Table of Contents

Preface, Committees, Sponsors

Chapter 1: Advanced Materials, Chemical Technologies and Materials Processing Technologies in Mechanical Engineering

Microstructure and Microhardness of Alumina-3wt. % Titania Coating Formed by a New Multi-Chamber Gas-Dynamic Accelerator	
M.G. Kovaleva, M.S. Prozorova, M.Y. Arseenko, V.Y. Novikov and V.V. Sirota	3
Innovative Preparation Calcium Hydroxyapatite from Duck Eggshell via Pyrolysis N. Tangboriboon and J. Suttiprapar	8
Comparison of Fluorescence Behaviors of Rhodamine 6G with Palladium-Coated Gold Nanorods in Formations of Solutions and Thin Films N. Boonpiphobanun, P. Damrongsak and K. Locharoenrat	14
Compressive Properties of Polylactic Acid-Based Nanocomposite Foams Reinforced with Coconut Fibers	
T. Nampitch, T. Kaisone, P. Hanthanon and C. Wiphanurat	19
Study on the Radiosensitizing Applications of Gold Nanoparticles C.S. Tsai and J.K. Hsiao	26
Mechanical and Morphological Properties of Poly(Lactic Acid)/Bagasse Fiber Composite Foams	
T. Nampitch, C. Wiphanurat, T. Kaisone and P. Hanthanon	31
Research Review of Composite Electrode Materials for Super Capacitor T.H. Wu, X.Y. Li and L. Li	37
Effect of Ti-Doped on Y134 Superconductor R. Supadanaison, T. Panklang, C. Wanichayanan, W. Srithongsuk, J. Junrear, P. Prakobkit, T. Nilkamjon, T. Kruaehong, P. Chainok and P. Udomsamuthirun	42
Investigate Effect of Ag ₂ O Adding on Y134 Superconductor N. Sripawatakul, R. Supadanaison, T. Panklang, C. Wanichayanan, A. Kaewkao, T. Nilkamjon, P. Chainok, S. Tiyasri, W. Wongphakdee, T. Kruaehong and P. Udomsamuthirun	46
Research on the Influence of Wood Nitrocellulose Coatings Modified by Nano-TiO $_2$ X.Y. Hui, X.T. Wang and Y. Wu	51
Effect of Ag ₂ O Doping on Some Physical Properties Y145 Superconductor T. Panklang, R. Supadanaison, C. Wanichayanan, A. Kaewkao, T. Nilkamjon, P. Udomsamuthirun, S. Tiyasri, W. Wongphakdee, T. Kruaehong and P. Chainok	57
Preparation and Characterization of Silica Nanotubes with Cellulose as Template K.L. Cao, Y. Wu, J. Wang, X.Y. Hui and X.T. Wang	61
Investigating on the Hot Compression Behavior of 2101 Lean Duplex Stainless Steel Y.H. Yang and Y.L. Bai	66
Preparation and Luminescent Properties of Tb ³⁺ Doped Bi ₂ WO ₆ Phosphor L.N. Guo and S. Ren	72
Cotton-Fibers Used as Pore Former for the Anode with High Porosity and Long Cylindrical Pores of Solid Oxide Fuel Cells	-0
H.X. You, C. Zhao, C. Li, B. Qu, G.Q. Guan and A. Abuliti Hydrothermal Synthesis and Luminescent Properties of BiPO ₄ :Eu ³⁺ Phosphors	78
S. Ren and L.N. Guo	84
Effect of Annealing on the Morphology and Photoluminescence of ZnO Thin Films Prepared by RF Magnetron Sputtering	00
C.T. Wu, Y.C. Lee and Y.P. Lin	90
Experimental Research on Static Dent Resistance of Aluminum Alloy Double-Curved Panel Y. Li and D.Y. Lin	94
Ultra-High-Precision Machining of Microscale-Diameter Zirconia Ceramic Bars by Means of Magnetic Abrasive Finishing N.J. Park, L. Heng, R. Wang, M.S. Kim and S.D. Mun	98
, — — — — — — — — — — — — — — — — — — —	

