Table of Contents

Preface and Organizing Committee	
3D Model Reconstruction of the Broken Aeroengine Blade Based on the Detection Operator L.M. Jing, H. Wang and L.W. Wang	1
A Carbazole-Based Conjugated Polymer Bearing Ruthenium Complexes, Synthesis and Preliminary Photovoltaic Study Y.R. Wang, H.J. Zheng, S.G. Xu, Y.P. Li and S.K. Cao	6
A Framework of Digital Factory System Using Multi-Resolution Simulation Z.L. Guan, C.J. Wang, Y.F. Wu and X.Y. Shao	12
A Novel Structure Design Method Based on Knowledge Template R.S. Jiang, X.F. Chen, D.Y. Feng and F.J. Wang	18
A Review on Fuzzy Control Charts for Monitoring Attribute Data S.M. Zabihinpour Jahromi, A. Saghaei and M.K.A. Mohd Ariffin	23
A Study on Corrosion Resistance and Weatherability of Fluorocarbon Anti-Corrosion Coatings for External Surface of Ocean Platform B.B. Xie, W.L. Han, Y.J. Zhang, Z.P. Xu, Y.H. Yang and Y.G. Zhang	29
A Study on the Mechanical Properties of Polymer-Ceramic Composite Using Injection Moulding	
N. Sa'ude, M. Ibrahim and I. Raman	35
An Enhanced Resolution Three-Dimensional Transformation Method Based on Discrete Wavelet Transform N. Tang, J. Cai and Y. Li	41
An Entropy Based Analytical Model for Thermoelastic Damping in Micromechanical	
Resonators Y.P. Tai, P. Li and W.L. Zuo	46
An Improved Ant Colony Optimization for Large-Scale Simple Assembly Line Balancing Problem of Type-1 Q.X. Zheng, Y.X. Li, M. Li and Q.H. Tang	51
An Investigation into Machining Characteristics of Commercially Pure Titanium (Grade-2)	51
Using CNC WEDM A. Kumar, V. Kumar and J. Kumar	56
Antistatic TPU/PA6 Blends Prepared by Blending Modification K.J. Chen, T.H. He and T. Wang	69
Based on SolidWorks COSMOS 2.5 Tons, $4m \cdot s^{-1}$ High Speed the Elevator Drive's Finite Element Analysis F. Lu, Y. Bao, X.G. Zhou and Y.J. Wang	74
Changing Direction Parallel Scan Path Generating Method through Matching Scan Space	/4
for Metal Laser Deposition Shaping H.Y. Bian, G. Yang, G. Wang, L.Y. Qin, W. Wang and C. Shang	79
CuO Microspheres Synthesized via the Easy Hydrothermal Method X.M. Fu	84
Customers Involved Digital NPD Method Based on Integrated CAX Technology L. Lin, G. Guo, X.S. Ran and T.H. Luo	88
Discussion on the Relation between the Adhesive Force of Drosophila Melanogaster and the Surface Roughness of the Substrate R.G. Cui and W. Yu	93
Effect of Insert Style in Milling of Titanium Alloy (TC18) P.P. Zhang, Z.D. Yin and X. Yan	99
Establishing Geometry and Functional Parameters Relationships through Regression Analysis and their Assistance to Product Customization	104
A. Zia and L.H. Qiao Evaluation on the Photoabsorber Composition Effect in Projection Microstereolithography	104
R. Ibrahim, I. Raman, M.H.H. Ramlee, M.A.S. Mohamed, M. Ibrahim and W. Saidin	109
Experimental and Numerical Modeling for Powder Rolling Z.X. Zheng	115

Experimental Investigation of Influencing Factors of Surface Roughness Engraved by CNC	
Engraving Machine C.Y. Mu, M. Lv and Z. Ge	122
Experimental Study of Micro Electrochemical Milling with Side-Insulated Electrode M.H. Hu, Y. Li, Z. Yue, W. Jian and X.G. Zhu	127
