

Electronics, Automation and Engineering of Power Systems

Collection of selected, peer reviewed papers from the International Forum on Electrical Engineering and Automation & the 2014 International Conference on Lighting Technology and Electronic Engineering (ICLTEE 2014), November 29-30, 2014, Guangzhou, China.

Bearbeitet von
Rongqing Liang

1. Auflage 2015. Buch. 1070 S. Hardcover
ISBN 978 3 03835 414 7

[Weitere Fachgebiete > Technik > Elektronik](#)

schnell und portofrei erhältlich bei


DIE FACHBUCHHANDLUNG

Die Online-Fachbuchhandlung beck-shop.de ist spezialisiert auf Fachbücher, insbesondere Recht, Steuern und Wirtschaft. Im Sortiment finden Sie alle Medien (Bücher, Zeitschriften, CDs, eBooks, etc.) aller Verlage. Ergänzt wird das Programm durch Services wie Neuerscheinungsdienst oder Zusammenstellungen von Büchern zu Sonderpreisen. Der Shop führt mehr als 8 Millionen Produkte.

Table of Contents

Preface and Conference Organization

Chapter 1: Sensors, Measurements, Systems of Monitoring, Detection and Diagnostics

| | |
|--|-----|
| Research and Application on a Visualized Optical Fiber Fence Alarm System Q.H. Yuan, X.J. Nie and G.F. Feng | 3 |
| Research of Electronic Forensics Model and Key Technology for Intelligent Terminal G.G. Wan and L. Tie | 8 |
| The Research on Image Stability of Air Object Based on Camera on Vehicle J. Zhang | 14 |
| Sound-Localization System X. Wang and S. Xu | 18 |
| Research on Data Management System for Live Detection Y. Chen, H.F. Liao, Q. Peng, W. Wang, Y.X. Cao and Y.H. Dai | 22 |
| Design and Implement of an Indoor Location System Based on Active RFID L. Ju and Q.B. Meng | 27 |
| Autocorrelation Phase Measurement of Spread Spectrum Signal for High Precision Indoor Microwave Positioning W.Y. Cai and G.Y. Luo | 31 |
| Study on Traveling Wave Signal Anti-Interference and a New Detection Method Y. Li, Z.Q. Wu, J.Q. Li and X.C. Luo | 40 |
| The MOA Live Detection System Based on Wireless Synchronization Y.X. Cao, H.F. Liao, Q. Peng, W. Wang, L. He and Y. Chen | 46 |
| Research on Detection System of Pesticide Residues Based on Fluorescence Method L.J. Shi, J. Zhao, L.R. Wang and H. Xu | 52 |
| Fluorescence Information Processing Based on Wavelet De-Noising Y.X. Shao, X.P. Yang, Z.Y. Wang and Y.J. Yang | 56 |
| Health Monitoring Research Based on Fiber Bragg Grating Sensing Technology in Concrete Pouring K. Zhu, S.G. Zheng, G. Liu and Q.C. Zhang | 64 |
| Design and Research of Trench-Isolated LAPS Sensor Array Y. Sun, W. Guo and D.Z. Zhu | 71 |
| Coordinate Measurement System for Copper-Clad Plate L.J. Hou and F.X. Mao | 75 |
| Calibration of Eddy Current Sensor Using Speckle Photography J. He, H. Zhang and M. Zhu | 79 |
| Analysis of the Principle of Laser Displacement Sensor and its Application J.L. Zha and H.Z. Li | 84 |
| The Research and Development of a High Precision Measuring Device S. Deng | 90 |
| Centralized Inter-Network Resource Allocation Scheme in Wireless Body Area Network L. Zhang, T.T. Shi and C.B. Xu | 95 |
| High Voltage Equipment PD Pattern Recognition Based on BP Classifier L. Li, G.Q. Jiang, T.Y. Niu, Y. Wang, Y. Lu, Q. Lan, L. Chang, Y.L. Liu and C. Chen | 99 |
| Design of High-Rise Building's Monitoring System for Electric Fire Base on CAN Bus S.W. Sun, X.T. Liu, W. Liu and Q. Yang | 104 |
| A Dedicated Device Based on the Spatial Electric Field for Measuring Voltage of Catenary System J. Song, X.D. Zhang and Y.J. Sun | 109 |
| A Novel Phase Modulation Accelerometer Y. Yang, X.F. Li and H.B. Xiang | 113 |

