning,Ren Tao, Fu Ning

ICEMI20170078 **Calibration interval optimization and calibration conclusion risk analysis on automatic test system** ***236***
Xie Jinzhe, Xiong Jiulong

ICEMI20170085 **Design and realization of underground pipeline location system based on RFID technology** ***242***
Gao Xiangkai, Geng Shuqin, Zhu Xin, Peng Xiaohong, Hou Ligang

ICEMI20170092 **The bus-bar net load forecasting based on ARIMA and PSR-BPNN** ***247***
Zhang Jingwei, Zhu Xiang, He Weiguo, Mei Fei, Li Yujie, Yuan Xiaoling, Liu Haoming

ICEMI20170096 **Study on frequency response of accumulation weighing process** ***253***
Tang Jianhua

ICEMI20170108 **Security strategy and application of the life-cycle cloud platform of electric energy metering equipment** ***258***
Liu Xingqi, Zhu Enguo, Zou Heping, Zhang Linan, Wu Zhongxing

ICEMI20170117 **Transportation expenses minimal modelling with application to fresh food supply chain** ***263***
Yin Hongli ， Wang Yongming

ICEMI20170139 **Research on mechanics modeling and factors analysis of flexible material R2R machining deformation** ***268***
Deng Yaohua , Zhou Na ,Liu Xiali,Guo Huazhong

ICEMI20170144 **Energy management strategy research for residential microgrid considering virtual energy storage system at demand side** ***273***
Liu Changliang, Wu Yanqun,Bai Kang, Chen Chen, Liu Weiliang

ICEMI20170150 **Research on mathematical model of electrode boiler based on neural network** ***281***
Xia Zhi, Wang Chunling, Qiang Shuo, Ma Jin

ICEMI20170157 **Modeling hysteresis of Giant Magneto Resistive and Tunnel Magneto Resistance sensors at high frequency based on automatic test system** ***286***
Yu Hao, Li Bu, Qu Jiaqi, Qian Zheng,

EM17008 **Acquisition and Application of Running State Information on Automatic Weather Station** ***292***
Li Feng, Li Yan，Zhou Qing

EM17009 **Noisy faces recognition based on PCNN and PCA** ***300***
Sun Feifei, He Min, Nie Rencan, Wu Zhangyong

EM17024 **Research on adaptive SIFT algorithm in image matching of pipeline inner surface visual measurement** ***305***
Li Zhonghu, Zhang Lin, Wang luling,Yan Junhong,Wang Jinming

EM17035 **The design of intelligent crowd attention detection system based on face detection technology** ***310***
Luo Qiming, Hou Ligang, Xu Qiuyun, Ye Tongyang, Wang Jinhui , Geng Shuqin

EM17036 **Review of Distributed Video Coding** ***315***
Shang Fei, Ye Juanjuan

EM17050 **Study on optimization of numerical solution of high speed angular contact ball bearing mechanics model** ***321***
He Pingping, Gao Feng, Li Yan, Zhang Dongya, Kong Lingfei, Duan Jihao

EM17055 **Sensitivity study of a polarization imaging-based target detection system** ***327***
Gu Langlang, Zhang Zhen, Sun Qiyao, Wang Huibin

EM17056 **Application of adaptive median filter and wavelet transform to Dongba manuscript images denoising** ***335***
Geng Qiaoman, Wu Guoxin, Xu Xiaoli

EM17062 **Image enhancement algorithm of Dongba manuscripts based on wavelet analysis and grey relational theory** ***340***
Xia Xinyu,Wu Guoxin,Zhu Chunmei,Ding Chunyan,Geng Qiaoman

EM17066 **Satellite common-view comparison of two types of unequal precision data** ***346***
Chen Ruiqiong，Yang Ying，Liu Ya，Li Xiaohu， Xue Yanrong

EM17072 **QT-based car navigation map realization and optimization** ***351***
Cai Liangming，Du Min，Wu Jingdong，Zhang Zhilong，Lin Jinhe

EM17079 **IP camera-based LSPIV system for on-line monitoring of river flow** ***357***
Zhang Zhen, Zhou Yang, Li Yuchou, Ye Youjie, Li Xurui

EM17104 **Research on image acquisition and preprocessing method for visual measurement of pipeline inner surface corrosion** ***364***
Li Zhonghu, Zhang Lin, Wang Jinming, Yan Junhong, Li Kang

