## **Table of Contents**

## **Preface and Committees**

## **Chapter 1: Materials Science, Processing and Application**

Photocatalytic Properties of ZnO and Ag Doped ZnO Thin Films Y.L. Wang and J.Y. Ye	3
Influence on the Microstructures and Properties of A356 with Vibration Pressure in Lost Form Casting Z. Zhao and Z.T. Fan	7
Pressing Process of Al-W Alloy Powder and Constitutive Model the Pressed Billet at Elevated Temperatures	,
Y.J. Wu, Y. Xue, Z.M. Zhang, Y.W. Huang, Q.Q. Wang and F.X. Zhang	11
Effect of Calcium Addition on the Cast Microstructure of a Kind of HSLA Steel Y. Liu, Y. Liu, J.M. Wang and K. Wang	18
Effect of Calcium and Magnesium Addition on the Cast Microstructure Grain Size of HSLA Steel	
Y. Liu, K. Wang, Y. Liu and J.M. Wang	22
Effect of Calcium and Magnesium Addition on the Inclusions Distribution in the Cast Microstructure of HSLA Steel Y. Liu, K. Wang, Y. Liu and J.M. Wang	27
Blast Furnace Burdens Behaviour of Materials during Softening and Melting J. Liu, M.S. Zhou, L.W. Zhai, H. Zhang and L.B. Xu	31
Mineralogical Composition and Microstructure of Sinter in Ansteel J. Liu, M.S. Zhou, L.W. Zhai, H. Zhang and L.B. Xu	37
Modeling of Corrosion Fatigue Crack Growth of X70 Pipeline Steel and Numerical Simulation of Crack Propagation Y. Tian, J. Wang and Y. Liu	43
Influence of Silica Sol on the Properties of Cotton Fabric S. Lu, D.H. Cheng, Y.H. Lu, Z.C. Yu and J. Lin	48
Characteristics of Cotton Fabric Modified with Ionic Liquid as Modifier M.S. Song, D.H. Cheng, S. Lu, J. Lin, X. Hao and Y.H. Lu	51
Preparation and Antimicrobial Activity of N-(2-hydroxy-3-trimethylamine) Propyl Chitosan Chloride Nanoparticles Y.H. Lu and J.Q. Wang	55
Synthesis of Oktakis (tetramethylammonium)-T8-silisesquioxane and its Application in Polyester Fabric Functional Modification X. Hao, Z.M. Liu, J. Lin, S. Lu, D.H. Cheng and Y.H. Lu	59
Research on the Bleaching Process of the Non-Silicon Oxygen Bleaching Stabilizer H.L. He, S. Lu, M.S. Song, Z.C. Yu and D.H. Cheng	64
Textile Properties of Tussah Silk Fabric by Eco-Friendly Crosslinking Agents Modification Z.M. Liu, G. Li, D.H. Cheng and Y.H. Lu	68
Influence of Fusible Interlining on Draping Modeling Ability of Fabrics X. Lu and G.L. Wang	72
Wrinkle-Resistance Property of Tussah Silk Fabric Modified with Butane Tetracarboxylic Acid	76
Z.M. Liu, J. Lin, D.H. Cheng and Y.H. Lu  Study on Synthesizing Ammonia with Material Properties under Normal Temperature and	76
Pressure by Microwave Plasma Method Q. Zou and J.L. Song	80
The Fabrication of the Convex Platform Surface with Phyllotactic Pattern by Electrolytic Etching Method F. Ma, Y.S. Lu and J. Wang	85
Study on Chip Breaking of HSS Tool with Convex Stripe	0.5
Z.L. Wu, J. Zhao and Y.L. Wang	90

The Synthesis and Characterization of N-Propyl Pyridine Tetrafluoroborate L. Yu, P. Tian and H.B. Zhang	94
<b>Measurement Content of 1-methyl-3-butyl Imidazole Nitrate in Water</b> L. Yu and P. Tian	98
The Preparation of N-Heptyl Pyridine Tetrafluoroborate T.T. Xu, C.C. Zhang, P. Tian, J.D. Duan and Q.W. Shen	102
<b>Determination of 1-methyl-3-butyl Imidazole Nitrate in Ethanol</b> Q. Yang	106
<b>Determination of N-Heptyl Pyridine Tetrafluoroborate in Ethanol</b> L. Yu, P. Tian, S.G. Xin and H.L. Ding	110
<b>Determination of N-Heptyl Pyridine Tetrafluoroborate in Water Using UV-Spectrum</b> W.T. Liang, Q. Yang, P. Tian, G.T. Su and M. Jiao	114
Synthesis of Structural Flame Retardant Polyether Polyol and its Flame Retardation Performance Evaluation	110
R.P. Jia, L. Wei, X.Y. He and A.X. Zong Enhanced Photocatalytic Activity of α-Fe <sub>2</sub> O <sub>3</sub> Prepared with the Assistance of Ionic Liquid	118
Y. Lu	123
<b>Experimental Study on the Separation Performance of Combined Gas-Liquid Separator</b> Q. Zhang, B. Yu and Y. Liu	127
