

Table of Contents

Preface and Committees

Development of New Patching Materials for Bridge and Tunnel Structures H. Wei, S.L. Zhang and D.L. Zhang	1
Dynamic Mechanical Properties of Porous Rock under Impact Loading Y.X. Dong, C.J. Xia, L.X. Xiao and S.S. Feng	5
A Decision Making Methodology to Divide Virtualized Resources Morphologies X.J. Chen, J. Zhang and J.H. Li	10
Research and Development of Intelligent Design System for Machine Tool Fixture Based on KBE D.F. Liu, H.P. Wu and L.Y. Li	17
Low Temperature Anti-Cracking Performance of Brucite-Fiber-Reinforced Asphalt Concrete B.W. Guan, S.F. Chen and R. Xiong	23
The Light-Sensitive Character of WO₃ Nanorods Synthesized by the Hydrothermal Method X.M. Fu, W.J. Pan and Z.Z. Yang	29
Preparation of Spherical NiO Nanoparticles by the Thermal Decomposition of NiC₂O₄ 2H₂O Precursor in the Air X.M. Fu and Z.Z. Yang	34
Development of a Robotic System to Examine Outer Cylinder of Pipes in Steam Generators L. Min, Y.N. Zhang and Z.B. Gong	38
Phase Field Simulation of Parameters Affecting Dendrite Growth in a Forced Flow X.F. Yuan and Y.T. Ding	44
The Identification Analysis for Macro Distributions Curves of Functionally Graded Materials Properties Based on Materials Components C.F. Ge	50
The Meshing Property Analysis of the New Sine Gears F.J. Meng, D.Y. Huang and Z.B. Zhou	55
A New Computational Model about Vehicle's Sliding Resistance Coefficients H.L. Lin, Q. Yu and X.L. Zhang	60
Design of Special Fixture for Micro High Speed Motorized Spindle X.H. Lu, Z.Y. Jia, Z.C. Zhang and X. Jia	66
Microstructure Characteristics in Continuous Cooling Transformation of an Nb Microalloyed Steel J.H. Yang and Q.Y. Liu	72
Comparative Study of Structure and Pickling Characteristics of Oxide Scale Formed on Strips Produced by TSCR and Conventional Process L.M. Zhu and J.H. Yang	77
Curing Behavior and Thermal Properties of Me-SSQ/Cyanate Ester Resin Organic-Inorganic Hybrids Z.P. Zhang, S.F. Chen and J.Z. Pei	83
Simulation of Compound Bulging Process for T-Branch Tubes Using Rubber Medium Z.Z. Chen and B. Liu	88
Study on Topology Optimum Design of Baffle of Scraper Conveyer Y.H. Qie, B. Liu, X.H. Wang, H.P. Jia and J.P. Li	96
Behavior of Cr-Rich Phase during Rapid Solidification Cu₇₁Cr₂₉ Alloys Z.M. Zhou, L.W. Tang, J. Luo, T. Zhou, J. Zhan, C.Y. Peng, H. Xia and B.B. Lei	101
Spiral Involute and its Application in Gear Transmission Y.H. Huang and L. Lei	106
Plasma Carburizing and Post-Treatment of Austenitic Stainless Steel S.M. Zheng and C. Zhao	114
Improvement of Hood Hinge Based on Protection of Pedestrian Head Z.C. Hu, D.N. Yu, L. Hang and F.Z. Feng	119
Dynamic Model and Experimental Research on Pitch Mechanism of Gun with Clearances B. Li, R.Y. Chen and Z.J. He	125

Characterization of Surface Composition and Microstructure of H21 Steel Implanted Using Masking Ti-Implantation	
J.H. Yang and S. Li	130
Electronic Structure and Chemical Bond of TiB₂-Al₂O₃ Composite	
X.M. Min, L. Zhu and C. Zhu	135
Weakening Hydrogen Bond of Thick Oil of Petroleum by Several Catalysts	
H.F. Liu, X.M. Min and Y.L. Chen	141
Prediction Model of Solidification Structure for Electroslag Remelting Slab Ingot	
L.Z. Chang and X.F. Shi	147
