

# **Joint International Information Technology, Mechanical and Electronic Engineering Conference 2016 (JIMEC 2016)**

Advances in Engineering Research Volume 59

Xi'an, China  
4 - 5 October 2016

**Editors:**

**Bin Xu  
Y.N. Chen  
L.H. Zhao**

ISBN: 978-1-5108-3002-8

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2016) by Atlantis Press  
All rights reserved.  
<http://www.atlantis-press.com/php/pub.php?publication=jimec-16>  
Printed by Curran Associates, Inc. (2016)

For permission requests, please contact the publisher:

Atlantis Press  
Amsterdam / Paris

Email: [contact@atlantis-press.com](mailto:contact@atlantis-press.com)

**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  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

<b>NOISE CHARACTERISTICS TEST OF HY-VO SILENT CHAIN FOR HYBRID VEHICLES</b> .....	1
<i>Yabing Cheng, Xiaopeng Wang, Honggang Qi, Lei Li, Zhenming Fu, Nen Wan</i>	
<b>FAULT KNOWLEDGE MANAGEMENT BASED FMEA TECHNOLOGY DRIVEN BY FUNCTIONAL MODEL</b> .....	8
<i>Zezhong Li, Yanling Qian, Long Wang</i>	
<b>UAV PATH PLANNING RESEARCH UNDER THE ENVIRONMENT OF MOVED TARGET</b> .....	12
<i>Xia Chen, Xingchao Yu, Xianwei Hu</i>	
<b>NON-CONTACT MEASUREMENT OF QUALITY FACTOR FOR MONOLITHIC CYLINDRICAL FUSED SILICA RESONATORS</b> .....	17
<i>Dongya Wang, Yao Pan, Suyong Wu, Hongchang Zhao, Tianliang Qu, Jianxun Tang</i>	
<b>AN APPROACH FOR REMAINING USEFUL LIFE ESTIMATION BASED ON COMBINATION OF MULTIDIMENSIONAL INFORMATION</b> .....	24
<i>Hongju Yue, Yanling Qian, Long Wang, Zezhong Li</i>	
<b>DESIGN OF ANTENNA AUTOMATED MEASUREMENT SYSTEM</b> .....	29
<i>Chonghui Wang, Jingjian Huang, Lierong Wu, Naichang Yuan</i>	
<b>A PILOT STUDY ON A NEW IMAGE ENHANCEMENT METHOD USING SPATIAL STATISTICS</b> .....	33
<i>Tzong-Jer Chen, Xiu-Juan Deng, Yue-Ran Lu, Wei He, Gaofeng Che, Sixian Niu, Ronghui Lu</i>	
<b>DESIGN OF STABILIZING CONTROLLER FOR NETWORKED CONTROL SYSTEMS</b> .....	39
