

Table of Contents

Sponsors, Committees and Preface

1 Mechanical Dynamics and Its Applications

Rheological Properties of Concentrated 1-Allyl-3-Methylimidazolium Chloride Cellulose Solutions	
F. Lu, J. Song, B.W. Cheng, H.J. Zang and Y. Liang	3
Parameters Identification and Dynamic Analysis of Linear Rolling Guide	
L. Li and J.R. Zhang	7
Synthesis and Characterization of Polyimides Derived from Novel 1,3-Bis(4-Aminophenoxy)Benzene	
M. Chao, K.C. Kou, Z.C. Wang, G.L. Wu, D.N. Zhang and J.Q. Zhang	13
Dynamic Modeling of Planar Flexible Multi-Link Manipulators with Accounting for both Link Foreshortening and Link Material Damping	
J.F. Zhang	19
A Simplified Numerical Method to Determine the Loads Acting on the Cutterhead of a Compound Shield	
F.J. He, Q. Zhang and Z.X. Cai	25
Kinematics and Dynamics Analysis of the Lifting System of a Welding and Tube-Transferring Car for Deepwater Pipe-Laying Vessels	
Y.L. Ma, L. Lin and X.W. Liu	32
Low-Speed Dynamic Characteristics of Hydraulic Clinder Based on Nonlinear Coupling-Force	
R.C. Lin, Y.B. Guo and Y.P. Li	41
Crashworthiness Simulation Analysis of Light Sport Aircraft Fuselage Structure	
P.W. Chen, S.H. Chang, Y.Y. Hsieh and T.S. Sun	48
Analysis of Particle Motion in Vertical Shaft Impact Crusher Rotor	
D.R. Duan, S. Wang, F. Zhao and D.N. Su	54
Micro Analysis in Healing Area of Inner Crack for a 45 Steel	
Y.J. Zhang, J.T. Han, J. Liu, W.H. Yu and H.F. Wang	58
Propulsive Efficiency Analysis on C-Start of Robot Fish	
H. Chen, J.C. Peng and G. Xu	62
A New Method to Realize Unsteady Calculation of Flow in Labyrinth Seals	
Z.P. Liu, S.L. Liu and S.Y. Zheng	68
Geometric Curve Design Method of Fuzzy Reliability Based on Random Processing Errors	
Z.S. Zhao and X.H. Zhang	72
Study on V-Shaped Linear Ultrasonic Motor and its Experiments	
Z.R. Li, H.B. Wang, H. Xu and C. Chen	78
Rheological Behaviors Characterization and Modeling of a Novel Three-Branched Phenylethynyl-Terminated Imide Oligomer	
C.W. Liu, X.G. Zhao, C.Y. Wang, X.H. Yu, H. Jia, S. Wang, D.M. Wang, D. Yang and Y.L. Wang	83
Dynamic Analysis of 64-Type Rush-Repair Steel Girder under the Moving Train Loads	
Y.H. Zhang and H.L. Wang	87
Load Model of Small Parameter Scroll Wrap for Bending Fatigue Strength in a Scroll Compressor	
B. Shao	92
Study on Design Method for Magneto-Rheological Fluid Damper Based on Squeeze Mode and Experimental Tests	
C.R. Liao, L.J. Fu and Y. Yang	97
Phylogenetic Analysis and Microbiologically Influenced Corrosion of a Kind of Sulfate-Reducing Bacteria	
X.D. Zhao, J. Yang and X.Q. Fan	102

Elastic Dynamics Analysis and Simulation of New Tire Building Drum Z.X. Yin, Z.H. Guo and R.J. Cui	106
Shearer Load Identification of the Load Spectrum of the Pick Based on Chaotic Characteristics C.S. Liu, D.G. Li and X.P. Chen	111
Tests on Mechanics Parameters of HEC Concrete and its Capabilities under Contact Blast X.G. Tao, S.H. Li, J. Yu and E.B. Li	115
Collision Analysis of Ship Side Y. Abdel Nasser, A. Aliraqi and B. El Din Ali	119
Failure Analysis of Flail Knife on Aluminum Scrap Impact Crusher Q.Z. He, J. Wang and M.C. Wang	126
The Dynamic Property Analysis of Ink System in Offset Press M.L. Zhao	132
Design and Test Analysis of Precise and Fractionized Inertia System of Tire Drum Test-Bed S.W. Li, J.J. Tian, Z.F. Yang, H.Z. Wang and L.H. Wang	137
Preliminary Studies on Carbon Sequestration Changes of Wood Materials in Manufacturing Process L.C. Shi and M. Xu	143
Force Control of a Constrained One-Link Flexible Arm with Internal Damping L.Y. Liu and H.C. Lin	147
Simulation of Arresting Dynamics on the Carrier Z.H. Jia, Y. Tao, Z.Q. Hou and X.H. Zheng	156
The Dynamic Equations and Response of Hydraulic Excavator's Working Mechanism System Z.J. Li, X.S. Liu, X.J. Yang and T. Mao	161
Study on the Microstructure and Performance of New Type Martensite Wear Resistant Steel J. Wang, Q.Z. He, Y. Hu and M.C. Wang	167
Optimization Design of the Lawn Mowing Vehicle's Blade Based on Aerodynamics L. Zu, L. Zhang and H.K. Wang	173
Research and Design of Small-Engine LPG Motorcycle Fuel System R.H. Ji, M.D. Duan, C.X. Li and X. Liu	182
The Finite Element Analysis and Optimal Design to Inverted Umbrella Aerator P. Xing, J.Y. Zhao and X.J. Yin	187
Simulation Research on Matching of Spray and Combustion Chamber Geometry in Diesel Engine C.C. Zhang, Q. Wang, Z.X. He and P. Jiang	193
Research of Micro Free-Piston Engine Generator Performance Q. Wang, J.H. Yang, J. Bai, J.J. Chen and Z. Chen	198
Non-Linear Characters of Rotor System with Crack and Rub-Impact Coupling Faults Y.H. Liu, S.L. Liu, Y.F. Tang and R.H. Jiang	203
Evaluation of HMA with Coal Gangue Coarse Aggregate L.Y. Yang, Y.Q. Tan, H. Liu and Y.M. Dong	209
Simulation Analysis of the Stacker Column Based on High-Speed & High-Acceleration J. Sun, J. Li, D.J. Ou and Y.X. Li	216
Research on Dynamical Model of Horizontally Vibrating Conveyor Y.M. He, Q. Liu, Y. Lin and X.L. Zhang	221
The Theory and Synthesis of High Effect Flywheel with Variable Equivalent Mass Moment of Inertia E. Bao, H.Y. Hu and D.Y. Liu	225
All-Pose Statics Simulation and Strength Calculation of the Excavator Boom Q.X. Ding, K.L. Hui, J.W. Chen, J. Chen, Y.C. Tian and J. Yu	232
Dynamic Analysis for Derailment Safety of High-Speed Railway Vehicle Bogies C.H. Chen, Y.C. Cheng, S.C. Yang, Y.Y. Lin, C.H. Chang, J.P. Yeh and C.Y. Yang	239
Rigid-Flexible Coupling Dynamics of a Flexible Robot with Impact Y.C. Duan and D.G. Zhang	243
Dynamic Analysis of the Pipe Lifting Mechanism on the Deepwater Pipelaying Vessel K.A. Yu and K.Y. Chen	251

Explore the Dynamic Characteristics of the Off-Road Vehicle Clutch on Release Bearing Life	
G.L. Chen and X.Y. Chen	257