Stability Analysis for Descriptor Neutral Systems with Mixed Delays	
X. Liu, S.M. Zhong and X.Y. Ding	153
Module Design Based on Life Cycle Design	
J.X. Zhang, W.W. Wang and S.S. Cao	158
The Willing for Companies to Build the Logistics Cost Control System of Supply Chain and its Influence Factors	
Y.M. Yang	162
Airfoil Design and Numerical Analysis for Morphing Wing Structure	
W.J. Dong and Q. Sun	169
Finite Element Analysis of Rotary Kiln Cylinder	
X.Z. Jia, Z.W. Zhang and H.B. Liu	174
On the Transitive Closure over Distributive Lattices	
J. Jiang, L. Shu and X.A. Tian	179
The Research of Virtual Tactile Design Application in Dongba Sculpture	
R.B. Hu, R.P. Xu, K.Q. Wang and J.Y. Li	185
Research on Doubly-Fed Induction Machine Speed Control System in Marine	
Z.Q. Zhang, Y.P. Zhuang, L.G. Yu and Z.G. Wu	191
The Loading Analysis and Strength Calculation for Slide Block Universal Spindle	
J.L. Shi, X. Wang and L.G. Liu	196
Performance Research on the Axial Flow Fan Adding Guide Vane	
W. Rui, Y.C. Wang, H.F. Zheng and C.Q. Feng	204
Experimental Study of Critical Quality in Vertical Narrow Annular Channels	
S.Y. Su, S.Y. Huang and J. Chen	209
Classical-Quantum Correspondence in Two-Dimensional Nanomaterials	
J. Lu	216
Experimental Study on Running-In Criterion of Remanufacturing Gasoline Engine in Acceptance Test	
X.B. An, H. Wang and D.H. Jiang	222
Kinetic Analysis of Planetary Gear Box	
W.S. Li and L.M. Yu	227
Three-Dimensional Dynamic FEM Simulation of Block Temperature Distribution for Fusion Welding Rapid Manufacture Process	
J.P. Jia, S.P. Yao and Z.Q. Zhu	233
Design of Limb of 2R2T 4-DoF Symmetrical Parallel Manipulators	
Q. Chen, M.G. Zhou and D.C. Zhu	237
Stability of Asphalt Binder and Asphalt Mixture Modified by Polyacrylonitrile Fibers	
L.Y. Yao, Y.P. Hu, Q. Ma and X.W. Ma	242
Thinking about the Theory Construction of Chinese Industrial Design	
Q. Wu and L.N. Zhang	248
Colloidal Polystyrene-Carbon Nanotubes as Water-Based Lubricant Additive	
X.F. Li, H. Yan and S.X. Peng	253
Finite Element Analysis of X-Cor Sandwich's Compressive Modulus	
X.D. Dang, M. Wei, X.L. Wang and J. Xiao	259
The Research of Trajectory Software Design Based on Cruise Missile	
Q. Li, Q.L. Xia, Y.Y. Cui and Q.Q. Wen	265
Numerical Simulation of PC Steel Bar Induction Heating Process	
Q.Z. Zhao, Y.B. Liu, Y.P. Liu and W.S. Zhou	270
The Weight Distribution and Configurability of Process Collaboration	
D. Yan, M. Dong and S.R. Yu	276

Submicron Tungsten Powder Prepared through the Circulatory Oxidization-Reduction Method	
X.M. Fu, C.C. Xie and L.Y. Zhou	283
The Hydrothermal Synthesis of Nano-YSZ Crystallite and the Preparation of YSZ Electrolyte Film for SOFC	
B.A. Fan	288
An Integration Method for Rolling Bearing Fault Diagnosis	
L. Li, H.M. Wang and C.H. Zhao	293
A Review of Research about Variable Intake Manifold	
F.G. Zhao	299
Mechanical Behavior and Constitutive Equation of Concrete under High-Temperature Dynamical Conditions	
B. Jia, Z.L. Li, J.L. Tao and C.T. Zhang	303
Micro-Ploughing Process of Copper Current Collector for Lithium-Ion Battery	
X.X. Tang, Y. Tang, B.Y. Ye and L.S. Lu	309
Birch Carbonization Surface Micrograph and Element Analyses	
