Table of Contents

Preface

Conference Organizers	
A New Design Method—Deep-Layer Synthesized Design Method of Full Functions and Full Performances of Product B.C. Wen, X.P. Li, W. Sun and Z.H. Ren	1
Effects of Residual Stress on Interfacial Bonding Strength of WC Coating D.J. Kong, F. Yuan and H. Miao	10
Global Manufacturing: Reconfiguration of Machines in Addressing Changing Customer Requirement Scenarios M. Flowers and K. Cheng	15
A Web-Based Customization Product Design System Y.X. Wang, Z.L. Wang and X.Y. Ni	20
Technology for Locating System of the Laying Pipe Manipulator D. Wang, H.Y. Liu and B. Li	25
Parametric Oscillation Model of Crane with Lifting Motor Reducing Load Swing W. Li and X.P. Hu	30
Study on the Integrated Development System for Carbody of Multiple Unit Based on Digital Prototype Technology G.Z. Hu, S.N. Xiao, L. Wu and S.D. Xiao	34
Dynamic Response Analysis of Working Device of Hydraulic Excavator under Working Impact Loading	<i>3</i> .
L.X. Guo, H.L. Xie, S.W. Zhou, J.L. Li, Z.W. Wang and R.F. Xing The Numerical Simulation of Horizontal Straightening for 60 kg/m Heavy Rail with	39
Original Curvature H. Song, L.H. Fu, P.L. Wang, D.X. Ding and H. Li	44
Research on Capacity Balancing Model in Iron & Steel Enterprise X.B. Liu and H.L. Wang The Optimal Standards on the Capacity of Model in Bandon Injection Modeling Based on the	49
The Optimal Structure Design of Mold in Powder Injection Molding Based on the Numerical Simulation Z.X. Zheng, W. Xia and Y.B. Wu	55
Experimental Study on the Belt Grinding Mechanism for Aluminum Alloys S.X. Yuan and B. Bi	60
3D Mechanical Models Retrieval Based on Combined Histograms for Rapid Product Design H. Jing, M.F. Huang and C. Li	65
Research on CNC Turning System Based on STEP-NC J. Sun, X.L. Zhang, J. Wang and J. Song	70
An Intelligent Control System for Digital Workshop Production J.J. Cao and Y. Li	75
Study on Vibration Friction Mechanism and Vibration Response Analysis Based on Vibration Compaction System Y.N. Teng, X.P. Li, H. Ma and B.C. Wen	84
Service-Driven Networked Collaborative Manufacturing Execution Platform for Extended Enterprises Q.F. Wang	88
Research on Fuzzy-PID Control for a Tension System of Rotary Magnetorheological Damper L.Y. Hu and A.L. Chen	93
The Research of Electronical Control System Based on OSEK/VDX Y. Pan and J.C. Liu	100
Monitoring of Drill Wear State Using Wavelet Packet Decomposition (WPD) and Welch Spectrum	
X. Yang, H. Kumehara and W. Zhang Numerical Design and Analysis of a Certain White Bodywork	105
Y. Yang, Y.S. Li and F.L. Meng	110

Dynamics Analysis of Rotor Systems in Large Centrifugal Compressor H. Ma, J.S. Dai, X.J. Wang and B.C. Wen	115
Processing Micro-Gear Based on Bio-Etching Method Y.D. Liu, X.B. Wang, Y. Yang and W.T. Shi	120
Numerical Simulation of Whole Impeller for 5-Axis Machining Based on UG F. Yuan	124
Generation of Optimized Assembly Sequences Based on Priority Rules Screening J.P. Yu, C.G. Wang, H. Yu and W.L. Zhang	130
Design of Step Motor Fuzzy Control System and its Application X.H. Kong, B.J. Zhang, X.M. Zhang and G.H. Li	135
Design of Self-Regulating Fuzzy Control System for Vacuum Sintering Furnace Q.G. Feng, H.P. Mao and X.M. Zhang	140
Application of Compound PID Control in the DC Servo Motor X.Y. Song, Q.J. Yang, X.M. Zhang and Q.G. Feng	145
Design of Compound Fuzzy Controller for Multivariable Systems X.M. Zhang, G.X. Zhang, F. Shao and Q.J. Yang	150
Design System Development of Tool Magazine for CNC Machine Tools Z.Q. Sheng, H.L. Xie, Z.W. Xu and P. Li	155
Research on Vibration and Instability of the Double-Span Beam Base on Transfer Matrix T. Liu, F. Feng, Y.Z. Chen and B.C. Wen	160
A Dynamic Group Service Recommender System in Migrating Workflows R. Wang and G.Z. Zeng	164
Security Solution of Mobile E-Commerce Based on WAP M.L. Jin, Y. Cheng and W.L. Peng	169
Application of the Back Propagation Neural Network Model on the Supplier Evaluation in E-Manufacturing Environment	
J. Chen, M.H. Wu and I. Oraifige	174