2 Mechanical Transmission Theory and Applications

Modeling Minimum Cutting Velocity of a Cut-Clamp Combined Litchi Picker	
T.H. Liu	265
BP Neural Network in Prediction of the Constant-Current Hydrostatic Bearing Static Stiffness	
J. Tang, X.D. Huang and C.G. Fang	271
Dynamic Simulation and Analysis of Parallel Indexing Cam Mechanism Based on ADAMS	
Z.H. Ge, W.H. Liu, W. Huang and Y. Qu	275
Catastrophe Analyses of Rock Cut by Helical Cutting Mechanism	
S.Y. Liu, K.D. Gao, C.L. Du and L. Fu	280
Kinetics Performance of a Linkage with Dynamic State Balance and Small Fluctuation Features	
T. Ren	286
Research on Planet Crumb-Free CNC Pipe-Cutting Machine Mechanical Parameters	
K. Tao, X. Li and X.Y. Zhang	293
Research on the Construction Method of Intermittent Transmission Function and its Application	
Y.K. Cao, P.Q. Guo and H.D. Zhao	298
Analysis of Isometric Modification of Spur Bevel Gear	
H.Y. Cui, D. Yang, X.J. Tian and X.H. Men	303
E-Bayesian Estimation Method and its Applications in Reliability Engineering	
M. Han	308
Performance Analysis of Auto-Control Adjustable Speed Asynchronous Disk Magnetic Coupling	
C.J. Yang, Z.J. Ni and W. Zheng	313
Research on Automatic Mechanical Transmission Shift Schedule	
Y.B. Cao	318
Software Development of Steady Numerical Computational Method of Matching between Hydrodynamic Torque Converter and Engine	
H.W. Cui, W. Wei and Q.D. Yan	323
Study on Minimum Teeth without Undercutting of Standard Involute Gears	
J.N. He, W. Zhang, H.B. Zhang, W.X. Ma, S. Chen, Q. Li and Y. Gao	329
A Study on the Development of the Korean Gauge-Adjustable Wheelset System for Freight Train	
C.S. Kim, G.H. Kang and S.H. Jang	337
Kinematics Analysis of the Wedge Clamping Device of PET Bottle Blowing Machines	
T.A. Zou, C.Y. Pan, X.J. Xu and X. Zhang	341
Experiments and Modeling of a Rotatable-Direction-Valve in Bionic Undulating Propeller	
H.J. Xu, C.Y. Pan, Q. Li and F.D. Gao	348
Accurate Calculation on Bending Stress of the Tooth Root of the Involute Cylindrical Gear	
P. Zheng, L. Tang and Z.L. Jiang	354
Innovation Synthesis of Basic Configuration of Epicyclic Gear Trains with Three-Degrees of Freedom	
H.B. Ren and M.L. Huang	358
The Design of Worm Wheel Transmission Error Measurement System and the Research on Experimental Method	
F.Y. Zheng, Z.R. Chen, X.H. Chen and C. Dong	365
The Determination and Simulation for the Dead Zone of Opening/Closing Mechanism in the Bottom Door of the Railway Freight Cars	
C.Y. Wan, Y. Liu and X.F. Li	372
Natural Properties Analysis of an Idler Gear System of a New NC Power Turret	
L.J. Xu and N. Chen	377

Computation for Output Torque of Electromechanical Integrated Toroidal Transmission Y. Cai and L.Z. Xu	381
Computerized Design and FE Simulation of Meshing of Involute Spiral Bevel Gears with Alignment Errors B. Wang and L. Hua	386
A Novel Algorithm for Enumeration of the Planetary Gear Train Based on Graph Theory M.Y. Ma and X.Y. Xu	392
Research on Elastohydrodynamic Lubrication Theory of Rolling Bearing Type Planetary Friction Transmission Mechanism Y.T. Liu and J.Z. Zhao	400
Preparation and Kinetics of Wood-Based Ni-P Coating Electromagnetic Shielding Material by Ytterbium-Improved Electroless Plating B.Q. Jiang, Y.D. Liu, J.N. Zeng and W.L. Zhang	404
Transmission Efficiency Analysis of pin-Cycloid Planetary Gearing Reducer Applying Two-Stage Speed Reduction Used in Propeller Pitch Variator W.D. He and Q. Lu	409
Analysis of Automatic Welding Finned Tube Hydraulic System Based on Automation Studio Y.H. Sun, H.T. Li and C.S. Liu	416
Nickel Deposition on Pre-Electroless Plated Ni-P-B Coating on Quartz Optical Fiber in a Lanthanide Oxide-Added Watt Electroplating Bath B.Q. Jiang, J.N. Zeng, Y.D. Liu and X.H. Liu	421
Preparation of Pd/Ag Film on Porous Ceramic Tube by Osmosis Pressure-Assisted Electroless Plating B.Q. Jiang, J.N. Zhang, Y.D. Liu and J.G. Zou	426
The Systematic Design of Multi-Speed Internal Gear Hub for a Bicycle L.C. Hsieh and T.H. Chen	431
Structural Design and Analysis on Reducer with Traveling Wave Driving Principle R.Y. Song, X.C. Wang and M.Q. Zhang	436

3 Mechanical Reliability Theory and Engineering

Study of Reliability Modeling for Process System K.L. Zhang, B. Guo and P. Jiang	445
A Study on Measuring Method for 3D Motion of Balls in High-Speed Ball Bearings X. Gao and C.Y. Zhang	449
Time-Dependent Reliability-Based Robust Optimization Design of Components Structure B.Y. Wang, X.G. Wang, L.S. Zhu and H. Lu	456
Estimation of Fatigue Life for Hydraulic Excavator Boom under All Operating States Q.X. Ding, Y.C. Tian, J. Chen, J.W. Chen, K.L. Hui and H.W. Yin	463
Design and Force Analysis of a Roller-Type Garbage Sorting Equipment Z.X. Cui, H.J. Du, Y.Z. Zhao and S.J. Guo	470
Study the Equipment Based on Fast Flood Discharge Y.Z. Xu and F. Jiang	476
Reliability Assessment for a Certain Diesel Engine Based on Performance Degradation Data F.Z. Feng, W. Xing, A.W. Si and G.P. Wu	481
Dynamic Reliability Sensitivity Design of Mechanical Components with Arbitrary Distribution Parameters X.G. Wang, B.Y. Wang, L.S. Zhu and H. Lu	487
State Evaluation for Power Plant Equipment Based on Deviation of Operating Parameters Y.J. Gu, S.Y. Zhao, K.L. Chen and K. Yang	495
Stochastic Finite Element Method Using Polynomial Chaos Expansion W. Zhao and J.K. Liu	500
Design of Environmental Hardware in Car Alternator Testing System W.B. Wu, T.S. Hong, C.J. Mwape and H.B. Li	505
An General Method on Heat Dissipating Capacity in Multidimensional Heat Transfer S.J. Wang, R. Xue and W.C. Guo	509