L. Liu, S.X. Zhang and Y. Wang	315
Study on Lubrication Properties of Emulsion for Aluminum Cold-Rolling	
W.X. Wang, P. Liu and G.Q. Yao	321
The Study of Combination Model Forecasting of Dynamic Traffic Volumes Based on MATLAB	
Q. Sun, W.D. Ding, H.L. Liu and S.P. Du	327
Simulation Research on the Influence of Oil Damping to the Effect of Assimilating Impulsion Based on Accumulator	
Q. Nie, H. Nie and M. Zhang	332
Design of New Excavator with Telescopic Arm	
C.C. Chen and X.D. Chen	340
Predicting Fracture Toughness of Three-Point Bending Specimen from Tensile Test Based on Micro-Plastic Damage Model	
B. Wang, C. Ma and P. Wang	345
A Discussion and Economic Analysis of Oxygen-Enriched Combustion Technology in Metallurgic Furnace	
X. Zhang, Z. Wen, G.F. Lou and N.S. Wang	351
A Quantitative Analysis of the Residual Stress and Grain Size Gradient Effects on the Energy Release Rate of a Coating-Substrate System	
B.Q. Yang and F.X. Li	356
Semi-Active Landing Gear with MR Fluid Damper Based on ADAMS&MATLAB Co-Simulation	
S.S. Pawale and H.J. Wang	363
Ergonomics Analysis Thinking of the Operation Domain Design of Workover Machines	
Q. Shu and B.G. Wang	368
Scheme Research of Mould Opening Degree Auto-Detecting Device	
L.B. Tan, X.L. Yu, Q.Q. Dou, Q.Q. Zhang and Z. Ge	374
Electrical- Magnetic Transport and Magnetoresistance in $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}_3/\text{BN}$ Composites	
Y.D. Zhu, H.H. Liao, J.J. Tan, A.Y. Zuo, J.Q. Yi and L.J. Sun	379
Robot Based Manufacturing Technology of Cast-Steel Joints of Sunny Valley at Shanghai World Expo Axis	
J.P. Mei, Y. Tan, L. Wang and W.C. Zhang	385
Simulation Experiments on Two-Phase Flows in Shaking Ladle	
J. Zhang, S.J. Chu, S.Q. Ni and Z.S. Li	390
A Brief Analysis on Characteristics and Ideas of the Design of New-Type LED Domestic Lamps	
P. Wu	396
Direct Interpolation of Tool Orientation in 5-Axis Milling	
B. Shen, D.J. Qi, L.Q. Fan and Z.H. Zhu	402
Research of Product Design on the Basis of DNA Theory	
H.G. Li and H.M. Zhao	408

Numerical Simulation and Process Optimization of the Die Forging for the Center Wedge of the Railway Freight Car Buffers Y. Zhang, Z.G. An and L. Li	412
Numerical Simulation on Rapidly Solidified Melt Spinning CuFe10 Alloys Z.M. Zhou, W.J. Huang, M. Deng, M.M. Cao, L.W. Tang, J. Luo, X.P. Li and H. Xia	416
The Product System Design under the Guidance of the Principle of Semantics Q. Wu and R.X. Chen	422
Lap Joint Properties of FSBRed Dissimilar Metals AZ31 Mg Alloy and DP600 High-Strength Steel with Various Parameters C.Q. Zhang, B.Q. Li and X.J. Wang	427
The Three-Dimensional Parametric Model and Interface Designing of Involute Spline Broach G.G. Zhang, H.H. Zhang, W. Jiang and H. Wang	433
Hydraulic Fault Diagnosis Expert System of Excavator Based on Fault Tree G.P. Li and Q.W. Zhang	439
Fuzzy Logical Control Algorithm Based on Engine on/off State Switch for Hybrid Hydraulic Excavator X.L. Lai, C. Guan and X. Lin	447
Study on Precision Cutting Titanium Alloy Thin-Walled Parts Based on Finite Element Method M.H. Wang, Z.H. Liu and H.J. Wang	453
Study on the Critical Cutting Thickness and the Precision Cutting Experiments of Isotropic Pyrolytic Graphite M.H. Wang, H.J. Wang and Z.H. Liu	458
