2011 Second International Conference on Digital Manufacturing & Automation

(ICDMA 2011)

Zhangjiajie, Hunan, China
5-7 August 2011

Pages 1-700

IEEE Catalog Number: CFP1161L-PRT
ISBN: 978-1-4577-0755-1

2011 Second International Conference on Digital Manufacturing & Automation

ICDMA 2011

Table of Contents

Preface.....xxvii
Organizing Committee.....xxviii
Technical Program Committee.....xxix
Reviewers.....xxx

ICDMA 2011

A 5-80MHz CMOS Gm-C Low-Pass Filter with On-Chip Automatic Tuning 1
Yi Ding, Lintao Liu, Ruzhang Li, Xin Zhang, and Lu Liu

A New Type Reducer Design Method of First Selection 5
Kui Jin and Hao Li

A Cohesive Zone Model in Adhesive Bonding Joint Based on MSC.marc 8
Zhenqi Sun, Minghui Huang, and Xinjiang Lu

A Comprehensive EF-Based and AHP Integrated Approach to Construct Land Use Sustainable Evaluation Model 12
Jinhua Liu, Xinqi Zheng, and Xiaoping Yang

A Design of CAN-bus Test System Based on Volkswagen PASSAT B5 16
Chengqun Qiu

A Fast Approach to Judging Basic Element Intersection in Polygons Meshing 20
Jinghui Li, Jingbo Shen, and Yan Zhang

A Fuzzy Control Method Based on Information Integration for Double Inverted Pendulum 24
Yuanyuan Fan, Yingjun Sang, and Bin Liu

A Hierarchical Algorithm for Document-Images Fast Matching 28
Shuang Tan, Yan Jia, Yiguo Pu, Hua Fan, and Tao Wang

A High Efficiency TANDEM Pulsed MAG Welding Machine 34
Pengfei Huang, Wei Zang, Lijun Sha, and Zhen Yang Lu

A Loss Assessment Design Method Based on SOA for Insurance Informationization 38
Niya Li, Jian Zhang, Wei Lv, and Chengye Jin

A Method of Second Wavelet Transform Automated Threshold for Partial Discharge Signal Extraction 42
Hongxia Luo and Xuefeng Zhang

A Micro Wall-Climbing Robot Using Shape Memory Alloy 46
Shanqiang Wu and Peipei Huang

A Middleware Architecture for Sensor Networks Applied to Industry Solutions of Internet of Things 50
Yingyou Wen, Zhi Li, Xuena Peng, and Hong Zhao

A Mixed Noise Filter Acceleration Algorithm Based on Mean Value and Variance Similarity 55
Xiaojun Luo, Shixiu Wang, Bing Li, and Junling Xu

A Modified Vector Control of PMSM Based on Matrix Converter 59
Weijie Lin, Dongliang Liu, and Qiuxuan Wu

A New Method to Fault Diagnosis for Circuit Breakers Based on Characteristic Entropy of Wavelet Packet 63
Laijun Sun, Laijun Sun, Mingliang Liu, Haibo Qian, and Changming Qiao

A New Method to Mechanical Fault Classification with Support Vector Machine 68
Laijun Sun, Mingliang Liu, Haibo Qian, and Changming Qiao

A Non-singular Terminal Adaptive Fuzzy Sliding-Mode Controller 74
Lu Cao, Tao Sheng, and Xiaoqian Chen

A Novel BTEX Gas Sensor Utilizing Cataluminescence on Nanosized Bi4MnO8 81
Kaowen Zhou, Chunxiu Gu, Ziqiao Zhang, Lijing Xing, Xin Li, and Chunxue Fu

A Novel Dual-Boost DC-AC Circuit for PV Inverter 85
Biao Zhang, Jianlin Zhu, Meisheng He, Rong Zheng, and Weiming Chen

A Novel Laser Multidirection Network Measurement System 89
Xiong Zhi, Zhu Jigui, Yang Xueyou, and Ye Shenghua

A Novel Method for Detecting Encroachments on Transmission Lines Based on Visual Attention 93
Jingjing Zhao, Jixiang Sun, Shilin Zhou, and Chun Du

A Novel Template-Based Change Detection Technique for Harbor Ship Target 97
Yinling Sui, Huanxin Zou, Lin Lei, and Zhiyong Li

A Parameter Identification Method of Induction Motor Based on Three Level Inverter 101
Chunyuan Bian, Ruixia Cao, Yongkui Man, and Chonghui Song

A Robust Method for Vanishing Point Estimation in Road Image 105
Xun Hui Qin, Rong Ma, and Sui Lao Li

A SOOA Based Distributed Computing Mechanism for Road Traffic Noise Mapping 109
Nan Li, Tao Feng, and Bin Liu

A Status of Study on Icing of Wind Turbine Blades 113
Xuxiang Lu, Haibo Li, and Xiaohu Deng

A Study on Modern Agricultural Products Logistics Supply Chain Management Mode Based on IOT 117
Lianguang Mo

A Study on the Application of GPC Implicit PID Algorithm in the Heat Exchanging Station Control System 121
Lin Zhu, Yan Wu, and Qi Li

A Two-Phase Trust and Reputation Based Multi-Agent System (MAS) e-Loan Negotiation System 125
Zeko Mbumwae and Lasheng Yu

A Voltage Control Scheme of Distribution Static Synchronous Compensator Based on Current Sensorless 129
Yueqiu Wang, Jie Tang, and Xionger Qiu

Acceleration of Ion Diffusion Due to the Electromagnetic Effects of Ion Currents in Nanochannels 132
X. Chen and J.Y. Zhu

Achieving Fair Service with a Layered Scheduling Scheme for CICQ Switches 137
Hongchao Hu, Peng Yi, Shuqiao Chen, and Julong Lan

Active Tracking Unknown Surface Based on Force Control for Robot 143
Zhenhua Jiang, Yong Xu, and Jinyu Xie

Adaptive Control for a Class of Uncertain Interconnected Time-Delay System 146
Yanbang Zhang and Fen Zhang

Adaptive Inverse Control of Offshore Jacket Platform Based on Grey Prediction 150
Hongyu Cui and Ming Hong

Adaptive Load-Balanced Routing Algorithm 155
XiaoGuo Ye, KangMeng Lv, RuChuan Wang, and LiJuan Sun

Adaptive Residual Current Circuit Breaker Based on Microcontroller 159
Deshui Chen, Qingyang Zhao, Foyou Chen, and Shen Luo

Adsorption of Cr (VI) from Aqueous Solution by Cetylpyridinium Bromide (CPB) Modified ZeoLite: Kinetic, Equilibrium and Thermodynamics Study 163
Yanhui Zhan, Jianwei Lin, Yu Liu, and Zhiliang Zhu