| | |
|--|-----|
| Eddy Current Probe Parameters Optimization Design Based on Orthogonal Experiment T.W. Liang, Q.X. He, Y. Liang, D.H. Wang and B. Chi | 118 |
| Influence Study of Sheet Resistance Measurement Errors by Square Four Probes X.F. Liu and Z.H. Zhu | 125 |

Chapter 2: Mechatronics, Robotics, Control and Automation

| | |
|--|-----|
| A High Torque Magnetorheological Brake for Gait Rehabilitation Robot J. Wang, J.Q. Li, S.S. Zhu and C. Shi | 131 |
| A Method of Robotic Remote Operation Based on an Electromagnetic Tracking System Y.Y. Luo, S.K. Li, D.X. Li and C.Z. Fan | 138 |
| Adaptive Tracking Control without Image Velocity Measurement S. Ye, Y.T. Ye, J.X. Liu, L. Liu and C.L. Du | 147 |
| Automation Control System of the Pressure Pulse Testing Rig Z.H. Zhu, Y.J. Gong and X.F. Liu | 153 |
| Design of Automatically Picking-Up Table Tennis Based on OpenCV X.L. Wang, L. Zhu, H.X. Ma and X. Guo | 157 |
| Development of Automatic CAN Gateway Test System T.Y. Yang, F. Luo and C. Liu | 161 |
| Embedded Robot Vision System Based on DSP X.Z. Li, L. Zhu and Y. Hua | 168 |
| Research and Design Based on Automated Warehouse of Box-Type Silk Storage Q.X. Yu, S.M. Zhang, C. Wang and H. Zhang | 172 |
| Research of the Indoor Service Robot Based on ZigBee Positioning Z.Y. Wang and Y.L. Liu | 179 |
| Research on Fan Warning Model for Curved Roads on Highways Based on Millimeter Wave Radar Y.C. Wei and W. Long | 183 |
| The Application of Aerospace Robot Based on Human-Machine Interactive Control Technology Y. Bian, L. Zhao, G.H. Yang and S.G. Cui | 189 |
| The Construction of Remote Online Access to PLC Laboratory Based on Internet Y.D. Ruan | 194 |
| The Design and Implementation Approach of a Dual Redundant Servo Controller C. Li, Y.Q. Yang and X.Y. Hao | 198 |
| The Research of Moving Target Detection and Tracking System Based on DM6437 E.Z. Dong, S.X. Yan and K.X. Wei | 203 |
| Study of the Production of Electrolytic Capacitors of Intelligent Network Equipment Management Q.Q. Cui and J. Ning | 207 |
| CBTC System Dynamic Data Security Verification Method X.P. Hou and Y.N. Huang | 211 |
| LMI-Based H_{∞} Control for Dual-Channel E-Commerce CLSC Networks and its Bullwhip Effect H.F. Guo | 216 |
| Network Optimization of X-by-Wire System Based on FlexRay Bus F. Li, L.F. Wang and C.L. Liao | 220 |
| Design of Intelligent Measure and Control Software of Plant Growth Cabinet Based on Android System F. Liang, J.J. Xie, S.G. Cui, L. Zhao and L.G. Tian | 224 |
| Study for PID Temperature Control of Plant Growth Cabinet Based on Neural Network Z.Q. Liu, L.G. Tian, M. Li, J.L. Wei, G.L. Chen and Y.S. Li | 229 |
| Adaptive Fuzzy Backstepping Control for a Modular Designed Bolt Tightening Shaft System S.B. Liu | 233 |
| Control Scheme for Stock Approach System of Chinese High Speed Tissue Machine W. Tang, Q. Wang, Z.Y. Pei, Y.Y. Lian and Z. Wang | 237 |

