# Table of Contents

Preface, Committees and Sponsors

## Chapter 1: Mechatronics and Automation

Research on Periodic Motion Stability of Multi-DOF Rotor-Bearing System with Crack Fault
C.F. Li, Q.L. Li, J. Liu and B.C. Wen  

The Framework Design of E-Yuan Multimedia System
W.C. Feng and X.M. Chen  

Punch Force Analysis in the Forming of "U" Clamps by Using Combination Die
C.N. Ashok Kumar  

Studies of Optimum Conditions for Cross-Linking Immobilization of Alkaline Protease on Graphene Oxide
R.J. Su, W.F. Zhang, P.H. Shi, M.C. Zhu and D.X. Li  

Investigation on Temperature Field and Thermal Stress of Dish Solar Concentrator’s Focal Region
X.Z. Wang, Y. Shuai, F.Q. Wang and C.L. Yu  

Influence of Precracked Diffusion Coating of Pt-Modified Aluminide on HCF Fracture Mechanism of IN 792 Nickel-Based Superalloy

Stationarity of the EEG Segment with Event-Related Potentials
G.L. Fan and Z.H. Huang  

Study on Growth of Oxide Scale on High Carbon Steel at High Temperature
H.X. Qiu, X.J. Hu, S.H. Chen and F. Fang  

Research on Fluorescence Imaging Detecting System of Intracellular Calcium
B. Liu, S.X. Zhang and W. Zhou  

The Design of Promoting and Thrust Gear on Refrigerator Body
Q. Chen  

Isolation and Characterization of a Sulfanilic Acid Degrading Bacterial Strain
Y.Q. Yang, C. Wu, L.Y. Wang and L. Yang  

Study on Properties of HVAS Waste-Oil Equipment Coating
B. Chen, G. Liu and X.M. Zhang  

Study on the Surface Quality of Al₂O₃ Nano-Films by Ion Beam Sputtering Deposition
X.P. Lin, Y. Dong and L.W. Yang  

On-Line Remote Detecting System of Generator’s Retaining Rings Deformation Process Based on LabVIEW
X.L. Zhao and J.S. Liu  

Extended Linguistic Variable Based on the Modified Words
S.H. Zhou and W.B. Chang  

A Study on the Battery Parameter Testing Equipment
F. Xiao, L. Han, X.P. Chu, J.F. Xue, Q.B. Chen, M. Lei and L.X. Zhang  

Study on Matching and Optimization of Low-Speed Diesel Engine’s Cooling System

Research on Data Fusion Technology in WSN
W.C. Zhang and Y.Z. Liu  

A Control Method of Four-Legged Robot Stable Walking with Diagonal Gait
C.H. Fan, Z. Jiang and B.Y. He  

Research on Finite Element Simulation Processing Method for Flatness Prediction
X.L. Sui, C.H. Zhang, P. Zhao, N. Hu and P. Zhang  

Robust Control Research for AUV Trajectory Control System
J. Li, X.Q. Bian, H.S. Xiong and H.J. Wang  

KW Level Wind Turbine Wind Tracking and Yaw System
X.G. Wang, G.Q. Cao, Z.G. Guan and Z.Y. Zhao
Solar Powered Automatic Controlled Advertising Light Box System
Q.Y. Zhu, C.L. Wen, W.Y. Xie, J.J. Ye and H. Yin

Design of Wireless Sensor Management Platform Based on Embedded ARM
Y. Song, M.Q. Wu and K. Jia

Fuzzy Techniques in Biometric IBE without Random Oracles
Q. Wu

Preparation and Properties of Ultrafine Glass Wool by Centrifugal Blowing

A Study on Static Calibration Method for Pressure Sensor Based on Static Pressure Calibration Device
X.F. Xiong, F. Shang and D.R. Kong

Obtaining and Predicting of Equivalent Load Spectrum for Overhead Traveling Crane Based on Support Vector Machines
G.N. Xu, X.P. Li and X.N. Fan

Optimization of Processing Parameters for Low VOC Emissions of Wood-Based Panels
Y. Liu, J. Shen and X.D. Zhu

Bat Algorithm Inspired Algorithm for Solving Numerical Optimization Problems
P.W. Tsai, J.S. Pan, B.Y. Liao, M.J. Tsai and V. Istanda

Some Research on Non-Identical Parallel Machine Scheduling Problem - An Example to Plane De-Icing Operation
B. Li, G.S. Jiang, D. Su and X.Y. Fu

Aircraft Engine Gas Path Fault Diagnosis Based on Neural Network
C.Z. Li and Y. Lei