Aerodynamic Drag Reduction Design of Van Body Truck by Numerical Simulation Method 168
Song Li, Jicheng Zhang, Yongxue Liu, and Tieyu Hu

An Adaptive Control Method of Shunt Active Power Filter DC Bus Voltage 172
Dazhi Wang, Xuming Wang, Keling Song, Yiqi Li, and Shengli Liu

An Approach for Calculating Semantic Similarity between Words Using WordNet 177
Dou Hao, Wanli Zuo, Tao Peng, and Fengling He

An Experimental Research on the Trepanning Moulds with Frame Electrode of Small Copper Tube by EDM 181
Shenglin Xu, Zhaoshu Liang, Jun Tao, Junjie Yang, and Xi Yan

An Improved Micro Hard Disk Read-Write Channel Servo Signal Simulate System Design 185
Qingdong Wang, Changsheng Xie, and Chun Liu

An Investigation of Misalignment to Contact Path of Face-Gear Drives 189
He Guo Qi, Yan Hong Zhi, Hu Wei, and Shu Tao Liang

Analysis of Injection Molding of Thin-Walled Parts Based on Moldflow 193
Hao Zhu, Chuanyang Wang, and Jian Shen

Analysis on Liquid-Tanker Vehicle Liquid and Solid Coupling Collision Simulation 196
Li Tang and Jingtao Yue

Analysis on the Influence of Structure Parameters on Workspace of a Novel Palletizing Robot 199
Duan Binglei, Shi Liangping, and Li Jinquan

Analyzing the Variety of Customer Needs for Product Family Design by Integrating Conjoint Analysis and Quality Function Deployment 203
Baishu Li and Fengli Wu

Application of 3D Laser Scanning Technique in the Conservation of Geotechnical Cultural Relics in China 207
Yuhua Wu, Miaole Hou, and Yumin Zhang

Application of Daubechies Wavelet Transform in the Estimation of Standard Deviation of White Noise 212
Fang Ding and Tianjie Cao

Application of Numerical Simulation Technology to Prediction of Aerodynamic Dipole Acoustics Source on Automobile Surface 216
Zheng-yu Zheng and Ren-xian Li

Application of the Wavelet Analysis and Hilbert-Huang Transformation in the Gear Reducer Fault Diagnosis 221
Yong-xia Gu and Zhong-ning Zhou

Applications of Rare-Earth Thermal Diffusion Technology in Plastic Injection Mould Cavity Surface Treatment 225
Chang Wang, Jing Li, and Xiuxin Hu

Applying the Radio over Fiber Technique to Broadband Wireless Access 229
Zhijie Mao, Xin Wu, Zhenfu Li, Zhiwei Yang, Ran Li, Jin Meng, Feng Zhu, and Xiaojiang Cheng

Assessment of Land Use and Ecosystem Services Change in the Ecologically Transitional Zone 233
Xuemei Li and Zhongfeng Li

Asymptotic and Time-Limited Synchronization of Uncertain Unified Chaotic System Based on Lyapunov Function 236
ZhiPeng Yu

Automatic Transmissions Diagnosis Based on Fuzzy Neural Network 241
Lianguang Mo

Aviation Tool Wear States Identifying Based on EMD and SVM 246
Peng Nie, Hongyao Xu, Yanchun Liu, Xinyu Liu, and Zhengqiang Li

Base on Fluid-Structure Coupling Transient Impact Analysis of Particular Structure 250
Xinglin Yang, Bo Chen, and Dong Chen

Based on Ansys Drilling Machine Hook's Dynamic Characteristic 254
Huali Yu and Xiqing Mu

Based on the Simulation Analysis of the Foamed Aluminium for Load-Reducing Effect of a Device Instantaneous Impact 258
Xinglin Yang, Peiyi Lv, and Dong Chen

Bean Moisture Content's Measurement Based on RBF Neural Network 262
Jianju Zhen, Mingliang Liu, Laijun Sun, and Haibo Qian

Biodegradation of Microcystin-RR Extracted from Cyanobacterial Blooms by Sphingopyxis sp.USTB-05 267
Hai Yan, Junfeng Wang, Chen Jian, Wang Yazhuo, and Wei Wei

Blue Organic Light-Emitting Device Based on Dopant TBP 271
Yi Yao, Silian Xie, and Fanghui Zhang

CA6140 Lathe CNC Turret Design Transformation 274
Yunchao Li

Calculation and Analysis of Temperature Field for Planar Motor Based on 3D FEM 277
Qing Sheng Zhou, Su Rong Huang, and Qi Zhang

Calculation and Analysis of Traction Infinitely Variable Transmission 280
Lei Tong, Su Wang, and Dezhang Wang

Cathode Design for NC Precision Electrochemical Machining Integer Impeller Based on CFD 285
Rui Wu, Danwen Zhang, and Yuchen Song

Characteristics of Dewatered Sewage Sludge and Green Waste Co-composting 289
Hua Zhang, Delong Lv, and Leilei Wei

Characteristics of Sediment Yield and Its Relation to Land Use of Laohahe Drainage Basin in Liaoning Province, P.R. China 293
Yuzeng Yao, Enpu Gong, and Zhihong Yao

Chemical Passivity of Pb in Ore Soil by Using Improved Red-Mud Materials 297
Huili Luo, Shengsheng Huang, Lin Luo, and Yan Liu

Classification Learning System Based on Multi-objective GA and Microthermal Weather Forecast 301
Hongwei Zhang, Jingxun Xu, and Shurong Zou

Research and Discussion on the Electrical Fault of the CNC Machine 305
Yanling Zhang and Qing Zhang

Coal Mine Gas Wireless Monitoring System Based on WSNs 309
Xianli Qin, Mingchao Fu, and Bin Shen

Colliery Gas Detection System Applying Fuzzy Theory Based on DSP 313
Juan He, Song-yue Yuan, and Meng-jiao Wang

Computational Prediction Model of Macrosegregation in Continuously Casting Steel Blooms 316
Yingying Zhai, Ying Li, Chen Yan, and Yu Zhang

Concentration Distribution of PAHs in the Filter and Foam from the Air 320
Xiaozhen Liu, Yue Liang, Yuehua Wang, Yifan Li, and Wanli Ma

Constrained Batch-to-Batch Optimal Control for Batch Process Based on Support Vector Regression Model with Batchwise Error Feedback 323
Ganping Li, Jun Zhao, and Lihui Wu

Control of Appearance Quality of Concrete of Qi He Bridge of Jing Zhu Expressway 328
Qin-Tao Hou