Computing Method of Reliability Sensitivity under Independent Multi-Failure Modes M. Yan, L. Tang, P. Zheng and S.J. Wang	513
Out-Plane Stability of Derrick of Inclined Drilling Rig G.H. Zhao, Z. Liang, F.G. Jiang, J.L. Tian and L. Zhang	518
Study on Reliability for Vehicle Skeleton under the Action of Road Spectrum D.Q. Zhang, W.T. Zhao and L.F. Qin	522
Modern Aerotransport Line Maintance Reliability and Maintainability Index Analysis S.L. Feng	526
Fuzzy Optimal Design of Tower Crane Jib X.H. Li, J. Zhou, Y. Zhang and L. Dai	530
Reliability Assessment for Small Sample Based on Interval Degradation Data W.T. Zhao, D.L. Yao and W.P. Zhang	534
Research on Complex Structures Reliability Analysis Using Improved Response Surface Method Y. Cheng, C.Y. Zhou, J.R. Xie, L.C. Huang and J.H. Wen	538
Maintenance for Improving Manufacturing Equipments Availability Using Prognostics and Health Management J. Long and W.A. Jiang	543
Fatigue Reliability Copula Model of Structural Systems with Fatigue Life Correlation W.Q. Han and J.Y. Zhou	548
Influence of Casing Inner Wall Corrosion on Internal Pressure Strength Z.Q. Xu, X.Z. Yan and X.J. Yang	555
The Actualities and Development of Fatigue Reliability Design Methods of Pressure Vessels G.Z. Hu, L.D. Zhang, Z.B. Liu and K. Liu	559
Parameter Estimations of Inverse Weibull Distribution W.A. Yan, B.W. Song, Z.Y. Mao and H.Y. Le	564
Iteration Algorithm for Propagation of Mixed Uncertainties in Reliability Analysis C.C. Zhou, Z.Z. Lu and Q. Wang	569
Supercritical CO₂ Anhydrous Dyeing Equipment and the Static Stress Analysis of Key Components Y. Sun, H.D. Zheng and L.J. Zheng	575
Finite Element Analysis of High-Pressure Common-Rail Injector Body J.Y. Liu, Z.X. He, Q. Wang and Y.L. Huang	579
A Review of Reliability Principles in Conceptual Design Y.L. Cui and W. Wu	583
Application of Bayesian Method in Assessing Reliability Parameters of Mechanical Product Y.L. Cui and W. Wu	587
Reliability Study of Thin Seam Hearer Cutting Unit under Multi-Condition L.J. Zhao and Z.G. Sun	591
Design of Magnetic Levitated Thrust Bearing Experiment Table S.F. Liu, Z.J. Shi and C.F. Li	597
Stress Analysis of Rail for an Electromagnetic Launcher due to Projectile Movement Y.B. Geng and L.Z. Xu	603
Screw Relibility Design Based on the Linear Second Order Moment Method Q.Y. Yu, C. Zhu and Z.W. Wang	609

4 Theory and Application of Friction and Wear

Effect of Counterpart's Surface Micromorphology on Tribological Behavior of Nylon under Dry Sliding Contact C.H. Huang, M. Ding and H. Zhu	615
Fault Diagnosis for Rolling Bearing Based on Genetic-SVM Classifier Y.J. Xu	620
Research on Preventing Deflection Mechanism of the Auger Mining Machine C.L. Du, K.D. Gao, S.Y. Liu and L. Fu	625
A Study on the Accelerated Life Test for Hydraulic Cylinders G.H. Han and Y.L. Fu	630

Oil Droplet Motion Considering Breakup in an Aeroengine Bearing Chamber B. Chen, G.D. Chen and X.L. Shen	638
Friction and Wear of Typical Tool Material at Elevated Temperature H. Zhang, J.X. Deng, Z. Wu, X. Ai and J. Zhao	646
Preparation and Tribological Behaviors of Porous UHMWPE Using as Artificial Cartilage G. Wu, C.H. Zhao, H.L. Qin and X.Z. Zhao	651
The Friction and Wear Behaviors of 3-(<i>N</i>-di-<i>n</i>-butylaminomethyl) Quinazolin-4-Ones in Liquid Paraffin O.Y. Ping and X.M. Zhang	655
Experimental Study on Lubrication Performance of Slide Bearing with Groove on All Pads Y. Guo, W.J. Zhao, L. Yang and X.Y. Yuan	659
A Finite Element Cavitation Algorithm Using Free Mesh for Mechanical Face Seal J.H. Li, X.F. Liu, W.F. Huang and Y.M. Wang	670
Contact Angle Model and Wettability of Regular Microsurfaces X.B. Li and Y. Liu	678
The Wear Mechanism of DLC Films at Variable Working Conditions C.L. Chen, L.G. Liu and Z.F. Ni	683
Effect of Cylinder Surface Treatment on Diesel Engine Performance Z.W. Guo, C.Q. Yuan, P. Liu and X.P. Yan	689
Preparation of Electroless Ni-P Composite Coating and its Tribological Properties Y.T. Yan, Y.Q. Huo, Z.L. Sun and Z.X. Xu	696
Analysis of Piston Ring Lubrication with Different Lubricant Supply Y.B. Guo, X.Q. Lu, D.Q. Zou, T. He, W.Y. Li and Z.J. Li	700
Multiple Influencing Factors Analysis for Non-Conformal Contact Characteristics of Ball Screw F.J. Wang, J.W. Ma, Z.Y. Jia, J.Y. Yang and D. Song	707
Dynamic Viscosity Variation of Aqueous Solutions with Polyethoxylated Ether (PEOE) Added C.H. Zhang, S.S. Liu and J.M. Liu	715
Coupling Analysis of Frictional Heat under Control of Disc Brake Anti-Skid Brake System Y.B. Zhang and Y.Y. Zhang	721
Simulation on the Wear Behavior of the Wear-Resistant Surfaces Using Discrete Element Method R. Zhang, G.M. Chen, W.F. Fan and J.Q. Li	729
Numerical Simulation on the Lubrication Performance of Surface Textured Piston Rings Q.Y. Chang, X.L. Zheng and Q. Liu	734
Meniscus and Viscous Forces during the Nanoscale Separation of Sphere-on-Sphere Contact Surfaces S.S. Liu, C.H. Zhang and H.B. Zhang	739
A GAFCM Clustering Analysis Model for Diesel Engine Faulty Diagnosis X.G. Chen	745
Finite Element Analysis of the Static Performance of a Self-Slot-Compensating Aerostatic Bearing X.B. Zuo, J.M. Wang, C.L. Guan and J. Li	749
Study on the Fretting Wear Failure in the Cylinder Block of a Diesel Engine P. Huo, J.P. Wang and R.X. Gao	754
The Application of Fuzzy Mathematics in Shearer Malfunction Diagnosis J.W. Fu and B.W. Fu	759
Friction and Wear Characteristics of Spherical Plain Bearings with PTFE Woven Liners M. Qiu, Z.L. Gao, G.F. Wang and L. Chen	763

5 Vibration, Noise Analysis and Control

Torsional-Vibration Action Research on the Diesel Engine Crankshaft X.Q. Tian, S.Y. Liu and G.D. Ding	769
Vibration Characteristic of Shell-Shafting Coupled System Induced by Propeller Exciting Force Y.P. Cao, L.Y. Li and W.P. Zhang	773