Car Seat Backrest Static Strength Experiment and Simulation Z.W. Xu, Z.Q. Sheng, H.H. Zhang and Y.X. Liu	178
Multi-Agent Approach for E-Commerce Negotiation P.C. Su, G.H. Wang, J.Y. Yang and W.S. Wang	183
Study a Fuzzy Inference System on the Supplier Evaluation in E-Manufacturing J. Chen, M.H. Wu, W.R. Jiang, A.B. Wang and J.H. Yan	189
An Engine Dynamic Signal Testing System Based on Virtual Instrument Technology Y.J. Liu, F.T. Cai, W. Zhou, X.L. Zhang and T.X. Zhang	193
The Collaborative Design and Manufacture of Injection Molds Based on the CSCW Z.H. Ge, Q.K. Yuan, M. Jiang and X.Y. Tang	199
Dimension Parameter Transfer Method Based on Constraint Satisfaction Priority in Variant Design	
W.P. Shao, Y.P. Hao, Y. Wang and Y.X. Liu	203
Study of Water Temperature Control Strategies for Fuel Cell Electric Vehicle Engine System	• • •
G.Y. Zhao, C.Y. Peng and H.X. Chen Process Interoperability Framework Based on PSL for Collaborative Product Design	208
P.F. Zeng, Y.P. Hao, W.P. Shao and Y.X. Liu	214
Research of Workflow Modeling System for Business Process Management Y.P. Hao, W.P. Shao and L.L. He	219
Research and Application on Vibrating Style Drier with Conduction and Heat Transfer J. Jiang, T. Zhu, Y.H. Xie, J. Han and L. Wang	224
Design Object Planning of Vehicle NVH Performance Improvement Based on HOQ J. Liu, L. Tong, C.F. Li and B.C. Wen	229
A HLA-Enabling Method in Collaborative Simulation Environment for Complex Product Development	
M.M. Fan and Y.S. Fan	234
Dynamic Analysis of Vibration Compaction System Base on Transfer Matrix Method Y. Liu, F. Feng, Y.Z. Chen and B.C. Wen	239

Development of Compliant Tool System of Digitalized Precision Polishing for Aspheric Surfaces	
J.B. Zhang, J.M. Zhan and B.D. Lv	244
Study on Speed Control System of Fluid-Driven In-Pipe Robot J.Y. Li, X.B. Su, L. Jiang, R.L. Li, X.H. Gao and Y. Wang	249
Numerical Analysis on Starved Elastohydrodynamic Lubrication Characteristics of Spiral Bevel Gears	
Y.T. Yan, Z.L. Sun, Q. Yang and Y.Z. Wang The Study of Meshing Performance for Single Screw Compressor Based on Contact	254
Analysis K. Wang and B. Zhao	259
Vibration Analysis of Aeroengine Compressor Blade-Disc Coupling System W.Q. Zhao, Y.X. Liu and M.W. Lu	264
Finite Element Analysis of the Effect of the Compressive Loading on Fatigue Crack Growth under Different Loading	
Y. Sha, H. Tang, X. Song and J.Z. Zhang	269
A New De-Noising Arithmetic in the Output Signal of FOG Y. Liu, Y. Li and J.T. Xu	273
Dynamic Simulation and Control Strategy of Centrifugal Flying Shear J.C. Song, C.Z. Wang and D. Xu	278
The Application of Reverse Engineering in the Design of Electric Vehicle Panel F. Li, L.F. Feng, X.Q. Wu and Y.B. Hui	283
An Access Control Model for Workflow in Service Oriented Environment Y.H. Wei, Y.P. Hao and Y. Wang	288
A Ring Type Standing Wave Ultrasonic Motor Using Cantilever Type Bending Transducer W.S. Chen, Y.X. Liu, J.K. Liu and S.J. Shi	293
Geometric Modeling for Unitary Rotor of TMP by UG NX CAD X.D. Wang and P. Qi	298
Effects of Lubricant Properties on Lubricating Performance of Tripod Sliding Universal Joints under Thermal Condition	
D.G. Chang, X.F. Wang, F.Q. Yang and J.Z. Wang	302
Motorcycle Dynamics Modeling and Simulation Based on Road Simulation X.H. Zou, X.H. Shi, Q. Shi and S.L. Xiao	307
Research on Impact Mechanism of Hydraulic Rock Drill W.Y. Tian, P. Liu and G.Q. Cai	313
Motorcycle Dynamics Simulation Based on Real Road Load X.H. Shi, X.H. Zou, Q. Shi and S.L. Xiao	318
Actuating Mechanism and Analysis of a Square-Type Rotary Ultrasonic Stator Using Longitudinal Vibration Transducers	222
Y.X. Liu, J.K. Liu, W.S. Chen and S.J. Shi The Modeling and Simulation for Numerical Control Lathe's Feed System Based on	323
MATLAB G.S. Chen, R.H. Tong and B.G. Qiang	328
Reliability Sensitivity Analysis of Sliding Bearing Based on Virtual Simulation Technology Z.L. Sun, P.F. Chen, F.H. Zhang and Y.D. Huang	334
Foot Shape Reconstruction Based on a Monocular System Using Structured Light Projection Y.J. Ke, L.J. Li and K.Y. Jiang	340