Cracking Mechanism of Deep-Sea Cobalt-Rich Crusts with Water Jet 331
Zhonghua Huang and Ya Xie

Cutter Cutting Cobalt-Rich Crusts with Water Jet 335
Zhonghua Huang and Ya Xie

Damping Characteristic of Composite Material with Periodic Micro-Tetrahedron Structures 339
Yulin Mei, Yingying Jin, and Xiaoming Wang

Data Acquisition and Status Mornitoring on Life Prediction Research: Based on the Crane's Monitoring and Life Perdition Technology 343
Minhui Tong, Yuemin Wang, and Pei Zheng

Deformation Analysis of the Shaft and Rotor of External Circulation Piston Pump Based on ANSYS 347
Xiaoyan Ye, Yingying Tian, Likai Zhu, and Liangbin Shen

Degree of Compaction Factor Analysis of Construction of Shallow Road Bed Affect 352
Lv-bin Miao

Design and Realization of a High-Performance Integrated Attitude Determination System and Hybrid Simulation 355
Wei Quan, Liang Xu, and Yangbin Ou

Design an Intelligent Environment Control System for GreenHouse Based on RS485 Bus 361
Yulong Jin and Jiaqiang Yang

Design and ASIC Implementation of High-Speed DDC 365
YuJing Li, LinTao Liu, Xu Huang, RuiTao Zhang, and RuZhang Li

Design and Development Control System for Deep-Fertilization Variable Liquid Fertilizer Applicator 369
Chunling Lang, Jinwu Wang, Yeqiong Shi, and Xiaohuan Xi

Design and Implementation of Fishery Forecasting System Based on Radial Basis Function Neural Network 373
Hongchun Yuan, Jintao Wang, Ying Chen, and Xinjun Chen

Design and Implementation of the Accumulating Algorithm of Digital Signal Averager 377
Jietao Diao, Qingjiang Li, Wei Yi, Meng Wang, Haijun Liu, Honhqi Yu, Zhaolin Sun, and Xin Xu

Design and Realization of Testing and Analyzing Apparatus for Automobile Clutch 381
Yi Lu, Bin Guo, Weijun Fan, and Langbin Jin

Design and Research of Virtual Assembly System Based on OSG 385
FuQiang Li, JiangHong Sun, and QingDong Yang

Design Method of Modular Units for Articulated in-Pipe Robot Inspecting System 389
Jun Chen, Tao Chen, and Zongquan Deng

Design of CMOS Image Sensor's Initialization Based on FPGA 393
Baofeng Zhang, Bo Li, Junchao Zhu, and Xinzhi Li

Design of Intelligent Wheeled Robot Based on Multi-sensors 397
Xiaoyan Shi and Longji Zhu

Design of the Control System for a Hexapod Walking Robot 401
Bo Jin, Li-jun Zhao, Jia-Lin Zhang, Cheng Chen, and Sha Hu

Detection of Corn Plant Population and Row Spacing Using Computer Vision 405
Chuanyu Wang, Xinyu Guo, and Chunjiang Zhao

Determine of Rubber Parameters of Finite Element Model 409
Baosheng Zhang, Jiaqing Chen, Haoran Xiong, and QingSong Li

Development and Application of Economic Evaluation Software for Seafloor Massive Sulfide Deposits 411
Yan Li, Fangqi Xiao, and Hui Li

Development of Analytical Software for Dynamic Microscopic Granule Based on C# 415
Hui Sun, Yuzeng Wang, and Yalin Li

Development of the Multiple Power Detection and Faulty Isolation System for Mobile Robots 419
Yi-Lin Liao, Jr-Hung Guo, Cheng-Yun Chung, and Kuo-Lan Su

Digital Radioscopy (DR) and CT Testing Technology Research for Key Parts in Railway Rolling Stock 425
Shengyun Wan, Donglei Lu, and Haojuan Ren

Dimensional Variation Analysis of Compliant Sheet Metal Assembly 429
Na Cai and Lihong Qiao

Distributed Beamforming Design on Amplify and Forward Two-Way Relaying Channels 433
Zibin Wang, Fu Yuan, Liangjun Xiang, and Linhua Zheng

Distribution Characteristics of Low-Temperature and Freezing Damage of Featured Fruit Trees Based on GIS and Distance to Coastline in Fujian Province 438
Jiayi Wang, Zhiguo Ma, and Jiajin Chen

Distribution Model Based on Active Service 442
Fan Jiang, Darong Li, Jun Wang, and Chao Xie

Disturbance-Observed-Based-Control Design of the Drag-Free Satellite 446
Li Shi, Xibin Cao, Jinxiu Zhang, and Xiaoguang Dong

Division Characteristics of Agricultural Climate Dry and Wet in Fujian Province Based on GIS 452
Zhiguo Ma, Jiajin Chen, Zonghuan Xu, Jiayi Wang, and Chengchao Wang

Double Inverted Pendulum Control Based on Three-loop PID and Improved BP Neural Network 456
Yingjun Sang, Yuanyuan Fan, and Bin Liu

Driving Intentions Identification Based on Continuous P-2D HMM 460
Liu Yun, Zhixiang Hou, and Dan Yu

Dynamic Performance Simulation on Complex Hydraulic Press System 465
Meng Zhang and Minghui Huang

Dynamic Programming Algorithm Based Path Planning of the Multiple Robot System 469
Ting-Li Chien, Hsin-Chou Lai, Yung-Chien Lin, and Yung-Chin Lin

Dynamic Simulation of Litchi Fruit Flexible Manipulator in Picking Process 475
Fengying Xu, Guolong Liu, Xiangjun Zou, Zhen Chen, and Ce Xu

Dynamic Weighing of the Application Based on Parameters Identification 480
Guoqiang Shen and Zujian Yan

Effect of Interphase Composite Spacer on Transmission Line Galloping Control 485
Zi Fan, Shuying Hao, Kuntao Zhou, and Qichang Zhang

Effect of Six Fungicides against Botrytis Cinerea on Protected Cultivation Tomato 489
Li-yuan Jia and Xin-she Liu

Effects of Air Flow Disturbance of Spool Valve on Vibration Control of Active Pneumatic Vibration Isolation System 492
Feijong Liao, Xiaoping Li, and Wei Jiang

Elasto-plastic Collapse Strength Calculation of Casing under Pure External Pressure 498
Jiandong Wang and Xinhu Wang

Enhanced Plasticity of Bulk MetalLic Glass Alloys (BMGs) by Internal Microstructural Modification 502
Jia-Hua Zou, Zhi-Chen Zhang, and Shu-Quan Sun

Epoxy Grout Repair Cracks in the Maintenance of the Bridge 504
You-ping Wu

Error Values of Measuring Real-Time Propellant Temperatures of One Rocket with Traditional Method 507
Jie Li