Stability Analysis for Discrete-Time Stochastic Neural Networks with Mixed Time Delays via Delay-Partitioning X. Zhou and S.M. Zhong	464
The Stress Analysis of Different Circular Saw Structures during Cutting X.L. Wang, Z.J. Yin and Y.L. Li	471
The Analysis of Dynamic Characteristics in Reduction of the Circular Saw Idling Noise X.L. Wang, Z.J. Yin and C. Zhang	477
The Mechanical Analysis of the Composite Reinforced Circular Saw Blade X.L. Wang, Z.J. Yin and C. Zhang	484
Numerical Simulation of Transport Characteristics of Porous Metal Fiber Sintered Felts Used in Microreactor for Hydrogen Energy W. Zhou, R. Song, Z.P. Wan and Y. Tang	490
Effect of Ruthenium on the Performance of Iron-Based Catalyst for CO Hydrogenation Q.J. Tang, W.R. Wu, S. Fan and B. Liu	496
Study on Mechanism of Laser Thermal Damage on Piston M. Pang, Z.T. Liu, J.S. Tan and X.B. Liu	500
Control of Yield Ratio Based on Ultra Fast Cooling and Mechanical Behaviors of High Strength Aseismic Steel J. Kang, G. Yuan and Z.D. Wang	505
Study on the Electrical Arc Ablation Performance of Nano-SiC_w Reinforced Cu-Matrix Composites G.M. Liu and B. Li	509
Enhanced Performance of ZnO-Coated LiNi_{0.5}Mn_{1.5}O₄ Cathode Materials for Li-Ion Battery W.H. Zhang, M. Yue and T. Wang	514
Research on Group Decision-Making Optimization Model of Urban Railway Traffic Network Scheme H.Y. Yan and F.L. Zhang	519
Coupling Effect Analysis of 3D Interior Structural-Acoustic Problems Using Wave Based Method C.X. You and G.D. Zhang	526
LFC Mold Development of Complex Parts with Free-Form Surface X.F. Xiao, Q. Xue, K.F. Xiao and X.L. Hu	532
Synthesis and Structures Characterization of Nano NiO by PDCG Technology X.H. Cao, J.F. Qin, Q. Niu, S. Liu and W. Wang	537

The Application of Moldflow in Injection Mold Design of Mobile Phone Cover W.J. Zhang and Q. Zhang	542
Microstructures and Properties of Tungsten Carbide Particle-Reinforced Composites Fabricated by Overlaying Welding with Flux-Cored Wire L.J. Li and L. Dai	548
The Present Situation of EMS and Solutions to its Difficulty Z. Li, Z. Wen and G.F. Lou	552
A Micro-Machined Ceramic Hot-Plate for Gas Sensor Applications Y.B. Xue and Z.A. Tang	558
Development of Hot Press Machine for Superplastic Forming Technology H.S. Lee, J.H. Yoon, J.T. Yoo and Y.M. Yi	563
Design of New-Type Vertical Dredging Equipment for Coal Bunker J.X. Zheng, C.S. Liu and Y.H. Tian	568
Research on Nonlinear Dynamic Characteristics of Fluid-Conveying Pipes System Y. Hou and G.H. Zeng	574
Solid-State Synthesis and Optical Properties-Controlling Studies of CdO Nanoparticles J.S. Liu, C.B. Zhao, Z.Q. Li, L. Yu, Y.C. Li, S.Q. Gu, A. Cao, W.N. Jiang, J.N. Liu and C.T. Yang	580
Size Effect on the Micro-Extrusion Forming of Zr-Based Amorphous Alloys X. Wu and C.E. Xue	586
Finite Element Analysis on Mechanical Performance of CFRP Used in Masonry Structure Strengthening Z. Yang and W.G. Wu	592
Computer Aided Styling Design in Automobile S. Wei and Y.C. Hou	597
Wear Behavior of B₄C Ceramic Nozzles Y.H. Feng, J.H. Liu, J.X. Deng, G.L. Zhong and M. Liu	601
Preliminary Studies on the Functional and Structural Design of Forest Fire Helmet B. Li, B. Li and H.Z. Yang	605