On the Flatness Uncertainty Estimation Based on Data Elimination M.F. Huang, Q.Y. Wang, Y.R. Zhong, B. Kuang and X.Q. Li	347
Analysis of the Sharp Resonance Control Synchronization for Dual Motors Exciting Nonlinear System Based on Sliding Mode X.H. Li, J. Liu and J.T. Liu	352
Design and Implementation of a MEMS Design Process Description Language-MDPDL	
X.T. Yan and P.Y. Jiang The Method of Analyzing the Reliability of Tooth Surface Contact Strength Based on Finite	358
Element Method and Weibull Distribution Y.Y. Shi, Z.L. Sun, G.Q. Li and F. Mu	363

Research on Parameterized Modeling Method of Parts and Components Library for Rapid Response System	260
S.M. Hou, Y.X. Liu, B. Yan and Z.Q. Sheng The Tension Control Model Based on MRF Damper	368
A.L. Cheng, D. Zheng and L.Y. Hu	374
On the Generation of the Specification Surface Model of Planar Feature with Flatness M.F. Huang, X.Q. Li, Y.R. Zhong, B. Kuang and Q.Y. Wang	379
Modeling and Simulating of Bending Rolling Valve Controlling Cylinder System Z.W. Zhang, G.Q. Wang and J.C. Song	384
Research and Application of Workflow Technology in Vibration Roller Development Q.L. Zeng, C.L. Wang, Y.S. Li and P. Li	389
Product Configuration Knowledge Modeling Using Extend Object Model Z.W. Xu, Z.Q. Sheng and H.L. Xie	394
3D Parametric Modeling of Numerical Simulation on Oblique Cutting J. Sheng and L.P. Yao	399
Manufacturing Execution System Based on a Production Process Modeling W. Zhou, Y.Q. Rao, X.Y. Shao and B.G. Wang	404
The Thermal Error Prediction of NC Machine Tool Based on LS-SVM and Grey Theory C.L. Zhao, Y.Q. Wang and X.S. Guan	410
The Research of Dynamic Optimization Method on Automobile Shock Absorption Twist Bar Spring Design	44.7
G.Q. Song	415
Feature Line Extraction of the Triangular Mesh Model Based on Curvature and PCA B. Liu and K.Y. Jiang	420
A Revised Critical Chain Method and Optimization Model W.L. Peng and M.L. Jin	426
Additive Consistent Fuzzy Complementary Judgment Matrix's Euclidean Space Distance Weighting Ranking Method C.G. Guo, Y.X. Liu, P. Tian and S.M. Hou	431
Modeling and Optimizing for Flexibility in Business Processes H.X. Huang, S.T. Xue and D.W. Wang	436
Cold Extrusion Forming of Copper/Aluminum Clad Composite J.T. Luo, Y. Xu and S.J. Zhao	441
Study on 7D Planning Model of Synthesized Design Method Based on Systems Engineering X.P. Li, W. Sun, Z.H. Ren and B.C. Wen	445
Theoretical Modeling and Experimental Verification of Surface Roughness in Abrasive Jet Finishing	
C.H. Li, Ž.R. Liu and G.Q. Cai	450
Effect of Non-Uniform Temperature Field on Piece Rolled by Three-Roll Cross Wedge Rolling P. Qiu, H. Xiao and M. Li	456
Numerical Simulation of Non-Circular Hole Joint Precision Forming	430
Y.F. Gu and J.T. Luo	462
Applications of BPNN in Analyzing LHM Elemental Basic Structure J. Yu, X. Hong, X.P. Liu and W. Teng	466
Determination of Chip Velocity Field in Metal Cutting X.F. Bi, G. List, G. Sutter, A. Molinari and Y.X. Liu	471
Numerical Simulation of the Temperature Distribution during the Metal Laser Sintering of Parts	
C.J. Wang, I.A. Roberts and D.J. Mynors	475
Investigation of Dynamic Performance of Super-High Speed CBN Grinding Wheel S.C. Xiu and G.Q. Cai	480
Some Phenomenological Characteristics of Medium-Thick Sheet Metal Extrusion Process X.C. Zhuang, H. Xiang and Z. Zhao	485
Assessment and Improvement of Force Computations for Sheet Metal Extrusion Z. Zhao, X.C. Zhuang and H. Xiang	490
Research on Fine Blanking Process with Stepped-Edge Punch S.J. Qin, L. Yang and J.G. Peng	495

Finite Element Analysis of Double Curvature and Large-Area Workpiece in Hot Gas Bulge-Forming of Polycarbonate (PC) Sheet	
Z.X. Hou, N. Zhang, E.R. Liu, Z. Liu, A. Feng and Z.R. Wang	500
Manufacturing Errors Effects on Disturbing Torque of Aerostatic Bearings J.S. Liu, Y.Z. Sun, L.H. Lu and Y.C. Liang	505
Modeling and Calculation of Dynamic Performances of NC Machine Tool Considering Linear Rolling Guideway	510
Y.M. Zhang, Z.K. Xie and Y.X. Liu Research on Influence of Process Parameters on Sheet Metal Extrusion Force	510