Experiment Research on Performance of Vehicle Diesel Engine with Spraying Vapor in Intake Manifold 511
Ben-Liang Wang, Biao Xiao, Hai-ling Pei, Chu-feng Tang, and Xinbao Zhong

Experimental Study for "Quasi-uniform Wearability" Treatment of Cylinder Liner Inner Surface 515
Ai Rong Chen, Yu Ying Liu, and Shou Zhong Wang

Experimental Study on a Thickness-Adjustable Absorber for Reverberation Controlling 519
Hong-ru Shi, Wen-fang He, and Han Zhang

Experimental Study on Low NOx Emission Using Blast Furnace Gas Reburning and Industrial Application in Stoker Boiler 523
Tuo Zhou, Zhong-xiao Zhang, and Xiao-jiang Wu

Extracting Visual Saliency Based on Multi-scale Receptive Field Template 527
Peng Zhang

Fabrication of Micro Spherical Electrode by One Pulse Electrical Discharge Machining 531
Yong Liu and Hansong Li

Fast Mode Decision Based on All-Zero Block in H.264/AVC 535
Guoyun Zhong, Ling Lu, and Niande Jiang

Finite Element Analysis for the Equivalent Stress on Three-Dimensional Multi-asperity Coating 539
Zhong Xu and Xiaoyan Wu

Finite Element Analysis of Crankshaft by ABAQUS 545
Jiangpeng Fan, Baolin Li, and Yan Zhang

Forming of Surface Quality when Cutting Parts Using Ultrasound Liquid Flow 549
Jin Li, Xiaoqing Liu, and Yunhua Wang

FTA at the Semi-automatic Machine for Implanting Nuts into Shells of Phones 552
Haitao Zhang, Yingchun Zhang, and Yajun Liu

Fundamental Study on Fiber Bragg Grating Network for High Speed Collisions Detection 556
Zeyu Hu and Yifan Hu

Fuzzy PID Control for a Class of Distributed Parameter Systems 560
Yao-qing Ren, Xiao-gang Duan, and Han-xiong Li

GIS-Based Assessment of Roof-Mounted Solar Energy Potential in Jiangsu, China 565
Guangxu Liu, Wenxiang Wu, Quansheng Ge, Erfu Dai, Zhiwei Wan, and Yang Zhou

Harmonic and Inter-harmonic Signal Analysis Based on Hilbert-Huang Transform 572
Wei Fu and Yan Zhu

Helical Intake Port Design and Experimental Analysis of Horizontal Diesel Engine 576
Changming He

H-infinity Filter Design for Uncertain Markovian Jump Singular Stochastic Systems 581
Aiqing Zhang

High Speed Real-Time Data Acquisition System Based on Solid-State Storage Technique 586
Nan Li, Hongshan Nie, Yinan Wang, Haijun Liu, Xin Xu, Zhaolin Sun, and Hui Xu

Histogram-Preserving Steganography Using Maximum Flow Algorithms 590
Li Wanqi, Nian Che, Jinlin Ren, and Hongyue You

Human Abnormal Action Identification Method in Different Scenarios 594
Lijuan He, Donghong Wang, and Hongyu Wang

Hybrid PCA-SVM Method for Pattern Recognition of Chatter Gestation 598
Qiang Shao, Chang-jian Feng, and Wenlong Li

Hydraulic Excavator Hybrid Power System Parameters Design 602
Zhi Liu, Shaoju Liu, Zhonghua Huang, and Qiong Hu

Ideas and Tactics for Achieving Sustainable Development of Local Agriculture 606
Liu-fa Li

Image Deblurring Regularized by Wavelet Probability Shrink 610
Zhiming Wang

Image Denoising Algorithm Using Neighbourhood Characteristics and Cycle Spinning 614
Qiuqi Ding, Haijun Song, Wenjian Geng, and Zongyuan Jiang

Implementation of the Multiple Tasks Allocation Problem for Mobile Robots 618
Song-Hiang Chia, Jr-Hung Guo, Yi-Lin Liao, and Kuo-Lan Su

Improved FP-Growth Algorithm for Freeway Surveillance Network Intrusion Detection System 624
Chuang-wen Xia, Zhijun Huang, and Cuiyun Hu

Improvement and AppLication of MKSVM 628
Yong Li and Jiaming Lu

Incorporating Domain High-Level Concepts into Heuristic Searches: A Case Study on Identifying Plant Species in Remote Sensing Images 632
J.H. Zhou and Y.F. Zhou

Induced Wheel-Based Study on Point Contact Kinematics Modeling for Ultra-Precision Grinding 637
Yong Xu, Zhenhua Jiang, and Jinyu Xie

Influence of Alq3:C545T on Luminescence of Blue LED 641
Changdong Bi, Fanghui Zhang, and Yanfei Li

Initial Version of State Transition Algorithm 644
Xiaojun Zhou, Chunhua Yang, and Weihua Gui

The Research on Engineering Machinery Products Form Innovation Design Based on TRIZ 648
Hua Zhang and Hang Chu

Input-to-State Stability of Discrete-Time Switched Systems 652
Xiaoming Bai and Huimin Li

Insulating Oil Level Monitoring System for Transformer Based on Liquid Level Sensor 654
Jianqing Liao

Internet of Things-Based Positioning of Coalmine Personnel and Monitoring of Emergency State 657
Bai-sheng Nie, Wen-xue Chen, Long-kang Wang, Ru-ming Zhang, and Chao Wang

Investigation and Development on Integrated Design of Engineering Clamp Hanger 661
Huaibi Zhao

Key Engineering and Programming Technology of High Speed Numerical Control Milling 666
Qimao Zhong

Key Techniques Analysis on Surface Restructuring Based on Diffraction Grating Projection Photography 670
Hengzhou Zhen

Key Techniques Research on a New Vehicular Speech Recognition System 674
Yuxi Liu and Jianhua Wang

Key Technology Research on the Flexible Welding Line for Multi-model Automobile 678
Xianghong Yang

Kinematics Modeling and Real-Time Seam Tracking for Welding Mobile Robot 681
Xin Jin, Jie Huang, Ke Zhang, and Yixiong Wu

Large Sample Detection and Optimal Distribution Models of Vehicle Brake Performance 686
Xiangming Qiao, An Xu, Shengtian Liu, Changli Zhao, and Henghai Zhang

Link Performance Analysis for Ultrawide Bandwidth RFID 689
Wu Pan and Minghao Ran

Liquid Flow Detection System Based on Wireless Sensor Network 693
Mingwei Wang, Qinjun Li, and Huizhen Li