| | |
|--|-----|
| Crop Growth Environment Parameter Measurement and Control System Based on ARM Framework | |
| J.M. Hu, X.H. Guo and G.H. Li | 242 |
| Design of Control Net Based on CAN Bus | |
| X.H. Zhang | 247 |
| Design of Voice Coil Linear Motor Control System Based on B&R as Integrated Development Environment | |
| S.L. Lu, R.R. Wu, L.Q. Wang, M. Li, J. Zhu and G.W. Wang | 251 |
| Design of Water Heating and Temperature Control System Based on STC89C52 | |
| T. Wang and H. Wang | 255 |
| Implementation of Stepper Motor's S-Curve Trajectories Control | |
| S.M. Sun and J.H. Wang | 260 |
| Model Identification and Controller Design for Piezoelectric Ceramic Actuator | |
| Y.B. Li, Z.H. Liu and Y.M. Liu | 264 |
| Optimal Control Strategies for Ice Storage System of Water Source Heat Pump | |
| W.C. Zheng, J. Yang and Y.J. Hu | 268 |
| Period Optimization Scheduling Algorithm Research of CAN Bus in Electric Vehicle | |
| F. Li, L.F. Wang and C.L. Liao | 273 |
| Research of Tornambe Control in the Speed Regulation of Induction Motor System | |
| J.M. Zhao, Z.J. Zhang and Y.F. Ren | 277 |
| The Applied Research of PID Controller Based on NN in Servo System | |
| H.K. Wu, X.J. Fu and Z.Y. Wu | 281 |
| The Design of Gate Value Controller | |
| F.X. Mao, S.X. Yue and L.J. Hou | 287 |
| Ultrasonic Welding Control System Based on Embedded Multitasking Research | |
| Z.P. Liu and D. Lin | 291 |
| Vehicle Stability Control Study Based on Neural Network Predictive Method | |
| T. Yang and D.D. Song | 295 |
| Worst Case Response Time Analysis of Sporadic Traffic in MVB | |
| Q.F. Zeng and T.F. Chen | 299 |
| Design of Controller for Ignition Temperature Flameless Catalytic Burners | |
| Y.T. Liu, J. Liu, L. Zhang and T.Q. Wang | 307 |
| Research of Automobile Collision Avoidance System Based on Video Image Processing | |
| J. Gao, H.H. Zhu and B. Li | 312 |
| Adaptive Control and Synchronization of Uncertain Complex Networks | |
| Q.Q. Jia | 321 |
| Longitudinal Control for a Magnetic Navigation Unmanned Electric Vehicle | |
| L. Zou and F. Luo | 327 |
| Research on One-Dimensional High Frequency Linear Motion Platform | |
| F. Wang, R.R. Wu, L.Q. Wang and S.Y. Wu | 332 |
| The Harmonic Suppression Strategies and Efficiency Analysis of Electric Vehicle Induction Motor Drive System | |
| G. Qin, J.X. Zou, X.S. Xin and H.B. Xu | 336 |
| The Internet of Things Coffee Vending Machine | |
| Z.L. Yang, L.Y. Zhao and L.T. Gu | 340 |
| The Research of Multi-Axis Motor Control System Based on the Communication Technology of FP-X PLC and Inverters | |
| X. Chen and G. Zhang | 345 |
| Research on Modeling in CGF System of Air Defense Missile | |
| J.J. Deng, D. Wu and L. Liu | 350 |
| Research on the Model-Follow H-Inf Loop Shaping Control Based on the Simulated Annealing and Niche | |
| Y. Huang and T.L. Ma | 354 |
| Study on the MOESP Subspace Identification Method and its Simulation | |
| L. Zhang, Q.Y. Xu and Z.J. Bao | 358 |