H. Xiang, X.C. Zhuang and Z. Zhao	515
Neural Networks Control of the MH/Ni Power Battery Positive Mill G.J. Ma, Y.D. Gong and G.Q. Cai	520
Study on Kinematics of Shape-Adaptive Tool for Free-Form Surfaces Compliantly Polishing	
J.M. Zhan, M.M. Wu and J.B. Zhang	525
Impact Stress Field Simulation on Solenoid Valve during the Impulsive Load Y. Jiang and H.Y. Liu	530
Process Optimization of Large Turbine Blade Casting Base on Numerical Simulation D.Y. Gai, Y.Z. Chu, Q.F. Li and Q.X. Li	535
Wear Mechanism and Preventive Measure of Electrode in Micro-EDM M.H. Wu, Y.G. Wang and F.L. Zhao	540
Vehicle Dynamics Control for Tractor Semitrailer Lateral Stability S.W. Zhou, H.S. Chen, S.Q. Zhang and L.X. Guo	544
Modeling of Dimensional Errors in Slender Bar Turning Process Using Artificial Neural Networks	
B.D. Cui and J.L. Guo	549
Dimensional Synthesis of a 2UPS-UPR Parallel Machine Tool L. Zhao, Y.D. Gong, J.Y. Guo and G.Q. Cai	554
Application of FEM Simulation to the Effects of Working Parameters on Isothermal Forging of 7075 Aluminum Alloy W.W. Wang, J.L. Song and S.J. Luo	559
The Rapid Metal Tooling Process Based on Layered Manufacturing G.L. Shi, Z.J. Wang and L.N. Deng	565
Forming 3D Sheet Metals by Means of Continuous Rolling Method Z.Q. Hu, M.Z. Li, X.P. Gong and Z.M. Feng	570
Finite Element Analysis of Temperature and Crown of Rolls in Hot Strip Rolling D.L. Sun, J.G. Zhao and L.Y. Chen	575
Optimization of Structural Parameter of Shape-Adaptive Tool for Compliant Polishing of Aspheric Parts	
B.D. Lv, D. Zheng and J.M. Zhan	580
YAG Laser Cutting of Multi-Layer Soda-Lime Glasses N. Cai, L.J. Yang, Y. Wang and Z.G. Tian	585
Thermal Simulation of Peel Grinding Process J. Qiu, Y.D. Gong, J. Cheng and Y.M. Liu	590
Analysis of Dynamic Stiffness and Damping of Partial Porous Aerostatic Thrust Bearings Y.Z. Sun, X.M. Yu, H.T. Liu and Y.C. Liang	596
A Study of Formation Mechanism of the Spiral Mark Defect in Cone-Type Rotary Piercing Process	
H.G. Huang, W. Wang and F.S. Du	601
System of Networked Technical Service Oriented Product Lifecycle T.B. Yu, J. Zhou, J.M. Ding and W.S. Wang	607
Analytical Modeling of Shear Band Spacing of Serrated Chip in High Speed Cutting of Aluminum Alloys Y. D. Jiang and Y. O. Wang	610
X.D. Jiang and Y.Q. Wang Construction of Orthogonal and Symmetric Multi-Wavelets with Vanishing Moments	612
H.Y. Xiao	618
The Determination and Simulation of Boom's Reasonable Derricking Acceleration G.Y. Lin, W.L. Li and K.X. Li	623

Parametric Design and Development of Standard Mould Part Library Based on UG W.H. Kuang	628
Study on Enterprise Integration Platform Based on Web Services L. Gao, X.J. Meng and Y.J. Yu	633
Modeling of e-Manufacturing Information Integration Platform M.W. He and Y.X. Liu	639
A New Implementation for Ontology Mapping Based Enterprise Semantic Interoperation X.F. Di and Y.S. Fan	644
Research and Implement of Visual Simulation System for Automobile Gearbox Assembling Line	
W. Sun, H. Ma, X.P. Li and B.C. Wen	649
Pedestal Looseness Fault Analysis of Overhanging Dual-Disc Rotor-Bearing Z.H. Ren, Y.N. Teng, Y.Z. Chen and B.C. Wen	654
Service-Oriented Manufacturing Execution Systems Supported by IPSS Y.B. Fu and P.Y. Jiang	660
A Framework for Configuring Service-Oriented Manufacturing Executive System F.Q. Zhang and P.Y. Jiang	665
Research on the 3D Model's Setup of Diamond Manufacturing Center with Fifteen Shafts S.Y. Yan, H. Wang and W. Liu	670
Research of Micro-Stereolithography System with Dynamic Pattern Generator G.S. Xu, X.M. Ma, H. Pan and S.Q. Hu	675
Static Balance Method for a Special Gyroscope Rotor with a Spherical Cavity D.P. Cui, Y.X. Yao and D.L. Qin	680
STEP-Compliant NC Simulation System Modeling Y. Zhang, M. Rauch, H.L. Xie, Y.Y. Zhao, X. Xu and Y.X. Liu	683
Research on Knowledge Base System for Semantic SOA K. Cong, L. Zhang, N. Si and H. Zhang	688
Performance Analysis of Spindle System of NC Machine Tools Z.Q. Sheng, Z.W. Xu, H.L. Xie and J.Y. Li	693
Research on Product Shared Information Semantic Model in Digital Design H. Zhang, X. Song and L. Zhang	698