Load Experiment of Prestressed Hollow Concrete Plank Using in Bridge 697
Yougang Xu, Jiaquan Feng, and Lianjun Wu

Logic Constitution of Mechatronic System 701
Yong Xu

Long-term Capacity Planning with Multi-process Routing for Mould Enterprise 705
A.L. Yu and Q.X. Chen

Machining and Installing the Four over Dowel Holes with Variables Before and After Installation Based on Parameter Programming 710
Zhi-yong Liu, Bin-Wu Wang, and Yan-Feng Mo

Mathematical Model and Simulation for Testing Aspheric Surface Using the Digital Moire Patterns by Sub-region Stitching Method 714
Yuchun Man, Binzhi Zhang, and Xuejun Zhang

Measurement and Analysis on Emissions from an EFI Gasoline Engine under Transient Conditions 719
Zhiqiang Liu, Xuexun Guo, Cui Zuo, and He Xing

Mechanism Principle and Dynamics Simulation on Variable Diameter Walking Wheel 723
Xinbo Chen, Feng Gao, Zhe Wang, Shengzhuo Yao, Guoyan Xu, and Xiaojiang Yao

Model Based Comprehensive Functional Verification of RF SoC 728
YuHan Gao, Lin Tao Liu, and RuZhang Li

Modeling and Simulation Analysis of NC Camshaft Grinding System 732
Zhen Sui, Meng Guo, Hongqi Liu, and Yantao Tian

Modeling and Simulation of Dynamic Characteristics of a Bipropellant-Powered Hydraulic Free Piston Engine 739
Bizhong Xia, Xiaoliang Li, Haibo Xie, and Huayong Yang

Modeling of Hydraulic Controlled and Regulated Direct Method in the Cutter System of Shield Tunneling Machine 743
Huaiyin Liu, Guofang Gong, Hu Shi, and Lintao Wang

Modeling of Precision ReliabiLity for NC Machine Tool Based on Multi-body System Theory 750
Peilin Yang, Shuzhuang Hao, Kun Chen, and Wanli Zheng

Monitoring of Summer High Temperature Disaster of Rice by Using MODIS Data 755
Hao Yan

Multi-Projection-Based Thousand-Arm Guanyin DOM 758
Miaole Hou, Yuhua Wu, Jianhua Chen, and Fanying Meng

Networked Technical Services Oriented Production Process 763
Junmei Ding, Tianrui Zhang, Jieying Chen, Tianbiao Yu, and Wanshan Wang

Neural Network Adaptive Control of Piezoelectric Actuator in Scanning Tunneling Microscope 767
Qiang Wei, Chengzhong Hu, and Dong Zhang

New Micro-displacement Feeding Mechanism for Hone Stones 772
Yiyong Yao, Wei Shi, Liping Zhao, and Peng Yan

Nonlinear Adaptive Control for Low Earth Orbit Formation Flying 775
Xiaoguang Dong, Xibin Cao, Jinxiu Zhang, and Li Shi

Novel Adaptive Filter Method and Application in Broken Rotor Bar Fault Diagnosis of Induction Motor 780
Xin Wang and Zhike Zhao

Novel Sustainable Metal Removal by Biologically Produced Ferric Sulphate 784
Hocheng Hong and Umesh U. Jadhav

Numerical Simulation of a Leakage Magnetic Flux for Permanent Magnet DC Motors 788
Wei Li, Baowei Song, and Yuli Hu

Numerical Simulation of Blasting Demolition of 16-Storied Structure 792
Guo-liang Yang, Lin-lin Jiang, and Chuan Huo

On Income Increasing Situation's Analysis and Countermeasure of Local Farmers - To Take Xuchang City for Instance 796
Liu-fa Li

On Modeling and the Interface Technology of the Reduction Device Based on Pro / E and ADAMS 800
Kai Zhu and Gui Zhi Jiang

On the Construction of Pre-tensioned Hollow Beams 803
Gang-zhan Li

On the Research of Pig Individual Identification and Automatic Weight Collecting System 806
Guoqiang Shen and Zhaojie Luo

Optimal Design and Analysis on Pricking Hole Mechanism with Planetary Elliptic Gears for Deep-Fertilization Liquid Fertilizer Applicator 809
Yahua Liu, Jinwu Wang, Jinfeng Wang, and Yiyuan Ge

Optimal Design of Bridge Polarizing Relay 813
Lingshun Liu, Xianjun Shi, and Zhen Wang

Optimization of Image Mosaic Algorithm for Large Workpiece Based on Multi-scale and Multi-resolution Search Strategy 817
Hu Zhou, Jianguo Yang, and Dongliang Chen

Optimization of the Titania Humidity Sensor Equivalent Circuit Model Based on Genetic Algorithms 821
Gang Liu, Xingcheng Wang, Kai Zheng, and Ming Yang

Optimizing Design of Four-Wheel Steering Vehicle Steering Trapezoid Based on MATLAB 826
Weidong Luo, Zhengqiang He, Jun Liu, and Jun Xiao

Optimum Method of Magneto-rheological Damper Design 829
Wei Wang and Xiangcai Yu

Outage Performance of Cognitive Relay Networks Using Interweave-Underlay Approach 833
Fu Yuan, Zibin Wang, Liangjun Xiang, and Linhua Zheng

Overall Scheme and Structural Design of Bolts Automatic Typewriter 837
Xiang Xia and Zhaohui Liu

Parametric Analysis of New Tamping Device Based on the Mathematic Modeling 840
Yi Liu, Guofang Gong, Chaoqing Min, and Xuelan Yang

Partial Nitrification Regulated by Basicity in Low C/N Ratio Wastewater 844
Jinxiang Fu, Haiqiu Liu, Xiangqing Ren, and Man Peng

Phase-Separation Floatation Spectrophotometric Determination of Trace Chlortetracycline in River 848
Yan-min Hou and Yong-sheng Yan

Physical and Mechanical Characteristics of Soft Soil in Lower Reaches of Yangtze River 851
Jianping Jiang

Polarization-Space-Time Adaptive Processing for Clutter Suppression in Airborne Radar Systems 855
Dijun Wu, Zhenhai Xu, Liang Zhang, Ziyuan Xiong, and Shunping Xiao

Pollution Characteristics of Heavy Metal in the PM10 of Nanchang City 859
Xiaozhen Liu, Yue Liang, Wenbin Zhou, Xilong Peng, Xinhua Tang, and Yuehua Wang

Preparation and Properties of Novel Sulfonated Poly (phenylene arylene) (SPA) Membranes for Fuel Cell Applications 863
Xuan Zhang, Yanli Pu, Zhaoxia Hu, Shanshan Chen, Ying Ling, and Shouwen Chen