Agent Model and Reasoning Mechanism for Task-Aware in Virtual Assembly W.J. Hou, T.M. Li, C.H. Liu and F.X. Yang	610
Experiment Research on the Influence of Fretting on Crack Propagation G.X. Yang, Q. Li and J.L. Xie	617
Vibration Analysis of Diesel's Undercarriage by Virtual Measure and Actual Measure P. Liu, Y.Y. Huang, H.P. Gao and D.S. Ou	621
Polypropylene Fiber Reinforced Concrete for Rigid Airfield Pavement T. Merhej, L.L. Cheng and D.C. Feng	627
Properties of Lead-Free High Refractive Index Barium-Based Glass Doped with TiO₂ K. Won-In and P. Dararutana	634
The Function Mechanism of Current Density on Antimony Nanopowder Prepared by Electrochemical Method J.L. Xu, S.H. Yang, L.H. Zhang, Z. Kang and Q. Guo	639
Preparation and Electromagnetic Property of Hexagonal W-Type Ferrite Obtained by the Method of Coprecipitation with Flux Z. Xiong, Z. Xi and Z.L. Jun	645
Finite Element Analysis on Thermal Structures of Heavy Machinery Gearbox Y. Mei, F.P. Wang, Q.Y. Liu and Y.T. Mao	651
High-Temperature Thermoelectric Properties of Cu-Substituted Bi₂Sr₂Co₂O_Y Oxides L.M. Zhao, W.F. Jiang and H.S. Hao	656
Friction and Wear Behavior of Micro-Arc Oxidation Ceramic Coating on Pure Magnesium Surfaces C. Fei, H. Zhou and F.X. Lv	661
Formation Mechanism of Diffusion Welded Joint H.S. Lee, J.H. Yoon and W.H. Cho	666
Fatigue Life Prediction of Notched Specimen under Multiaxial Cyclic Loading G.Q. Sun and D.G. Shang	672

Numerical Study on the Effect of Inner Tube Position on Heat Transfer Process in Self-Recuperative Radiant Tube	
Y. Tian, X.L. Liu and Z. Wen	676
Elastohydrodynamic Lubrication Design of Planetary Gear Transmission	
P.D. Bao, J. Xie, X.Q. Yin, Q.Z. Yang and L.Z. Ma	681
A Method of Type Map for Rigid-Body Guidance Based on Burmester Curve	
L.X. Shi and G.M. Wang	686
The Texture of the Performance of Product Design	
F. He and X. Li	692
Impact of Relationship among the Fundamental Blocks in Production Process to implement Re-Engineering: An Empirical Analysis in SMEs	
S.U. Rajib, S. Alam, Q.U. Sajib and N. Ahmed	696
Research on Low-Pressure Common Rail Electrical Control Injection System of Dimethyl Ether Engine	
J. Tao and G.D. Zhang	702
Tool Path Planning of the Micro Cowled Integral Impeller	
Z.Y. Han, R.B. Liu and H.Y. Fu	708
Evaluation of the Adhesion of Diamond-Like-Carbon Coronary Stent	
H.Q. Feng, Z.G. Wang, Y. Shuzou and N. Tatsuyuki	714
Hydraulic System Design for Hexagon Workpiece Flipping Equipment	
H. Wang	719
Study of Extrusion Process for a Titanium Alloy Tapered Piece	
M. Meng, Z.M. Zhang and B.H. Zhang	723
Microstructure and Toughening Mechanism of Compressive Fractured Nacre	
Y.L. An, Z.M. Liu, G. Wang and W.J. Wu	727
Effect of Dispersion Medium and Dominated Evaporation on the Pattern Formation of Colloidal Suspension	
W.J. Ma and Y.R. Wang	732
The Research of Camellia Oleifera Seed Winnowing Peel Test	
C.Z. Guo, H. Chen, Q.X. Yuan, L. Ge and Z.G. Yang	737
Electricity Control System of Semi-Automatic Figuration Machine of the Grind Material	
Y.J. Jia, Y.B. Cheng and Y.Y. Han	744
Research on the Knowledge Innovation Abilities of University Science Parks Based on GEM Model	