Selective Epoxidation of Styrene with Mn-TAML/TBHP G. Wang, R. Li, Y.R. Liu, H.Y. Liu, Z.M. Sun, X.N. Wang, Z. Wu and Z.D. Liu	133
Investigation on Dyeing Performances of the Modified Cotton Fabric with Ionic Liquid as Modifier	
M.S. Song, J. Lin, D.H. Cheng, S. Lu, X. Hao and Y.H. Lu	137
Investigation on Dyeing Performances of the Modified Cotton Fabric with Quaternary Ammonium Salt as Modifier	
M.S. Song, J. Lin, D.H. Cheng, S. Lu, X. Hao and Y.H. Lu	141
Investigation on the Gas Sensing Properties of ZnO Thin Films M.Y. Qiu	144
Chapter 2: Researching and Designing Machines and Mechanisms	
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis	151
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis Y.M. Wang and Y.Q. Sun Research on the Machining Process Error Tracing Method of the Improved Support Vector Machine Based on the Particle Swarm Optimization	151
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis Y.M. Wang and Y.Q. Sun Research on the Machining Process Error Tracing Method of the Improved Support Vector Machine Based on the Particle Swarm Optimization Y.H. Li, P. Wang and Y. Wu	151 155
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis Y.M. Wang and Y.Q. Sun Research on the Machining Process Error Tracing Method of the Improved Support Vector Machine Based on the Particle Swarm Optimization Y.H. Li, P. Wang and Y. Wu Numerical Simulation of the Added Mass and Drag of a Uniform and Accelerated Motion Projectile	
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis Y.M. Wang and Y.Q. Sun Research on the Machining Process Error Tracing Method of the Improved Support Vector Machine Based on the Particle Swarm Optimization Y.H. Li, P. Wang and Y. Wu Numerical Simulation of the Added Mass and Drag of a Uniform and Accelerated Motion Projectile N. Kang, B.T. Yao, W.Q. Zheng and L.Z. Hu Research on Shutters-Style Shielding and Protective Device for Windscreen	155 161
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis Y.M. Wang and Y.Q. Sun Research on the Machining Process Error Tracing Method of the Improved Support Vector Machine Based on the Particle Swarm Optimization Y.H. Li, P. Wang and Y. Wu Numerical Simulation of the Added Mass and Drag of a Uniform and Accelerated Motion Projectile N. Kang, B.T. Yao, W.Q. Zheng and L.Z. Hu Research on Shutters-Style Shielding and Protective Device for Windscreen J. Huang and X.L. Dai Study on the Quality Evaluation System of Belt Conveyor	155 161 165
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis  Y.M. Wang and Y.Q. Sun  Research on the Machining Process Error Tracing Method of the Improved Support Vector Machine Based on the Particle Swarm Optimization  Y.H. Li, P. Wang and Y. Wu  Numerical Simulation of the Added Mass and Drag of a Uniform and Accelerated Motion Projectile  N. Kang, B.T. Yao, W.Q. Zheng and L.Z. Hu  Research on Shutters-Style Shielding and Protective Device for Windscreen  J. Huang and X.L. Dai  Study on the Quality Evaluation System of Belt Conveyor  X.M. Wang  Tightness Simulation Analysis of Cooling Carrier in Three-Dimensional System in Package	155 161 165 169
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis Y.M. Wang and Y.Q. Sun Research on the Machining Process Error Tracing Method of the Improved Support Vector Machine Based on the Particle Swarm Optimization Y.H. Li, P. Wang and Y. Wu Numerical Simulation of the Added Mass and Drag of a Uniform and Accelerated Motion Projectile N. Kang, B.T. Yao, W.Q. Zheng and L.Z. Hu Research on Shutters-Style Shielding and Protective Device for Windscreen J. Huang and X.L. Dai Study on the Quality Evaluation System of Belt Conveyor X.M. Wang Tightness Simulation Analysis of Cooling Carrier in Three-Dimensional System in Package W.Y. Guo, D.J. Zhou and H.Y. Huang Research on Gas Gush Smoke Camouflage Device for Transport Vehicle	155 161 165 169 173