Nitriding Effect of NaNO ₃ Salt in Duplex Stainless Steel J.D. Shurdjanov and I.S. Kim	106
Study on Erosion Wear Resistance of Internal Coating of Wear-Resistant FRP Compound Pipe	110
X.H. Li Knowledge Management of Net Requirements in Using Natural Rubber in Thai Rubber	112
Industry to Support the Increase in Using Natural Rubber within Thailand P. Hanthanon, T. Kaisone, C. Wiphanurat and T. Nampitch	117
Microcrystalline Cellulose/Polyurethane Wood Material Preparation and Properties	
Research W.K. Zhu, Y. Wu, X.Y. Hui, X.T. Wang and K.L. Cao	122
About Transition Reynolds Number of Filtration Magnetophoresis Process A.A. Sandulyak, A.V. Sandulyak, R.A. Repetunov, D.A. Sandulyak and V. Ershova	127
Suppress of Concentration Quenching by Site Engineering Concept Y. Imanari, T. Hasegawa, M. Watanabe, K. Toda, T. Ishigaki, S. Kamei, S.W. Kim, K. Uematsu and M. Sato	132
Study on Deep Drawing and Mould of Meso Scale	120
X. Duan, Q.Y. Chen, P. Li, Z.W. Deng and F. Liao Photocatalytic Effect of Metal Oxide Nanoparticles on Cultured Human Breast Cancer	138
Cells	
L. Suanlim, S. Srivatcharakul and K. Locharoenrat	144
Effects of the Profile of Workpiece Surface on Material Removal Rate Distribution in Polishing Process Z.G. Wu, D.S. He, P. Zhou and D.M. Guo	149
Flammability of Bamboo Fabric Reinforced Polypropylene Composites and their Hybrids N.Z.M. Zuhudi, K. Jayaraman and R. Lin	155
Numerical Simulation Research on Springback Controlling Methods of Aluminum Alloy Panel during Hydroforming D.Y. Lin and Y. Li	163
Mechanical Properties and Microstructure of LR Grade a Thick Plate Welded by Double Side Gas Metal Arc Welding	1.00
Y. Purwaningrum, Triyono, T.R. Argihono and R. Sutrisno Study of Additional Compensation Shielding Gas Technique for Pulsed MIG Seam Welding	168
C.W. Dong, J.X. Xue, Z.S. Chen and Q. Zhu	173
Mechanical and Thermal Properties of Toughened PLA Composite Foams with Modified Coconut Fiber	
T. Kaisone, N. Harnkarnsujarit, T. Leejarkpai and T. Nampitch	179
Wear Mechanism of Diamond Tool against Mold Steel in Single Point Diamond by Molecular Dynamics	
F. Xie, Z.J. Jin, X.G. Guo and S.J. Shi	186
Synthesis of AlN Particles by Microwave-Assisted Urea Route J.B. Ahn, D.S. Kim, Y.K. Kim and J.G. Lee	191
Influence of Asymmetric Rolling on the Deformation Textures, Grain Size and Mechanical	191
Properties of B ₄ C/Al Composite B.F. Li, Q.L. Li, W. Liu and Z.H. Wang	196
Influence of the Unit Cell Geometrical Parameter to the Mechanical Properties of Ti6Al4V Open-Porous Scaffolds Manufactured by Selective Laser Melting Y. Wang, J.M. Chen and Y.P. Yuan	201
An Implementation of Analytical Boundary Simulation on Feedrate Scheduling during	201
Semi-Finish Milling H. Hendriko	211
Impact of Pick Skew and Tilt on Cutting Geometry Y. Sun and X.S. Li	216
Research on the Relationship between Tool Setting Error and Turning Accuracy	210
J.T. Yao	221
Application of Taguchi Optimization on the Cassava Starch Wastewater Electrocoagulation Using a Bipolar Stainless Steel Electrode in the Presence Additive Electrolyte	
Sudibyo, D. Burhani, A. Kusumaningrum, W. Apriyana, R.P.H. Aji, A.A. Fathnan, A. Rajani, I. Syafarina, A.F. Abka, N. Majid and F. Nurjaman	226