Principle and Analysis for the Novel Radial Translational Meshing Gear Motor 867
Ruihua Li and Yongqiang Dong

Processing Parameter Optimization for Injection Molding Products Based on Orthogonal Experimenter and Analysis 871
Yan Wei

Realization of Modified MPC Algorithm Based on Real Time Operating System 874
Bing Wu

Real-Time Measuring the Distance between Laser's Mouth and Workpiece 878
LizHong Yao and Shihong Shi

Real-Time Monitoring System of PLC for Production Line of Coin Cell Battery Based on LabVIEW 881
Yong Guo, Shuzhong Lin, and Mingmei Song

Real-Time On-Road Vehicle Detection Combining Specific Shadow Segmentation and SVM Classification 885
Xin Liu, Bin Dai, and Hangen He

Recognition Algorithm of Laser Echo Signal in Tuyere Raceway Based on Multiwavelet Denoising and ICA 889
Xue Wang and Zhen Ren

Remote Sensing and GIS Application for Agricultural Land Quality Assessment of Yulin Prefecture 893
Zhongfeng Li and Xuemei Li

Research and Analyze on Belt-conveyors of Purely Mechanical Belt-broken Seizing Machine 896
Jianzhong Luo, Guiyun Xu, Xudong Zhang, and Yanfang Zhao

Research and Application of Hausdorff Metric Based i-v Vague Clustering Method 900
M. Huang, Z.X. Xia, and Q.H. Zeng

Research and Application of Virtual Real-Time Monitoring System of Well Testing Truck 906
Li-min Ren and Yun-chang Xiong

Research and Design of Assembly Manufacturing Execution System for Aero-engine 911
Shewei Wang, Haicheng Yang, and Rong Mo

Research and Design of Network Ordering Tickets Mobile Payment Protocol 916
Fangwei Li, Shaojun Yan, and Shanxue Chen

Research and Development of CAPP and Quality Control Integrated System 919
Yiyong Yao, Hao Feng, Liping Zhao, and Peng Yan

Research for Digital Automatic Test Technology of Hollow Axle in Motor Train Unit 922
Shengyun Wan, Wenxian Zhang, and Shiyuan Liu

Research of Direct Torque Control System within Full-speed Regions 926
Longji Zhu and Sen Zhou

Research of Intelligent Gas Perception Instrument Based on NDIR and RF Communication Technology 930
Bin Shen, Xian-li Qin, and Ming-chao Fu

Research of Military Logistics Management Information System Based on the Integrated Technology of Workflow and GIS 934
Jun Wang, Chao Xie, Fan Jiang, and Yue Zhang

Research of Scheduling Algorithm Based on Priority in Data Nodes of Cloud Storage 937
Silian Xie

Research on Active Synchronous Control System of Hydraulic Press and Its Reliability Analysis 940
Yingjian Deng

Research on an Intelligence Q/A Expert System Based on the Bayesian Reasoning Mechanism 944
Xiang Pan

Research on BP-PID Controller for the Motion Synch Recording and Simulation 948
Shizhu Feng, Bo Su, Yufeng Xi, Xu Ming, Lei Jiang, Guoxuan Lu, and Yali He

Research on Data Acquisition and Analysis of Circular Tests on Numerical Control Machine Tools Based on NC System 952
Dan Liu, Shoude Tang, Guanghua Xu, Ailing Luo, and Xiaodong Wang

Research on Fault Location of Power Cable with Wavelet Analysis 956
Ji-meng Zhang and Shuo Liang

Research on Faults Diagnostic Technology of Hydraulic System Based on Parameters Measurement 960
Huaping Guo and Cheng Tian

Research on Feed System of Phi630 Steel Pipe Chamfering Machine 964
Xinli Tian and Yuhua Zhang

Research on Hydrology Time Series Prediction Based on Grey Theory and epsilon-Support Vector Regression 968
Cheng-Ping Zhao, Chuan Liang, and Hai-wei Guo

Research on Index Portfolio Optimized Replication Model Based on Liquidity Penalty Factor 972
Hong Liu and Xiao Zhao

Research on Metal Magnetic Memory Testing Technology in Welding Joint of Structure Train (Railway High-Speed Motor Train Set) Locomotive 976
Shengyun Wan, Donglei Lu, and Xiaokang Zheng

Research on Milling Globoidal Indexing Cam Based on Pro / NC 981
Dai-zheng Fang and Li Yang

Research on Modeling for YiLiuShi NeutraLization Reaction Process 984
Qinghui Wu, Shuo Ding, Youlin Yang, Lin Li, and Zongze Cui

Research on Numerical Simulation of High Temperature Heat Pipe 988
Qing-fang Deng and Dongyi Zhou

Research on OPC UA Based on FDT/DTM and EDDL 992
Hongli Yuan and Feng Liu

Research on Potential Energy Recovery of 16T Wheeled Hybrid Excavator 996
Weidong Luo, Kaikai Shi, Wei Li, and Jun Xiao

Research on Random Noise Attenuation in Transform Domain 999
Qiuqi Ding, Linqi Zhou, Min Tao, and Renlong Li

Research on Recycling of Numerical Control Machine Tools 1003
Tianbiao Yu, Jing Wang, Tianrui Zhang, Da Ha, Wei Yao, and Wanshan Wang

Research on Rigidity of the Giant Forging Hydraulic Press on the Impact of Synchronization Performance 1007
Zhongwei Liu

Research on Small Unmanned Four-rotor Control Based on AIC 1011
Jin-song Li, Xi Cao, Yan Guo-zheng, and Li-bo Song

Research on Soft Switching Boost Converter 1015
Bo Chang, Congling Wang, and Yao He

Research on Spindle Bearings State Recognition of CNC Milling Machine Based on Noise Monitoring 1019
Qiang Li and Zhimou Pi

Research on Template-Based Parameterized Structure Design for Drawing Dies 1022
Yilin Wang and Xiangang Hu

Research on the Applicability of Solar Energy-Ground Source Heat Pump in Different Regions of China 1026
Dongyi Zhou, Chu-ping Shi, and Wen-hua Yuan

Research on the Emotion Recognition Based on the Fuzzy Neural Network in the Intelligence Education System 1030
Xiang Pan

Research on the Load Characteristics of Permanent Magnet Synchronous Motor 1034
Yichao Wang and Jun Liu

Research on the Probability of Joint Investment Based on Logistic Regression Analysis 1038
Ye Yang and Yefeng Chen

Research on the Yield Formation Characteristics of Zheng-Wheat 7698 under the Super-High Yield Condition 1042
Wei Tian, Zhensheng Guo, Yanxia Liu, and Shenju Zhang