Supporting Complex Access Control Policy in PDM System C.X. Ye, Y.Q. Fu and H. Xiang	703
Modeling of Nutation Drive with Rolling Teeth G.X. Wang and T.M. Guan	708
Experimental Study on Micro-End Lapping Mechanism S.X. Yuan and Y.X. Hao	713
Robot Surfacing System for Flexible Remanufacturing Based on Off-Line Programming S. Zhu, C.D. Shen and C. Li	718
Analysis of the Influence of the Restraining Chain on the Posture Error of Movable Platform of Hybrid Machine Tools	722
J.Y. Guo, M. Hu, L. Zhao and Y.X. Liu Modeling and Simulation of Dynamic Alliance Task Scheduling	723
B. Huang, C.H. Gao and L. Chen Erection of Upper Ontology and Enrichment of Knowledge Base of Production Workshop	728
in Manufacturing Enterprises C.J. Shi, Y.X. Liu and Y.P. Hao	733
A Two-Stage Cell Formation Approach with Machine Performance L. Cao and S.G. Li	738
Research of Flexible Dynamic Scheduling Problem Based on Genetic Algorithm Y. Wu, X.C. Zhuang and C.X. Li	743
Study and Execution of Advanced Batch Production Planning System for an Aerospace Industry	7.10
M. Younus, Y. Yu, H. Lu and Y.Q. Fan Constructing a Web-Based Fuzzy Expert System for Aeroengine Fault Diagnosis	748
J.R. Wang, Y. Zhang, T.Y. You, S.M. Hou and W.S. Wang	753

Study on Knowledge Base Construction for the Network Teaching Resource Based on Semantic Web	
J.H. Gan and L.Y. Yuan	758
Research on Modeling and Reasoning Framework of Ontology-Based Equipment Selection and Matching Expert System in Fully Mechanized Caving Face Q.L. Zeng, Z.H. Liu, L.R. Wan and Y.H. Zhao	764
Development of a Digital Mockup for Tunnel Boring Machine J. Cheng, Y.D. Gong, Y.Q. Xu and D. Zhi	769
Virtual Prototyping of Belt Conveyor Based on Recurdyn K. Hu and Y.C. Guo	776
Study of Toleranced Products Modeling Based on Virtual Reality G.W. Cui, Y.X. Yao and Y. Wang	781
Stiffness Analysis of 3-RPR Planar Parallel Mechanism to the Stiffness Control S.J. Li and C. Gosselin	786
Analysis and Optimization on Impeller Assembly Structure X.M. You, L. Meng, J.S. Dai and B.C. Wen	791
A Human-Centered Virtual Assembly System P. Chen, P.J. Xia, Y.D. Lang and Y.X. Yao	796
Analysis of Key Technologies for Aeroengine Maintenance Based on Virtual Reality H. Shi, S. Xiang and J. Wang	801
Multi-Body Dynamic PD Control of Concrete Pump Truck Arm System L. Dai, J. Wang, B. Zhao and J. Liu	806
Initiative Design of Tooth Profiles with Small Sliding Coefficients J. Wang, S.M. Luo and S.M. Zhu	811
Calculation Method of Mechanical Structure Complex Time-Dependent Reliability with Blind Number Theory and its Implementation P.Y. Guo, B.Q. Shi, C.Y. Xiao and Y.S. Deng	816
Research on New Numerical Calculation Method for Reliability of Mechanical Strength Based on Blind Number Theory	
C.Y. Xiao, Y.S. Deng, P.Y. Guo and B.Q. Shi	821
A New Modeling Method for Mechanical Friction Based on Data Mining Y.F. Wang, H.L. Cao, Y.M. Zhang and B.C. Wen	826
A Sort-First Parallel Rendering System for CRH3 Virtual Assembly S.Z. Zhou, W.Z. Zhao and S.Q. Ma	831
The Static and Dynamic Stiffness Analysis and Strengthening Design of Internal Grinder Sharper Based on the CAE Z.H. Wang, K.S. Li, X.L. Zhou, D.S. Zhao and Y.B. Xie	836
Mandibular Virtual Reconstruction Surgery Guided by Mimics	030
W.Z. Wu, X.J. Qin, Y. Zhang and W.S. Wang	842
The Case Study on Model Reconstruction Method for Inner Un-Measurable Parts B.H. Lu and X.F. Zheng	847
Study on the Nonlinear Characteristic of a Rotor-Bearing System between the Continuum Model and Discrete Model C.F. Li, W. Sun, C.Y. Liu and B.C. Wen	851
TBM Motion Simulation: System Configuration, Motion Analysis and OpenGL Performer Based Realization	956
J.Y. Yang, G. Li, J. Cheng and W.S. Wang Aerodynamic Numerical Simulation in the Process of Car Styling	856
Y.C. Zhang, Z. Zhang, S.H. Luo and J.H. Tian	862
Nonlinear Finite Element Analysis and Test of Lateral Loading for Two-Post ROPS J.X. Wang, X. Yang and X.J. Yu	866
Research of the Virtual Prototyping Technology Based on Laser Processing Z.J. Wang, X.F. Shang and X.Y. Wang	871