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis Y.M. Wang and Y.Q. Sun Research on the Machining Process Error Tracing Method of the Improved Support Vector Machine Based on the Particle Swarm Optimization Y.H. Li, P. Wang and Y. Wu Numerical Simulation of the Added Mass and Drag of a Uniform and Accelerated Motion Projectile N. Kang, B.T. Yao, W.Q. Zheng and L.Z. Hu Research on Shutters-Style Shielding and Protective Device for Windscreen J. Huang and X.L. Dai Study on the Quality Evaluation System of Belt Conveyor X.M. Wang Tightness Simulation Analysis of Cooling Carrier in Three-Dimensional System in Package W.Y. Guo, D.J. Zhou and H.Y. Huang Research on Gas Gush Smoke Camouflage Device for Transport Vehicle J. Huang Research of the Ejection Angle of Guiding Device in Vertical Shaft Impact Crusher Rotor	155 161 165 169 173 178
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis  Y.M. Wang and Y.Q. Sun  Research on the Machining Process Error Tracing Method of the Improved Support Vector Machine Based on the Particle Swarm Optimization  Y.H. Li, P. Wang and Y. Wu  Numerical Simulation of the Added Mass and Drag of a Uniform and Accelerated Motion Projectile  N. Kang, B.T. Yao, W.Q. Zheng and L.Z. Hu  Research on Shutters-Style Shielding and Protective Device for Windscreen  J. Huang and X.L. Dai  Study on the Quality Evaluation System of Belt Conveyor  X.M. Wang  Tightness Simulation Analysis of Cooling Carrier in Three-Dimensional System in Package W.Y. Guo, D.J. Zhou and H.Y. Huang  Research on Gas Gush Smoke Camouflage Device for Transport Vehicle  J. Huang  Research of the Ejection Angle of Guiding Device in Vertical Shaft Impact Crusher Rotor S.J. Li, F. Zhao, Y.B. Cai, N. Zhao and X.X. Chen  Simulation and Analysis of Formula Racing Car Double Tail Based on CFD Technology	155 161 165 169 173 178 182
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis  Y.M. Wang and Y.Q. Sun  Research on the Machining Process Error Tracing Method of the Improved Support Vector Machine Based on the Particle Swarm Optimization  Y.H. Li, P. Wang and Y. Wu  Numerical Simulation of the Added Mass and Drag of a Uniform and Accelerated Motion Projectile  N. Kang, B.T. Yao, W.Q. Zheng and L.Z. Hu  Research on Shutters-Style Shielding and Protective Device for Windscreen  J. Huang and X.L. Dai  Study on the Quality Evaluation System of Belt Conveyor  X.M. Wang  Tightness Simulation Analysis of Cooling Carrier in Three-Dimensional System in Package  W.Y. Guo, D.J. Zhou and H.Y. Huang  Research on Gas Gush Smoke Camouflage Device for Transport Vehicle  J. Huang  Research of the Ejection Angle of Guiding Device in Vertical Shaft Impact Crusher Rotor  S.J. Li, F. Zhao, Y.B. Cai, N. Zhao and X.X. Chen  Simulation and Analysis of Formula Racing Car Double Tail Based on CFD Technology  N. Kang and Y. Yang  Simulation and Analysis of Formula Racing Car's Diffuser Based on CFD Technology	155 161 165 169 173 178 182 187
Link Parameters Optimization Design of Quadruped-Imitating Walking Mechanism and its Simulation Analysis Y.M. Wang and Y.Q. Sun Research on the Machining Process Error Tracing Method of the Improved Support Vector Machine Based on the Particle Swarm Optimization Y.H. Li, P. Wang and Y. Wu Numerical Simulation of the Added Mass and Drag of a Uniform and Accelerated Motion Projectile N. Kang, B.T. Yao, W.Q. Zheng and L.Z. Hu Research on Shutters-Style Shielding and Protective Device for Windscreen J. Huang and X.L. Dai Study on the Quality Evaluation System of Belt Conveyor X.M. Wang Tightness Simulation Analysis of Cooling Carrier in Three-Dimensional System in Package W.Y. Guo, D.J. Zhou and H.Y. Huang Research on Gas Gush Smoke Camouflage Device for Transport Vehicle J. Huang Research of the Ejection Angle of Guiding Device in Vertical Shaft Impact Crusher Rotor S.J. Li, F. Zhao, Y.B. Cai, N. Zhao and X.X. Chen Simulation and Analysis of Formula Racing Car Double Tail Based on CFD Technology N. Kang and Y. Yang	155 161 165 169 173 178 182