<i>Gaofeng Che, Wei He, Tzong-Jer Chen</i>	
<b>THE STUDY ON TEMPERATURE CHARACTERISTICS OF A MONOLITHIC FUSED SILICA CYLINDRICAL RESONATOR</b> .....	44
<i>Yunxiao Wu, Yao Pan, Dongya Wang, Tianliang Qu, Yun Huang</i>	
<b>RESEARCH ON DETECTION METHOD OF LOAD IN WAVE COMPENSATION SYSTEM BASED ON MTI</b> .....	50
<i>Jiandong Zhao, Limin Tao, Wei Lv</i>	
<b>METHODS AND PROBLEMS ATTEMPT IN SCALE-FREE MODELS FROM COMPLEX NETWORKS</b> .....	57
<i>Bing Yao, Xiaomin Wang, Jing Su, Fei Ma, Xiyang Zhao, Ming Yao, Mingjun Zhang, Guoxing Wang</i>	
<b>A SSA-BASED DE-NOISING TECHNIQUE FOR SURFACE ELECTROMYOGRAPHY SIGNALS</b> .....	62
<i>Xuanliang Deng, Kang Wang</i>	
<b>THE EVALUATION MODEL OF TRANSACTION TRUST IN ONLINE GROUP-BUYING BASED ON TRANSACTION HISTORY INFORMATION</b> .....	68
<i>Yan Zou, Weijie Chen, Shan Li, Yiyang Si</i>	
<b>SIMULATIONS AND EXPERIMENTS STUDY ON THE MECHANICAL QUALITY FACTOR OF THE CYLINDRICAL SHELL FUSED SILICA RESONATORS</b> .....	74
<i>Pengbo Xiao, Yao Pan, Tianliang Qu, Yun Huang</i>	
<b>A MEDICAL IMAGE ENHANCEMENT ALGORITHM BASED ON FUZZY SET THEORY AND ITS GUI IMPLEMENTATION</b> .....	86
<i>Wen He</i>	
<b>LEADING CHANGE: ADAPTION OF INFORMATION SECURITY IN UNIVERSITY ANNOUNCEMENT SYSTEM</b> .....	91
<i>Al-Shawabkeh M., Xichun Li, Mohamed Sullabi</i>	
<b>THE DESIGN AND IMPLEMENTATION OF MULTI-LEVEL COMMUNICATION NETWORK WITHOUT BASES STATIONS</b> .....	97
<i>Yin Nan, Su Shaojing, Guo Xiaojun, Liu Shu, Ouyang Junhao</i>	
<b>PARALLEL SPATIAL JOIN AGGREGATION WITH TWO COMBINE STAGES IN MAP-REDUCE FRAMEWORK</b> .....	103
<i>Chuang Yao, Luo Chen, JinXin Shen</i>	
<b>AN ON-LINE MULTIPLEXED HIGH ACCURACY ELECTRIC ENERGY METER BASED ON DUAL-ACCESS RAM</b> .....	110
<i>Peng Fei, Meng Zhang, Shaofeng Yu, Qingqing Mu, Yibo Gao, Huixuan Shi</i>	
<b>ENHANCED DC MAGNETIC FIELD RESPONSE BASED ON A PIEZOELECTRIC UNIMORPH AND AN ENERGIZED COIL</b> .....	115
<i>Wei He, Gaofeng Che, Tzong-Jer Chen</i>	