Vehicle Dynamics Control Based on Linear Quadratic Regulator S.Q. Zhang, T.X. Zhang and S.W. Zhou	876
Network Security Prevention Model Based-Immune Y.P. Jiang, S.H. Cheng and Y. Gan	881

Fault Diagnosis of Roller Bearing Conditions Using ANFIS W.T. Sui and D. Zhang	886
A Novel Approach to Hand Gesture Recognition for Virtual System Based on Adaptive Background Model	
W.J. Tan, C.D. Wu, S.Y. Zhao and H.L. Xie A Framework of New Generation Intelligent CNC System	891
J. Wang and Q.L. Shu	896
Research on the Application of Secondary Regulating Technique in Loader Transmission System	
F.Y. Zang and S.F. Shan	900
Robot System to Detect Line Based on ARM9 P. Xia, W.D. Hao and X. Yu	905
Adaptive Fuzzy PID Designed for Solenoid Valve Test System B.T. Guo, H.Y. Liu, Y. Jiang, F. Wang and Z. Luo	910
Intelligent Control of CNC System Based on STEP-NC X.S. Chen, C.R. Zhang, S.K. Cao, R.L. Liu, Q. Wang and H.B. Lan	915
Vision Monitoring Algorithm for Work Condition of NC Processing Y. Zhang, S.C. Kang, P. Wang and S.W. Yin	920
Chord Error Closed-Loop Controlled NURBS Interpolator and Trajectory Planning Y. Liu and J. Liu	925
Simulation of Splicing Cavity Shape Based on FLUENT D.G. Chang, H. Li and Z.J. Xiao	930
Controller Design of Output Feedback MIMO Networked Control Systems with Multiple	
Packet Transmission C.X. Xie and W.L. Hu	935
A Multi-Agent-Based Automatic Negotiation for Distributed Manufacturing G.H. Wang, P.C. Su, H. Li and W.S. Wang	941
Design of Battlefield Weather Environment Automatic Collection and Processing System M. Zhu and H.Y. Li	946
Based on WLAN for Tower Crane Fleet Communication System X.J. Zheng, L. Li, Y. Fei and Z.Y. Xie	951
Determination of Material Parameters in the Chaboche Unified Viscoplasticty Model Y.P. Gong, C. Hyde, W. Sun and T.H. Hyde	955
Research on Tool Cutting Monitoring System Based on Cutting Force and Workpiece Surface Image Texture	
P. Wang, J.L. Xin, J.X. Li and S.W. Yin	960
Design and Research on the Mechanical Adaptive In-Pipe Robot Drive Unit S.Y. Jiang, X.D. Jiang, X.W. Zhang and J.Y. Li	965
Garbage Crusher Fault Diagnosis Based on RBF Neural Network Y.H. Sun, C. Li, M.F. Huang and H. Jing	971
The Research on Blunting Control Strategy of Throttle Signal during Auto-Shifting Process P. Gong, L.J. Zhao, H.Y. Chen and J.Q. Xi	976
The Application of Optical Rotation Principle in Density of Oil Mist Measuring J.W. Chen, L.B. Jia, J.C. Song, Z.W. Zhang and C.J. Pang	980
Quality Control in the Fabrication of Hanging File Stent Components of Automotive Transmission J. Zhu and C.D. Zhu	985
The Promotion of Software Reliability for Vehicle Navigation System S.F. Xie, Z.L. Sun and L. Zhao	989
Research into the Quality Control Technology in Machining Process of Enterprise Alliances Based on Procedure Oriented Parameter M.G. Zhao	995
Identify Steel Ball Surface Defect Based on Combination of Dynamic and Static RBF Neural	
Network Y.L. Zhao, F.L. Wu, P. Wang and J.Y. Zhang	1000
The Research of Automatic Measuring System on Stone Milling Force F.L. Qi, Z.L. Sun and M. Zhao	1005

The Application of SPC in the Quality Management System of the Working Procedure in the Production Shop	1010
A.C. Wang, L. Ji, L.G. Qu and L. Zhang Design and Implementation of a Data Processing and Visualization System for STEP NC	1010
Design and Implementation of a Data Processing and Visualization System for STEP-NC Programs R.L. Liu, X.Z. Zhang and C.R. Zhang	1015
An Improved Representation for Object Tracking Algorithm Y.M. Gu, J. Liu, K. Liu and Z. Yao	1020
Design and Realization of Roughness Measurement System Based on DM642 Y.L. Zhao, S.H. Cui, L. Zhu and F.L. Wu	1025
Research on Measurement of Viscosity Based on Cylinder Rotation H.B. Wang, Y.X. Yao and Y.Z. Zhou	1030
Dynamic Simulation of the Drill Grinder Based on the Tripod Parallel Universal Wrist G.L. Wu, P. Zou and X.F. Yi	1033
A Low Volume Production Process Capability Analysis M.A. Harris, D.J. Mynors and C.J. Wang	1038
Query Processing of RFID Data with Object Trajectory in Manufacture and Logistics S. Wei, L.H. Dong and Y.H. Dong	1043