Miniature Circularly Polarized Microstrip Patch Antenna with Rectangular Slots for GPS Application
Z.L. Deng, M.Z. Hong and Y.D. Yao

Design of the CNC Milling Tool Selection System
X.L. Sui, N. Hu and C.H. Zhang

Infrared and Visible Remote Sensing Imagery Fusion Based on Fuzzy Logic and NSCT
Q.Q. Huang, J. Yang and Y. Ji

Influence of Cutting Speed on Plastic Deformation in Machined Surface of FGH95 PM Superalloy
J. Du and Z.Q. Liu

Complex Impedance Matching for Power Improvement of a Circular Piezoelectric Energy Harvester
H.Y. Wang, X.B. Shan and T. Xie

The Standard Deviations for Repeated Eigenvalues of Vibration Control for Structures with Uncertainties
X.M. Wu and C. Liu

The Optimal Structural Design of Energy Conservation and Weight Reduction Sprung Parts of Unit Aluminum Plate Curtain Wall
Z.G. Han, Z.W. Li, R.Q. Hao, T. Han and J.F. Yang

Methods to Measure the Transfer Properties of Mortars
G. Camarini, V.M. Pereira, P.M.G. de Freitas and R.A. Tirello

Research Progress on Rapid Curing of Cement-Bonded Particleboard
W.M. Chen, X.G. Li and Q.F. Ling

T. Xu, B. Wang and X.Y. Wang

Numerical Testing for Roof Strength and Rear Wall Strength of High-Top Heavy Truck Cab
W. Wang, X.L. Xie, F.L. Shen and X.F. Wang

Interfacial Dilational Properties of Novel Crosslinking Phenol-Amine Resin Block Polyether Demulsifiers at Decane-Water Interfaces
Y.J. Xie, F. Yan and J.X. Li

Control Model of Laser Cutting Quality Based on Simulated Annealing and Neural Network
G. Tong, H. Xu and H.Q. Yu
Experimental Study on Expansion Process of High Pressure Twin Combustion-Gas Jets in Liquid
X.C. Xue, Y.G. Yu and Q. Zhang

Research on the Relationship between Microstructure and Properties of Polymer-Modified Cement Compounds for Waterproofing Membranes
Y.P. Xiao, Y.W. Fei and Y.L. Zhao

Chapter 2: Mechanic Manufacturing System

Numerical Solution of Heat Transfer for Single and Multi-Metal Pan
B.N. Dardashti and M.R. Sedighi

Effect of Minor Addition of Noble Elements on Microstructure and Mechanical Properties of Ti-Based Bulk Metallic Glasses
F.X. Qin, G.Q. Xie, Z.H. Dan and A. Inoue

Equivalent Circuit Simulation Model of Cantilevered Piezoelectric Bimorph Energy Harvester
H.Y. Wang, X.B. Shan and T. Xie

The Design of Textile Image Processing System
Q.Q. Fu and Z.B. Liang

Studies on Locational Variation of Shear Properties in Cortical Bone with Iosipescu Shear Test
N.K. Sharma, D.K. Sehgal and R.K. Pandey

The Simulation Analysis of Mobile Phone Back Cover Injection Molding Based on Moldflow
L. Liu and L. Wang

An Integration Scheme of Extended Finite Element Method
L.S. Li, C.J. Qiu and L. Li

Hydrogen Storage Kinetics of Mg_{820}Ni_{10-x}M_x (M=Cu, Co; x=0-4) Alloys Prepared by Melt Spinning

Modal Analysis of a New Solid Micro-Gyroscope with Bulk Giant Magnetostrictive Material (GMM) Resonator