<b>2D DIRECTION OF ARRIVAL ESTIMATION USING CHANNEL STATE INFORMATION FOR UCA</b> .....	119
<i>Daulet Alibi, Di He, Peilin Liu</i>	
<b>RESEARCH ON HIGH-FREQUENCY VIBRATION ISOLATION FOR ROD-SHAPED STRUCTURES BASED ON ONE-DIMENSIONAL PHONONIC CRYSTALS</b> .....	125
<i>Yi Zhou, Dongxu Li</i>	
<b>IMPROVEMENTS OF ACOUSTIC FEATURES FOR SPEECH SEPARATION</b> .....	133
<i>Lujun Li, Chuxiong Qin, Dan Qu</i>	
<b>EFFECT OF ADDED MASS ON THE WORKING FREQUENCY OF SLAPPING MODE PIEZOELECTRIC MICRO-JET</b> .....	142
<i>Jun-kao Liu, Kai Li, Wei-shan Chen, Lu Zhang, Rui Yang, Can-li Zhang</i>	
<b>PORT CARGO THROUGHPUT FORECASTING BASED ON COMBINATION MODEL</b> .....	148
<i>Zhizhen Chen, Yan Chen, Taoying Li</i>	
<b>SCALE-FREE NETWORK MODELS WITH PARAMETERS</b> .....	155
<i>Fei Ma, Jing Su, Bing Yao, Ming Yao</i>	
<b>THE APPLICATION OF VISUALIZATION IN OPTIMIZING PERSONALIZED RECOMMENDATION RESULT</b> .....	163
<i>Dong Qian, Weiwei Jia</i>	
<b>IMPLEMENTATION OF MUSIC PLAYING WEB SITE WITH ASYNCHRONOUS VISIT MODE BASED ON SET-TOP BOX</b> .....	167
<i>Xie Weihua, Wang Yongbing</i>	
<b>COMPARISON OF HUMAN RESOURCE PLANNING AND JOB ANALYSIS PROCESS IN BANKING SECTOR OF PAKISTAN</b> .....	171
<i>Abdul Waheed, Miao Xiaoming, Jawad Karamat, Salma Waheed</i>	
<b>TRAJECTORY SIMULATION OF ELECTROMAGNETIC GUN BULLET</b> .....	176
<i>Xiangfei Cao, Ruilin Wang, Hongjun Xiang, Xueping Meng</i>	
<b>A NEW DATA ACQUISITION CLIENT-SOFTWARE MODEL USED FOR MOBILE APPLICATION ANALYSIS</b> .....	181
<i>Xiaodong Liu, Zhiyi Qu, Ruixiao Zhang</i>	
<b>DESIGN OF GREENHOUSE MONITORING SYSTEM BASED ON ZIGBEE TECHNOLOGY</b> .....	188
<i>Hao Zhu-yin, Zhang Ya, Li Feng, Chang Hai-jun</i>	
<b>AN IMPROVED ALGORITHM FOR STEP COUNTING BASED ON ANDROID PHONES</b> .....	195
<i>Zhang Yong jun, Zhao Shuai</i>	
<b>RESEARCH OF DOUBLE CLOSED LOOP PID CONTROL STRATEGY OF ROAD FEELING MOTOR</b> .....	199
<i>Jing Zhou, Zhixiong Lu</i>	
<b>OPTIMIZATION OF SERVO SYSTEM'S DYNAMIC PERFORMANCE BASED ON LUENBERGER OBSERVER</b> .....	207
<i>Liu Tianming, Ren Anye, Gao Peng</i>	
<b>ANALYSIS OF ROBUSTNESS OF COMPLEX NETWORKS BASED ON OPTIMIZATION THEORY</b> .....	212
<i>Yu Sun, Peiyang Yao, Dongdong Shui, Yun Zhong</i>	
<b>"INTERNET +" INNOVATION AND ENTREPRENEURSHIP TALENT TRAINING PATH</b> .....	223
<i>Fengxiang Jiang</i>	
<b>RESEARCH AND APPLICATION OF FLIPPED CLASSROOM BASED ON BB PLATFORM IN COMPUTER BASIC COURSE</b> .....	229
<i>Yan Tang, Aiqing Han, Renquan Liu, Shuzhen Li</i>	
<b>A NEW PARTICLE SWARM OPTIMIZATION ALGORITHM BASED ON PERIODIC CHANGING INERTIA WEIGHT</b> .....	234
<i>Mingyan Zheng, Siyan Wang, Yan Li</i>	
<b>INTERNET + TALENT TRAINING BASE CONSTRUCTION FOR INTEGRATION OF MEDICAL TREATMENT, NURSING AND ELDERLY CARE</b> .....	239
<i>Liu Libing, Xue Xin, Hei Yihong, Yang Rui</i>	
<b>RESEARCH ON CREDIBILITY OF ONLINE WORD OF MOUTH OF APPAREL</b> .....	246
<i>Kui Yu</i>	
<b>THE CONSTRUCTION OF INTELLIGENT TRANSPORT SYSTEM BASED ON INTERNET OF THINGS</b> .....	250
<i>Liping Su, Dong Chen</i>	
<b>INVESTIGATION OF TEMPERATURE RISE AND STIFFNESS EXPERIMENT OF ROLLING BEARING UNDER PRELOAD WITH OIL-AIR LUBRICATION</b> .....	255
<i>Li Cui, Wenxia Wang, Xin Jiang, Qingsheng Wang</i>	