Chapter 3: Technologies of Intelligent Systems

| | |
|--|-----|
| A Big Data Application in Intelligent Transport Systems H.J. Yu, Z.G. Wang, X.Y. Liu and D. Hu | 365 |
| Design of Voice Control System for Smart Home Based on STM32 P. Qian, Y.Z. Zhang and Y. Li | 369 |
| Research of Visual Stimulation Method and Design of Visual Stimulator Based on Brain-Computer Interface Y. Sun, L. Zhao, N. Xu and R. Ou | 375 |
| The Design of the Intelligent Voice Recognition System Based on Labview Q.K. Xu, Z.Q. Du and J. He | 383 |
| The Embedded Parking System Design Based on RFID Y.X. Zhang, Y.C. Liu, J. Zhuang, T.R. Liu and B. Xie | 387 |
| The Intelligent CAD Design for the Quenching Machine Tool Based on the NEI in the Full Lifecycle L. Liang, Q.W. Dong and L.P. Yang | 393 |
| TTS Tape Script Construction and Apply to SCADA System P. Qian, N.Z. Yao, M.C. Wu, M. Yan and H.Q. Cheng | 398 |
| A Self-Management System Combined with Constructivist Theory Y. Liu, M.J. Chen, X.H. Wang and F.H. Zhang | 403 |
| A Generation System of Intelligent Power Dispatching Operation Sheet S.F. Chen | 408 |
| Study on Dual Mode Fusion Method of Video and Audio L.J. Shi, P. Feng, J. Zhao, L.R. Wang and N. Che | 412 |
| A Rule-Based Opto-Electronic Detection and Target Recognition System J.D. Zhong, Q.Z. Wu, Z.M. Peng, J. Zhang and G.L. Yao | 416 |
| Design and Implement of Operational Rule Base Based on Machine Learning and Association Rule Mining L. Chen, J.H. Liu, Q. Wang, H. Sheng and Y. Chen | 422 |
| The Application of the Fuzzy Cognitive Map among Intravenous Drug Users Q.X. Yu, S.M. Zhang, G.H. Bi and C.T. Wei | 428 |
| Research on Dynamic Parking Space Allocation Model in Closed Parking Lot Q.G. Wang | 435 |

Chapter 4: Practice of Data Processing for Intelligent Systems

| | |
|--|-----|
| Evaluation Model of Combat Effectiveness Based on MAS B. Zhang, D.W. Zhao and X. Zhao | 443 |
| A Multi-Scale Modeling Method Based on Big Data J.W. Liu | 447 |
| A Secondary Iterative Sifting EMD Algorithm and its Application to Bearing Fault Diagnosis W. Tang, Y.Y. Lian, X. Chen, Z.Y. Pei and Q. Wang | 451 |
| A Service Selection Algorithm Based on Heterogeneous QoS Model and Synthetic Weights S. Zeng, G.Q. Ni, M.M. Fan, L. Zhang and Y.H. He | 459 |
| Algorithm of Moving Vehicle Detection by Improved Gaussian Mixture Model Based on ROI P.P. Zhang, C.Y. Mu, X. Ma and F.L. Xu | 463 |
| Implementation of Power Load Forecasting Based on the Improved Neural Network Model Y. Xu | 468 |
| Improved K-MEANS Algorithm Based on Samples W. Jin and X.R. Zhao | 472 |
| Particle Filter Target Tracking Algorithm Based on the SIFT and Color Features Fusion M.H. Liu, C.S. Wang and X.L. Wang | 476 |