Finite Element Modal Analysis of a Semi-Trailer Frame P.M. Zhang, W. Wang and W.C. Zhang	199
The Research of Equipment for Wet Processing Ultrafine Powder G.Z. Cheng, M.H. Fang, Y.G. Ren and S.Y. Wei	204
Structure Optimization Design about the Wet Grinding Sanding Machine with Double Cooling System	
S.Y. Wei, G.Z. Cheng, Z. Tong, J.H. Ma, Y.C. Gu and Q.F. You Reliability Analysis of Y-Ring Rod Seal on the Servo Turret	208
J. Wen, X. Lu and X. Fu	212
Out-of-Plane Stability Analysis of Combined Boom System with Main Jib and Fly Jib P. Lan, T.F. Wang and N.L. Lu	217
FEM Analysis of Stress Intensity Factors of Crack Tip J.H. Liu, S.N. Wang, Y.B. Lu and Z.Z. Huang	224
S Type Single-Stage Double Suction Centrifugal Pump in Vibration and Shaft Broken Analysis	
W. Liu and F.L. Wang	228
Research on Computational Fluid Dynamics with Effect of Grid Quality on the Accuracy of Simulated Results of Two Dimensional Low-Speed Parallel Flow N. Kang and Y. Cao	232
Comprehensive Governing to Reduce the Vibration and Noise of Cooling Machine in the Limited Space	
B. Zhou, S.L. He and L.G. Dong Out-of-Plane Stability Analysis for Crane Jib with Single Cable Considering Lateral	236
Flexibility of the Cable Fixed Joint P. Lan, T.F. Wang and N.L. Lu	240
Analyzing the Influence of Test Force on Instrumented Indentation Test Y. Liu and R. Chen	245
Research on Kinetics of the Vehicle Skidding while Turning M. Ni	250
Thermal Conductivity Model with Non-Constant Boundary Condition in One-Dimensional Semi-Infinite Case Y. Bai	254
Studied on Indicator Gases of Coal Based on BP Neural Network Forecasting System B. Bian, Z.J. Liu and W. Zhang	259
Chapter 3: Mechatronics, Robotics, Control and Communication	
Modal Analysis of the Line Inspection Robot's Guide Platform X. Dong, Z.C. Zheng, Y. Gao and H.Y. Xiao	265
Finite-Time Neural Network Adaptive Control of Under-Actuated Robots Z.Q. Wu, L.L. Liu and L.R. Zhao	271
Improved Relative Ratio Method for Robot Selection S.L. Yuan	275
Research on a New Robot Test System Design and Implementation J.M. Luo, Q.Z. Lin and G.B. Li	279
<b>Intuitive Control System for Industrial Robot Application Using Smartphone</b> R.Q. He and G.F. Yan	284
The Application of New Predictive Functional Control in the Converter Gas Recovery System V.M. Lippa and H.E. Wang	289
X.M. Liang and H.F. Wang  Research on a Control Valve Controllability of a Gas Pressure Regulation System	209
Y.D. Xie and Y. Wang The Control-Circuit Design of Green-Lighting System Based on LonWorks	294
Q.C. Bai and C.X. Jin	298
Applied Technology in Design and Implementation of Infrared Communication Module H. Wang and Z.Y. Han	302
<b>Modulation and Demodulation Techniques in Indoor Visible Light Communication System</b> H. Wang and Z.Y. Han	306

Research on Communication of Hongrun NHR5310 Regulator and KingSCADA N. Liu	310
Research and Design of Magnetic Substrate Microstrip Antenna with Electromagnetic Band-Gap Structure	
H. Yang, D. Liu and W. Chen	314
Design of the Zero Point Weighted Series Feeding Microstrip Array Antenna S. Zhao and Y.Q. Liu	320
Research on the Conformal Phased-Array Antenna S. Zhao and Y.B. Yue	324
The Development and Analysis of an Automatic Air Powered Automobile System - An Application of Engineering Mechanics S.B. Cai and Y.L. Zhao	328
An Off-Grid Photovoltaic Inverter Topology with a DC-Side Resistor S. Zhou, W.B. Zhang, W. Long, S. Su and Y.T. Yan	336