Research on Universal NC Program Processor for CNC System 1046
Qi Gao and Yingli Zu

Research on Vibration and Lever-Arm Effect Influence to Onboard SAR Centre Motion Parameters 1050
Jing Meng

Returns Acquiring and HRRP Imaging for Radar Ship Target Recognition 1055
Lefeng Zhang, Xiaoyong Du, and Weidong Hu

Road Signal Intersection Congestion Mechanism Analysis 1060
Dade Mao

Robot Navigation Based on Multi-sensor Data Fusion 1063
Meng Guo, Wanli Liu, and Zhankui Wang

Root-Soil System Domain Knowledge Constructing Method Based on Relational Analysis of Single Impact Factor 1067
Ming Li, Zhenyang Ge, Zhengtao Yu, Yafeng Qi, Kenan Liu, and Hao Guo

Scene Classification Combining Low-level and Semantic Modeling Strategies 1071
Li Zhou and Dewen Hu

Second-Order Siding Mode Control with Fuzzy Compensator for a Magnetic Levitation System 1076
Huann-Keng Chiang, Chun-Chiang Fang, and Guan-Wei Chen

Separation of Cortical Arteries and Veins Using Intrinsic Optical Signals Extracted by Canonical Correlation Analysis 1082
Yucheng Wang and Dewen Hu

Silicon Content and Isothermal Quenching Process' Influence on High Silicon Cast Steel Organization and Performance 1086
Ai Rong Chen, Peng Liu, and Shou Zhong Wang

Simulation and Experimental on Valve-less Piezoelectric Pump with Hackle Chamber 1090
Qixiao Xia, Jianhui Zhang, Hong Lei, and Aijun Yang

Size Effect of Element in Structural Blasting Demolition 1094
Guo-liang Yang, Lin-lin Jiang, and Yu-long Che

Size Measurement Based on Structured Light Sensor 1098
Zhiwen Cao, Fei Zhong, and Qinhua Wu

SMA-13 Target Mix Design 1102
Xiao-lin Huang

Small Satellite Magnetism Control for Velocity Damping 1105
Dong Hao, Tao Sheng, and Xiaoqian Chen

Sound Investigation and Protection of Sound for Vocal Workers in Quake-Hit Areas 1111
Shiwu Du

Stiffness Analysis of a Building Drum Linkage Mechanism 1114
Lei Zhang and Yuhu Yang

Strain Response Frequency Function-Based Mechanical Damage Indentification by Fiber Bragg Grating Sensors 1117
Mingyao Liu, Menglong Ke, Zude Zhou, and Yuegang Tan

Structural Analysis of Size of Machine Vision Measuring System Based on Structured Light and Its Experimental Study 1121
Qinghua Wu, Xueru Wu, and Fei Zhong

Structural Design for Lightweight Off-Axis TMA Space Telescope 1125
Hongwei Xin and Zhilai Li

Study of Long-Distance Real-Time Data Transmission Technology Based on Web 1129
Licheng Ma and Shuzhong Lin

Study of Online Automative Detection Based on the Vibration Signal of Dual-Processor 1133
Zhiwen Fang

Study of Singers' Physiology and Part Determination in Concerted Music 1137
Shiwu Du

Study of the Prestack Elastic Parameter Inversion Based on Immune Genetic Algorithm 1141
Haiyan Zhang and Xin Li

Study on CAD for the Complex Combustion Structure in Engine Based on PRO/E 1145
Yongfeng Liu, Jianwei Yang, Hongsen Tian, Qinghui Zhou, and Aihua Zhu

Study on Condensation Control of Radiant Cooling Ceiling 1149
Shixing Li, Mingzhe Yuan, Hong Wang, and Tao Xu

Study on Energy Consumption Status and Development Strategy of Metropolis in China: A Case Study of Shanghai 1154
Juan Wang, Haizhen Yang, Zhibo Lu, and Jinghan Wang

Study on Environment Impact Assessment of Land Development and Consolidation Planning 1160
Hua Sun and Wei Wang

Study on Identification Method of Tool Wear Based on Singular Spectrum Analysis and Support Vector Machine 1164
Peng Nie, Zhengqiang Li, Yanchun Liu, Xinyu Liu, and Hongyao Xu

Study on Realization of Dynamic Interaction with CAD Complex Model in Virtual Reality System 1168
Jun Fu, Wenhua Yuan, Weixin Tang, Ning Tang, and Yu Peng

Study on the Improved A2/O Process Used in Swine Wastewater Treatment 1172
Mingfen Niu, Zhuoping Li, and Zhiyuan Liu

Study on the Laser Micro-manufacturing Equipment of Special Micro-manufacturing Technology 1176
Yonghong Fu, Guoping Pan, Xijun Hua, Hao Fu, and Xingdong Gao

Study on the Processing Methods of Aluminum Foil Measurement Signals for Ultrasonic Cleaning Parameters 1180
Baoji Yuan, Yingzhan Jiang, and Lin Zhu

Study on the Stress Distribution of Grinding Wheel Based on ANSYS under Multi-operating Modes 1184
Xuesong Zhang, Pengpeng Yan, and Huicun Shen

Sub-optimal Linear Beamforming Design on MIMO Two-Way Relay Channels 1187
Zibin Wang, Liangjun Xiang, and Linhua Zheng

Synthesis of Combined Geneva Mechanism with Cycloid Crank 1191
Jiguang Han

The Application and Research of a Simulation-Based Line Balancing Method 1195
Peng Liu and Lang Li

The Application of BP Neural Network in the Fault Diagnosis of Rotating Machinery 1199
Xudong Zhang, Jianzhong Luo, Jian Jiao, and Bowen Guan

The Application of Cloud Computing SaaS Delivery Model in University Talents Training 1203
Xiaojuan Sheng, Guang-wen Ren, and Zhe Wang

The Application of Fuzzy System Group in Intelligent Diagnosis for Power Tranformer 1206
Deyin Ma, Yanchun Liang, Xiaoshe Zhao, Zhexue Li, and Xiaohu Shi

The Application of Informatization in the Fast and Accurate Cost Accounting Process of Machinery Manufacturing Industry 1210
Shi-wei Wang

The Application of PLC to CNC Machine Tools Development 1213
Dongkai Qiao, Xiangyu Yang, and Jinxin Jia

The Bio-remediation Technology of Organophosphorus Pesticides Contaminated Soil 1217
Mingfen Niu, Zhiyuan Liu, Wei Cui, and Zhuoping Li

The Break Failure Analysis of the 65Mn Chain Mat 1221
Chengyan Fan, Wei Sun, and Zhipeng Sun

The Calibration Algorithm of Energy Detection and Site Meter 1225
Qiong Chen, Li Tang, and Cheng Chen