EM17106 **Single view head pose estimation system based on SoC FPGA** ***369***
Zhang Ling, Xu Qing, He Wei, Lin Yingcheng

EM17107 **Research on imaging method of magneto-acoustic microscopy based on acoustic lens** ***375***
Xia Hui, Liu Guoqiang, Li Yuanyuan, Sun Zhishen, Ding Guangxin, Lu Minhua

EM17114 **A scale adaptive underwater target tracking algorithm** ***380***
Zhou Yan , Li Qingwu，Huo Guanying

EM17128 **An improved TLD target tracking algorithm based on mean shift** ***387***
Zhang Song, Zhu Cong, Zhang Yanan, Du Yuren

EM17130 **Identification of chaff interference based on polarization parameter measurement** ***392***
Cui Gang, Liu Jian, Shi Longfei, Ma Jiazhi

EM17132 **Improved two-targets resolution using dual-polarization radar with interlaced subarray partition** *397*
Ma Jiazhi, Shi Longfei, Liu Jian

EM17145 **The temperature measurement technology of infrared thermal imaging and its applications review** *401*
Wang Yongqing, Gu Zongqing, Wang Shuonan, He Ping

EM17166 **Salient object detection by combing eye fixation prediction and semantic segmentation** *407*
Tan Xiuli, Chen Shuhan, Hu Xuelong

EM17168 **Software implementation of corn grain morphology detection based on OpenCV** *412*
Sun Jin, Huang Zedong , Liu Yuan

EM17169 **Scattering from the stratified uniaxial anisotropic media in directional source excitation in the spectral domain** *416*
Cheng Peng, Li Lianlian, Deng Wei

EM17187 **Face detection based on LBP** *421*
Zheng Jun, Hua Jizhao, Tang Zhenglan, Wang Feng

EM17188 **Augmented reality based upper limb rehabilitation system** *426*
Wang Ying, Wang Aimin

EM17198 **A real-time electronic fence monitoring algorithm based on Baidu maps** *431*
Cheng Hengyu, Yun Lijun, Chen Zaiqing, Wang Kun

ICEMI20170002 **Acquisition of the optimum X-ray source based on multi-objective optimization model** *437*
Lv Wenhui, Guo Huiping, Lv Ning, Zhao Kuo, Wang Xiaotian, Hou Yijie, Liu Cuihong

ICEMI20170010 **Frequency characteristic of ultrasonic based on soft tissue attenuation model** *441*
Kang Weixin , Gong Xue, Wang Hongru, Pan Dawei

ICEMI20170019 **Design of 6 degree-of-freedom micro-positioning mechanism for optical elements** *447*
Zhang Defu, Li Xianling, Ni Mingyang , Li Pengzhi, Dong Lijian, Rui Dawei, Zhang Jianguo

ICEMI20170041 **Corrosion Acoustic Emission Signal Recognition Based on Relevance Vector Machine** *453*
Yu Yang ，Su Mohan，Ma Jialiang, Yang Ping

ICEMI20170077 **A Scale adaptive compressed object tracking algorithm** *459*
Zhang Wen, Hu Xuelong, Li Chunxiao, Sun Tianbao

ICEMI20170080 **Classification of marine noise signals based on DNN (Deep Neural Networks) model** *465*
Yu Pei, Xing Hongyan, Ding Yuan

ICEMI20170081 **The adaptive hybrid algorithm for sea clutter denoising based on CEEMDAN** ***471***
Liu Gang, Xing Hongyan, He Guixian

ICEMI20170083 **The image enhancement of forward vehicle video based on catenary semantics** ***477***
Hu Yanhua, Tang Peng, Jin Weidong, Li Wei

ICEMI20170095 **Human face detection algorithm via Haar cascade classifier combined with three additional classifiers** ***483***
Li Cuimei, Qi Zhiliang, Jia Nan, Wu Jianhua

ICEMI20170101 **Metallic wear particles detection in micro-channel based on resistance signal** ***488***
Yu Zilei, Zhang Hongpeng, Zeng Lin, Zhao Xupeng, Zhao Wanheng

ICEMI20170119 **Research on non-contact measurement method of ball screw nut based on spectral confocal principle** ***493***
Zhang Xutao, Gao Feng, Li Yan, Hai Lixin, Shui Linqi

ICEMI20170121 **Prediction of photovoltaic power attenuation rate under thehaze weather based on multi-factor fitting model** ***499***
Zhang Guangshan, Fu Yi, Li Jintuo, Liu Weiliang, Ma Jin