Implementation of Multi-Core Parallel Computation for Real-Time Turning of PID Parameters Based on Genetic Algorithm	122
S.S. Zhang, X.B. Wang and W.H. Wang Improvement in the Transport of Charge Carriers in Tunnel Junctions of Silicon-Based	132
Thin Film Tandem Solar Cells M.J. Shi, X.F. Guo, S.Z. Wang and L.L. Chen	137
Influences of Fiber Content on Mechanical Properties of Geopolymer Reinforced by	
Polyester Fibers M.T. Jin, L. Chen, L.W. Chen and Z.F. Jin	141
Investigation on Paste Extrudate Features in Ram Extrusion Process H.J. Liu, D.J. Li and Y.M. Li	146
Maximum Reduction in Thickness in a Single Sheet Forming Pass Based on Unified Strength Theory	
X.W. Li, J.H. Zhao and Q.Y. Wang	151
Modal Analysis for a New Double-Side Blade Grinding Machine L. Zhang, H.R. Yang, Z.J. Zhang and T.Z. Li	156
Modeling of Geometric Structure for Numerically Controlled Grinder Based on Multi-Body System Theory	4.50
J.W. Fan, Y. Li and X.F. Wang Multi-Objective Optimization Strategy for Cutting Parameters Based on Controlling Face	160
Milling Distortion D.H. Tang	165
Operational Modal Analysis of Broaching Machine L.G. Lin, S.S. Ying, S.Q. Chen and X.T. Lv	170
Optimization of Electrical Discharge Machining Process Parameters Using Desirability Approach	
P. Sengottuvel, S. Satish Kumar and D. Dinakaran	176
Path Optimization for Mobile Robot Based on the Sine Type Adaptive Genetic Algorithm J.L. Zhao, C.B. Hu, W.Y. Feng and N.D. Yang	181
Point Cloud Data Acquisition Based on Reverse Engineering Technology X.S. Ran, L. Lin and H.B. Wei	186
Preparation and Solid Particle Erosion Behaviors of Plasma-Sprayed and Laser-Remelted ZrO ₂ -7wt. %Y ₂ O ₃ Thermal Barrier Coatings	101
D.S. Wang, Z.J. Tian, B. Yang and L.D. Shen Processing Parameters Optimization and Experiment Research of Automatic Polishing	191
Technology for Free Surface of Dies D.M. Li, Y. Jia, X.J. Tian, X.K. Ren and J.W. Yin	198
Research and Evaluation on the Machining Properties of Magnoliaceae glanca Blume C.W. Su, J.D. Huang, Y. Ren, H. Chen and F.H. Zeng	203
Research and Evaluation on the Planning and Sanding Properties of <i>Toona sinensis</i>	
C.W. Su, Q.P. Yuan, Z.K. Wang, H. Chen and F.H. Zeng Research on Analytical Method of CNC Machine Tool Precision Recession	208
J.W. Fan, X.F. Wang and Y. Li	213
Research on Automatic Polishing Technology for Free Surface of Dies Based on Fuzzy Control	
D.M. Li, Y. Jia, X.J. Tian, J.W. Yin and X.K. Ren	218
Research on Remanufacturing Closed-Loop Logistics Network Design under Low-Carbon Restriction	
Y.C. Wang, T. Lu, C.H. Gao, C.H. Zhang and C. Chen Passarah on Sahama Evaluation of the Automobile Fault Diagnosis System	224
Research on Scheme Evaluation of the Automobile Fault Diagnosis System M.Y. Tong	235
Research on the Mechanism and Developing Tendency of CNC Ultrasonic Machining H.Q. Luo, T.Y. Xia and Y.J. Zhang	240

Research on the Twist of Z-Section Steel in Cold Roll Forming S.J. Yu, Y. Liu and Z.Y. Shi	244
Researches on Relationship between Dynamic Radius and Slip Ratio of Driving Wheel X.Q. Li	249
Reverse Modeling of Auto Part Reconstruction Based on CATIA Y.Q. Zhou	253
Simulation of Compound Cold Extrusion Al-Zn-Mg-Cu Alumium Alloys Z.M. Zhou, W.J. Huang, Z. Zhao, B.B. Lei, C. Liu and M.M. Cao	257