Two-Echelon Supply Chain Coordination with Vendor Managed Inventory J.Y. Ren, Y.X. Liu and Y.P. Hao	1048
Techniques for Micromachining Using Thiobacillus Ferrooxidans Based on Different	
Culture Medium Y. Yang, X.B. Wang, Y.D. Liu, S. Wang and W. Wen	1053
Analysis Model for Energy Consumption in Manufacturing Enterprises Based on Input- Output Theory and its Applications	1050
C.Z. Li, F. Liu, C.B. Li and Q.L. Wang Analysis and Estimation of Processes Connective Passed on Quality Control	1058
Analysis and Estimation of Processes Capacity Based on Quality Control H. Li, W.Z. Wu and W.S. Wang Virtual Fares Field Integrated with Human Assisting Obstacles Strategies for Bobot	1064
Virtual Force Field Integrated with Human Avoiding Obstacles Strategies for Robot Y.L. Jin and B.R. Wang	1071
An Outsourcing E-Maintenance System for Improving Maintenance of an Industrial Product Service System Q.Q. Zhu and P.Y. Jiang	1077
Dynamics of Multi-Disk Rotor System with Rub-Impact Fault J.S. Dai, H. Ma, X.J. Wang and B.C. Wen	1082
An Interactive 3D Assembly Process Model H.B. Sun, Z.Y. Chang and R. Mo	1087
Plant Refurbishment Options Based on the Life Cycle Assessment S. Tomlinson, C.J. Wang and C. Morgan	1091
Study on Kinematical Characteristics of 2PTT-TPT Parallel Machine Tool Based on Virtual	1071
Prototype X.S. Li, J. Wang and G.Q. Cai	1096
Thermal Stress of Blast Furnace Hearth Linings under Erosion State L.Y. Chen, Y. Li and J.H. Gui	1101
Research on Sketch Contour Generation in Reverse Engineering T.L. Ye, L.L. An, L. Gao and M. Wu	1106
Modeling and Simulation of Implant-Supported Fixed Partial Dentures Prosthodontic D.L. Liu, H. Yan, Z.B. Shen, X.H. Song and X. Wang	1112
Research of the Semicircle Trench Belt Conveyer Y.S. Deng, C.Y. Xiao and N. Shi	1117
Pipeline Design and Layout in Virtual Environment X.G. Zhang and B. Gao	1122
The Model Analysis of Molding Sand's Removal and Mechanism Research Using High Pressure Water-Jet Technique	
J. Gao, R. Zhang, G.Q. Cao and G.M. Zhang	1127
Localization and Control System of Mobile Robot Based on Wireless Sensor Network L.X. Guo, Q.Y. Huang, H.L. Xie, J.L. Li and Z.W. Wang	1133

Research on Multi-Actuators Speed Control System in Large-Scale Ship H.X. Wan, H.J. Xia and H.B. Huang	1138
Mechanisms for Sawing of Refractory Bricks with Diamond Blades Y.Q. Yu, Y. Li and X.P. Xu	1143
The CAE Analysis of Fork Truck Frame System Based on ADAMS and ANSYS H. Zeng, T.J. Li, Q. Gao and S.F. Liu	1149
Application of Diamond Tools on Finish Turning Al-Si Alloy D. Liu, H.J. Yan, H.H. Xu, X.K. Luo and Q. Xu	1154
Finite Element Simulation and Analysis of Size Effect in Micro-Milling Process X.M. Yu, Y.Z. Sun and H.T. Liu	1159
Research on the Properties of Coaxality Error Objective Function P. Liu and S.Y. Liu	1164
Generation and Suppression of Weld Joint Offset for Tailor-Welded Blank in Multi-Point Forming W. Liu, X.G. Wang and M.Z. Li	1169
Research on Workpiece Machining Precision PID Control Model in Closed-Loop Manufacturing Systems	1107
J. Lu, Y.M. Huang, Y. Liu, W.W. Li and H. Zhong Research on Dynamic Characteristics of Electro-Mechanical Control Type CVT	1174
Q. Jiang, H.Y. Liu, N.S. Cheng and J.J. Hao	1179
Virtual Design of Controlled Five-Bar Mechanism Z.Y. Ma, H.G. Liu and Y.P. Chen	1184
Technological Study on the 3D Collaborative Design System Oriented Project Management L.G. Qu, D.W. Wu and J.M. Ding	1189
Research on a Three-Dimensions Micro-EDM System G.Z. Yang and H.B. Lin	1194
The Fitting Formula of Outflow Coefficient for the V-Cone Flow Meter Based on FLUENT D.Z. Sun, X.Y. Chen and W.L. Liu	1199
The Research of Big Internal Cooled Backup Roll with Numbers of Sleeves Assembled Together	
D.Y. Sun, Z.H. Wei, H.F. Zhou and S.M. Xu	1203
Reliability Design of Double Circular-Arc Cylindrical Gear Transmission S.X. Sun, Z.L. Sun, M. Yan, X.D. Li and P. Bai	1208
Modal Analysis of a Biglide parallel NC Grinder for Helical Drill Point Machines System Based on ANSYS	
D.S. Tian, P. Zou, Y.X. Liu and G.Q. Cai	1213
