

<b>Research and Design of Merging Unit of Electronic Transducer . . . . .</b>	<b>647</b>
Zheng Qiao, Bujuan Li, Yikang Zu and Yanqin Sun	
<b>Overall Iteration Design of a New Concept Wing Disk Solar-Powered Aircraft . . . . .</b>	<b>655</b>
Hong Da and Zhu Jihong	
<b>Research on an Automation Network for CSP Product Line. . . . .</b>	<b>665</b>
Tongbin Li, Bin Wang, Ning Zheng and Xin Kang	
<b>An Improved BBO Algorithm and Its Application in PID Optimization of CFB Bed Temperature System . . . . .</b>	<b>675</b>
Hong Xue and Han Pu	
<b>Study on Joint Vibration Attenuation of the Satellite Attitude Control Actuator Using a Vibration Isolator and Vibration Absorbers . . . . .</b>	<b>683</b>
Peng Tian and Rui Zhong	
<b>Weight Calculation of Oil and Gas Pipelines Risk Factors Based on Improved AHP . . . . .</b>	<b>699</b>
Tianyu Wang, Deyu Xu, Rujun Wang and Shujiao Tong	
<b>Optimization for the Structure of Front Transmission Gearbox . . . . .</b>	<b>709</b>
Zhenqi Yu	
<b>Study on the Hydrostatic Slide Film Temperature Field and Bearing Capacity of Precision Grinding Machine. . . . .</b>	<b>717</b>
ChuanShe Guo and Yi Cui	
<b>Study on Fuzzy Classifier Based on Genetic Algorithm Optimization. . . . .</b>	<b>725</b>
Qian Gao and Nai-bao He	
<b>Research on Automatic Identification of Color and Classification Applied to Electric Online Monitoring . . . . .</b>	<b>733</b>
Yi Zhang, Feng Zhang, Bin-quan Zhu and Lv Tang	
<b>Design of Control System for an Intelligent Closestool . . . . .</b>	<b>743</b>
Shuyun Zhu, Yan Chen, Hanhan Wang and Fangjuan Xie	
<b>Research on Damage Assessment of Corroded Oil and Gas Pipelines Based on Fracture Mechanics . . . . .</b>	<b>751</b>
Rujun Wang and Shujiao Tong	
<b>The Research on Capacity Rise Phenomenon of the Cable Line Under AC Voltage Withstand Test . . . . .</b>	<b>759</b>
Geqing Qi, Wenfeng Song, Dan Yuan, Zhuang Qi, Jianing Guo, Wei Zhang and Lulu Wang	

<b>Lyapunov-Based Control Strategy for Grid-Connected Inverter with Improved Transient Response . . . . .</b>	<b>773</b>
Jinhao Wang, Chaoying Yang and Yulong Wu	
<b>The Simulation of STATCOM for Distribution Systems Using a Mathematical Model Approach. . . . .</b>	<b>783</b>
Wei Xie and Jian-Min Duan	
<b>The Design of Linear Three-Dimensional Calibration . . . . .</b>	<b>791</b>
Dequan Guo, Xinrui Zhang, Hui Ju, Hong Liu and Jin Chen	
<b>Design and Development of LED Dimming System Based on Wireless Remote and Bluetooth Control Technologies. . . . .</b>	<b>801</b>
Yiwang Wang, Bo Zhang, Sikui Wu, Xiang Cang and Xiaoxiao Li	
<b>Open PID-Type Iterative Learning Control for Linear Time-Invariant System . . . . .</b>	<b>809</b>
Xuelian Zhou and Qiang He	
<b>Development of an Integrative Pointing Gimbal Mechanism for Space Application . . . . .</b>	<b>817</b>
Bo Pan, Shuyang Zhang, Lin Li, Fanxin Sun and Yongqiang He	
<b>Multisuser Scheduling on Dual-Hop Relay Networks and Effect of Feedback Delay . . . . .</b>	<b>827</b>
Jiyao Wei and Xianyi Rui	
<b>Research on System Modeling and Starting Strategy of Inverter for Medium-Frequency Induction Heating . . . . .</b>	<b>835</b>
Sen-lin Cheng, Hu Xu, Chuan Wang and Qiang-zhi He	
<b>Optimal Configuration of Bypass Diodes for a High-Concentration Photovoltaic System . . . . .</b>	<b>845</b>
Ting-Chung Yu, Yao Ti Hung, Yih-Bin Lin, Chih-Hao Chen and Yan-Cheng Liou	
<b>Optimal Design and Analysis of a 3.3-MW Wind Turbine Gear Train. . . . .</b>	<b>857</b>
Jianxin Zhang and Zhange Zhang	
<b>The Analysis of Battery Cooling Modes of EV . . . . .</b>	<b>865</b>
Yue Yang, Pengyu Wang, Guangming Lu, Hang Dong, Feng Li and Yanru Suo	
<b>The Research of Aviation Dangerous Weather Forecast for Fog and Haze Based on BP Neural Network. . . . .</b>	<b>877</b>
Yanfen Cheng and Rui Wu	
<b>Small Power Sine Wave Inverter Design . . . . .</b>	<b>885</b>
Xuefeng Bai, Yongjian Ma, Hanqing Li and Pei Li	