Research Progress of Oil Making from Sewage Sludge J.L. Lu, G.R. Dong, F. Chen and J.B. Wang	232
Chapter 2: Research and Design of Machine Parts and Mechanisms in Mechanical Engineering	
Design of a Solar Tunnel Dryer Combined Heat with a Parabolic Trough for Paddy Drying K. Sookramoon	239
Manufacture of the Glass Nanopore Based on Laser Heating and Experimental Research Y.F. Zhang, Z.Y. Yao and B.C. Wu	244
Multiphase Numerical Study of Ice Accretion on Circular Cylinders in Duplex Configuration M.S. Virk	249
An Innovative Compression Mold Design for Manufacture of Reel Mower Helical Blades C.M. Tan and G.Y. Lin	255
Mechanical Analysis of the Arm Lifting Rope of the Dynamic Compaction Machine H.Y. Li, S.J. Wang, Y.X. Guo and J.H. Huang	259
Kinematic Theory of Spatial Rack Drives E. Abadjieva	265
Dynamic Analysis on the Bend-Torsion-Shaft-Pendulum Coupling Vibration Model of Helical Gear	2.72
B.S. Yan, R.Y. Li and C.H. Liu Dynamic Analysis on the Starting Process of First Conveyor's Scraper Chain	273
Q. Li, M.Y. Zhang and J. Mao Research on Measurement Equipment for Moment of Inertia of Triple Torsion Bars Based on Torsion Pendulum	279
D.M. Wang, J. Zhang, J. Liu, T. Zhu, F.C. Shao and L. Zhong Thermal Resistance of a Rotating Closed-Loop Pulsating Heat Pipe: Effect of Centrifugal	286
Accelerations N. Kammuang-Lue, D. Phommavongsa, K. On-Ai, P. Sakulchangsatjatai and P. Terdtoon	292
Heat Analysis of Vehicle Drive Axle Y.C. Wang, Y.K. Zhang and Y.H. Lu	299
Calculation of the Grading Wheel Rotor's Critical Speed and the Analysis of its Structure Parameters	
Z.W. Zhang, Y.Y. Jin and Z. Zhang An Evaluation of the Nominal Stress Method for Life Prediction of Cylindrical	304
Circumferential V-Notched Specimens Tested under Variable Amplitude Loading J.A.R. Duran and D.J.R. da Costa	310
Study on Crack Propagation of a Bearing Inner-Ring under Cyclic Loading J. Zheng and Y.X. Hu	317
Numerical Simulation by FDM of Unsteady Heat Transfer in Cylindrical Coordinates C.N. Takayama Mori and E.C. Romão	322
Theoretical Investigation of Surface under Soft Mixed Lubrication J. Panichakorn	326
Fault Feature Detection of Rolling Bearing Based on LMD and Third-Order Cumulant Diagonal Slice Spectrum	222
B. Jie, C.Q. Huo and J.J. Yu Railway Equipment Reliability Test Based on Weibull Distribution	333
C. Liang, J.W. Yao, K.X. Zhang and Z.P. Zhao Research on Rail Rolling Contact Fatigue Life of Curve Negotiation	340
L.H. Fu, J. Yang, Y. Zhang, H. Song and W. Li Analysis and Research on Vehicle Handling Stability of the Trapezoidal Link Rear	346
Independent Suspension by ADAMS/CAR J.L. Xu and W. Song	352
Study on Noise Characteristics of Facility Equipment and Subjective Responses H.K. Shin, K.W. Kim, J.O. Yeon and K.S. Yang	359