B.G. Wu, J. Zhang and C.C. Gao	749
The Preparation and Properties Research on Lanthanum-Rich Film Cathode	
S.M. Hao, H.F. Wang and D.H. Zhao	755
The Measurement of LED Domain Wavelength Based on LabVIEW	
W.G. Lin, Y.F. Wang and M.Z. Yang	759
Finite Element Analysis for Belt Conveyor's Drum	
S.B. Wang, X.Z. Zhang, K. Wu and Y. Sun	764
The Design and the Topological Optimization of the Tracked Triangle Wheel's Basic Frame	
L.H. Yang, Y.J. Wang and Z.B. Qin	771
Study on the Damage Mechanism of Bridge Pier and Foundation by Turbulent Debris Flow	
L. Liu, H.K. Chen and H.M. Tang	776
Robust Stability of Uncertain Switched Delay Systems with Nonlinear Perturbations	
C.C. Xiang, X. Liu and X.Y. Ding	782
Cooperative Pricing Decision Model in Supply Chain	
X.W. Wang and X.X. Zang	789
The Modularity and Connectivity of the Master Structure of Complex Product Families	
D. Yan, M. Dong and S.R. Yu	794
Preparation of Water-Resistant Electrode Coating with Palmitic Acid by Microwave Reaction	
W.J. Chen, C.B. Gui and J. Sun	800
Thermoelectric Characteristics of Pb- and La-Doped Bi₂Ba₂Co₂O₇ Ceramics	
H.S. Hao, H.P. Yu and L.M. Zhao	804

The Microstructure and Erosion Wear Performance of HVOF-Sprayed Cr₃C₂-NiCr Coatings with Different Feedstock Powder	
H.T. Wang, G.C. Ji, Q.Y. Chen, X.F. Du and W. Fu	809
Transient Dynamic Analysis and Optimization of Chamber	
H.M. Liu and J. Hou	813
Research on the Reshaping Device for Ridge-Till and No-Till Seeders	
H.Q. Luo, X.J. Nie, X.H. Tang, X.H. Shen and X. Liu	817
The Mechanical Behavior of Aluminium Alloy Quenching Process	
J.Y. Luo, R. Fan and C.X. Shi	822
Effect of Ammonia on Preparation of Ammonium Polyphosphate	
G.S. Liu and X.Z. Duan	828
Ammonium Polyphosphate Crystalline Transformation from Form II to Form V	
G.S. Liu and X.Z. Duan	832
Study on Blasting Driving Roadway Single Transformation Ejector Auxiliary Ventilation	
J.Y. Han and P. Xu	836
Research on Compound Powder of Bonded NdFeB Magnets from Injection Molding	
W.Z. Qin, J. He and W.T. Zhao	841
The Designation of Intelligent Power-Saving Controller on Automobiles	
Q.L. Zhao, J.D. Zhao and B.T. Pan	847
High-Rise Fire Escape Device's Design and Analysis	
B.F. Qian	853
A Steady State Model for the Rheological Behavior of Semisolid Al-6.5wt%Si Alloy	
L.P. Ju, H.C. Luo, W. Wang and D. Xu	858
Research on Air-Structure Coupling Dynamic Characteristics of Sounding Board Driven by Gunpowder Pulsation	
S.B. Pei and R.Z. Liu	864
Influence of Surface Wettability on Dropwise Condensation Heat Transfer	
Y.F. Chen	869
Laser Ablation of Alumina Ceramic in Sodium Hydroxide Solution with Nd:YAG Laser	
S.F. Zhu and G.F. Yuan	874
Effect of Heat Treatment on Hardness of Electroless Ni-P Plating	
G.J. Liu, X.H. Mao, J. Cao and Z. Yu	878
Research on the Optimization of Relief Supplies Distribution Routing Based on Multiple Models	
R.L. Tian, P. Yin and Q.Z. Li	883
Introduction of Near-Bit Geosteering Drilling Technology and Instrument Application in Thin Oil Exploration	
C.H. Zhang, G.Y. Meng, G.H. Liu, L.M. Sheng and Y.F. Huang	889
Research on Design of SOHO Residential Unit	
X.L. Mao	894