Application of Model Based Diagnosis in Two-Span Rotor System with Two Unbalance Faults	
Y.G. Luo, S.H. Zhang, H.L. Yao and B.C. Wen	780
Experimental Study on Hermetically-Sealed Construction and Ether-Resistance Materials in DME Engines	
P. Huo, J.P. Wang and R.X. Gao	784
Determination Method of Angular Domain Resampling Order in Computed Order Tracking Analysis	
H. Cong, G.P. Wu, F.Z. Feng and W. Xing	790
Effect of Blade Numbers on Aerodynamic Performance and Noise of Small Axial Flow Fan	
L. Zhang and Y.Z. Jin	796
Propagation Character of the Stress Wave in Weld Joints	
H.W. Song, Z. Luo, S.S. Ao and R. Wang	801
Analysis and Design of Stator of Traveling Wave Type Rotary Ultrasonic Motor	
C. Chen and R.J. Chen	805
Research on the Effect of Fluid-Structure Interaction on Dynamic Response of Gate Structure	
H. Gu and G.H. Yan	811
Vibration Analysis of Gear Transmission System in Electric Vehicle	
B.H. Xie, T. Zhang and S.G. Zuo	819
Coupling Effects on Torsional Vibration with Clearance of a Two-Degree-of-Freedom System	
M.H. Zahid and E.G. Ovy	824
Investigation of Vibration on Vehicle Suspension System using Half-car-model	
M.M. Sarder, M.H. Zahid, H. Chowdhury and E.G. Ovy	831
Vibration Response Analysis of a Stepped Beam with Crack Using Composite Element Method	
X.B. Lu, Z.R. Lv and J.K. Liu	835
Reducing Vibration Analysis on Travel Stabilizing System of Wheel Loader Based on ProE and ADAMS	
G.N. Xu and B. Wu	839
Rotor Complex Fault Vibration Analysis Based on Frequency Heterodyne EMD Method	
H.Y. Hu, E. Bao and J. Kang	845
Identification of Excitation Source Number Using Principal Component Analysis	
J.C. Dong, T.J. Yang, X.H. Li, Z.J. Shuai and Y.H. Xiao	850
The Vibration Characteristics of a Large Flexible Vibration Isolation Structure with Finite Element Analysis and Modal Test	
L.B. Zhou, T.J. Yang, W.P. Yuan, H. Shi and Z.G. Liu	858
Dynamic Analyzing the Vibro-Impact System with Time-Varying Mass	
Y. Zhu, S.L. Wang and S.S. Zhu	865
Analysis of the Influence of Tunnel Blasting to the Neighbor Tunnel	
H.L. Wang, S.C. Cong, B.J. Wang and L.S. Liu	870
Influences Discipline of Tunnel Blasting Vibration on 20 Floors Reinforced Concrete Frame-Shear Wall Structure Building	
H.L. Wang, L. Wang, L.S. Liu and B.J. Wang	874
Hollow Effect Induced by Vibration in Cross-Harbor Tunnel	
H.L. Wang, Z.S. Wang, R.C. Bao and S.X. Li	878
Modification of Surface Velocity Calculation Formula in Tunnel Blasting	
H.L. Wang, X.B. Xue, S.X. Li and C. Li	882
Investigation of Self-adaptive Vibration Suppression for a Flexible Plate with Imbedded Fluid	
N. Ma, H. Xu and J.W. Wang	886
Decoupling Free Vibration System of Bridge Section Model	
M.J. Zhang and D.B. Xin	891
Application of Acoustic Emission on Fault Diagnosis of Rolling Element Bearing	
H.F. Yuan, P. Wang and H.Q. Wang	895
Gear Local Fault Diagnosis with Empirical Mode Decomposition and Hilbert Huang Transformation	
Z.N. Han and J.X. Gao	899

Study on Fault Diagnosis of Rotating Machinery Based on Lyapunov Dimension B.C. Wang, Z.H. Ren and B.C. Wen	905
A Method of Signal-Noise Separation from Measured Vibration Response Signals X.X. Bao and C.L. Li	909
Estimation of Random Sonic Fatigue Life Based on Peak Probability Density of Von Mises Stress Y.D. Sha, Z. Zhang, F.T. Zhao and J. Wei	913
Amplitude Incremental Complementary Energy Principle for Nonlinear Vibration of Elastic System Z.M. Liu, B.T. Sun, J.Z. Mao and Y.Y. Zhang	922
Multichannel Vibration Fault Diagnosis for Rolling Bearings Based on QPCA and SVM Z.F. Li and J.G. Li	927
Rolling Element Bearing Fault Detection Using Redundant Second Generation Wavelet Packet Transform N. Li and R. Zhou	931
Vibration Analysis and Optimal Design for Cab's Isolation System of Vibratory Roller L.V. Quynh, J.R. Zhang, G.W. Jiao, X.B. Liu and Y. Wang	936
An Optimization Approach of a Seeker's Optomechanical System under Random Vibration by Using Integrated Structural/Optical Numerical Simulation X.M. Guo, W.M. Kang and J. Zhao	941
Dynamic Analysis for a Subsurface Elastic Cylindrical Inclusion with a Semi- Cylindrical Hill Impacted by SH-Wave X.L. Lv and D.K. Liu	945
Analytical Solution of Lamb Wave Scattering at Plate End F.L. Feng, J.Z. Shen, J.J. Deng and Q.P. Wang	949
Separate Control Characteristics of Electro-Hydraulic Vibrator Using a Parallel Mechanism Y. Ren, J. Ruan and J.Y. Yi	953
Wavelet Method to Extract Shock Signal of Debris Flow H.K. Chen, H.M. Tang, Y.P. Zhang and X.Y. He	958
Analysis of Vibration Mode of Hydraulic Gate Structure H. Gu and G.H. Yan	966
Dynamic Response of Complex Structure in Half Space M.S. Gao and Z.G. Chen	973
Study on Modal Properties of Continuous Active Structures N. Li and L. Cheng	977
Analysis on Bistable Response of a Disk-Rod-Fastening Rotor L. Cheng, Z.W. Qian and W. Chen	983
A Simulation Research on the Noise and Flow of Vehicle Cooling Fans Z.C. Yuan, F.Q. Zhao, H.B. Chen and J.Y. Ma	988
An Experiment Investigation to the Effect on Measurement Precision of Torsional Vibration Z.C. Yuan, C.M. Wu, Y.J. Ma and X.F. Li	995
Numerical Modeling and Simulation of Random Road Surface Using IFFT Method Z.G. Hu, Y.L. Zhang, J.P. Ye, S.Y. Song and L.P. Chen	999
The Experiment Research on Related Factors of Influencing Combustion Noise of Diesel Engine Z.C. Yuan, H. Fang and F.Q. Zhao	1005
Study on Dynamics of the Bionic Mechanical Coupled Diaphragms for Sound Source Localization Q.S. Wang, X.H. Liu, X.L. Zhu and Z.S. Rao	1010
Automotive Interior Noise Analysis and Optimization Subjected to Different Road Excitations H.L. Niu, Q.C. Wang, Y.X. Wang and J.R. Fu	1014
Fault Diagnosis Based on Acoustic Emission Signal for Low Speed Rolling Element Bearing H.Q. Wang, Y.W. Guo, J.F. Yang, L.Y. Song, J. Pan, P. Chen and H.F. Yuan	1020
A Study of the Herschel-Quincke Tube Concept X.G. Liu and C.C. Yin	1024

Fault Diagnosis for Low-Speed Rolling Bearing Using Stress Wave and Wavelet Analysis B. Zhou, Y.L. An and C.Z. Chen	1031
Study on Active Control of Structural Frequency Response X.W. Zhang, X.F. Chen, S.Q. You, X. He, Y.J. Wang and Z.J. He	1036
Vibration Isolation with Semi-Active Friction Damping Y. Liu and L.H. Wen	1041
Test Verification of a New Type Damper for Piping System J.H. Jia, H.W. Wu and H.X. Hua	1046
Tribological Properties of Serpentine Nanoparticles as Oil Additive under Different Material Friction Pairs X.W. Qi, Z.N. Jia, Y.L. Yang, B.L. Fan and L. Shi	1051
Analysis of Transverse Vibration of Circular Plates with an Elastically Mounted Mass Based on Combination of GDQM and FEM P. Li and Y. Wang	1058