| | |
|---|-----|
| Reentry Trajectory Optimization Based on Time-Domain Improved Particle Swarm Optimization | |
| B. Yang and H.X. Wang | 482 |
| Research of MES Scheduling Strategy Based on Hypercube Paths Link Algorithm | |
| Y. Luo, W. Long, S.J. Lin and J. Huang | 487 |
| Research of the Algorithms for Service Restoration Reconfiguration in Distribution Network | |
| J.F. Wang | 491 |
| Research on Latent Factor Model and its Optimization Algorithms of Machine Learning | |
| Q.F. Li | 495 |
| Research on the Optimization Model of Flights Alternate Based on Linear Programming | |
| X.W. Cao | 499 |
| Research on Unconstrained Handwritten Numeral Recognition by BP Feature Screening Based on Fuzzy Clustering | |
| P. Ye and T. Jiang | 504 |
| Short-Term Traffic Flow Forecasting Based on SVR with Improved Artificial Fish Swarm Algorithm | |
| R.X. Fang, W.H. Yao and X.D. Zhang | 508 |
| Study on the Prediction Meth of Automobile Braking Distance Based on Artificial Neural Network | |
| P. Ye, X.M. Zhang and T. Jiang | 515 |
| Successive Over-Relaxation Method Based on PSO | |
| L. Tang, Z.C. Wang and L. Gao | 522 |
| The Fractal Interpolating Algorithm of 3D Terrain Surface Reconstruction | |
| J. Xiong | 526 |
| The Study of Ant Colony Algorithm in Hydraulic Breakdown Diagnosis | |
| J.J. Deng, Y.B. Li and L. Zhang | 530 |
| Using Kernel Fisher Criterion for Gaussian Kernel Optimization | |
| L.Y. Zhong and Y.Z. Liu | 534 |
| Zero-Displacement-Error ITAE Standard Forms Based on Modified Particle Swarm Optimization | |
| Y.J. Xu and Y.Q. Yang | 539 |
| Aluminum Plate Surface Defects Classification Based on the BP Neural Network | |
| Q.H. Li and D. Liu | 543 |
| Application of Dynamic Chaos PSO Algorithm in Elevator Configuration | |
| K. She, L.Z. Ma, J.R. Wan and D.H. Li | 548 |
| JPEG Image Encryption Algorithm Based on Three-Dimensional Multi-Chaotic System | |
| K.F. Wang, S. Zhuang and X.R. Zhao | 554 |
| One-Step Weights Updating Back-Propagation Neural Network for Nonlinear System Identification | |
| Y. Yang | 558 |
| Face Recognition by PCA and Improved LBP Fusion Algorithm | |
| E.Z. Dong, Y.H. Fu and J.G. Tong | 562 |
| Image Shadow Removal Using Paired Region Illumination Transfer | |
| Q. Chen, X.B. Yang and L. Jin | 568 |
| Statistical Analysis of the Magnetic Resonance Transmit Radiofrequency Field by the Saturated Turbo FLASH Method | |
| Q.F. Zhang, X.Q. Hu, Y.J. Zhu and Y. Li | 572 |
| Acquisition Method of Typical Time Course for Stationary Signal Basing on Frequency Weighting | |
| D. Lu, Y.Q. Zhou, L. Liu and Y.B. Chen | 577 |
| Petiole Segmentation Method Based on Multi-Structure Elements Morphology | |
| X.L. Wu, L.L. Yang, F. Liang and S.G. Cui | 581 |
| A Novel Image Denoising Method in 2-D Fractional Time-Frequency Domain | |
| S.S. He, Y.Y. Jiang and J.Y. Zheng | 586 |
| Character Segmentation of Chinese Rubbing Images Using Total Variation Preprocess | |
| H. Huang, Z.K. Huang, M.Y. Lin and L.Y. Hou | 590 |