Numerical Investigation of the Influence of the Flow Channel Gap on Performances of Axial Flow Maglev Blood Pump Y.W. Ren, H.C. Wu, S.P. Yang and W.B. Yang	363
One-Dimensional Simulation and Experimental Investigation of the Shell-Integrated Condenser of the Underwater Closed-Loop Thermal Propulsion System Y.J. Han, J. Lu, C.S. Yang, C. Bai, Z.Y. Guo and W.F. Ma	369
Modeling an Explosive Liquid Outflow from High Pressure Thin Tubes and Nozzles R. Bolotnova, A. Topolnikov and V. Korobchinskaya	377
Design and Fabrication of Gamma-Type Stirling Engine on Parabolic Dish of Solar Concentrator by a Compression Ratio Method K. Saenyot, K. Locharoenrat and S. Lekchaum	383
Design and Test of 4LMD-160 Hemp Harvester Y. Zhou, C. Shen, X.W. Li, B. Zhang, J.C. Huang and K.P. Tian	389
Multi-Scale Amplitude Modulation Effect of Wind Speed Random Fluctuation J. Wan, G.R. Ren, W.B. Hao, J.F. Liu, D.R. Yu, L.L. Zhao, B.L. Xu, C.Z. Sun, Z.G. Zhao and C.R. Lei	396
Selection and Comparison of Power Cable Accessories X.X. Ji	402
The Key Technologies of the Hydraulic Test of 2m×2m Supersonic Wind Tunnel Y. Shi, Z.Z. Liu and W.G. Yang	406
Chapter 3: Mechatronics, Robotics, Control and Automation	
Development of the Field of Cotton Plant Protection Robot Precise Multi-Topping Control System	
X. Sun, Y. Zhang, C.L. Tang, H.H. Zhao and C.S. Ai	415
Sensorless Speed Control of Induction Motors with Method of Least Squares Ö. Otkun	421
Development of the Field of Wheat Plant Protection Precision Spraying Robot Control System	
X. Sun, Y. Zhang, C.L. Tang, H.H. Zhao and C.S. Ai	427
A Small-Line Segment Dynamic Transition Algorithm Based on Axial Error Tolerance S.J. Sun, H. Lin, L.M. Zheng, J.G. Yu, B.B. Li and Z.Y. Yin	433
The Output Characteristic Analysis for Wind Turbine Based Two Control Strategies P. Li, X. Wang and H.Z. Zhang	439
Simple Rotary Inverted Pendulum and the Control Device Y. Hua and Z.J. Yang	445
Design of the Two-Wheeled Self-Balance Vehicle	449
Y. Hua and Z.J. Yang Testing and Analysis of Micro-Vibrations Generated by Control Moment Gyroscope in Different Installation Boundary	449
X.F. Li, W. Cheng and M. Li	453
BLDC Motor Torque Ripple Control Using Self-Tuning PID Fuzzy Control System C. Wang, Z. Li, G.Q. Kang and C.Y. Zeng	459
Design and Analysis of a Micro Actuating Mechanism Driving Multi-Degree of Freedom N. Tirasuntarakul and A. Dheeravongkit	464
The Smart Technologies for Movement of the Robotic Truck Caravan A. Ignatov, V. Ivchenko, P. Krug, E. Matyukhina and T. Morozova	470
The Technologies for Remote Reconfiguration of Artificial Intelligence of Robotic Systems in Case of Mission or Driving Conditions Change A. Ignatov, V. Ivchenko, P. Krug, E. Matyukhina and S. Pavelyev	477
The Mechanical Structure Design of Bionic Quadruped Walking Robot	
S.Y. Cao Teaching System of Arc Welding Robot Based on VB M. Hu	484 492
ZMP Based Motion Stability Analysis of a Wheeled Humanoid Robot with Bending Torso S.Y. Xia, Q. Zhan and A. Rahmani	497

Fuzzy PID Control and SIMULINK Simulation of Electro Hydraulic Proportional Relief Valve Loading System	
G.Q. Kang, X. Qin, X. Gao and C. Wang	503
Design and Construction of New Hybrid Solar Tracking System K. Jianwattananukul, K. Locharoenrat and S. Lekchaum	510
Extension Evaluation Method in the Selection of Electromagnetic Brake System C.X. Liu, X.J. Liu, Y.Q. Huang and T.G. Lin	516
Intelligent Control System Design for Electrical Equipment Management Y.Q. Meng	521
Piezoelectric Energy Harvester Adjusted by Light-Induced Actuator Y.N. Mao and G.J. Chen	526
Lift Augmentation between Passive and Active Vortex Generator N.F. Zulkefli, Z. Sahwee, N. Mohd Nur, M.N.A. Mohd Fazil and M. Mohd Shukri	532
Preliminary Study of Airflow Energy Recovery System for Electric Vehicles: Performance of VAWT with Air Duct H.B. Jiang, A.X. Li and S.D. Ma	538
Study on Features of 532nm Laser as Laser Source of Lidar P. Zhang, M.M. Xi, M. Wang, P. Liu, T. Liu, H. Peng, G.D. Ren and C.L. Tian	544
Chapter 4: Data and Signal Processing, Computational Methods and Algorithms	
Improved Grey Wolf Optimization Algorithm for Constrained Mechanical Design Problems J.C. Yang and W. Long	553
Study on Methods for Improving LMD End Effect F.W. Wang, Y.Q. Zhou and S.J. Zhou	559
Study of 3D Tolerance Modeling Method for Complex Feature Geometric Variations H.P. Peng and W.L. Lu	567
Processing Method for End Effect of Local Mean Decomposition Based on Extreme Point and Distant Q.C. Chi, M. Zhou, S.J. Zhou and F.W. Wang	574
Research on Positioning Algorithm Based on the Gaussian Distribution Function and Partial Estimation of the Fusion Theory C.L. Ma, N. Li and Y. Li	582
Efficiency of Solution Methods for Kepler's Equation J.F. Nunes de Oliveira, R.V. Garcia, H.K. Kuga and E.C. Romão	587
Chapter 5: Information Technologies	
Analysis and Implementation for the RPG Boxing Game C.M. Tsai, J.J. Huang, T.R. Chen, S.J. Cin and C.M. Chen	595
Personalized Ring Design and Rapid Manufacturing Based on Reverse Engineering and 3D Printing J. Liu, G.P. Dong and Y.B. Fan	599
Information Feedback for Human Motor Skill Transferring System Using Augmented Reality	
T. Tonggoed and S. Charoenseang	603
Study of XML Indexing Structure Based on XISS H.J. Tang	611
Research on the Construction of "Metal Materials and Heat Treatment" Network Course to Higher Vocational Colleges under the Background of Big Data Z.L. Wang	615
Research on Electric Power Multiservice Access Support SDN Technology C. Zhen, Y. Wang and J.A. Yuan	620
Research on Communication Architecture of Power Terminal Access Network B. Zheng, Y. Wang and C. Zhen	626