<b>AS-MIXED NETWORK MODELS CREATED BY TRIANGLE-EXPANDING OPERATIONS</b> .....	260
<i>Jing Su, Fei Ma, Bing Yao, Ming Yao</i>	
<b>STUDY ON INTELLIGENT TERMINAL SYSTEM BASED ON ANDRIOD FOR DISTANCE LEARNING</b> .....	266
<i>Jun-feng Zhang, Ji-chun Zhao, Guo-jie Wang</i>	
<b>STUDY ON KEY TECHNOLOGIES OF AGRICULTURAL INFORMATION HOTSPOTS BASED ON BIG DATA ANALYSIS</b> .....	270
<i>Ji-chun Zhao, Guo-jie Wang</i>	
<b>FAILURE ANALYSIS OF EXTERNAL LOAD SWITCH EQUIPPED IN ELECTRICITY METER</b> .....	274
<i>Yang Fuli, Hou Xingzhe, Zheng Ke</i>	
<b>PROFITS ALLOCATION IN SERVICE COOPERATION OF AGRICULTURAL PRODUCTS LOGISTICS</b> .....	280
<i>Dengbing Zhang</i>	
<b>BOUBAKER POLYNOMIALS AND THEIR APPLICATIONS TO NUMERICAL SOLUTION OF DIFFERENTIAL EQUATIONS</b> .....	285
<i>Tinggang Zhao, Yongjun Li</i>	
<b>THE RESEARCH AND REALIZATION OF USB GADGET DRIVER IN LINUX SYSTEM</b> .....	289
<i>Sun Yufei, Fan Binwen, Ma Qianqian, Wang Panzhenzhuang</i>	
<b>AN ALGORITHM FOR DYNAMIC ROUTING AND WAVELENGTH ASSIGNMENT IN WDM NETWORK</b> .....	293
<i>Yun Wu, Songming Xu</i>	
<b>RESEARCH ON LOAD BALANCING AND DATABASE REPLICATION BASED ON LINUX</b> .....	300
<i>Ou Li, Yan Chen, Taoying Li</i>	
<b>IMPORTANCE ANALYSIS OF CIVIL AIRCRAFT APU</b> .....	306
<i>Lixia Gao, Hanlin Shen</i>	
<b>SUCCULENT INCUBATOR DESIGN WITH AUTOMATIC ADJUSTMENT FUNCTION</b> .....	310
<i>Gao Lixia, Shen Hanlin</i>	
<b>LEVITATION FORCE TRANSITION OF HIGH-TC SUPERCONDUCTING BULKS ABOVE A SPINNING PERMANENT MAGNETIC GUIDEWAY</b> .....	315
<i>L. Liu, J. Li</i>	
<b>RESEARCH STATUS OF AUTOMATIC TRAIN OPERATION FOR METRO</b> .....	320
<i>Liu Xiaohan, Shen Hanlin</i>	
<b>ANALYSIS ON THE COMPETITIVE PROCUREMENT BIDDING EVALUATION METHOD OF EQUIPMENT</b> .....	325
<i>Yin Ji-wei, Zhang Hua, CHEN Dong-wei</i>	
<b>DEVELOPMENT OF GPRS COMMUNICATION SYSTEM BASED ON S3C2410A</b> .....	333
<i>Qunying Chen, Yunfang Hao</i>	
<b>INFORMATION SECURITY ON THE BACKGROUND OF BIG DATA</b> .....	337
<i>Huijie Yang</i>	
<b>APPLICATION OF INTELLIGENT CAD IN LANDSCAPE DESIGN</b> .....	342
<i>Wei Zhang, Ming Tang, Juanjuan Yin</i>	
<b>A RESEARCH ON SCHEDULING MODEL OF SIMULATED ANNEALING ALGORITHM BASED ON INTEGER PROGRAMMING</b> .....	347
<i>Yaning Yan</i>	
<b>RESEARCH ON THE URBAN GARBAGE COLLECTION SYSTEM BASED ON MULTI SENSORS</b> .....	353
<i>Yan Li, Yulei Huang</i>	
<b>THE INFLUENCE OF MOOC ON THE COMPUTER TEACHING COURSES IN COLLEGES AND UNIVERSITIES AND THE IMPROVEMENT MEASURES</b> .....	359
<i>Xu Bing, Mou Kefen, Fang Gang</i>	
<b>THE RESEARCH ON INJECTION MOULD DESIGN OF SHELL SHAPED PIECES</b> .....	363
<i>Zhanjun Liu</i>	
<b>THE STUDY OF MICROSCALE FORMING EFFECT ON SIMULATED ANNEALING GENETIC ALGORITHM</b> .....	367
<i>Zhanjun Liu</i>	
<b>THE RESEARCH OF SHEET SIZE PRECISION BASED ON OPTIMIZATION ALGORITHM OF CHAOS IMMUNE</b> .....	371
<i>Zhanjun Liu</i>	
<b>RESEARCH ON CAUSE OF BORON STEEL SHEET SIZE PRECISION BASED ON COMPENSATE FUZZY NERVE NET CONTROL</b> .....	375
<i>Zhanjun Liu</i>	