Research and Development of the ABS Braking Testing Bench for the Large Bus Y.C. Liu, P.M. Zhang and W.C. Zhang	342
<b>Design of Intellective Tire Pressure Monitoring and Alarming System</b> Q.C. Bai, C.X. Jin, D.L. Yang and R.J. Zheng	346
Design and Implementation of Smart Electricity with Monitor Integrating Forecasting and Status Estimation Functions and the Relevant Simulation Based on MATLAB C.D. Zhang, S.W. Ji and S.P. Dang	350
Research and Design of Thin Seam Shearer Self-Turning Positioning System L. Wang, L.H. Ren, Q.L. Zeng and J. Gao	358
Simulink Simulation of Fuzzy-PID Algorithm and its Application in the Servo Drive System Based on Fuzzy PID Controller J.X. Mu	362
Robust Control Method Based on Machine Learning for Boiler Combustion System H. Zhang, Y.J. Zhang and Y.G. Zhang	368
Study on Decoupling Scheme of Three-Phase Synchronous Motor Vector Control System F.L. Shen, K.L. Yu, W.Y. Yu and C.Z. Jiao	373
AT89C52 Microcontroller-Based Electronic Locks Design W. Liu and Y.P. Wang	378
<b>High-Order Terminal Sliding Mode Control for Brushless Doubly-Fed Machines</b> Q.K. Zhang, Y. Yu, S.M. Lian, H. Hu and Y.J. Zhang	384
Development of Temperature and Humidity Measurement and Control System Based on Virtual Instrument LabVIEW Technology D.Z. Li and H.Z. Guo	389
Inductance Measurement for PMSM Using Instantaneous Flux Linkage Method Y.L. Cao, P. Cao and Y.D. Wen	393
Design of Differential Focusing System in Microscopic Scanning Platform T. Zhang and Y.Z. Wang	397
Design and Implementation of an Embedded PLC System with Applied-Information Technology	
X.J. Shi  Automatic Inspection System for Surface Defect of Precision Steel Ball	401
Y.J. Chen, J.C. Tsai and Y.C. Hsu	405
Chapter 4: Materials and Technologies in Civil Engineering, Transportation and Infrastructure	
The Research on Application of New Technique in Road Quality Detection Y. Xiao	413
Research on Preparation of Soil and Water Conservation in Civil Engineering H.Y. Zhang	417
Study of Railway Passenger Flow Forecasting Based on Season Index Y. Huang, Z.Y. Lu and S.W. Ji	420

DEA's CCR Model for Evaluation of Urban Infrastructure Investment Efficiency of	
Shaanxi Province J.P. Yang and L. Gao	424
Study on Attenuation of Color of Buildings Material in Cold Regions J. Liu and W.M. Zhang	429
Study of the Relationship between Heat Island Effect and Urbanization Expansion Based on Index Method of Xi'an City L. Han, Y. Zhang, X.T. Huang and W.T. Ma	433
Research on the Drop and Pull Vehicle Dynamic Scheduling with "One Line Two Point" Modes T.K. Li and J.J. Chen	439
Laboratory Study on the Mechanical Properties of Polypropylene Fiber Concrete Exposed to High Temperatures X. Du, S.R. Wang, Y.C. Li, J. Huang, M.Q. Zhong and D.X. Nie	444
The Analysis on the Optimum Thickness of Square Air-Interlayer in Building Materials G. Chen and L.G. Zhang	448
Chapter 5: Ecological and Biomedical Engineering	
Study on Radioactive Organic Wastewater Treatment by Fenton Reagent Y.H. Xiang, Y.Y. Zhong and C. Chen	457
An Ecological Compensation Mechanism of Chishui River Water Resources Protection and Research L. Qiu and H.J. Zhai	463
Treatment of High Fluorine Water by Zeolite M.Z. Cao	468
Synthesis and Blood Compatibility of Fluorinated Polyurethane Elastomer R.P. Jia, A.X. Zong, X.Y. He and L. Wei	473
Biomechanics Analysis of Shooting in Basketball J. Chen	477
Effects of Whole-Body Vibration on Strength of Lower Extremities in Healthy Male Adults X.A. Long and B.X. Liu	481
Effects of Inoculating Compound Lactic Acid Bacteria on the Quality of Cured Fish Y.Y. Wu, G. You, L.H. Li, X.Q. Yang and Y. Wei	486
Chapter 6: Applied Information Technologies, Network and Computational Methods and Algorithms of Numerical Simulation and Data Processing	
A Novel Information Security Model for Securing Information Systems X. Yang	493