| | |
|---|-----|
| Improving Image Retrieval Using the Context-Aware Saliency Areas D.P. Fan, J. Wang and X.M. Liang | 596 |
| Tracking of Moving Objects in Video Sequences Based on Elliptical Subtractive Clustering Z.H. Sun, B. Hu, Y. Meng and W.H. Zhou | 600 |
| Detection of Bird Nests on Equipments of Electric Transmission Lines Based on Aerial Images Q. Xie, J.P. Hu and Z.W. Chang | 604 |
| A Structure-Based Registration Method for Terrestrial Laser Scanning Data J. Cheng, M. Cheng, Y.B. Lin and C. Wang | 608 |
| Reconstruction of EEG Signal Based on Compressed Sensing and Wavelet Transform S. Liang and L. Li | 617 |
| Design and Implementation of FPGA-Based JPEG Decoding IP Core and its Application in Digital Watermarking Q.X. Yu, S.M. Zhang, C. Wang and L.Z. Xie | 621 |
| Image Recognition Based on High-Dimensional Information Geometry P. Chen and N. Liu | 625 |
| Basketball Detection Based on Moving Robot C. Tang and Z.H. Hu | 629 |
| Face Recognition Using Laplacianfaces and Artificial Neural Network J.F. Miazonzama, Q. Hua and L. Wang | 633 |
| Empirical Study on the Non-Periodic Cycles of Fractal Time Series: Examples of Indices of the Chinese Stock Market Y. Li, W.Y. Zhang, Y. Wei and J.H. Sun | 637 |
| Genetic Programming for Letters Identification Based on Neural Network Y.H. Liu and Z.P. Wang | 642 |
| Research of License Plate Recognition System Based on Labview Z.H. Hu and C. Tang | 646 |

Chapter 5: Power Systems Engineering

| | |
|--|-----|
| Disturbance Voltage Induced on the Intelligent Electronic Device Ports due to Switching Operations in Gas Insulated Substation J.F. Ji, X.F. Liu, Y.B. Yuan, Y.F. Yang and C.Q. Jiao | 653 |
| Optimal Configuration of PMU in Power System J. Zhi and Y. Xu | 659 |
| Rapid Identification of Key Lines in Power Flow Transferring with Two Branches Simultaneous Removal under Multiple Voltage Levels J. Zhi and Y. Xu | 666 |
| Research on Relay Protection of Distribution Network System with Distributed Generation H.H. Liu, X.L. Zhang, W. Li, X.Y. Wang and Y.F. Zhang | 670 |
| Research on the Vibration Condition On-Line Monitoring System for EHV Power Transformer W.Q. Li, W. Wang, L.T. Lin, B.M. Xie, M.C. Xia, P.Z. Liu and W. Ma | 675 |
| Research on Voltage Balance Control and Simulation of Chain-Type APF in High Magnetic Field Y.M. Zhang, J. Li, J. Liu and X.N. Liu | 680 |
| Smart Grid Technology Is Analysed for the Influence of the Electric Power System Planning J. Yao and Z.Q. Du | 688 |
| Static Reactive Power Compensation of Generator Design Based on TMS320LF2407 Y.T. Liu, H.J. Wang, J. Liu and W.W. Xu | 692 |
| Study of Short-Term Wind Power Forecasting Based on Adaptive Grey Prediction Method W.Z. Cai, D.T. Wang, Y.S. Wang, Y. Yang and Z.L. Gao | 697 |
| Study on Stability and Reactive Power Optimization of Active Distribution Network Based on Bifurcation Theory X.B. Dai | 701 |

| | |
|--|-----|
| The Design and Implementation of Condition Monitoring and Decision Support System in HVDC Converter Station | |
| W.W. Jin, C. Yu, X.C. Yang, Z.X. Geng, H.R. Zhang, F.L. Li and J.W. Yan | 707 |
| Research of Analysis Software of Fault Wave Record Short Circuit Current Based on Matlab/GUI | |
| Y.S. Wang, K. Zhang and Z.X. Zhang | 714 |
| Review and Outlook of HTS Cable Research | |
| B.Q. Zhang, R. Shi, Z.J. Chi, C. Gong, R. Jiao, L.F. Ma and Y.X. Chen | 720 |
| The Research, Implementation and Telegram Analysis of IEC61850 Services Mapping to MMS Read | |
| C. Yu, G.J. Li, H. Hu, H.R. Huang, Y.H. Shen, X.Y. Cui and J. Liu | 726 |
| Based on LabVIEW Three-Stage Current Computer Protection Experimental System | |
| Y.W. Tian and H.S. Zhao | 732 |
| Issue of Distributed Power Supply Is Introduced into Distribution Network | |
| Z.Q. Du | 736 |
| Monitoring System of Leading Phase Operation of Generator Based on Virtual Instrument | |
| Y.F. Wei, J.D. Duan, J.K. Si, Z. Zheng, X.W. Wang and X.G. Yin | 740 |
| Power System Adequacy Exploration Based on UC Simulation Model | |
| Z.B. Li and X.L. Zhai | 744 |
| The Numerical Simulation of Iced Conductor and Research of Influencing Factors | |
| L. Gao and J.C. Hu | 748 |