ICEMI20170122 **Semantic image segmentation using region-based object detector** ***505***
Chen Shuhan, Wang Ben, Li Jindong, Hu Xuelong

ICEMI20170132 **A weight SAE based Hyperspectral image anomaly targets detection** ***511***
Ma Ning, Peng Yu, Wang Shaojun, Gao Wei

ICEMI20170133 **Vehicle image mosaics technology based on improved SIFT algorithm** ***516***
Wang Peng, Duan Yichen, Dong Mianmian, Xiong Miaomiao, Li Xue

ICEMI20170135 **Research on high speed sampling method of nuclear pulse in the digital nuclear spectrum measurement system** ***521***
Feng Lin, Wang Haitao, Chen Jian, Huang Xiangsheng,

ICEMI20170136 **A passive MMW radiometric image feature extraction for security inspection** ***526***
Zhang Guangfeng , Yu Changchang

ICEMI20170141 **Fast compressive holographic 3-D image recovery for near-field synthetic aperture radar** ***531***
Bi Dongjie, Lyu Jue, Peng Libiao, Li Xifeng, Xie Yongle

ICEMI20170151 **Adaptive SVD De-noising method based on information entropy and application** ***536***
Chen Tao，Xu Xiaoli

ICEMI20170155 **Biomedical signal processing with time-varying CML model** ***542***
Shen Minfen, Zhang Qiong, Li Bin

ICEMI20170166 **Mixture feature based multi-temporal unstructured road image registration** ***547***
Dan Tingting, Liu Xinang, Yang Yang, Xing Lin

ICEMI20170167 **Harris feature and coherent point drift based remote sensing image registration** ***554***
Yang Zhuoqian, Liu Xinang,Yang Yang

ICEMI20170168 **Multi-temporal and Multi-view Based Remote Sensing Image Registration for Ground Surface Objects Change Monitoring** ***559***
Gao Xueyan, Liu Xinang, Yang Yang, Hong Liang

ICEMI20170173 **Real-time s-scan imaging reconstruction for ultrasonic phase array based on CORDIC and sectorial interpolation algorithms** ***567***
Tang Wenming, Liu Guixiong, Li Yuzhong, Tan Daji

Author Index ***573***

2017 13th IEEE International Conference on Electronic Measurement & Instruments (ICEMI 2017)

Yangzhou, China
20-22 October 2017

Volume 3
Pages 1-617

IEEE Catalog Number: CFP1733C-POD
ISBN: 978-1-5090-5036-9

VOL 3

EM17017 **Non-destructive testing of one-dimensional structure based on time reversal** ***1***
Kang Weixin, Li Heng, Gao Shuang

EM17029 **Incremental fault diagnosis: Exploiting unlabelled data with semi-supervised ensemble learning** ***7***
Dai Jing , Wang Zhenya

EM17030 **The forecast method and system of wind turbine operating status trend** ***15***
Liu Xiuli，Xu Xiaoli

EM17031 **Prediction approaches of deterioration trend of operating stability of wind turbines and systematic research** ***21***
Xu Xiaoli，Liu Xiuli,Zuo Yunbo，Jiang Zhanglei

EM17032 **Research on the trend prediction method of equipment operation stability based on quantification interval of deterioration degree** ***30***
Jiang Zhanglei，Wu Yapeng， Xu Xiaoli，Zuo Yunbo

EM17051 **Status and development of MPM** ***35***
Jin Haiwei , Zhang Lan , Qin Li , Tong Xin

EM17052 **The impact of multipath effect on jamming of active decoy outboard** ***41***
Liu Xiaowu, Zheng Shouduo, GuoYuanyuan ,Fan Qinghui

EM17054 **A three layers multiple kernel learning model for analog circuit fault diagnosis** ***47***
Zhang Wei, Xu Aiqiang, Ping Dianfa

EM17083 **Canny edge detection based on Open CV** ***53***
Zhao Xu, Xu Baojie, Wu Guoxin

EM17085 **Design of blade monitoring system for wind turbine generator** ***57***
Gu Yuhai, Liu Yulong, Xu Xiaoli

EM17092 **Nonlinear dynamics analysis of planetary gear systemin large-scale wind power generation equipment** ***63***
Peng Yumin,Luan Zhongquan,Ma Chao,Xu Xiaoli