Applied-Information Technology in Promoting Balanced Development of Urban and Rural Educational Resources W.Y. Liang	497
A Classification Method Based on Multi-Features for Abnormal Crowd Behaviors X.F. Wang, J. Hu, Y. Kuang, W. Yu and R. Sun	501
<b>Applied-Information Technology with an Approximation Method for Black Model</b> X.L. Yin, Y.Z. Wu and S.T. Wang	507
Applied-Information Technology in Viewing, Listening and Speaking Teaching in Environment of Multimedia Network Y.P. Fan	512
Applications of Internet of Things in Facility Agriculture J. Chen, T. Hu, J.H. Wu, H.P. Si and K.Y. Lin	517
Research on the Application of Big Data in the Environmental Decision-Making of the Government Y.J. Zhu	524
I.J. ZHU	.)24

Applied-Information Technology in an Improved Certificateless Signature Scheme without Bilinear Pairings Y.L. Wang and J.Y. Ye	528
Applied-Information Technology in Certificateless Proxy Signature Scheme without Bilinear Pairings	
S.L. Wang and J.Y. Ye  Mining Approximate Frequent Itemsets over Data Streams	532
N. Su, Z.H. Wu, J.M. Liu, T.A. Liu, X.J. An and C.Q. Yan  Applied-Information Technology in Willingness of Online Group Buying for College	536
Students X.T. Li, L. Zhong and S.W. Ji	540
<b>Research on Information Management System of University Graduates</b> J.B. Qu and F. Cong	545
Information Technology about Sci-Tech Novelty Retrieval J.F. Chen, J. Lin and C. Han	549
<b>Discusses on the Information Literacy Cultivation of Farmers in China</b> R.Q. Bai	553
Gradient-Mapping-Based Method for Video Enhancement H. Xiao	559
<b>Application of the Technology of Big Data in Environment Basic Public Service</b> X. Wang	563
Component Model Data Extraction Based on STEP in Virtual Assembly Technology H.Q. Qiang, C.H. Qian and S.R. Gong	567
Applied-Information Technology in Virtualized Cloud Storage on Campus K. Huang	571
Application of Association Rule Mining Technology in Collection and Management of Wireless Sensor Network Node G.J. Wang and S.G. Jin	575
<b>Design of Digital Signature Scheme Based on Elliptic Curve Cryptosystem</b> S.G. Jin and G.J. Wang	579
Application of Improved Ant Colony Algorithm Technology in Development of Routing Protocol in Wireless Sensor Network T.J. Lu and Y. Wang	583
Comparative Performance Analysis of Flat and Hierarchical Routing in Wireless Sensor Network Q. Tan and X.J. Yue	587
Safety Protection Technology in the Application of the Wireless Network H. Wang and J.T. Shi	591
Research on Cognition of Heterogeneous Wireless Networks H. Wang and H.M. Li	595
The New Period Encryption Technology in the Application the Study of Network Security J. Lin	599
<b>Applied-Information Technology in Cloud Payment with Mobile Games Payment</b> X.L. Shu	603
Applied-Information Technology for Paging Frame Page in Scientific Research Management System Y. Zhu	609
Technology of Data Conversion and Reconstruction for Complex Surface Based on Non-Contact Measurement J. Cai	614
MC Simulation of SEBLUP with Spatial Linear Mixed Model for SAE Y.Y. Liu, M.Z. Jin, D.Y. Xie and M.Q. Gong	618
Syntax Analysis: The Left-Most-Derivation-and-Reduction Trees and its Compare with the LR Parsing Methods Y. Lin	623
Data Processing with a Genetic Algorithm for Flow Line Processing Scheduling Problem F.G. He	630

Data Processing in Bifurcation Analysis of Maps with Time-Delays in the Frequency Domain	
L. Zeng and J.W. Wang	634
Wavelet-Based Immune Fuzzy C-Means Algorithm Z.X. Ma, B.B. Wen and D.G. Nie	638
Application of Genetic Algorithm to Image Segmentation H.Y. Liu	642
Non-Probabilistic Reliability Computation and Efficiency Assessment Based on Interval Model	
C.C. Lv, Z.Z. Gao, F. Zhang and T.F. Gao	646
<b>Development of the Teaching Games System Based on Mobile Learning</b> Y.N. Su	651