Study on the Artificial Breeding Techniques in Ternstroemia gymnanthera, an Important Industrial Tanning Plant
T. Xu and Y.H. Wang
<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A De-Noising Method for Non-Stationary Signal</td>
<td>Y.H. Shang</td>
<td>309</td>
</tr>
<tr>
<td>The Kinetic Analysis of Carbide Lime Reaction Based on Multi-Heating Rate Method</td>
<td>D.J. Guan, Y.N. Xu, J.J. Cai, W.Q. Sun and H. Zhao</td>
<td>313</td>
</tr>
<tr>
<td>Linear Parameter-Varying Modeling of Electric Vehicle Air Conditioning System</td>
<td>X.M. Wang, A. Steiner and J. Fiala</td>
<td>318</td>
</tr>
<tr>
<td>Characteristics Analysis of Photonic Crystal Fiber with Hexagonal and Octagonal Structure</td>
<td>W. Wang, B. Yang, Y. Fan and H.R. Song</td>
<td>326</td>
</tr>
<tr>
<td>Analysis of C80B Wagon’s Load-Stress Transfer Relation</td>
<td>Y.Q. Yuan, Q. Li and K. Ran</td>
<td>331</td>
</tr>
<tr>
<td>A Reliability Risk Assessment Method Based on Fuzzy FMEA</td>
<td>Y.K. Gu, Y.G. Xiong and X.C. Luo</td>
<td>336</td>
</tr>
<tr>
<td>Analysis on Bus Seat Size Design Based on Ride Comfort</td>
<td>X.B. Liu and F.Y. Wang</td>
<td>340</td>
</tr>
<tr>
<td>Corrosion Properties of Cold Spray Zn-25Al Coating in Marine Environment</td>
<td>Q.J. Zhu and K. Wang</td>
<td>345</td>
</tr>
<tr>
<td>Grey Relational Analysis on the Correlation between the Diameter Variation and Cohesive Times of Raw Silk</td>
<td>P. Lu, T. Chen and L.L. Wu</td>
<td>349</td>
</tr>
<tr>
<td>Kinetic Studies of Adsorption of Disperse Blue 2BLN from Aqueous Solution by Expanded Graphite</td>
<td>J.B. Huang, M.C. Zhu, Z.F. Zhou and H.X. Zhang</td>
<td>357</td>
</tr>
<tr>
<td>Research on Concept System of Mechanical Scaling-Rotation Symmetry</td>
<td>Z.Y. Ma</td>
<td>361</td>
</tr>
<tr>
<td>Photocatalytic Degradation of Methylene Blue Using Eu(^{3+}) and Sm(^{3+}) Co-Doped Ti(_2)</td>
<td>C.Z. Jiang and X.D. Lu</td>
<td>365</td>
</tr>
<tr>
<td>A Self-Learning Algorithm Based on Support Vector Machine for Scheduling a Job-Shop-Like Knowledgeable Manufacturing Cell</td>
<td>W.C. Li and H.S. Yan</td>
<td>369</td>
</tr>
<tr>
<td>Cutting Force Prediction Model of 34CrNiMo6 High Strength Steel Using Statistical Method</td>
<td>L. Bai, T. Wang, X.B. Wang and J.J. Chen</td>
<td>374</td>
</tr>
<tr>
<td>Weathering of Light Metals in the Atmosphere</td>
<td>Z.H. Dan, I. Muto and N. Harra</td>
<td>380</td>
</tr>
<tr>
<td>Research on Numerical Simulation of Mining Subsidence</td>
<td>H. Ji and X.Y. Yu</td>
<td>384</td>
</tr>
<tr>
<td>Design on Falling Weight Impact Test Rig</td>
<td>J. Du and C.T. Ma</td>
<td>388</td>
</tr>
<tr>
<td>Study on Fatigue Strength of Trimaran Cross-Deck Structure Based on Spectral Method</td>
<td>C.B. Zhen, H.L. Ren, G.Q. Feng and C.F. Li</td>
<td>393</td>
</tr>
<tr>
<td>Design of a Web-Based Information Management Platform for Automotive Intake and Exhaust System</td>
<td>Y. Cheng, Y. Liang and L. Hong</td>
<td>397</td>
</tr>
<tr>
<td>Advanced Iterative Approach to Locating Point Layout for Computer Aided Fixture Design</td>
<td>Y. Cui, G.H. Qin and H.C. Ye</td>
<td>403</td>
</tr>
<tr>
<td>A New Combined Dispatching Rule of One-of-a-Kind Assembly Production Process</td>
<td>M. Li, M.Y. Zhang and J. Han</td>
<td>409</td>
</tr>
<tr>
<td>The Design of Temperature Control System in Climatic Chamber Based on PLC and PC</td>
<td>J.J. Yu and S. Wu</td>
<td>413</td>
</tr>
<tr>
<td>RV Reducer Backlash Analysis Based on Robust Design</td>
<td>Y.H. Li, W. Li and W.D. He</td>
<td>418</td>
</tr>
<tr>
<td>Research on Stem Characteristics of Litchi and End-Effector of Litchi Picking Robot</td>
<td>H.P. Xiang, Y. Chen, W.L. Cai and X.J. Zou</td>
<td>422</td>
</tr>
<tr>
<td>The Research of Finite Element Analysis Method about the Boom of Truck Crane</td>
<td>Y. Fei, T.E. Zhu and Y.J. Liu</td>
<td>427</td>
</tr>
</tbody>
</table>
Research of Engine Performance Control Based on \textit{EGTM}
H.B. Peng and M. Dan 431