Chapter 6: Geotechnical Engineering, Structural Engineering, Architecture and Urban Planning

Influence of Summer Outdoor Pedestrian Wind Environment Comfort with Height-to-Width Ratios of Arcade in Taiwan Y.M. Su and H.T. Chang	633
New Green Building Materials Z. Wang and F. Han	639
Study on Fundamental Frequency of Airport Runway Based on Elastic Layered Soil Model L. Liang and Y.S. Hou	643
Present and Future Research of Mortise and Tenon Joint in Timber Structure L.X. Li, Z.H. Xu, M.C. Ma and Y. Chu	649
The Application of Research Methods in Soil Macropores in Vadose Zone of Well Vegetated Slope	
Z.H. Xu, L.X. Li and M.C. Ma	655
The Green Building's Spatial Characteristics in Traditional Residence L. Yang and F. Qian	660
Research on the Sustainability of Urbanization in China F. Qian and L. Yang	664
Evaluation of Industrial Tendency of Sustainable Development in the City of Weifang L.F. Liu and C.J. Liu	668
Investigation of Ways to Reduce Road Traffic Noise of Apartment Complexes Using Computer Simulation J.O. Yeon, K.W. Kim and K.S. Yang	673
Effect of Changes in Temperature on Resilient Materials Dynamic Stiffness and Floor Impact Sound	690
K.W. Kim, A.Y. Jeong, H.K. Shin and J.O. Yeon	680
Evaluation of Reduction Performance of Floor Impact Sound on Floor Covering in the Reverberation Chamber J.O. Yeon, H.K. Shin, K.S. Yang and K.W. Kim	685
Light Expand Clay Aggregate Medium Cultivation of Plants Used in Green Roof Feasibility Studies	002
C.C. Chen, Y.H. Peng and C.L. Chen	690
Evaluation of the Tourism Traffic Carbon Footprint in Xingwen World Geopark X.P. Xiong, S.S. Liu and Y.L. Wei	697
Firefighting Capacity Assessment in Armed Forces Hospitals C.S. Lin and C.H. Chang	701
Hydrologic Analysis of Highway Bridge Crossing Tributary H. Tian and J.D. Huang	709
Finite Element Prediction on the Post-Punching Behavior of Slab-Column Connections A. Tambusay, P. Suprobo, Faimun and A. Amiruddin	714
Structural Strength Analysis and Measurement of Composite Laminate Using Finite Element Method and FBG Sensor Y.C. Lin and W.J. Hsueh	720
The Study on the Relationship between the Deformation of Resistance and Temperature and Rate of Ti-IF Steel	720
L.L. Xia, G.J. Zhang, C.H. Ma, Q.Y. Liu, K.K. Li and H. Gao	728
Seismic Analysis of a High Rise Antique-Style Pagoda with Steel Reinforced Concrete Composite Structure Z.C. Zhou and H.G. Lei	733
Theoretical Analysis and Experimental Verification of the Stress Concentration Factor at the Steel Tube-Welded Hollow Sphere Connection Node	
B. Li, H.G. Lei and X. Yang	739
The Appraisal and Strengthening Design of a Large Adding Layer Supermarket L.Q. Lu, H.G. Lei and J.F. Jiao	745