Investigation of Phase Composition and Microstructure of the FeAl Intermetallics Compounds Bulks Fabricated by Mechanical Alloying Process and Hot-Pressing Process	
T. Jiang	899
Microstructure and Corrosive Wear Property of Super High Chromium Cast Iron (SHCCI)	
L.J. Xu, S.Z. Wei, J.W. Li, G.S. Zhang and X.D. Ma	905
Application of XML Based EDI in Logistics Bills Circulation	
Y.C. Ren, T. Xing and P. Zhu	909
Production and Grain Refinement of ASTM A668D Steel Heavy Main Shaft for Crusher	
Y.C. Zhou, S.Z. Wei, Y.L. Shi and L.J. Xu	915
Synthesis and Properties of Cellulose Stearate	
F.Y. Huang	919
Research on Distribution of Error in CNC Curve Grinding	
Y.D. Gong, Z.G. Fan, Y.Z. Shen and L. Yao	925
Numerical Simulation of Gas Flow Field in the Moving Bed of Corex Melter-Gasifier	
G. Pan, X.L. Liu and Z. Wen	930
Damping Capacity of Fe-Ga Alloys	
F.M. Ling, J. Zhu, L.J. Heng and G.X. Xu	937

Study on Naval Airport Aerial Equipment Distributed Storage System S.L. Wang, L. Wei and H. Zhang	942
Effect of Ho Doping on the High-Temperature Thermoelectric Properties of Ca₃Co₄O₉-Based Oxides T. Zhu and J.M. Zhou	947
Research on Dynamic Torque Control Strategy for Parallel Hybrid Electric Vehicle Y.B. Yan, F.W. Yan and C.Q. Du	951
Research on Mechatronic System of Comprehension Reaction Time in Mesopic Vision J.D. Zhao, Z.X. Li and Y. Yang	957
Research on the Best Assessment Subjects for the Environmental Protection Performance of Local Party and Government Officials J.K. Zhou	963
Effect of Stepped Aging Treatment on Microstructure and Properties of AA7085 Aluminum Alloy C.M. Li, Z.Q. Chen, S.M. Zeng, N.P. Cheng, Q. Li and Z.H. Geng	968
Effect of Postweld Heat Treatment on Toughness of the Heat Affected Zone in ASTM4130 Steel with Single-Pass Welding L.Y. Li, W. Yong, H. Tao and C.W. Li	975
The Service Quality Evaluation of Machine Tools in Manufacturing Shop P.J. Cui and H. Li	981
Study on Quality Problem Information Classification Using ODC Method Z.W. Wang, J. Zhou and J. Liu	988
New Delay Dependent Stability Analysis for Switched Neutral Systems with Mode-Dependent Delays under Arbitrary Switching Laws L.L. Xiong, X. Wang and Z.Y. Yang	993
Structure Optimization and Application of Conical Convergence High-Pressure Jet Nozzle C.M. Shen, B.Q. Lin and F.W. Meng	1001
The Effect of Magnetic Field on the Hydration of Nanoscopic Hydrophobic N-Alkane Plates W.W. Zhang, L.Q. Li, G.Y. Zhang and H.J. Dong	1007
Study on CO₂ Laser Welding of AZ31 Magnesium Alloy Sheet Produced by Strip Casting Process J.W. Zhang, X.D. Hu and D. Zhang	1012
Effect of Laser Modification Welding on Formation of Aluminum Alloy F. Xu and J. Yang	1017
Numerical Calculation and Analysis of Mechanical Strength of Steel Wire Product D.M. Wang, Y.F. Hou and Q.R. Meng	1022
The Cylindrical Structure of Metallic Bipolar Plates for Proton Exchange Membrane Fuel Cell J. Lan, C. Ni and L. Hua	1029
The Simulation Experiments Research of Plow Bit Cutting Coal Rock Basing on Ls-Dyna Z.Y. Hao and J. Mao	1035
The Sensing Characteristics Responded by Resistance of Carbon Fiber Layer with Epoxy-Matrix X. Fang, Z.Q. Li, S.R. Zhu and Y. Lv	1039
Innovative Examples of Product Design Based on Material X.S. Deng	1043