6 Mechanical Dynamics and Its Applications

Dynamic Structure Design of Large-Scale High-Speed Gantry Type CNC Milling Machine L.Q. Zeng, Z.P. Ma, X.Y. Zhao and D.W. Zhang	1065
The Nonlinear Magneto-Elastic Vibration and Stability of Current-Conducting Thin Plate in Longitudinal Magnetic Field Y.D. Hu, B.Z. Li and G.J. Du	1069
Adhesion Control of High Speed Train under Electric-Pneumatic Braking Z.M. Chen and R. Luo	1074
Nonlinear Superharmonic Resonance of Damped Circular Sandwich Plates with Initial Deflection G.J. Du, X.M. Liu, Y.D. Hu and C. Yu	1080
Research of Nonlinear Primary Resonance of Damped Circular Sandwich Plates with Initial Deflection G.J. Du, X.M. Liu and Y.D. Hu	1084
Research on Fabrication Techniques and Performance Analysis for 3×3 Cymbal Transducer Array Y.Q. Du, R. Dai and D.P. Pang	1088
Based on Preference Front Wheel Alignment Parameters Robust Design L. Zhang and E.G. Dong	1094
Response Analysis at Near Critical Point of Hopf Bifurcation in Nonlinear Systems Y.D. Chen, C.Y. Pei, S.H. Chen, X.J. Liu and J.X. Zhang	1098
Optimization Mathematic Model of the Arrangement of Aiguilles Cutting Picks J.P. Li, C.L. Du and H.X. Jiang	1102
The Analysis and Experiment Study on a New Driving Structure of Piezoelectric Vibration Feeder X.D. Tan, Y.S. Zhao, C.B. Liu and K. Zhang	1107
Dynamic Analysis of Communication Cabinet Structure Design N.O. Yang, Y. Liang, C.Y. Huang and H.G. Wei	1113
Research on Optimization for the Piston Pin Y.X. Wang and H. Gao	1118
Additional Acceleration on Spacecrafts and Corresponding Theory for Aeronautic Manufacturing and Space Shuttle Design W.J. Zhang and Y. Lei	1122
Modal Analysis of the Cabinet of a Drum Washing Machine S.F. Fu, H. Gao, J.X. Du, Q.J. Zhang, X.M. Zhang and X.Q. Chen	1126
Bearing-Rotor Coupled System Stability Optimization Design Based on Genetic Algorithm Y.F. Ding, L. Gan, J.B. Zhou and B.Y. Sheng	1130
Study on Control Method of Smelting-Pool Width in TIG Welding Based on Fuzzy Control Y.H. Hou, E.S. Li, S.H. Sun and Y. Bai	1134

Application of ANSYS Secondary Development in Magnetic Density Analysis of Permanent Magnet Synchronous Motor	1140
C.G. Ma, S.G. Zuo, R. He and L.C. He	
Design a New Type of Interfered Muffler Based on Pneumatic Tools	1145
H.P. Yuan, Z.Y. Gao, M.H. Liang, Z.C. Hu and Y. Pan	
The Influence of Crack on the Sound and Vibration Characteristic of Gear Structure	1151
R.P. Shao, Z.F. Xu and J. Ma	
Discussion of the Passive Shuttle-Type Control Technology Decreasing the Accident of the Nuclear Power Plant	1158
J.P. Zhang, J.G. Zhu and X.W. Zeng	
Performance Optimization and Comparison of TMD, MTMD and DTMD for Machining Chatter Control	1165
M. Wang, Y.L. Zhang and T. Zan	
Experimental Research on Influence of Loading Method on Dynamic Behavior of Recycled Concrete	1171
X.W. Luo and H.L. Yao	
Optimization Design of Tank Structure for Semi-Trailers	1175
S. Zhao, J.G. Wang, L.L. Dai, Y.Q. Deng and J. Miao	
Study on Multi-Objective Optimization Design of Planetary Gear Reducer	1180
H. Zhang, X.Q. Shen, F.S. Yu and J.H. Liu	
Modal Stiffness Contributions of Components to Full Truck	1185
S.H. Pan and Y.D. Chen	
Heat Load Analysis of Piston Based on the ANSYS	1192
J. Yang, Y. Wang and M.W. Xiao	
Optimization Design of Piston Head on ANSYS	1196
Y.X. Wang and H. Gao	
Simulation Analysis of Crash Tests for the Front Side Member in LS-DYNA	1200
H.J. Yin, J. Jin, P.H. Yang, Y. Pan and S.K. Ma	
Dynamic Analysis for the Viaduct Type of Longmen NC Engraving and Milling Machine	1206
H.J. Yin, P.H. Yang, J. Jin, Y.F. He and Y. Pan	
Application of Two-Port Network in Bilateral Control for a Haptic Interface with Force-Position Compensation	1211
J.J. Meng and J.T. Yun	
The Robust Optimization Design for Breaking Spring of Spring Actuator of Vacuum Circuit Breaker	1217
B. Sun, G. Chen, X.M. Liu and E.Z. Wang	
Structure Optimization of Slip by the Combination of Artificial Neural Network and Genetic Algorithm	1223
D.X. Li, H.L. Zhao, S.M. Zhang, D. Geng, X.L. Liu and S.J. Zheng	
Modeling and Co-Simulation for Hydraulic System of Test-Bed of Semi-Automatic Coupler Draft Gear Based on AMESim/Simulink	1230
B.S. Xu and G.S. Ren	
A Simple Synthesis Method for Spherical 4R Linkages Reaching Four Positions	1236
T. Yang, J.Y. Han and L.R. Yin	
A Synthesis and Optimal Method for Straight Line Mechanism with Burmester Points	1240
L.R. Yin, J.Y. Han and T. Yang	
The Obstacle-Surmounting Process Simulation of Arm-Swing Wheeled Robot Based on MATLAB	1244
L. Gong, Y.F. Ding, B.Y. Sheng and D.D. Che	
Optimization Design of Beam Pumping Unit Based on Response Surface Method	1249
X.J. Yang, T. Yan and X.Z. Yan	
Optimal Design of Bogie Parameters Determination Test Bench Gantry Framework Based on SolidWorks/Simulation	1253
D.L. Zhang, J. Su, X.N. Cao and H.B. Gong	
A Numerical Integration Method of Dynamic Finite Element Analysis	1257
X.P. Liang	
Model and Simulation of Three-Section Crossbeam Based on Experimental Data	1262
T.N. Guo, D.L. Guo, L.G. Cai, F.P. Li and B. Song	