Reinforced Lime Concrete with FRP: An Alternative in the Restoration of Architectural Heritage	
A. Almerich-Chuliá, E. Fenollosa and P. Martin	751
Influences of Subgrade Structure Form on Dynamic Responses of Railway Subgrade under Cyclic Loading J.H. Xiao	757
Brief Introduction of Visualization of Optimum Structural Design Y.H. Sun	763
Brief Discussion about the Changsha Yuan Da Steel Structure Residence System Z.L. Gong and H.G. Lei	771
The Fatigue Properties of the M27 Higher Strength Bolt in the Grid Structure with Bolted Spherical Joints	
C. Zhang, H.G. Lei, S.J. Tian and X. Yang	775
Stress Analysis of Dongjiang Arch dam by Finite Element Method under Different Concrete Elastic Modulus and High-Low Temperature Seasons W.P. Tang, J. Zhang and H.P. Tian	780
Evolutionary Optimization of Frame Structures Taking into Account the Project Reliability and Possibility of Emergency Actions A.V. Alekseytsev and N.S. Kurchenko	785
Review of Thermal Performance: A Terrace House in Melaka, Malaysia F. Abdul Rashid, N. Ab Ghaffar, A.M.R. Aminuddin and M.A. Ismail	791
Experimental Study on the Max Crack Width of Steel Fiber Reinforced High-Strength Concrete Beams	798
Q.Y. Guan, J. Wang and M.E. Zhang Experimental Studies on GFRP Reinforced Concrete Mixed with Sea Sand and Sea Water X. Li	803
Field Model Simulation and Analysis for a Residential Building Fire C.S. Lin, M.Y. Chen and L.S. Pan	810
Simulation and Optimization of the Construction Sequence of the Lock Gate of the Lock Gate Based on Numerical Analysis T. Sang and G.Y. Wang	816
Study of Effective Thermal Conductivity of Glazed Hollow Bead Concrete B. Zhang and Z.Q. Cheng	823
Bending Fatigue Performance of Pre-Stressed Concrete Beams Containing Mineral Admixtures	920
L.P. Wu, P. Dai and H. Xu	829
Mass and Stiffness Matrices Updating Using the First Modal Data S.Q. Li, Z. Zhang, S.P. Liu and H. Zhang Application of Support Vector Machine for Prediction of Slope Stability Coefficient	834
Considering the Influence of Rainfall and Water Level G.L. Tao, Z.S. Yao, B.Z. Tan, C.C. Gao and Y.W. Yao	840
Experimental Test of Chloride Penetration in Reinforced Concrete Subjected to Wetting and Drying Cycle	0.46
W. Sutrisno, P. Suprobo, E. Wahyuni and D. Iranata Oil Palm Frond as an Alternative Material to Reinforce the Fiber Brick A. Sopajarn and P. Suybangdum	846 852
Influence of Compaction Energy and Bentonite Clay Content in the Soil Hydraulic Conductivity	032
O. de Freitas Neto, O.F. dos Santos Jr., F.A.N. de França and R. Nascimento Flores Severo	858
Analysis on the Causes of Fatigue Accidents of a Bolt-Ball Structure Plant in Shanxi J. Lin and H.G. Lei	864
Chapter 7: Engineering Management and Product Design	
Research on the Visual Impact of the Mobile Device Chinese Word Colors and Fonts for the Aged	
C.S. Chen	873

Variation of Work Productivity Performance at Different Levels of Production Standard Time	
N. Mohd Nur, S.Z. Md Dawal, M. Dahari and N.F. Zulkefli	879
Design of Multi-Function Fashion Chair Based on Human Factors Engineering X.Y. Li and L.L. Liu	884
Multifunctional Sofa Design Based on the Human Factors Engineering L.F. Sheng and L.L. Liu	888
Analysis of Safety Hazard Factors and Fuzzy Comprehensive Evaluation of Mine Main Ventilator	902
X.Y. Gong, X.M. Gu, W.Y. Jiao, H. Xue and Z.C. Zhuang Research of High-Speed Rail Express Delivery Market Demand Prediction Problem in China	893
L.H. Shao and Y. Zhao	899
Collaborative Information Research on Fresh Production under Supply Chain Environment Y. Wang and P.L. Zhang	904
Research on the Fashion Design of Paper Stocks Tea Gift Packaging Combined with Color Design	010
C.C. Shen Application of BIM in the Full Cycle Metro Project Y. Liu, F.M. Shen and Z.Y. Zhang	910 914
Design and Development of Fumigation Treatment Bed Based on Simulation Technology L. Xuan, H. Jiang, T.M. Guan and L.Z. Kong	922
Based on the People because of the Intelligent Family Combination of Integral Ambry	
Design J.N. Zhang and L.L. Liu	928
Design of Multifunctional Children Electric Vehicle Based on Human Factors Engineering Z.C. Xia, L.L. Liu and L.J. Yang	933