Research on Subway Fire Emergency System Based on Virtual Roaming B. Zhong, L. Zhang, X.P. Li and Z. Yang	655
A New Certificateless Forward Secure Proxy Signcryption Scheme K.N. Liu, J.Y. Ye and Y.L. Wang	659
Research on ID-Based Proxy Re-Signcryption Scheme Y.H. Wang and J.Y. Ye	663
Solving Expensive Multi-Objective Optimization Problems by Kriging Model with Multi-Point Updating Strategy D. Han and J.R. Zheng	667
The Design and Application of Monitoring Framework Based on AOP L.N. Mao and L.Y. Tang	671
A Flow Monitor with Deployment Strategy Based on Traffic Matrix Estimation J.Y. Zhang, X.J. Zhu, Z. Chen and H.J. Hou	676
Rapid Development Platform of NC Turrets Based on the Construction of B/S X. Fu, X. Lu and J. Wen	684
Chapter 7: Innovative Technologies in Production Management,	
Economics and Finances	
	693
Economics and Finances  Improving Workshop's Production Efficiency by Applying Industrial Engineering Methods	693 697
Economics and Finances  Improving Workshop's Production Efficiency by Applying Industrial Engineering Methods Y.H. Cao and X.C. Kang  Analysis on the International Competitiveness of Chinese Clothing Industry	
Economics and Finances  Improving Workshop's Production Efficiency by Applying Industrial Engineering Methods Y.H. Cao and X.C. Kang  Analysis on the International Competitiveness of Chinese Clothing Industry J. Zhang  Analysis on Auto Intra-Industry Trade between China and the USA  J. Zhang and L. Pan  IDEF-Based Procedure Analysis and Restructuring Design of the Online Overseas Purchasing Agent Business	697 702
Economics and Finances  Improving Workshop's Production Efficiency by Applying Industrial Engineering Methods Y.H. Cao and X.C. Kang  Analysis on the International Competitiveness of Chinese Clothing Industry J. Zhang  Analysis on Auto Intra-Industry Trade between China and the USA  J. Zhang and L. Pan  IDEF-Based Procedure Analysis and Restructuring Design of the Online Overseas Purchasing Agent Business  H.T. Wang, S.W. Ji and L. Zhong	697
Economics and Finances  Improving Workshop's Production Efficiency by Applying Industrial Engineering Methods Y.H. Cao and X.C. Kang  Analysis on the International Competitiveness of Chinese Clothing Industry J. Zhang  Analysis on Auto Intra-Industry Trade between China and the USA  J. Zhang and L. Pan  IDEF-Based Procedure Analysis and Restructuring Design of the Online Overseas Purchasing Agent Business  H.T. Wang, S.W. Ji and L. Zhong  Research on Information Sharing Value of Dairy Producers and Retailers Traceability  S. Jin and S.W. Ji	697 702
Economics and Finances  Improving Workshop's Production Efficiency by Applying Industrial Engineering Methods Y.H. Cao and X.C. Kang  Analysis on the International Competitiveness of Chinese Clothing Industry J. Zhang  Analysis on Auto Intra-Industry Trade between China and the USA  J. Zhang and L. Pan  IDEF-Based Procedure Analysis and Restructuring Design of the Online Overseas Purchasing Agent Business  H.T. Wang, S.W. Ji and L. Zhong  Research on Information Sharing Value of Dairy Producers and Retailers Traceability	697 702 706
Economics and Finances  Improving Workshop's Production Efficiency by Applying Industrial Engineering Methods Y.H. Cao and X.C. Kang  Analysis on the International Competitiveness of Chinese Clothing Industry J. Zhang  Analysis on Auto Intra-Industry Trade between China and the USA J. Zhang and L. Pan  IDEF-Based Procedure Analysis and Restructuring Design of the Online Overseas Purchasing Agent Business H.T. Wang, S.W. Ji and L. Zhong  Research on Information Sharing Value of Dairy Producers and Retailers Traceability S. Jin and S.W. Ji  Analysis of LOGINK Service Innovation with Information Technology Based on the Theory of Product Hierarchy K.D. Sun and S.W. Ji  Application Research of Computerized Accounting Technology in Constructing Innovative Financial Management of Rural Areas	<ul><li>697</li><li>702</li><li>706</li><li>711</li><li>715</li></ul>