EM17140 **Test technology study on operational suitability of portable photoelectric reconnaissance equipment** ***69***
Shi Shengbing, Li Yongguang, Jiang Weibing

EM17142 **A state monitoring method of fire water supply system based on hydraulic pressure mean value** ***74***
Zhu Leiji, Tong Huijiao, Lou Liangliang, Xiong Yong

EM17151 **Research and design of monitoring and early warning system for agricultural meteorological element in greenhouse** ***80***
Xue Fengguo, Chong Wei,Han Liang, Qu Bingyang, Gao Feng

EM17154 **Prediction of the remaining useful life of middle-low speed maglev train braking system based on COA-LSSVR** ***86***
Wang Ping, Long Zhiqiang, Dou Fengshan

ICEMI20170021 **Pile defect detection based on wavelet packet energy ratio and Support Vector Machine** ***92***
Kang Weixin, Zhao Yuchen, Liu Lingxi,

ICEMI20170059 **Research of the on-line system for detecting metal particles in oil** ***98***
Zuo Yunbo, Gu Yuhai

ICEMI20170064 **Ferrographic analysis in wear fault diagnosis for the confluent planetary gear mechanism** ***103***
Lv Wenxiu , Wang Liyong , Chen Tao

ICEMI20170084 **Quantum-cascade laser absorption spectroscopy based on-line SF6 decomposed gases monitoring system** ***108***
Li Chenqi, Song Yanbin, Ma Yan

ICEMI20170106 **Research on infrared communication detection system of smart electricity meter** ***113***
Dai Yanjie,Dong Xianguang,Wang Qing,Chen Zhiru,Li Lin

ICEMI20170111 **Research on gearbox fault diagnosis method based on DTCWT and order spectrum** ***117***
Gu Yuhai, He Linfeng, Lv Wenxiu, Yu Mei

ICEMI20170112 **Research on UPFC fault diagnosis based on wavelet transform and support vector machines** ***123***
Dai Feng, Cheng Xingxin, Guo Jinchao, Deng Kai, Zheng Jianyong, Liang Junhan

ICEMI20170118 **Development on-line gas flow calibration system based on piston prover** ***129***
Liu Jinhua, Zhang Yanni, Zhu Xiaofeng, Ning Zhanwu, Liu Ning, Zhang Jingjing

ICEMI20170125 **Study on dual-channel quartz crystal testing technology** ***134***
Li Dong, Wang Yanlin

ICEMI20170137 **Study on on-line detection scheme of DC electric energy metering for electric vehicles** ***139***
Hou Xingzhe, Chen Wenli, Hu Jie, Tao Xuedan

ICEMI20170149 **The positioning receiver system of pipeline inner detector based on extremely low frequency electromagnetic signal** ***145***
Huang Kai, Zheng Dezhi, Li Rui, Zhao Xiaoming, Zhou Weining, Zhang Lu

EM17002 **Uncertainty analysis method for RSSI-based localization in three-dimensional wireless sensor network** ***151***
Luo Qinghua, Zhou Pengtai, Yan Xiaozhen, Gan Xingli,Li Ping,Song Jia, Wang Chenxu

EM17015 **The application of AMR sensor in the magnetic object detection and localization** ***159***
Zhang Ning， Wang Sansheng， Li Hua

EM17016 **Airborne sensor management algorithm based on targets threat evaluation** ***163***
Mou Zhiying,Tang Shujuan, Du Qinglin, Wang Songqiao，Wang Nan

EM17042 **Fabrication and Calibration of Pt/Au thin-film thermocouple based on a modified screen printing technology** ***168***
Ding Jiong, Wang Jichen, Yang Suijun, Ye Shuliang

EM17057 **Design of low-power field wireless sensor nodes** ***175***
Zhang Zhenghua,Li Renren,Xu Jie

EM17068 **RFID data fusion algorithm based on spatio-temporal semantics in Internet of things** ***179***
Yuan Lingyun, Zhu Mingli, Han Lijing, Zhou Manman

EM17073 **Application Prospect of SiC Power Semiconductor Devices in Spacecraft Power Systems** ***185***
Xing Jie, Kang Qing, Zhang Xuan, Li Feng

EM17084 **Adaptive clustering approach over unreliable links for WSN** ***191***
Wang Jin, Wang Bin

EM17113 **Finite element simulation of on - line wear debris monitoring sensor based on JMAG** ***196***
Peng Feng, Wang Liyong, Chen Tao