<b>RESEARCH ON APPLICATION OF ARRAY ANTENNA IN UNITED X BAND SYSTEM CALIBRATION</b> .....	379
<i>Cai Jin Yao, Xu Rong</i>	
<b>STUDY ON MODE MIXING PROBLEM OF EMPIRICAL MODE DECOMPOSITION</b> .....	389
<i>Guimin Xu, Zhengxiang Yang, Sha Wang</i>	
<b>RESEARCH ON RENDERING SPEED BASED ON MAYA AND MENTAL RAY</b> .....	395
<i>Yang Gao</i>	
<b>ANALYSIS AND DESIGN OF EMPLOYMENT AND RECRUITMENT SYSTEM BASED ON UML</b> .....	399
<i>Hong-jie Tang</i>	
<b>RESEARCH ON E-COMMERCE LOGISTICS SYSTEM INFORMATIONIZATION IN CHINA</b> .....	404
<i>Xianglian Chen, Zhengxiang Yang</i>	
<b>THE RESEARCH OF FRETTING FATIGUE CHARACTERISTICS OF TITANIUM ALLOYS</b> .....	408
<i>Zhanjun Liu</i>	
<b>THE DIAGNOSIS OF FORGING BEVEL GEARS ON THE INFORMATION MERGE OF WAVELET NEURAL NETWORK</b> .....	412
<i>Zhanjun Liu</i>	
<b>A FACTOR-ANALYSIS-BASED STUDY ON THE ENERGY EFFICIENCY COMPETITIVENESS EVALUATION SYSTEM FOR CHINA'S PASSENGER VEHICLES</b> .....	416
<i>Dongchang Zhao, Yong Liu, Rujie Yu</i>	
<b>BANK FINANCING FOR SMES IN PAKISTAN</b> .....	422
<i>Jawad Karamat, Tong Shurong, Abdul Waheed, Nasir Mahmood</i>	
<b>DESIGN OF INTELLIGENT HIGH-VOLTAGE POWER SUPPLY FOR MANY KINDS OF RADIATION DETECTOR</b> .....	426
<i>Luning Chen, Zheng Gao, Yishan Jiang, Weijie Xie, Feng Xiao</i>	
<b>A FAULT DIAGNOSIS METHOD BASED ON CFPN MODEL</b> .....	431
<i>Qiumin Fan, Bing Xu, Ziqing Chai</i>	
<b>DESIGN OF A GENERAL DEVELOPMENT FRAMEWORK FOR WEB-BASED INFORMATION SYSTEM</b> .....	440
<i>Zhang Dong, Lv Yanmei, Niu Gang, Zhen Hongtao</i>	
<b>PREPARATION AND ANTIBACTERIAL PROPERTIES OF SA/NANO-CU<sub>2</sub>O GEL BY IN-SITU METHOD</b> .....	444
<i>Xiaolu Sun, Zichao Li, Xihui Zhao, Yun Xue, Jiao Li, Qun Li</i>	
<b>A DIGITAL WIRELESS LED LIGHT SOURCE CONTROLLER FOR MACHINE VISION</b> .....	449
<i>Zhichao Zeng, Fupei Wu, Xinjia Fang, Jintian Li</i>	
<b>THE QUALIFICATION TEST DESIGN OF RELIABILITY BASED ON EDM</b> .....	456
<i>Li Fuping, Ban Xukeling, Liu Zhifeng, Liu Jianyong</i>	
<b>THERMAL CHARACTERISTIC ANALYSIS FOR THE SPINDLE SYSTEM OF EDM</b> .....	463
<i>Li Fuping, Meng Zhaoyang, Liu Zhifeng, Liu Jianyong</i>	
<b>STUDY ON HUMAN RESOURCE REFORM IN THE DIGITAL TRANSFORMATION</b> .....	471
<i>Zhao Lei, Yang Jing</i>	
<b>IMPROVED DISTURBANCE OBSERVER OF MAXIMUM POWER POINT TRACKING IN PV CELLS</b> .....	478
<i>Liao Hui, Gong Yongzhen, Huang Chonglin, Li Shidong</i>	
<b>RESEARCH ON AN IMPROVED ONTOLOGY MAPPING METHOD</b> .....	482
<i>Kai Liu, Shanhong Zheng, Wanlong Li, Kai Li</i>	
<b>DESIGN OF FORMALDEHYDE MONITORING SYSTEM IN WIRELESS NETWORK</b> .....	487
<i>Wang Renli, Dong Liming, Zhu Lijun</i>	
<b>A STUDY ON MICROSCOPIC SIMULATION OF ROUNDABOUT'S CAPACITY</b> .....	492
<i>Xu Luwei, Liao Hui, Huang Chonglin</i>	
<b>ECG IDENTIFICATION BASED ON WAVELET TRANSFORM</b> .....	497
<i>Wang Wei-Quan, Lu Pan, Lin Jia-Lun, Zhang Jin</i>	
<b>RESEARCH ON FEATURE EXTRACTION OF HUMAN ECG IDENTIFICATION</b> .....	502
<i>Lin Jia-Lun, Lu Pan, Wang Wei-Quan</i>	
<b>MONTE CARLO STUDY ON FERROMAGNETIC PHASE TRANSITION OF TWO-DIMENSIONAL ISING MODEL</b> .....	506
<i>Zhao Hui Min</i>	
<b>APPLICATION OF MONTE CARLO METHOD IN THE SIMULATION OF CIRCUMFERENCE RATIO</b> .....	510
<i>Zhao Hui Min</i>	
<b>RESEARCH ON POWER QUALITY ANALYSIS AND DETECTING SYSTEM</b> .....	514
<i>Zhiqiang Zhao</i>	