Chapter 6: Photovoltaic Power Systems

| | |
|--|-----|
| Fuzzy PID Control Strategy in the Application of the MPPT | |
| H.Y. Qiu and Y.Q. Yang | 755 |
| Hybrid System for Photovoltaic Power Generation and Power Quality Control | |
| W.W. Song | 759 |
| Maximum Power Point Tracking for the Micro-Scale Photovoltaic Power System | |
| L. Han, X. Wang and G.W. Wang | 771 |
| Research on Peak Capacity of Distributed Photovoltaic Generation Based on Voltage Deviation Model in Distribution Network | |
| T.T. Li, J.B. Wang and W.L. Wang | 775 |
| Short-Term Output Forecasting Model of Photovoltaic Electric Field Based on Wavelet Transform | |
| B. Chen and Y. Li | 781 |
| Improvement of the Load Process of Pb Batteries Connected to a Photovoltaic System | |
| F. Dragomir, O.E. Dragomir, S.S. Iliescu and V. Stefan | 787 |
| Properties of Sputtered-n-nc-Si:Er/p-Si Heterojunction Solar Cells | |
| G.W. Wang, S.L. Lu and X.W. Zhao | 791 |
| Obtainable P-Type ZnO Film Doped with Li by Sol-Gel Method | |
| T.T. Wang, M.M. Dai, Y.J. Yan, H. Zhang and Y.M. Yu | 796 |

Chapter 7: Power Electronics and Circuits, Electrical Machines and Equipments

| | |
|--|-----|
| A Hybrid Damping Method for LCL-Filter Based Grid-Tied Inverter | |
| L. Ma, H.B. Xu, J.X. Zou, M.S. Li and T. Han | 805 |
| A Research of New Zero-Voltage Switching Equalization for Super-Capacitor Energy Storage System | |
| H. Gao and Z.G. Gao | 811 |
| A Ultra -Super Efficiency Induction Motor Based on the Finite Element Analysis | |
| C.Q. Liu, Y.F. Xu, Q.F. Li and J.H. Bian | 816 |
| Model Reduction of Potential Transformer Based on Revised Minimum Information Loss Method | |
| G.S. Liang, X.X. Liu and S.W. Zhang | 822 |