The CMM Measurement Path Planning for Blade Surface Based on the Contour Measurement 1228
Xiaojun Lin, Shang Jiang, Xiangzhu Liu, and Kuo Yang

The Construction Control Craft of Guardrail Panel of Precast Concrete 1233
Hong-wen Zhou

The Cooling Principle of High Temperature Exchange Machinery System with Plenty of Cold Source 1236
Ping Qi, Jingshun Qiao, Jing Tian, Zhengjun Jiang, and Qiaoyun Han

The Data Processing System of CNC Wood-Working Milling Machine 1240
Laijie Wu, Qiangbo Ye, Lijuan Yao, Ruiwen Huang, and Jing Wang

The Design and Calculation of Tension-Length Integrated Sensor of Winch Cable 1244
Yun-chang Xiong and Hua-min Chen

The Design and Realization of the Fault Diagnosis Expert System of CNC 1249
Long He, Zhengyan Zhang, and Gaozuo Zhang

The Design of Dissolved Oxygen Detection System Based on C8051F020 1253
Wen Zhang, Ping Wang, Mengfu Zhu, Cheng Deng, and Ping Chen

The Design of Embedded IPV4 \ IPV6 Protocol Converter Based on ARM9 1256
GuangXin Cao, DaLing Jiang, and Xiufen Wang

The Design of Master Control System Based on SIP Protocol 1261
Xiufen Wang, Dalin Jiang, and Guangxin Cao

The Discussion of Spur Gear Library System Based on UG/Open 1266
Tao Jiang, Liang-jing Li, Rui-li Zhou, and Jin-guo Li

The Effect and Development Strategies of Digital Agriculture during New Countryside Construction 1270
Shi-wei Wang

The Effect of Biomass Components on the Co-combustion Characteristics of Biomass with Coal 1274
Xingping Kai, Tianhua Yang, Ying Huang, Yang Sun, Yeguang He, and Rundong Li

The Effect of Processing Parameters on Performance of Laser Welding Tailored Blanks of Different Thickness 1279
Zhigang Xu, Le Ha, and Hongyan Gan

The Electrical Parameters Design of EAF Voltage Fluctuation Suppression 1284
Xuezhe Che, Fenglong Shen, Jianhui Wang, and Liyi Yan

The Imbalance Source of Spindle-Tool System and Influence to Machine Vibration Characteristics 1288
Chungen Shen, Guicheng Wang, Shulin Wang, and Gang Liu

The Iterative Learning Control System for 600MW Unit Milling System 1292
Keke Liu and Youcheng Xie

The Kinematic Analysis and Parametric Design of Beam Pumping Unit Based on ADAMS 1296
Yuan Liu, Haitao Wu, and Hongbin Liu

The MultiAgent Stress Analysis and Design of Rectangular Tube Forming 1301
Guochang Li

The Node Localization Research of the Underground Wireless Sensor Networks Based on DV-Hop and Ant Colony Optimization 1305
Jinpeng Li and Li Gao

The Performance Study about the Boronitriding Layer in the Low Temperature 1309
Yanhua Wang and Xilu Liu

The Research and Realization of Algorithms for Guillotine Rectangle Cutting Stock Problem 1313
Dawei Li, Shujin Qin, Yan Xiong, and Li Wang

The Research on Cable Broken Wires Inspection for a Cable Stayed Bridge by Discrete Wavelet Transformation 1317
Guien Wang, Jialin Li, and Chaoyang Yu

The Research on Detection Method of Battery Discharge 1324
Liren Yue, Yiquan Tang, and Shuangdong Zhu

The Simulation Analysis of Magnetic Circuit of Contactless Power Transfer System Based on ANSYS 1328
Guobin Tao, Jinfeng Xu, Luoyin Zhao, and Zhongyu Wang

The Static and Dynamic Analysis of High-speed Electric Spindle Based on ANSYS 1332
Xin-yun Zhang, Min, Tao Zan, and Jian-zhong Hu

The Study of Boiler Control System of Water Level of Steam Drum Based on New Immune PID Controller 1336
Li Zhou and Xia Sun

The Study of Power Engineering Project Risk Management 1340
Chuansheng Xie, Xiaoxi Jia, and Dapeng Dong

The Time-Domain Discrete Signal Processing of Cam Phase 1344
Zhen Sui, Mingdi Cui, Xiaohang Shang, and Hongqi Liu

The Traffic Accident Prediction Based on Neural Network 1349
Huilin Fu and Yucai Zhou

Theory, Tools and Implications of Multifunctional Agriculture for Chongqing Municipality, Southwest China 1351
Xuemei Li and Zhongfeng Li

Three-Phase Z-Source Grid-Connected Wind Power Generation System Based on Novel Deadbeat Control 1355
Xiao Li, Jing Chen, and Jingning Zhang

Tool Management System for CNC Workshop Based on LAN 1360
Xiaojun Lin, Chun Gao, Zhenghui Li, and Yiming Li

Tool Wear Investigation Using SEM 3D Reconstruction Technique 1364
Liwen Zhang, Derong Zhu, Rui Wu, Eiping Liu, and Danwen Zhang

Tooth Contact Analysis of Spur Face Gear Drives with Alignment Errors 1368
Xingming Chen and Jinyuan Tang

Tracked Vehicle Suspension Technology and Its Prospects for Military Applications 1372
Huaping Guo and Ning Li

Turbofan Engine Blade Vibration Model Analysis and Design Parameters Effects 1375
Hongchun Qu, Junhong Zhang, Jiewei Lin, and Liang Ma

Two-Step NonLinear Optimal Control Approach for Coal Mine Rescue Robot Navigation 1380
Wanli Liu, Zhankui Wang, and Meng Guo

Utilizing IEUBK Model to Assess Ecological Risk in Former Industrial Sites of Chongqing 1384
Jin-lei Deng, Sheng Zhang, Ding-yong Wang, Min Tang, Li Fan, and Zhi-feng Hu

Virtual Assembly and Kinematic Simulation of Micro-segment Helical Gear Based on CATIA 1388
Qi Chen, Yulei He, Song Li, and Boxi Li

Visual Simulation of Upland Rice Root as Related to Soil Compaction 1392
Yong Ge, Zhenyang Ge, Huaifeng Yi, Peng Li, and Hao Guo

Visual-Based Manufacturing Platform Level Detection Method 1395
Kuo-Hsien Hsia, Shao-Fan Lien, and Juhng-Perng Su

Wavelet Packet Quantization Analysis Technique in Real-Time Feature Extraction and Condition Monitoring of Quayside Container Crane Motor Based on EMD 1399
Yinan Yin and Xiong Hu

Author Index