EM17123 **Design and verification of a novel IoT node protocol** ***201***
Wang Zhongchao, Hou Ligang ,Jun Tongbao, Wang Jinhui, Wang Wensi

EM17125 **Intelligent car platform for swarm algorithm verification** ***206***
Tong Baojun,Hou Ligang,Wang Zhongchao,Wang Jinhui,Wang Wensi

EM17133 **Determination of free-air chamber correction factors for electron loss, photon scatter and fluorescence using EGSnrc** ***211***
Guo Siming, Wu Jinjie, Du Haiyan, Liu Ying

EM17134 **Radiating frequency character of dipole antenna with EBG board as a reflector** ***216***
Wang Suling,Zhang Qingzhi

EM17135 **Study on the development and test method of SnO2-based gas sensor array for dissolved gas analysis** ***220***
Xiao Gongwei, Yu Chutian,Chen Weigen, Jin Lingfeng, Tang Sirui

EM17157 **Review of the key technologies and applications in internet of vehicle** ***228***
Zeng Fantian, Li Chunxiao, Zhen Anran, Hu Xuelong

EM17170 **Research on frequency hopping communication mechanism of WSN based on RSSI value** ***233***
Xiong Qingyu, Liao Tianyu, Shi Xin, Wei Yuedong

EM17174 **Unmanned aerial vehicle sensor data anomaly detection using kernel principle component analysis** ***241***
Duan Yong, Xu Yaqing, Zhao Yuanpeng, Peng Yu, Liu Datong

EM17175 **Anomalous sensing data recovery with mutual information and Relevance Vector Machine** ***247***
Liu Liansheng, Liu Datong, Peng Yu

EM17176 **Design of metrology equipment running management system based on the internet of things technology** ***253***
Bai Xu

EM17178 **Access and connectivity probability for V2X communication networks** ***260***
Li Chunxiao,Zhen Anran,Zeng Fantian,Hu Xuelong,Wang Haitao

ICEMI20170053 **A wireless mesh network based temperature monitoring system for blast furnaces** ***265***
Liu Chichao, Guo Jiaqi, Ruan Jingping, Ke Han, Han Tao

ICEMI20170093 **Wearable medical guardianship system based on ZigBee** ***270***
Chen Jing, Chen Huasen, Jiang Yuanyuan

ICEMI20170109 **Development of device for measuring shear strength of soil wave based on piezoelectric effect** ***276***
Chen Sen, Li Qing,Shen Tu Nanying, Liu Zhangjie

ICEMI20170110 **Experimental study on the influence of coil diameter on double coil multi-parameter impedance detection sensor** ***280***
Zhao Xupeng, Zhang Hongpeng, Zeng Lin, Yu Zilei, Teng Huaibo

ICEMI20170113 **InGaAs/InP Single-Photon Avalanche Diodes performance variation with charge layer width and doping** ***286***
Afshari-Bavil Mehdi1, Lou Xiaoping, Dong Mingli, Zhu Lianqing, Li Chuanbo

ICEMI20170116 **Circuit system design and test for single ultrasonic detection sensor** ***291***
Chen Ke, Chen Bingyan, Zhou Yan, Liu Changyu, Fang Peisen, Gan Yulin

ICEMI20170128 **Dynamic energy consumption analysis and test of node in wireless sensor networks** ***298***
Yu Shaojun,Lin Li, Li Xiaozhen

ICEMI20170129 **Particle velocity measurement using linear capacitive sensor matrix** ***306***
Gao Heming, Deng Huiwen, Liu Jun

ICEMI20170143 **Design of measurement and control system for shock tube based calibration installation of dynamic pressure transducer** *313*
Yan Laijun, Zhang Long, Zhang Xu, Chen Yong, Zhang Lihu, Qi Xinhua, Yao Xianghong

ICEMI20170145 **Applications of laser tracking measurement system in wind tunnels** *319*
Yan Laijun, Zhang Long, Wang Peiyuan, Wu Yungang, Yin Kewei, Zhang Jun

EM17003 **A fault-tolerant program memory unit for on-board computer** *325*
Li Pan，Wang Shaojun, Ma Ning, Liu Datong

EM17011 **A Single Event Latch-up protection method for SRAM FPGA** *332*
Guo Yue, Wang Shaojun , Ma Ning, Li Pan, Peng Yu