| | |
|---|-----|
| Parasitic Capacitance Extraction Using Finite Element Method on Polygonal Mesh through Piecewise Interpolation | |
| D. Ren, Z. Gao, X.Y. Xu and Z.X. Ren | 827 |
| Positron Annihilation in ZnO Based Varistor Doped with Semiconductor Additives | |
| T.Z. Yang, Q.T. Zhu, J.J. Wei, Z.Q. Zhang, R.R. Zhang, S.S. Meng and X.Z. Wang | 834 |
| Power Control of PWM Rectifier with Resistive and Reactive Load | |
| L.Y. Fan, F. Li and K.H. Wang | 841 |
| Research of New Driving Motor Power Instrument of Formation Evaluation Tool Hydraulic Pump | |
| L.Y. Zhao and Q. Wu | 847 |
| Research on Application of UPQC in Electric Vehicle Charging Equipment | |
| C. Gong, R. Shi, Z.J. Chi, B.Q. Zhang, L.F. Ma and R. Jiao | 852 |
| Shielding Effectiveness Analysis of a Spherical Shield Made of Medium Conductivity Material against Low-Frequency Electric Field | |
| M.Y. Li, C.Q. Jiao and J.K. Nie | 858 |
| Step-Up DC/DC Transformer Based on LLC Resonant Full Bridge | |
| Z.C. Xiong, Q. Yin, Z.J. Luo and H. Pang | 864 |
| Study on a Novel Three-Phase Two-Leg Active Inverter for Electrified Railway | |
| Y.P. Sun, M. Zhou and G. Wang | 868 |
| The Design of Parallel IGBT Modular for Modularized Wind Power Converter | |
| X.J. Fu, C.L. Que, S. Zhang, E.X. Yang and H. Ye | 873 |
| The Output Filter Identification of Three-Phase PWM Converter Using Weighted Least Square Method | |
| Y.L. Zhang and X.G. Zhang | 877 |
| Study on the Influence Factors of Dry Hollow Parallel Reactor Loss | |
| X.B. Guo, X.Y. Tan, Y.H. Wang, Y. Wang, K.M. Zhao and J. Zhang | 887 |
| Control Technology of 10kW Photovoltaic Grid-Connected Inverter Based on TMS320F2808 | |
| Y. Chen, F. Shen and R. Hu | 893 |
| Inhibition of Double PWM Welding Power Supply Voltage Fluctuation of the Intermediate Links | |
| J.F. Zhang, W. Liu and S.W. Sun | 897 |
| Research of High-Voltage IGBTs for Series Connection with Active Voltage Clamping | |
| Z.X. Wang, Z. Ge, Z.Y. Chen and Y.Y. Su | 901 |
| Application of HV Frequency Converter in Pump Feed System on Waste Heat Boiler | |
| R.X. Zhang | 906 |
| Summary of Research Status and Control Strategies for Matrix Converter | |
| Z.H. Sun and J.P. Wang | 910 |
| Design of RFID Card Reading System Based on LWIP and FreeRTOS | |
| W.S. Chen and J.P. Wang | 916 |
| Design of a Low-Power Flyback Switching Power Supply | |
| M.D. Zhou | 921 |
| Research on Power Quality Assessment Improvement of Marine Electric System | |
| Y.Q. Song, B.L. Zhong and M. Bai | 925 |
| Design of a High-Voltage Signal Generator Applied Flashover Fault Detection | |
| J.Y. Liu and J. Ni | 930 |
| Automatic Measurement and Control System of Temperature Rise Test for the Power Electronic Transformers | |
| Y. Xu, H.Z. Shen, L. Wan and B. Lu | 935 |
| The Modeling and the Stability Control of the DC Converter Based on the Matlab/Simulink | |
| F.L. Li, W.Z. Zhang and X.P. Liu | 941 |

Chapter 8: Modern Technology of Lighting

| | |
|---|-----|
| The Research of LED Light Source System for Hybrid Cymbidium | |
| J.Y. Li, F.L. Wu, H. Zhou and X.K. Li | 947 |
| Application and Development of Solar Street Lamp in China | |
| Q. Zhang and Z.R. Zeng | 952 |

| | |
|--|-----|
| Design and Implementation of Classroom Intelligent LED Lighting Control System M. Li, S.L. Lu, R.R. Wu and G.W. Wang | 956 |
| Design of Intelligent LED Lighting System Based on KNX Bus for Building D.F. Pang, S.L. Lu, F.X. Zhang and G. Zhao | 960 |
| Design of LED TRIAC Dimming Circuit Based on SSL2101T X.H. Zhang, T.Z. Liu and L.Y. Cao | 965 |
| Mobile Lighting Control Scheme Based on DALI Protocol Q.P. He, X.Y. He, Y.M. Gao, N.Y. Zou, Z.S. Wang and F. Cao | 970 |
| PLC-Based Street Lighting Energy-Saving Equipment and its Remote Monitoring System Y.B. Guo, S.M. Du, J. Luo, Z.R. Wang and X.H. Zhang | 975 |
| The Design of Intelligent Lighting Control System J.Q. Li | 980 |
| The Design of Tunnel Lighting Intelligent Control System Q. Zhang, L.L. Dong, W.H. Xu and L. Qin | 984 |