The Structural Analysis and Rapid Optimization for High-Speed Spindle Box H.X. Wen and L. Jun	1269
Dynamic Analysis and Experiment of Beamlike Space Deployable Lattice Truss H.W. Guo, R.Q. Liu and Z.Q. Deng	1273
Optimal Control Discipline Research of Hydraulic System of Sugarcane Harvester Y.Z. Hu, Y.C. Hu, J.Y. Hou and H. Zhu	1281
Modal Analysis of Cracked Plate Using Interval B-Spline Wavelet Finite Element Method H.F. Peng, G.W. Meng, L.M. Zhou and Z.L. Yang	1287
Integrated Design of Materials and Structures with Scale-Coupled Effect Y.D. Liu and Y.H. Yin	1292
A Topology Optimization Method in Fuselage Flutter Model Design R. Yang, Y. Liu and L. Zhou	1297
Multi-Dimensional Optimization of Groove Parameters in Gas Film Seal G. Ma, X.H. Li and X.M. Shen	1303
Modal Sensitivity Analysis of PCB T. Hu, P.A. Du, J.H.L. Ha and J.T. Liu	1308
The Research on Kinematics and Optimized Design of a Novel Parallel Mechanism with Six Freedoms C.A. Fu, J. Hao and W. Chen	1314
Structure Improvement of the Principal Axis of a CNC Vertical Boring-Milling Machine Q.H. Luo, W.W. Peng and P.F. Zhang	1320
The Impact Effect Study Due to The Suspender Break in Through Arch Bridges R.J. Jiang, Y.Y. Chen, Q.M. Wu and X.W. Yi	1324
Multi-Objective Inversion Design of Cutting Head by Hard Rock Boring Machine Based on Fuzzy Theory and Genetic Algorithms Q. Zhang, Q.S. Song, S.J. Li and Y. Tian	1331
Analysis of Energy Absorption in Cutting Processes of Roll-Over Protective Structure of Engineering Vehicle Y.S. Zhang, G.Q. Wang and C.Y. Pei	1335
Finite Element Analysis of Static Characteristics of a Hydrostatic Guideway and its Effect Factors Y.Z. Sun, Y.L. Liu, H.T. Liu and Y.C. Liang	1339
Analysis of Seismic Vibration Reduction of Latticed Shell with Bucking Restrained Braces Z.Z. Yin and X.L. Wang	1343
Optimization Design of Three Helical Tooth Star-Wheel Loading Mechanism Based on ACO X.H. Li, L. Jiao, Y.L. Cao and C.H. Liu	1348
Dynamic Characteristics Simulation of Luffing System for Aerial Work Platform Truck Based on Matlab/Simulink T.H. Luo, X.L. Yang, W.J. Luo and L. Lin	1352
Analysis and Simulation on Dynamic Stress of Tracked Vehicle Sprocket Based on Rigid-Flexible Coupling B. Chen, Z. Tian and Z.J. Yin	1358
The Numerical Simulation and Experiment on Temperature Field in ICF Driver's Target Building Y. Zhou, Y.F. Liao and J. He	1362
Optimization Design of Walking Beam Based on Stiffness Constraint X.W. Dang and J.L. Huang	1368
Overhang Effect on the Contact State between the Three-Point Bending Specimen and Supports in Hopkinson Bar C.H. Guo	1374
Mechanical Structure Optimal Design of 3D Non-Destructive Measurement System Y. Gan, J.R. Zhong and N. Sun	1378
The Solution of Problems in Cast Iron Dryer End Covers Designing H.Y. Lu, R.H. Tan and X.X. Bian	1383
Dynamical Analysis on Sugarcane Cutter Rigidity Enhancement X. Lai, S.P. Li, F.L. Ma, J.H. Zhou and Z.Z. Zhang	1387

Dynamics Research of Ultrasonic Peristaltic Micro-Fluid Driving Model D.D. Zhang, S.S. Wei, G.L. Wang and C.Z. Wei	1391
Method of Compensation Control for Shaking Table Z.B. Li, Z.Y. Tang, J.B. Ji, X.L. Li, D.X. Zhou and W.M. Yan	1397
Prioritizing Design Configurations of Vertical Grinding Machines Considering Static and Dynamic Performances Y.L. Chen, C.H. Wang, J.P. Pang, D.W. Zhang and G.L. Xia	1405
Modeling of Load Distribution in Large-Size Wind Turbine Blade Bearings Z.G. Shang, T.Y. Gao and H. Wang	1410
An Optimization and its Realization of Mast Crane Based on APDL S.J. Song, L. Li, J.Y. Wang and L.Y. Song	1414
Kinematics Analysis of 6-DOF Transportation Vibration Platform Y. Zhu, S.S. Zhu, G.J. Wang and X.G. Liu	1419
A Study on Test Technology of Ship Shafting Torsional Vibration X.F. Wen, X.D. Wang and Q. Yuan	1423
Preliminary Study on Vertical Subsoil Participating Mass G.L. Wang, S.Y. Qu, X.M. Hou, F.F. Zhu and J. Zhang	1429
Design and Experimental Study of the Vibration Control Device for Large Spatial Structure S.L. Wang, J.B. Dai, X. Zhao and L.L. Miao	1435
Optimal Design of Main Parameters for Pumping Unit of Automotive Power Steering Units G.M. Li, K. Cheng and L. Yan	1441
The NAVMI Factor and Natural Frequency of a Circular Plate Exposed to Water in Flexural Vibration H.J. Ren and M.P. Sheng	1445
Modal Analysis of Ball Mill Rotator Based on FEM Technique Q.Y. Men, G.W. Cheng and Y. Han	1451
The Application of the Elman Network on the Vehicle Handling Stability Control S.J. Zhou, J.Q. Long and K.G. Zhao	1457

7 Heat and Heat Engineering

3D Analysis of Vibration Isolation by Wave Impeding Block in Non-Uniform Layered Ground under Horizontal-Rocking Coupled Loading G.Y. Gao, B. Zhang and W. Li	1465
Research of Gas Heater with Different Intermediate Heat Carrier Medium Y. Guo	1472
Study on Thermal Contact Resistance for Heat Transfer of High Power LED Packaging G.T. Ren, K.L. Pan, W.T. Zhu, J.P. Wang and J. Huang	1477
Analysis of Thermal Resistance for High-Power Light-Emitting Diodes W.T. Zhu, K.L. Pan, G.T. Ren, J.P. Wang and J. Liu	1482
Modeling for 3-D Temperature Field of Oil-Immersed Transformer S.X. Qian, J.W. Xu and X.J. Gu	1487
Numerical Modeling and Simulation Analysis of Temperature Field of Disc Brake on Trains G.S. Wang, R. Fu and L. Zhao	1492
Study on Vibration Reduction of Finishing Lapping Machine for Bearing Race J. Man, L.H. Zhang and Y.L. Chen	1496
Spreading Resistance Analysis of LED by Structure Function D.J. Liu, D.G. Yang, Z. You and F.Z. Hou	1501
The Impact of Hybrid Ventilation on Thermal and Energy Performance in Hot and Humid Weather J.F. Song	1505
Synthesis Method of Heat Exchanger Network for Distillation Device Y.L. Ge, P. Wang, S.Q. Shen and J.L. Xu	1509
Inaccuracy of Heat Transfer Characteristics for Pin Fins Considering the Influence of Heat Radiation F.J. Wang, J.C. Chang, K.C. Lin and K.L. Wong	1513