<b>STUDY AND MONITORING OF DISTRIBUTED GENERATION</b> .....	518
<i>Zhiqiang Zhao</i>	
<b>FIRST-PRINCIPLE STUDY ON THE FERROMAGNETISM OF FE-DOPED IN<sub>2</sub>O<sub>3</sub></b> .....	522
<i>Zhao Hui Min</i>	
<b>DENSITY-FUNCTIONAL STUDY ON THE FERROMAGNETISM OF (FE,ZR)-CODOPED IN<sub>2</sub>O<sub>3</sub></b> .....	526
<i>Zhao Hui Min</i>	
<b>DENSITY-FUNCTIONAL STUDY ON THE MAGNETIC PROPERTIES OF RE ATOM ADSORBED BY MOS<sub>2</sub> SINGLE LAYER</b> .....	530
<i>Zhao Hui Min</i>	
<b>DEFORMATION MEASUREMENT OF MEMBRANE STRUCTURE BASED ON FIBER SENSOR ARRAY</b> .....	533
<i>Jie Zou, Dongxu Li</i>	
<b>PRINCIPLE AND DESIGN OF COOLING SYSTEM ON MULTI-FUNCTION WET TYPE MULTI-DISK BRAKES</b> .....	541
<i>Chuanwei Zhang, Wang Miao</i>	
<b>ROAD TRAFFIC ACCIDENT FORECAST BASED ON OPTIMIZED GREY VERHULST MODEL</b> .....	546
<i>Subing Liu, Congwei Wu</i>	
<b>A VALIDATION OF SONARQUBE ISSUES RELATED TO REAL BUGS BASED ON OPEN SOURCE SOFTWARE</b> .....	552
<i>Xiang Hou, Yao Lu, Yiang Gan, Mengwen Chen, Tao Wang, Gang Yin</i>	
<b>EXPLORING THE NETWORKS, HOT-TOPICS AND CLUSTERS OF BIG DATA: EVIDENCE FROM INTERNET</b> .....	556
<i>Wenjie Zhou, Yu Bai</i>	
<b>USER-DEFINED INSTRUMENT</b> .....	560
<i>Weidong Ye, Yongwei Du</i>	
<b>DESIGN AND CALCULATION OF THE LANDING TRACK PREPARATION OF CHANG'E-3 PROBE</b> .....	564
<i>Guangwei Yu, Ting Zhang, Daoming Feng</i>	
<b>RESEARCH ON THE INVERSION ANALYSIS METHOD BASED ON CROP GROWTH MODEL PARAMETERS IN GREENHOUSE</b> .....	572
<i>Zhiwei Zheng, Yangren Wang</i>	
<b>SEISMIC COUPLING EFFECT RESEARCH ON TUBULAR BUSBAR CONNECTED KNOB INSULATOR TYPE UHV TRANSFORMATION EQUIPMENT</b> .....	580
<i>Zhubing Zhu, Yongfeng Cheng, Zhicheng Lu, Sheng Li, Min Zhong, Zhenlin Liu</i>	
<b>OPTIMUM SEISMIC FORTIFICATION LEVEL FORELECTRICAL EQUIPMENT IN SUBSTATION</b> .....	588
<i>Min Zhong, Yuhan Sun, Sen Lin, Zhenlin Liu</i>	
<b>SHAKING TABLE TEST ON 800 KV HV REACTOR COMPOSITE BUSHING</b> .....	597
<i>Yuhan Sun, Zhenlin Liu, Sen Lin, Zhigang Su</i>	
<b>INVESTIGATION ON SEISMIC AND SHOCK ABSORPTION EXPERIMENTS OF UHV ARRESTER</b> .....	604
<i>Sen Lin, Yuhan Sun, Zhubing Zhu, Zhenlin Liu</i>	
<b>A METHOD FOR FAULT DIAGNOSABILITY EVALUATION OF SPACECRAFT CONTROL SYSTEM</b> .....	611
<i>Chen Yin, Zhangming He, Jiongqi Wang, Haiyin Zhou</i>	
<b>THE 3D TERRAIN INTERACTIVE TECHNIQUE BASED ON GESTURE RECOGNITION</b> .....	615
<i>Yanyan Li, Xiaomeng Xu , Jiayu Sun, Haimeng Zhao</i>	
<b>Author Index</b>	