<b>Uncertainty Quantification Using Random Set Based on IODM . . . . .</b>	<b>893</b>
Zhao Liang	
<b>Coordinated Control Method of AGC and AVC in Power Grid . . . . .</b>	<b>901</b>
Shiguang Li, Zian Wang, Xinjing Wu and Jiatong Du	
<b>Research into Key Points and Application Ideas of Reliability Assessment for Medium-Voltage Distribution Networks . . . . .</b>	<b>911</b>
Lingyun Wan, Tingting Wei, Jin Fu, Gaolin Wu, Qunying Yang and Wei Song	
<b>Heat Transfer-Based Fault Diagnosis for Heat Exchanger of Aircraft Environmental Control System . . . . .</b>	<b>921</b>
H. Zhuohuan, W. Lulu and Y. Mo	
<b>Direct Torque Control of Permanent Magnet Synchronous Motor at Low Speed Using a Variable PI Feedback Flux Observer . . . . .</b>	<b>927</b>
Suying Zhang, Wenshuai Cui, Yankai Shen and Huixian Liu	
<b>Research on the Speed Synchronization Control Method of Double-HST Motor . . . . .</b>	<b>937</b>
Qian Ming Yang, Jian Li and Ling Qi Kong	
<b>Design and Development of an In Situ Radioactivity Measuring System in the Marine Environment . . . . .</b>	<b>949</b>
Yingying Zhang, Bingwei Wu, Ying Zhang, Guoxing Ren, Dongyan Liu and Lu Cao	
<b>The Design of Shield Posture's Monitoring and Control System Based on Configuration Software. . . . .</b>	<b>955</b>
Yiping Shi and Yungen Wang	
<b>Application Research of SuperCapacitance on Fuel Consumption Wheel Crane . . . . .</b>	<b>963</b>
Chao Li, Lu Niu and Aihong Tang	
<b>Research on Elastic Characteristic of Interconnected Oil Gas Suspension . . . . .</b>	<b>971</b>
Y.J. Chen, L. Wang, Y.F. Zhang, G.H. Zheng and X. Zhang	
<b>Impact of Switching Three-Phase Breaker at Different Period on Inter-turn Protection for High-Voltage Shunt Reactor . . . . .</b>	<b>979</b>
Sheng-Hong Lin, Shu-Yan Pan and Hua-Ren Wu	
<b>The Application Software Framework About Distributed Intelligent Alarm Information in Intelligent Substation. . . . .</b>	<b>989</b>
Xin Xu, Zhiqiang Yao, RenHui Dou, Hao Ren, Mingzhi Geng and Hui Ren	

<b>The Design and Implementation of Substation Graphic Gateway System Based on IEC61850 Technology . . . . .</b>	<b>999</b>
Mingzhi Geng, Renhui Dou, Yanping Wu, Zhiqiang Yao, Hao Ren and Xin Xu	
<b>An Improved Particle Swarm Optimization and Application. . . . .</b>	<b>1007</b>
Dongsheng Zhou, Lin Wang and Jiang Wei	
<b>Quantitative Analysis of Air Injection for Compressor Active Control . . . . .</b>	<b>1015</b>
Zhanheng Sun, Sanmai Su, Junjie Liu and Gao Rao	
<b>Thermocapillary Flows in Half-zone Liquid Bridges Under Axial Magnetic Fields . . . . .</b>	<b>1023</b>
Ruquan Liang, Linyang Zhu, Limin Kong, Fuqiang Yan and Shuo Yang	
<b>A Dual-Redundancy Thermal Backup Control Method for the Two-Wheeled Self-balancing Robot . . . . .</b>	<b>1029</b>
Yong Tao, Tianmiao Wang, Ye Wang, Jianhong Liang and Zhongyuan Chen	
<b>The Influence of Surface Roughness on the Aerodynamic Characteristics of Overhead Wire . . . . .</b>	<b>1039</b>
Zhangqi Wang and Lizhong Qi	
<b>Multi-objective Optimization Algorithm in Mission Planning of On-Orbit Servicing Spacecraft. . . . .</b>	<b>1049</b>
Qing Zhang, Jianxin Zhang, Qiang Zhang and Xiaopeng Wei	
<b>Product Conceptual Design Based on Polychromatic Sets Theory and Axiomatic Design . . . . .</b>	<b>1061</b>
Jianxin Zhang, Yangjie Zhou, Qiang Zhang and Xiaopeng Wei	
<b>Study on Dynamic Balance PID Control Algorithm and Its Application on the Quadrotor . . . . .</b>	<b>1071</b>
Hongwei Yan, Hongbin Li and Shaohua Song	
<b>The Electronic, Magnetic, and Vibrational Properties of <math>\text{Ce}_3\text{Co}_{29}\text{Ge}_4\text{B}_{10}</math> . . . . .</b>	<b>1079</b>
Liu-Tao Zhao, Xiao-Xu Wang, Jin-Rong Huo, Hai-Xia Cheng, Jian-Qiao Xie, Lu Li and Ying Liu	
<b>Effects of Activation Treatment on Interfacial Bonding in A356-10 wt% <math>\text{B}_4\text{C}</math> Composite Sheets Prepared by Rheo-Rolling . . . . .</b>	<b>1089</b>
Zhan Yong Zhao, Yang Zhang, Zhou Yang Zhao, Ren Guo Guan, Yuan Dong Li and Ben Chao Chen	
<b>LQR Optimal Control on the Positioning Accuracy and Rigidity for the Pneumatic Actuator . . . . .</b>	<b>1097</b>
Hongwei Yan, Hongbin Li and Shengjun Zhou	