Numerical Investigation into Thermal Behavior of Brushless Permanent Magnet Motors L.M. Fu, C. Lin, C.L. Chang, J. Chang and C.H. Tsai	1518
Experimental Study of Pressure Drop and Heat Transfer of Heat Exchangers with LASH Baffles H.Y. Sun and C.F. Qian	1523
Quality Control of Heat-Treated Surface of 20CrMo Steel Transmission Countershaft H.M. Wang, X.J. Wang and X.C. Ma	1528
Comparisons on Flow and Temperature Fields for Water-Collecting Box of Diesel Exhaust System X.C. Wang, G. He, X.L. Pan and X.Y. Shi	1532
The Optimal Structural Parameters of Embedded High-Power Microwave Components Based on RSM-GA P. Chen, Z.H. Wu, S. Zhang, T.W. Bi and Q.S. Xiong	1537
Characteristic and Forecast of the Error Cell on Machine Tool Q. Huang and C.J. Gao	1541
Dynamic Thermal Equilibrium Test and Analysis of the Small Gasoline Engine C.B. Liu and P. Liu	1545
Thermal Design and Analysis of a Satellite Borne Electronic PCB B. Chen	1551
Study on Kinematics Simulation of 3-TPT Parallel Machine Tool Based on Pro/E H.H. Zhao and C.Q. Wang	1555
Three Point Suspension Converter's Mechanical System and Elastic Friction Vibration Principle Analysis Q.M. Huang, J. Xu and Z. Gao	1560
Macro-TG Reactor and Thermogravimetric Analysis for Cooking Oil Tar Samples Z.W. Xie and K.Y. Su	1569
Experimental Investigation on Flow Boiling in Micro-Channel with R32/R134a X. Guan, H.G. Ma, R.J. Xie, J.M. Bai and H. Liu	1574
Optimization Methods and Application Research of Stator Cooling Pipeline in High-Speed Grinding Wheel System B.Z. Li, R.J. Feng, J.G. Yang and Z.P. Wu	1579
Digital Design of Planetary Gear Mechanism of Thin Seam Shearer Cutting Department H.X. Jiang, C.L. Du, J.P. Li and X. Wu	1586
Analysis of Formed Platelet Thermal Wrinkling in Platelet Transpiration Cooling Y.F. Hou and W.Q. Liu	1590
Finite Element Analysis on the Influence of Back-Up Ring on the Sealing Effect of Rubber O-Ring D.X. Li, H.L. Zhao, S.M. Zhang, C.R. Wu, X.L. Liu and S.J. Zheng	1595
Extinction Thread to Infrared Lensdissipation Stray Light Research G.D. Wang and Y. Zhang	1600
A Heat Transfer Model of Dropwise Condensation Underneath a Horizontal Substrate Y.F. Chen	1604
Transfer Heat Mechanism of Oil-Gas-Water Three-Phase Flow in Pipeline Q.J. Mao	1609
Anisotropic Heat Analysis Using Hybrid Finite Element Model with Element Boundary Integrals H. Wang and X.J. Zhao	1613
Simulation of Drive System for some Type of Amphibious Armored Vehicle Based on AMESim L.G. Su, L.Q. Duan and C. Liu	1617
Finite Element Analysis on Frame-Type Hydraulic Press D.S. Bi, D.D. Liu, L. Chu and J. Zhang	1623

8 Materials/Mechanical/Multi-Disciplinary Engineering Education

Study on Practice Teaching of Engineering Colleges or Universities Y.S. Yao, K.R. Zhang, L. Dahua and Y.P. Ma	1631
---	------

Innovation Design in Machine Theory for Mechanical Engineering Education J.G. Qiang	1636
Persist in Cultivation of Engineering Drawing Ability & Improve Ability of Students' Engineering Practice B. Chen, Y.G. Fan and C.Y. Wu	1640
Application of ADAMS in Course Teaching of Mechanism W.J. Chen and J. Zhang	1645
Reform of Mechanics Education Based on the Network Teaching and Competition J. Liu	1650
Team Construction of Adjunct Graduate Tutor of Mechanical Engineering in Local College Q. Wang, D. Zhao, H. Zhang, Y. Zhou and J.S. Yang	1654
The Application of Virtual Prototyping Technology on On-Off Pressure Mechanism of Printing Press X.H. Wang, Y.S. Qi and X.H. Wang	1658
Construction and Practice of the Advanced Manufacturing Engineering Training Platform Based on Network R.J. Lv and J.W. Liu	1663
Cost Accounting Game Model for Education and Operating Method H.J. Cho and J.I. Park	1667
Analysis of the Cultivation Mode of Chinese Exemplary Engineering Innovators J. Sun, W.J. Xu and D.L. Wang	1671
Study of Interdisciplinary Specialized Mechanical Engineering Education P. He, N.C. Chen and J. Wu	1676
The Team-individual Approach for Curriculum Design Course in the Mechanical Engineering Education P. He, N.C. Chen and D.M. Hu	1680
The Influence of WH-II Super Set-Retarding Agent on the Heat of Hydration and Indices of Portland Cement C. Gao, S.X. Gao and H.Z. Chen	1684
Construct the New Type Experimental Teaching Pattern in Engineering Subject and Strengthen the Practice and Innovation Capability G.S. Feng and T. Feng	1693
Analysis on Mode of Practical Teaching Link in Innovative Engineering Master Education X.W. Zhai	1697

9 Manufacturing Enterprise Project/Engineering Management

Enterprise Multi-Project Selection Evaluation Based on Fuzzy Optimal Model J.J. Xiao, X.J. Liu and Z.J. Gao	1707
Management of Industrial Clusters: a Focus on SMEs M. Zeinalnezhad, S. Sahran and M. Mukhtar	1712
Research on Residence Common Value Z.J. Gao, J.J. Xiao and X.J. Liu	1716
Application of Entropy Weight Technique in Grey Relational Analysis for Scheme Optimization of Sewage Treatment Plant Y.Q. Cheng and H.M. Ma	1722
Study on Game Decision-Making for Manufacturing and Logistics Joint Development S.W. Ji, J.M. Meng, Y.Z. Wang and X.Y. Han	1729
Analysis on the Incentive Decision of Manufacturing Logistics Outsourcing J.J. Chen, S.S. Zhou, Y. Guo and X.Y. Han	1734

10 Other Related Topics

The Study on Crystallization Kinetics of Glass-Ceramics Containing Rare-Earth Tailings by DSC T. Zhao, K.M. Wei, Z.Y. Gao, B.W. Li and D.Q. Cang	1741
--	------