Study on Misalignment of Focus Position in Laser Metal Deposition Shaping Processing F.J. Tian, W.J. Liu, X.F. Shang and G. Yang	1218
Design of Storage Management Information System and Analysis of the Information Flow S.J. Wang, H. Sun, H. Tang and S.L. Wang	1223
An Particle Swarm Optimization Approach for Assembly Sequence Planning H. Yu, J.P. Yu and W.L. Zhang	1228
A Two-Phase New Product Introduction Model H.X. Xu, F.C. Wan, X.Y. Guo and Y.X. Liu	1233
Target Locating Technology and System Exploitation Based on the GPS Technology X.M. Yang, S. Zhang and J. Wang	1238
Evaluation Method and Simulation Analysis of Gap Roundness Error L. Zhang, Y. Zhao, D.R. Zheng and K. Zhang	1243
Finite Element Analysis of the Forging Process for Half-Shaft Bushing C.D. Zhu, M.C. Zhang and L. Hua	1248
Study on Virtual Simulation Machining of Double Circular Arc Profile Spiral Bevel Gear R.L. Zhang, M. Lv, T. Wang and H.Y. Li	1253
Wear Rate Prediction and Analysis of Metal-Matrix of Ni-Based Super Alloy onto Cast Iron by Lasar Cladding	
by Laser Cladding Y.F. Zhang and Z.L. Sun	1258
Monitor of Remote Semi-Autonomous Robots in WLAN H. Xu, Y. Zhang, B.R. Wang, X. Chen and J. Lv	1263

Application and Key Technique Research of Monitoring and Control System for Drawing and Coving Workshop	
J.F. Shao, Q. Li, J. Li and L.S. Qin	1268
Study on Fractal Characteristic of Surface Micro-Topography of Micro-WEDM H.J. Ding, L.B. Guo, Z.H. Zhang and H. Cui	1273
Computerized Tooth Profile Generation and Undercut Analysis of Gears Manufactured With Pre-Shaving Hobs X.W. Kong, J. Zhang and M.H. Niu	1278
Numerical Simulation of Granite Sawing by Discrete Element Method Y. Ye, Y. Li and X.P. Xu	1283
Simulation and Experiment Study for Spindle of Numerical Control Machine Tool S.H. Liu, W.H. Ye, W.F. Chen and T. Zhang	1289
A New Type of Parallel Robot Manipulator Kinematics Simulation and Analysis of Movement Characteristics	1294
J.M. Luo, L.N. Cong and T. Fang Safety Characteristic of HSS in Car Side Impact S.F. Wang, S.L. Feng and J.D. Si	1294
Research and Realization of a New Curve Grinding Method T.Z. Sui, L. Wang, W.B. Zhang and D. Sun	1305
Fault Diagnosis of Engine Based on Improved Dempster-Shafer Information Fusion Method W. Zhou, Y.J. Liu, Q.F. Cao and T.X. Zhang	1310
Research on Automobile Panel Case Retrieval Methodology X.L. Zong, P. Wang and H. Zheng	1318
Job Shop Scheduling Problem Based on Requirement Forecasting Aiming at Instant Customerization	1224
L. He, Y.X. Liu, H.L. Xie and Y. Zhang Study on the Kinemetics of 3 TPS Hybrid Machine Teel	1324
Study on the Kinematics of 3-TPS Hybrid Machine Tool X.Z. Meng, S.J. Li and M. Li	1329
Application of 3D Optical Measuring System in Auto Shock Absorber's Quality Inspection L. Yue, X.Y. Liu, M. Yan and K.R. Duan	1335
Experimental Study and Simulation of Cutting Forces during the Deep Sawing of Granite $Y.\ Li$ and $X.P.\ Xu$	1341
A Study on Dynamic Process Quality Control Method into Supply Chain X.Y. Jiang, S.J. Wang, Y.M. Ren and W.S. Wang	1346
Manipulability Analyses of the 3-DOF Parallel Machine Tool M. Hu, W.Y. Tian and J.S. Shi	1351
Research on Data Processing in Network Supported Collaborative Design Q. Wang, L. Wang and Y.X. Liu	1355
Research on the Lean Six Sigma Supplier Surveillance Process Management Y.C. Wang, Y.X. Liu and X.Y. Jiang	1360
Numeric Analysis for Resonant Frequency of Rotating Blade D. Zhao, K.Q. Ding and X.C. Shang	1365
Study on System Design and Control Methods of Polishing Robot System Z. Luo, F. Wang, Y. Jiang and H.Y. Liu	1370
Key Technology and System Implementation of Distributed Collaborative Design in Hydraulic System W.M. Li, T.J. Li and S.F. Liu	1377
Fuzzy Synthesized Evaluation of Product Quality of Machine Tool Based on Harmonious Design Method	15,,
C.S. Liu, X.P. Li, W. Sun and Y.M. Zhang	1382
Design and Simulation for Multi-Axis HS-WEDM System T. Wang, X.C. Lu and F. Qiu	1387
Virtual Design and Structural Optimization of Dry Twin Screw Vacuum Pump with a New Rotor Profile S.W. Zhang, Z.J. Zhang and C.H. Xu	1392