EM17018 **Underdetermined mixing matrix estimation algorithm based on data field clustering and cloud model partitioning** *337*
Ruan Guoqing, Guo Qiang, Gong Xue

EM17025 **Modeling and simulation of TEPC based on GEANT4** *343*
Zhu Min, Wang Shuhu,Deng Cong, Jiang Xu

EM17049 **Adaptive lighting algorithm experiment** *348*
Zhang Xun,Zhou Yuehua

EM17059 **The comparison of optimizing SVM by GA and grid search** *354*
Sun Yuanyuan, Guo Lili ,Wang Yongming , Ma Zhongsong ,Jin Shan

EM17060 **The analysis and research of clustering algorithm based on PCA** *361*
Liu Ni, Si Jinhang

EM17061 **Research and implementation of clock recovery method based on software PLL** *366*
Liao Shuang, Ye Peng, Tan Feng, Deng Yue

EM17063 **An adaptive timing synchronization for NC-OFDM-based acoustic communication along drill strings** *371*
Ma Dong, Shi Yibing, Zhang Wei, Liu Guozhen

EM17097 **Coding-based cooperative caching scheduling method** *377*
Shi Xin, Liao Yining, Lu Weiding, Zhang Hongxiang

EM17116 **Application of improved A* algorithm in the 3d virtual roaming** *383*
Gao Haiyin，Zhu Wangchun, Qiu Zhengguang

EM17155 **Blind identification of spatial multiplexing and alamouti space -time block code signals based on order statistics** *390*
Hu Guobing, Jiang Zhipeng, Yang Li, Hu Xuelong

EM17156 **A recognition algorithm for BPSK/QPSK signals based on generalized Pareto distribution** *396*
Yang Li, Hu Guobing, Hu Xuelong,Xu Xiaoli

EM17163 **Judicial expertise of speaker identity based on improved pitch algorithm** ***401***
Li Zhijun, Hu Xuelong, Guo Na

EM17171 **Centroid-track based method for SAR jamming effect evaluation** ***406***
Bai Zhonggan, Deng Xingsong, Zhang Lei, Huang Letian

EM17192 **Automatic path generation in 2-D detection based on DXF file** ***411***
Wang Guitang，Xiong Feng, Chen Yongbin, Chen Zhisheng

EM17194 **Short-term load forecasting for electric vehicle charging stations based on time series distance measuring** ***417***
Shi Xin, Qiu Lei, Tian Li, Liang Miaozhu, Yi Lizheng

ICEMI20170013 **The optimized algorithm for working parameters of the vertical impact testing machine** ***424***
Wu Bin,Liu Chengwu,Wen Jingjing

ICEMI20170054 **Covariance matrix denoising based direction of arrive estimation for spherical array with atomic norm minimization** ***431***
Pan Jie, Zhu Yalin, Zhou Changling, Hu Xuelong,

ICEMI20170055 **Analysis of exhaustive service and gated service improved polling system based on Anylogic** ***436***
Xiong Lei,Guan Zheng,He Min,Wang Shijie

ICEMI20170060 **Design and implementation of high-speed server based on dynamic thread pool** ***442***
He Linfeng, Gu Yuhai, Wang Juyuan

ICEMI20170068 **A novel model-driven method for lithium-ion battery remaining useful life prediction** ***446***
Liu Xiubin, Li Yue, Wang Nantian, Wang Long

ICEMI20170069 **A novel design of fully connected communication network for Bio-inspired Hardware** ***452***
Liu Xiubin, Li Yue, Qian Yanling, Zhuo Qingqi, Yin Su

ICEMI20170074 **A Single-layer Polarization Insensitive AFSS Radome with Bilateral Absorption Bands** ***459***
Meng Tianzhen, Wu Weiwei, Huang Jingjian, Wu Minjie, Yuan Naichang

ICEMI20170102 **Outage analysis of cognitive energy harvesting relaying networks with opportunistic relay selection over nakagami-m fading channel** ***463***
Cheng Yiyun, Yang Jing

ICEMI20170114 **Photoelectric diagnoses of volume DBD by using power density modulation** ***470***
Gan Yulin, Chen Bingyan, Zhu Changping, Liu Changyu, Yi Tian'an, Fang Peisen

ICEMI20170115 **Errors analysis of new method to generate UTC parameters for BDS** ***478***
Li Dandan, Xu Longxia, Zhu Feng, Li Bo, Li Xiaohui