Damage Analysis of High-Speed Axle Press-Fit Part
F.W. Zhao, J.L. Xie and T.H.Y. Xiao 437

Extend the Utilization of Joystick for Visualization, Telemetry and Control on Unmanned Vehicle Development
H. Bin Khalid, B.S. Luhur and A.Y. Prima 442

Chapter 3: Signal Processing

A Maturity and WBS Based Working Mode of Aero-Engine
J. Zhao, Y.T. Jin and D.H. Zhang 449

Applied Research on Natural Human-Computer Interaction in the Modern Design
Y.K. Wang and W.P. Hu 456

Surface Measurement Methods Based on Single and Multi-Frequency Fringes and its Applications in Reverse Engineering

A Lagrange Type Polymer Drawing Model of the Melt Blowing Nonwoven Process
H.J. Chen, T. Chen and L.L. Wu 465

Equilibrium and Thermodynamic Studies on Biosorption of Malachite Green from Aqueous Solution by Fungal Biomass
L.F. Zhang 470

Fuzzy Error-Tolerance Biometric Identity-Based Signature in the Standard Model
L.Y. Zhang, Q. Wu and Y.P. Hu 474

A Comparative Study on the Effectiveness of Lightweight Shipborne Underwater Vehicle Based on Certification Position
Y. Xie 478

An Adaptive Filtering Algorithm Based on Improved Gray Relational Analysis
C.Y. Huang and Y.L. Li 483

Experimental Study on Desulfurization of Fly Ash Slurry
Y.J. Liao, M. Zhai, F.Y. Li, W.Q. Shi, Y. Zhang and P. Dong 487

Analysis of Stagnant Non Condensable Gases Effects on Condensation Heat Transfer in a Vertical Tube
J.X. Zhang, Z.S. Li, B.Y. Gong, H.X. Zhao and Y.H. Zhao 491

A New Method for Constructing Optimal Design of Computer Experiments
H. Wu, W.P. Wang and F. Yang 496

The Research and Design of Intelligent Housing Sales Management System Based on Association Analysis
X.B. Tang 505

Preparation of Ultra-Fine Powder Using Supercritical Fluids: A Review

Dynamical Modeling and Neural Network Adaptive Control of Vehicle Suspension
J.T. Fei and J. Xu 516

Research on Workflow-Based Manufacturing Information Active Sharing Mechanism
L. Du 520

Analysis on the Performance of Wheel Loader in Typical Work Cycle
F.Y. Wang, J. Zhang, R.F. Sun and F. Yu 526

Fabrication of a Novel Catalyst Support with Hierarchical Pore Structure
X.J. Zhang 530

An Effective Approach to Improve the Oxidation Resistance of Ti-6Al-4V Alloy by Combination of Phosphorization and Silica Coating
C.X. Gao 534

Ultimate Strength Research of Plates Based on Combined Theory of Strength and Stability Method
L. Feng and F.S. Tong 538

Resolver-to-Digital Conversion Using Correlation Algorithm
M.T. Cui 542
Research and Application on Parameterized Modeling Technology of Shaft Part Based on Feature
L.T. Zhang 548

Analysis of Mixed-Mode Fatigue Crack Growth under Stress Redistribution at Crack Tips
W.F. Tu, Z.L. Gao and Z.J. Hu 552

An Improved Compensation Alternating Voltage Regulator Using Bidirectional-Thyristor Bridge
J.W. Li, B.X. Zhang and J.P. Xing 556

The Research on Modular Designing Method of Marine Diesel Engine
H.X. Zhang, X.L. Zhang and W.X. Tang 561

The Research on the Friction and Wear Properties of Carbon Fiber Reinforced Polyamide 6 Composites
Z.Y. Cai and W.X. Wang 565

Detecting Bloody Images Using Multi-Features
Y.W. Wei, H.M. Yin and X.Q. Huang 569

Numerical Research of Deposits Formation and Influence on the Heat Transfer Process
L. Mu and H.C. Yin 573

A Multi-Disciplinary Simulation Framework Based on Semantic-SOA
X. Song, L. Zhang, Y.J. Lai Li and L.D. Qian 578

Preparation and Antioxidant Capacities of Oligochitosan-Collagen Peptide Complexes
B. Wang, Y. Wang, Z.R. Li, L.W. Huang and Y.L. Qu 583