Economics and Finances  Improving Workshop's Production Efficiency by Applying Industrial Engineering Methods Y.H. Cao and X.C. Kang  Analysis on the International Competitiveness of Chinese Clothing Industry J. Zhang  Analysis on Auto Intra-Industry Trade between China and the USA J. Zhang and L. Pan  IDEF-Based Procedure Analysis and Restructuring Design of the Online Overseas Purchasing Agent Business H.T. Wang, S.W. Ji and L. Zhong  Research on Information Sharing Value of Dairy Producers and Retailers Traceability S. Jin and S.W. Ji  Analysis of LOGINK Service Innovation with Information Technology Based on the Theory of Product Hierarchy K.D. Sun and S.W. Ji  Application Research of Computerized Accounting Technology in Constructing Innovative Financial Management of Rural Areas B.C. Li  Data Processing in Beijing Capital International Airport Regional Economic Impact Assessment and Overall Analysis	697 702 706 711
Economics and Finances  Improving Workshop's Production Efficiency by Applying Industrial Engineering Methods Y.H. Cao and X.C. Kang  Analysis on the International Competitiveness of Chinese Clothing Industry J. Zhang  Analysis on Auto Intra-Industry Trade between China and the USA J. Zhang and L. Pan  IDEF-Based Procedure Analysis and Restructuring Design of the Online Overseas  Purchasing Agent Business H.T. Wang, S.W. Ji and L. Zhong  Research on Information Sharing Value of Dairy Producers and Retailers Traceability S. Jin and S.W. Ji  Analysis of LOGINK Service Innovation with Information Technology Based on the Theory of Product Hierarchy K.D. Sun and S.W. Ji  Application Research of Computerized Accounting Technology in Constructing Innovative Financial Management of Rural Areas B.C. Li  Data Processing in Beijing Capital International Airport Regional Economic Impact	<ul><li>697</li><li>702</li><li>706</li><li>711</li><li>715</li><li>719</li></ul>
Economics and Finances  Improving Workshop's Production Efficiency by Applying Industrial Engineering Methods Y.H. Cao and X.C. Kang  Analysis on the International Competitiveness of Chinese Clothing Industry J. Zhang  Analysis on Auto Intra-Industry Trade between China and the USA J. Zhang and L. Pan  IDEF-Based Procedure Analysis and Restructuring Design of the Online Overseas Purchasing Agent Business H.T. Wang, S.W. Ji and L. Zhong  Research on Information Sharing Value of Dairy Producers and Retailers Traceability S. Jin and S.W. Ji  Analysis of LOGINK Service Innovation with Information Technology Based on the Theory of Product Hierarchy K.D. Sun and S.W. Ji  Application Research of Computerized Accounting Technology in Constructing Innovative Financial Management of Rural Areas B.C. Li  Data Processing in Beijing Capital International Airport Regional Economic Impact Assessment and Overall Analysis B.W. Yu, S.W. Ji and G.H. Zhang  Data Processing in Risk Evaluation of China's Old Real Estate	<ul> <li>697</li> <li>702</li> <li>706</li> <li>711</li> <li>715</li> <li>719</li> <li>723</li> </ul>

Data Processing in Performance Evaluation of Logistics Park Based on Fuzzy Comprehensive Evaluation Method J. Hu, X. Yang and S.W. Ji	735
Data Processing in Optimization and Design of Regional Layout Based on Pharmaceutical Logistics Distribution Center X. Wu, S.W. Ji and L. Nan	740
Data Processing in the Application of Grey Relational Analysis Model in Regional Economic Openness of Evaluation System L.L. Yin, Z.H. Han and M. Wu	744
Material Analysis and Innovative Product Design with Process Model in Cultural and Creative Industries J.W. An and Y. Liu	749