ICEMI20170127 **A hybrid algorithm based on fish swarm and simulated annealing for parameters identification of modified J-A model** ***483***
Lin Guoying, Song Qiang, Wang Lingyun, Zhang Dingqu, Pan Feng

ICEMI20170142 **Study on passive balancing characteristics of Serially Connected lithium-ion battery String** ***489***
Luo Wei，Lv Jie，Song Wenji，Feng Ziping

ICEMI20170146 **Initial testing of singles processing unit for the small animal PET** ***496***
Deng Peipei, Zhao Lei, Lu Jiaming, Dong Ruoshi, Gu Jinliang, Li Bowen, Liu Shubin, An Qi

ICEMI20170153 **An intra-body communication research platform based on virtual instrument** ***501***
Lin Shi, Gao Yueming, Zhang Hengfei, Željka Lučev Vasić, Mang-I Vai, Du Min, Mario Cifrek，Pun Sio-Hang

ICEMI20170159 **On the Performance of LT Codes** ***507***
Hu Qiang，Zhang Meixiang

ICEMI20170170 **CNN-based modulation classification in the complicated communication channel** ***512***
Wang Yongshi, Guo Jie, Li Hao, Li Li, Wang Zhigang, Wang Houjun

EM17086 **FPGA based resources allocation and dispatching strategy for avionics testing signal generation** ***517***
Li Li , Zhang Peng, Wang Ping, Guo Lianping

EM17082 **The design of the pilotless airborne aeromagnetic instrument with compensation algorithm** ***524***
Hu Hui, Fu Jinsong, Liu Junjie,Chang Shoubing

EM17103 **Nonlinear dynamic analysis of 2K-H planetary gear transmission system** ***530***
Huang Jingnan, Wang Shaohong, Ma Chao

EM17047 **Three kinds of algorithm and its performance analysis in the prediction of satellite clocks bias** ***536***
Yu Ye，Zhang Huijun，Li Xiaohui

EM17064 **Comparator based fast demodulation method for airborne secondary surveillance radar test** ***544***
Zhang Peng, Wang Ping, Wang Houjun, Li Li, Guo Lianping

EM17111 **The Application of GC/MS in spacecraft pollution control** ***550***
Zhang Yanjing, Meng Lifei

EM17131 **Active Calibration Technology for Polarimetric Radar Measurement** ***555***
Shi Longfei, Liu Qiaoling, Liu Jian, Pang Chen

EM17138 **Wavelet analysis-application of PCA-SVM in state identification method of marine centrifugal pump** ***560***
Xu Youlin, Xiong Ling,Yao Zhigang, Xiong Ling，Guo Jingjia

EM17190 **The development of aero-engine tip-clearance measurement technology: a simple review** *565*
Jia Binghui, He Lei, Feng Yong, Zhai Jinlong, Qiang Gang

EM17200 **The implementation scheme and key technologies of the space-borne terahertz high-speed transmission system** *571*
Ma Junxiao, Gao Xiaoliang, Cao Guixing, Wu Jifeng, Wang Min, Zhang Yue, Fu Haipeng

ICEMI20170009 **Analysis and Diagnosis for Abnormal Limit Improvement Factor of CINRAD/SA Radar Transmitter** *576*
Liu Guangpu, Du Yanxia, Yu Zimin, Ren Yong

ICEMI20170017 **Research on barometric altimeter aiding GPS arithmetic in challenge environment** *581*
Li Bo， Li Xiaohui， Wang Wenli

ICEMI20170023 **Study on life prediction of radar Based on non-parametric regression model** *586*
Liu Qianqian , Zhang Jingyuan，Chen Bing

ICEMI20170025 **Kalman timescale algorithm based on hydrogen clock ensemble** *591*
Zhu Jiangmiao, Yan Di, Qin Yuhui, Chen Ye, Wu Wenjuan

ICEMI20170028 **Design of High-speed Satellite Payload Data Simulator Based on FlexRIO** *597*
Liu Shuo, Zhao Jin, Xu Ben, Zhao Guangquan, Wang Shaojun

ICEMI20170066 **Analysis of ionospheric delay correction methods for BeiDou navigation satellite system** *603*
Li Dandan, Xu Longxia, Li Bo, Li Xiaohui

ICEMI20170172 **Atomic clock frequency difference prediction algorithm based on genetic wavelet neural network** *609*
Zhu Jiangmiao，Chen Ye，Gao Yuan，Wang Yuzhuo，Yan Di

Author Index *614*