

Table of Contents

Preface, Seminar Organization, Committes and Sponsors

Experimental Determination of Isothermal Section at 1050°C in the Fe-Nb-V Ternary System

C.J. Liu, Q.J. Lv, Z.Q. Guo, Y.J. Li and J.F. Guo 1

Experimental Investigation on Thermophysical Performance of BN/EG Nanofluids Influenced by Dispersant

J.F. Guo, Z.Q. Guo, X.F. Wang, Y.J. Li and Q.J. Lv 7

Simulation of the Motion of Two Bubbles in Aluminum Foams Produced Process by Using Level Set Method

Z.X. Zhao, J.H. Niu, L. Huang and H.R. Wang 13

Preparation and Action Mechanism of Inclusion Complex of β -Cyclodextrin and Dibutyl Phosphite as Additives in Solution of Polyethylene Glycol-600

Z.Y. Li, S.Q. Huang, J.J. Guan and X.F. Xu 19

Research on the Stress Intensity Factor of the Cracks in the Spherical Shell

F. Chen, Y.J. Yue, C.P. Zhang and H.X. Du 25

Investigation of Unsteady Flow in an Axial Compression Based on Double Times Dual Time Stepping

F. Xie, W.L. Chu, H.X. Du and K. Zhou 29

Analysis of High Pressure Gas Cylinder Preload of Screw Connection

H.X. Du, Y.J. Yue, F. Xie and F. Chen 33

Vibration Modal Analysis of DTG under Space Environment

J.F. Guo, Y.N. Feng, Y. Tao, Z.B. Qin and C.J. Liu 39

The Properties of the Steel for High Pressure Gas Cylinder

Q.J. Lv, X.Y. Li, C.J. Liu, Z.Q. Guo and Y.J. Li 45

A New Type ADAMS-Based Virtual Prototype of Folding-Arm Gondola

Y. Tao, F. Xie, J.F. Guo, K. Zhou and X.F. Wang 51

Thermal-Structural Coupling Analysis of Planetary Roller Screw

X.J. Du, X.Q. Li, Y.J. Yue and F. Chen 55

Influence of Screen Distance on Precision of Screen-Printing for Circuit Board

X.F. Wang, F. Xie, J.F. Guo and K. Zhou 61

Simulation Research on Steering Qualities of Loader Fitted with Rubber Tracks Based on Virtual Prototype Technology

Y.J. Wang and L.H. Yang 65

Structural Strength and Modal Analysis of a Certain Type of Heavy Vehicle Frame

Z.Q. Guo, Y.J. Li, C.J. Liu, Q.J. Lv and Z.B. Qin 69

The Generalized Dynamic Factor of Hydraulic Excavator Working Device

Z.G. Ren, J. Chen, X.P. Pang and D.S. Zhang 75

The Statics Characteristic Analysis of Fixed Beam Gantry Machine Tool Crossbeam Based on ANSYS

C.M. Song, M. Cao and D.S. Zhang 81

Dynamic Unstructured Grids Method with Applications to Unsteady Flows Involving Moving Boundaries

J.L. Wang and D.S. Zhang 87

Mesh Dynamics Analysis of Gear Shaving Cutter Research Based on ADAMS Software

C.M. Zhang, Y.Y. Shen and H. Zhang 93

Research and Development of Nanoimprint Lithography Technology

J.G. Chen, L.J. Liu, Z.X. Zhao and J.R. Liu 99

The Topological Optimization of the Fixing Plank for the Hydraulic Motor

C.J. Cao, Y.J. Wang and Q.J. Lv 105

Rigid and Flexible Dynamics Simulation of 2-PRR Parallel Mechanism

C. Chen, E.Y. Liu, Z.W. Chen, Q.L. Wang and Y.M. Huang 109

Theoretical Research and Improvement of Cutter Head for Earth Pressure Balance Shield Pipe-Jacking Machine

M.L. Chen and W.D. Chen 115

| | |
|---|-----|
| A Numerical Solution for Vibration Analysis of the Stiffened Variable-Thickness Conical Shells | |
| W. Ning, F.S. Peng, N. Wang and D.S. Zhang | 121 |
| Vibration Analysis of High-Pressure Cylindrical Cylinders | |
| Z.B. Qin, J.F. Guo, F. Meng and X.L. Hu | 127 |
| Investigation on Fuel Cell Vehicle Development and Customer Demands | |
| Y.J. Su, C.D. Lu and D.H. Wen | 133 |
| Research on Seebeck Coefficient of Thin-Film Thermocouple on Temperature-Testing Cutter | |
| Y.X. Cui, Y. An, J.H. Zhao and X.X. Sheng | 139 |
| Random Vibration Spectrum Analysis Based on Finite Element Method of High-Pressure Cylindrical Cylinders | |
| B. Liu, Y.J. Yue, Z.B. Qin and F. Chen | 147 |
| The Parametric Drawing System of Shaft Based on Feature | |
| Z.X. Sun and Y. Zhang | 153 |
| A Probabilistic Safety Assessment Method Based on Latin Hypercube Sampling Method | |
| Y.J. Yue, F. Chen, H. Li, H.X. Du and X.J. Du | 159 |
| Study on Vibration Control of Gun Tube with Intelligent Structure | |
| F.S. Peng, W. Ning, L.S. Shu and D.S. Zhang | 165 |
| Research on Piezoelectric Generators for Vibration Energy Harvesting | |
| K. Zhou, F. Xie, Y. Tao and H.X. Du | 171 |
| Research on Common Problems Based on a Desktop 3D Printer | |
| K. Gao, Y. Tao, K. Zhang and L.X. Song | 175 |
| Structure Design Study of a Pharmacy Manipulator | |
| Y.P. Ji | 179 |
| Study on the Energy Recovery Ability of Hybrid Tractor Based on Advisor | |
| L.H. Yang, Y.J. Wang and Q.J. Lv | 185 |
| Design on Wireless Test Node for Shock Wave Field | |
| F. Li, W.J. Yang and F. Qin | 191 |
| Research on Compressive and Coding Algorithm of Bearing Vibration Signal in Wireless Transmission | |
| N. Wang, Y. Zhang and W. Ning | 195 |
| Research of a Mold Job Shop Scheduling Optimization Based on Particle Swarm Optimization Algorithm | |
| X.J. Lan and D.D. Su | 201 |