Research on the Ball Annealing Parameters of Steel Cr12MoV under the Effect of Impulse Electric Field	
L.S. Song, P.T. Lu and H.Q. Wang	1747
Design of a Novel TiO₂ Thin Film Device	
H.C. Teng, A. Yeh, J.W. Hu, Y.T. Cheng, S. Cherng and Y.J. Hung	1751
Effect of Ultraviolet Irradiation on Photoelectric Properties of Indium Tin Oxide (ITO) Thin Film Deposited by Sol-Gel Method	
Q. Kang, X. Wu, J. Liu and B. Yang	1756
Realization of Power Supply and Optimization in Telemetry System	
Y.R. Chen, H.X. Zhang and J.H. Zhan	1761
Research on Energy-Saving Technology in Electric Furnace Dedusting System Based on Information Fusion	
B.Q. Zhou, J.E. Lu and X.H. Kui	1765
Image Identification for Surface Defects of Steel Ball Based on Support Vector Machine	
Y.W. Yu, G.F. Yin and L.Q. Du	1769
The Coupling Support Technology for Y Style Large Span Intersection in Deep Soft Rock Roadway	
Z.J. Li, X.L. Zhao and Y. Zhang	1773
Application of GA-FNC in Crystallizer Liquid Level Control System	
M. Li and D.Y. Yang	1777
The Superwater Using to Control Slime Pulp in Packing Paper and Optimize Close System of Whitewater	
F. Du, Z.J. Li and X.M. Fan	1781
The Effect of Fiber Constitution and Beating Process on Surface Strength of Packing Paper	
H. Zhao, L. Qi, F. Du and C.J. Yu	1785
Luminescence and Scintillation Properties of Ce-Doped YAP and LuYAP Crystals	
A. Phunpueok, W. Chewpraditkul, P. Limsuwan and C. Wanarak	1789
Luminescence and Scintillation Properties of Ce-Doped LYSO and YSO Crystals	
C. Wanarak, W. Chewpraditkul, A. Phunpueok and J. Kaewkhao	1796
Investigation of Sol-Gel Technique to Prepare ITO Films Using Orthogonal Experiment	
J. Liu, J. Liu, X. Wu and B. Yang	1804
High Precision Grinding Wheel Dressing Control Based on PLC	
Z. Ning, T. Li and G. Hui	1809
A New Technology of Producing Fe-TiC Powder by Mechanical Activation-Reductive Diffusion	
W. Li and K. Sun	1813
A Home-Made Automatic Analyzer to Determine the Dissolved Organic Carbon in Seawater	
L.J. Tan, J.T. Wang and Y. Li	1819
Effect of Chitosan Biguanidine Hydrochloride on Textile Properties of Antheraea Pernyi Silk	
Y.H. Lu and M.S. Song	1823
Research of Temperature Field Simulation on Electrode Wire Wear for WEDM	
C.J. Li, J.C. Bai, Y.F. Guo, Z.S. Lu and W. Ma	1827
Features and Technology of Piezoelectric Hydrophone	
Q.P. Wang, R.C. Liu, P.F. Cheng, F.L. Feng, X.F. Jiang and H.C. Liu	1832
Electron Emission from Ferroelectric Cathode	
Q.P. Wang, S. Tang, X.D. Huang, H.W. Yu and X.A. Yan	1836
Microwave Annealing of Cold Compression Deformation Red Copper	
W. He, Y.L. Ai, J.Y. Ding, L. Liu and F. He	1840
A Novel Method for Sheet Formation of Porous Spray Deposited Al-Fe-V-Si Alloy Reinforced with SiC Particles	
Y.Q. He, N. Wang and Z.H. Chen	1845
Research on Grinding Technology Optimization of Bearing Steel Ball	
C.A. Fu, Y.W. Zhang, Y. Liu and T. Zhang	1852
Step Vibration Drilling for Micro Inclined Hole	
P. Zhang, X.Y. Guo and D.Y. Zhang	1857

Research on Hot-Rolling Technics of a Nickel-Based Corrosion Resistant Alloy Y.F. Li	1861
Study of the Effect of in-Line Induction Annealing on a Set of Mechanical Properties of TP2 Copper Tube H.J. Zhao, L.H. Peng, C. Mao and Z.B. Zhang	1865
Development of Microstructure of Semi-Solid 6061 Alloy with Method of Alternating Electromagnetic Stirring W. Liu, J.L. Chen, X.L. Ma and X. Ding	1870
On the Deep Small Hole Machining Method of Nickel-Based High-Temperature Alloy S.C. Di, Z.L. Li and D.B. Wei	1874
Effect of Deformation Temperation on Dynamic Recrystallization Behavior for High-Carbon Steel A.C. Ren, Y. Ji, G.F. Zhou and Z.X. Yuan	1880
Virtual Machining of Spiral Bevel Gear Based on VERICUT Y. Wang, L. Zhao and J.B. Kou	1885
Microstructure and Properties of Cu-Cr Alloys Prepared by a Shortened Process and a Conventional Process C.D. Xia, M.P. Wang, G.Y. Xu, W. Zhang, Y.L. Jia and H.C. Yu	1890
Subassembly-Centered Product Assemblability Analysis Method B.S. Lv	1896
Simulated Analysis of Flow and Deformation in Trilateral Constrained and Asymmetric Square Cup Deep-Drawing L.C. Huang, X.T. Xiao, L.G. Tan and G.L. Li	1901
Influence of Fining Temperature on Glass Qualities X.Q. Liu and J.L. Xie	1906
Determination of the Weights of Evaluation Indices with Combined Weighting Model for Engineering Materials T.Y. Zhang and K. Chen	1912
A Methodological Study of the Enhancement of the Bid Success Probability for the Bidder G.Y. Chen and T. Chang	1916
Strain Gradient Finite Element Analysis of Size Dependence of Thermal Stresses in Through-Silicon Vias (TSVs) W.G. Jiang, C. Xu, J.F. Yu and J.S. Wang	1920
Cold Extrusion Process Analysis of "Seven-Speed Sleeve" and Forming Parameter Optimization R.X. Chai, C. Guo, H.Q. Hu and L.Y. Zhang	1924
Effect of M-ZrO₂ on Sintering Behavior and Thermal Shock Resistance of Dense Cr₂O₃ Material H.J. Yin, T. Zhang, A.J. Wu and J.X. Wang	1928
Research on Print-Through and the Prejudging Model Based on the Color Difference Evaluation Y.G. Yang and Q.Z. Gao	1932
Effect of Cu/In Ratio on Properties of CuInS₂ Films Prepared by Ultrasonic Spray Pyrolysis Method X. Zhang, H. Wang, J.W. Xu, L. Yang and M.F. Ren	1936
Preparation of Bauxite-Based Homogenized Mullite Groggs with Bauxite and Coal Gangue Z.Z. Yang, Z.X. Xing, Z.F. Gai and H.Q. Liu	1940
Research on Flow Stress for 00Cr12Ti Stainless Steel B.L. Fan, K.Z. Guan and G.H. Huang	1945
Microstructure and Anti-Corrosion Properties of Arc-Sprayed Aluminum Coating in Splash Zone Q.J. Zhu and K. Wang	1949
Microring Resonator Chemical Sensor Based on Si₃N₄ Waveguides Y. Chen	1954
In-Process Monitoring and Prediction of Surface Roughness in CNC Turning Process S. Tangjitsitcharoen	1958
Effect of Surface Free Energy and Electrochemical Polarization on Attachment of Sulfate Reducing Bacteria D.X. Duan and C.G. Lin	1967

Light-Colored and Organosoluble Fluorinated Polyimide Derived from 1,2,3,4-Cyclobutanetrtracarboxylic Dianhydride	
Y.H. Lu, Z.Z. Hu, Q.X. Fang and Y.F. Wang	1973
Effects of Rare Earth on Electrochemical Corrosion Behavior of Graphite-Like Carbon Coatings	
Z.P. Wang, P.B. Chen, Z.W. Ma and J.T. Yu Wen	1978
Curved Layer Fused Deposition Modeling in Conductive Polymer Additive Manufacturing	
O. Diegel, S. Singamneni, B. Huang and I. Gibson	1984
High Temperature Deformation Mechanical Model and Processing Map of Ti-6Al-2Zr-1Mo-1V Alloy	
Y.N. Wang, X.C. Zhao and H.Z. Ma	1988
Research on Milling Stability Using CNC Small Size Tool	
Y.X. Luo, X.L. Shen, H. Long and L.X. Zhang	1993
The Preparation and Application of Chitosan Derivatives for Ni Coating on ABS	
X.J. Tang, J.G. Wang and B.X. Shen	1999
Development and Validation of Mathematical Model for Gas Transmission through Thin Film	
Z.J. Ban, J.H. Feng, X.H. Li and L. Li	2005