Soft Abrasive Flow Machining B.L. Ma, S.M. Ji and D.P. Tan	262
STEP-NC Code Generator on Drilling Operations Using (GEN-M) Y. Yusof and N.Z. Zamri Tan	267
Structural Fatigue Analysis of a Container Crane S.Q. Lu, H.B. Xiao and P. Deng	272
Structural Stability Analysis on 4-Dof Simple Welding Manipulator J.C. Lv and L.B. Yang	277
Study on 4Cr9Si2 Martensitic Heat-Resistant Steel in CWR J.H. Huang, J.P. Liu, B.Y. Wang and Z.H. Hu	282
Study on a Modeling and Meshing Method in Numerical Simulation for Wind Loads on Antennas	
Q. Du, W.B. Xie and S.J. Ma	287
Study on a New KIC Gradient Composites F.C. Wei, X.L. Zhang and Q.W. Song	292
Study on CMP Test Technology of 65 nm and below Node Wafers with Copper Interconnects R. Wang, G.F. Pan, J. Wang, R.X. Yang and Y.L. Liu	297
Study on Control of Welding Technology of Complicate Steel Z.Q. Xu, Y.G. Ding, H. Zeng and Q.J. Li	302
Study on Cutting Mechanism of UD-GFRP Based on Fracture Mechanics X.L. Zhang, F.C. Wei and Y.Z. Jiao	306
Study on Epoxy Coating which Could Be Applied on High Temperature (70°C) Steel Surface	
Z.P. Xu, W.L. Han, Y.Y. Zhang and B.B. Xie	311
Study on Heparin-Like Surface Based on Nanofibrous Membrane of Cellulose Acetate and its Blood Compatibility P. Lan, W. Wang and J.D. Cao	317
Study on Hot Deformation Behavior of 97# High Strength Rod H.B. Li and F. Fang	322
Study on Measurement of Energy Consumption for Cranes and Designing of Energy Saving	3 22
Device X.Y. Xiao and S.Q. Lu	326
Study on the Application of Gyroscope Free Strapdown Inertial Navigation Measurement Unit to Trajectory Correction Projectile M.K. Yue and J.H. Deng	331
Study on the Telecommunication System of the Coal Mine Rescue Robot Z.L. Hu	336
Tensile Properties Determination of Plastic Materials with Different Regranulate Content M. Rimár, T. Olejar and M. Mičko	341
Tensile Properties of Low Nickel Austenitic Stainless Steel at Elevated Temperatures S.M. Liu and J.B. Zhang	346
The Application of the TCP/IP on the Robot System Y.F. Jiang	351
The Dynamic Analysis of SFD-Sliding Bearing Flexible Rotor System Based on	
Optimization Design J.Y. Wang, R.C. Guo and X.F. Si	355
The Effects of Solid-Solution on Properties and Microstructure of Cu-Zn-Al-Ni Alloy J. Li, Y.R. Wang, J.Y. Dai, L.R. Xiao and Z. Li	361

The Establishment and Analysis on Mathematical Model of Rotary Cultivator Power Consumption	
P.J. Mao, Q.Q. Xing and C.Y. Hu	366
The Experiments and Simulation of Titanium Cutting Based on AdvantEdge Software C. Zhao and Y.F. Guan	371
The Influence of the Hydrothermal Temperature on the Morphologies of β -Ni(OH) ₂ Nanospheres and Nanoflakes X.M. Fu	376
The Parameter Model and the Non-Parameter Model of Magnetorheological Dampers in Suspension	200
J.F. Wang, Z.X. Lei, C.X. Song and Z.A. Zheng The Research on Bit-Product Demand Z. Zhu and H.Y. Shu	380 385
The Semi-Active Optimal Control Method of Aircraft Landing Gear J.F. Wang, X.Y. Zhang and H.W. Wang	390
Throttle Valve Parts' Process Planning J.P. Wang	395
Usability Evaluation of Welding Clamp Based on Improved Fuzzy Synthetic Evaluation Model	
J.Y. Li and Z.B. Yang	400