<b>A Study of Visual Servo System Based on Binocular Camera . . . . .</b>	<b>1105</b>
Lei Hu and Chen Shen	
<b>Exploration of the Gas–Liquid Separation Effect of Vortex Tool in Downhole . . . . .</b>	<b>1113</b>
Zhijian Wang, YanBob Jia and Kai Liu	
<b>Study on Hopping Height Control and Detection for the Pneumatic Actuator . . . . .</b>	<b>1121</b>
Hongwei Yan, Hongbin Li and Shengjun Zhou	
<b>An Interval-Reduced-Basis Approach for Predicting Acoustic Response of Coupled Structural-Acoustic System . . . . .</b>	<b>1129</b>
Zheng Lv, Zhiping Qiu and Qi Li	
<b>FE Research on Influence of Pouring Temperature on Thermal Fatigue Depth for Aluminum Alloy Die Casting Die . . . . .</b>	<b>1139</b>
Chenggang Pan, Huqun Yang, Wenchao Ma, Qin Xiao and Qingming Chang	
<b>Analysis of the Protection of a Simplified Surge Protective Device for Low-Voltage AC Power System . . . . .</b>	<b>1147</b>
Huiping Liu, Xiaoqing Zhang and Kejie Huang	
<b>Investigation of Load Distribution Among Teeth of an Aero-engine Spline Coupling . . . . .</b>	<b>1155</b>
Xiangzhen Xue, Sanmin Wang, Jian He and Hui Wu	
<b>Dynamics Analysis of Linear Array Deployable Structure Based on Symmetrical Scissor-Like Element . . . . .</b>	<b>1163</b>
Bo Li, San-Min Wang, Ru Yuan, Chang-jian Zhi and Xiang-zhen Xue	
<b>Research and Development Analysis of Information Security in Smart Grid Construction . . . . .</b>	<b>1173</b>
Yixin Ding, Ming Li, Li Yan and Junwei Ma	
<b>The Multiobjective Optimization Model of Open Mill Mastication Parameters. . . . .</b>	<b>1179</b>
Zhang Liang, Wang Qidong, Zhu Lihong and Zhao Han	
<b>Precision Compensation Analysis of Spacecraft Assembly Parallel Mechanism. . . . .</b>	<b>1191</b>
Guangtong Liu, Guotao, Yanlei Zhang and Laiying Tang	
<b>Research on CAD/CAM Integration Methods Based on the STL Model . . . . .</b>	<b>1201</b>
Huiqun Zhou and Jianjun Wu	

<b>Investigation on the Characteristics of DC Air Discharge at Low Pressure Based on Hydrodynamics and Chemistry Model. . . . .</b>	<b>1209</b>
Xing-hua Liu, Xue-Feng Sun, Ri-chang Xian, Yu-Feng Chen and Peng Yu	
<b>Research on IOT Technology Applied to Intelligent Agriculture . . . . .</b>	<b>1217</b>
Juntao Li, Weihua Gu and Hang Yuan	
<b>Effective FPGA-Based Enhancement of Quantitative Frequent Itemset Mining . . . . .</b>	<b>1225</b>
Xiaoqi Gu, Yongxin Zhu, Meikang Qiu, Shengyan Zhou and Chaojun Wang	
<b>Image Classification Based on Deep Learning for Big Data of Power Grid . . . . .</b>	<b>1233</b>
Jun Yin, Yongxin Zhu, Weiwei Shi, Yunru Qiu, Xingying Liu and Gehao Sheng	
<b>Whether the High-Voltage Transmission Lines Have Enough Load Capacity After Wildfire . . . . .</b>	<b>1243</b>
Tianzheng Wang, Zhen Tang, Xinwei Wang, Jinzhao Yang, Xiaogang Wu, Kechao Zhao, Chong Zuo and Weiyi Chen	
<b>Design and Analysis of the Hydraulic System of the Small Slide Loader. . . . .</b>	<b>1253</b>
Kailin Feng, Guanguo Ma and Yipeng Chen	
<b>An Extended Kalman Filter Application on Moving Object Tracking . . . . .</b>	<b>1261</b>
Yuan Niu and Lisheng Hu	