Detection and Reinforce of a Reinforced Concrete Box Culvert Suffered a Conflagration T.H. Jiang, J.R. Peng and W.M. Zhang	1047
The Experimental Research of Axlehousing Hydroforming Processing N. Wu, G. Wang and Y.P. Wei	1051
Study on Wear-Preventing of Needle Valve in Fuel Injection System Mounted on DME Engine X.R. Wen, G.D. Zhang, W.H. Wang, X. Lu and S. Jing	1057
Pattern Recognition of Typical Incipient Mechanical Failures in Circuit Breakers F. Fan and W. Wang	1063
Research on Corona Wire Application for High Dust Load ESP of Cement Kiln Z.B. Liu, L.Z. Xu and X.S. Guo	1070

New Method Used to Prepare Paraffin Spheres Based on Digitalization of Microfluids Technology	
M. Yang, L.Y. Hou and W.Y. Zhang	1075
Body Welding Quality Control Based on a CUSUM Control Chart	
R. Li, J. Li and J. Liu	1080
DTH Drill Fracture Analysis of the Key Parts	
M.S. Zhang, C.J. Zhou, C.H. Zhao and J.J. Ke	1085
Research on the Cutting Performance of ZrN Coated Tools	
J.H. Liu, Y.H. Feng, L. Shi and Q.Y. Zhang	1089
Dealing with End Effect of EMD Based on Gray Theory	
Z.N. Han, J.X. Gao, Y.X. Li and W.T. Sun	1094
Study on Rotary Characteristics about Light Type Hydraulic Excavator	
J. Yang, L. Quan and Y. Yang	1100
Effect of Austenization Holding Time on the Martensitic Transformation in 30CrNi3MoV Ultra-High-Strength Steel	
Z.X. Qiao, D.T. Zhang, Y.C. Liu and Z.S. Yan	1107
The Flow Stress Characteristic and Constitutive Equation of 6016 Aluminum Alloy in Warm Forming	
J.X. Zhang, H. Wen, W. Feng, G.Y. An and J.X. Liu	1112
Temperature Field Simulation of Electron Beam Surface Quenching on Ductile Iron QT600-3	
D.Q. Wei, Y.Z. Yi and R. Wang	1118
The Finite Element Simulation Study on Plow Bit's Resistance during Cutting Coal and Rock	
Z.Y. Hao	1125
Preparation of Metal Cobalt Powder by Co-Precipitation and Heat Decomposition Method	
P. Xue, X.Y. Guo and Q.H. Tian	1129
R&D on Wollastonite-Based Low Carbon Products	
X.Y. Wang, X. Wu and X.W. Xu	1135
Study on Group Behavior of Short Crack for Low Cycle at High Temperature Based on Fractal Theory	
Z. Wang, K. Wang, L. Wang and Z.H. Zhao	1143
Characteristics Analysis and Study for Area-Changing and Damp-Increasing Range Correction Device	
F. Yang and Y.P. Hao	1150
A Quantitative Study of Precipitation Evolution during Annealing Treatments of a Ti-IF Steel	
G.M. Zhu, C. Lu, Y.L. Kang and L.F. Gao	1156
Study on CTOD Fracture Toughness of Welded Joint of X80 Marine Drilling Riser	
P. Wang, M.J. Hu and E. Dang	1163
Development of the 600MPa High Aluminum Galvanized Dual Phase Steel and its Application	
H. Wang, C.J. Lin, Z.J. Deng, P. Yang, F. Yan and Y.G. Tan	1169
Image Recognition Based on Euler Sequence by PCNN	
S.M. He, Y.B. Ning, L. Fu and J.Y. Qin	1174
The Study of Destruction Status of Inclined Shaft Second Lined in Liangshui Tunnel	
N. Liu, K. Jing, S. Qi and W.J. Tang	1181
The Application of Ground Penetrating Radar in Railway Tunnel Concrete Quality Detection	
S. Qi and X.X. Chen	1185
Return to Original Purity and Simplicity"- Creative Product Design Research	
C.Y. Ren and X. Zhang	1190
Study in Simulated Heat-Affected Zone of Ship Steel	
W.Y. Liu, J.B. Liu, C.M. Zhu and H. Wang	1196
The Brief Analysis on Automobile Color Design	
M. Qi	1201