Experimental Research on Thermal Conductivity of Metal-Oxide Nanofluids
Q.Y. Shou, R.D. Chen and S. Su 587

Numerical Simulation Research on the Crowned Design by Multiple-Variable-Curvature Arcs for Cylindrical Roller Bearing
H.W. Zhang and J.Q. Chen 591

Extraction of Feature Photoacoustic Spectroscopy Probed by a Sensor against a Large Background Noise
Z.Y. Wu, Y. Zhang and X. He 595

Highly Transparent Y-α-Sialon by Hot Pressing
Y.C. Shan, H. Ye, J.J. Xu and J.T. Li 599

Effect of LSPWES Process on Semisolid A356 Alloy Slurry Feedstock
G.X. Tang, W.M. Mao and Y.F. Liu 603

Research on Existences and Concept System of Rotation Symmetry in Mechanical Systems
Z.Y. Ma 608

Friction and Wear Properties of Polyamide 66 Composites Filled with Carbon Fiber under Dry Sliding and Oil Lubricated Condition
Z.Y. Cai and W.X. Wang 612

Nonlinear Initial Alignment of Strapdown Inertial Navigation System Using CSVM

Complex Equipment Failure Prediction Technology Based on Virtual Environment
J.D. Huang 621

A De-Noising Method for Medical Ultrasonic Image Based on ROF Decomposition and Adaptive Wavelet Threshold
X. Zhou, Y.F. Xia and X. Li 625

Design and Research of Sewing Tube Packing Device Based on Pneumatic
Y. He and S.D. Xiu 632

Solving Large-Scale Heat Exchanger Network Synthesis Problems Using Particle Swarm Optimization
Z.Y. Huo, L. Zhao and H.C. Yin 636

Chapter 4: Manufacturing Technology and Processing

A Review of Optimal Scheduling Cleaning of Refinery Crude Preheat Trains Subject to Fouling and Ageing
A.L. Diaby, L. Lee, A. Yousef and J. Addai Mensah 643

A Complex Product Machining Process Capability Performance Improvement Method
F. Zhu and X.F. Huang 652
Chess UpgradeA Complex Simulation Mathematics Model of Ancient City Attack and Defend War
Y.F. Wen 656

The Preparation of Several Novel Organic Material of Neutral Molecules Recognition
Q.W. Ding, T.W. Qian and M.G. Zhang 660

A New Ultrasonic Honing Device with Ultra-Precision
J.C. Kuai 664

Topology Optimization of a Parallel Hybrid Electric Vehicle Body in White
S. Yang, C. Qi, D.M. Guo, Y.L. Wang and Z.Y. Wei 668

Bearing Fault Diagnosis Based on Wavelet Transform and ICA
Q. Wu, Q.B. He, F.R. Kong, Y.B. Liu and P. Li 672

The Design of an Ultra Low Power and Mobile Measurement System of Underwater Target Remote Detection
W. Lin, B.C. Yuan and Z.H. Bao 676

Numerical Study on Flow and Heat Transfer Characteristics of Jet Impingement Cooling
R.P. Sun, W.B. Zhu, H. Chen and C.J. Chen 680

Analysis of Surface Defects on Stainless Steel Cold Rolling Strip
F. Yan, C.L. Liu and K.Q. Yu 684

Economic and Environmental Assessment of Biogas Production from Straw
J.M. Hong and J. Zhou 688

The Design and Implementation of an Automatic Tracking System of Solar Energy Based on the PID Control Algorithm
Z.L. Zhao, Z.B. Li and M.M. Ma 692

Study on Operation Monitoring System Used by Battery Electric Vehicle
L.H. Tang and T.J. Gao 697

Economic and Environmental Assessment of Straw Direct-Fired Power Generation
J.M. Hong and J. Zhou 703

Torque Control of Servo Load Simulator with Generalized Dynamic Fuzzy Neural Network Based on Grey Prediction
L. Wang, L.F. Qian and Q. Guo 707

Optimal Scalar Quantization for Motion Tracking via Boolean Compressive Infrared Sampling
J. Liu, M. Liu, X.M. Guo and G.L. Wang 713

Distributed Virtual Control and Simulation Based on VNC and RFB Protocols
X.L. Lu 721

Integrated Powertrain Control for Gear Shifting
G.Q. Wan, Y. Huang, F.J. Zhang and G. Li 725

Theoretical Study on the Dynamic Separation of Two Microplates with an Intervening Liquid Meniscus
L.F. Wang, W.B. Rong, B. Guo and B. Shao 731

Analysis of Two Surfaces in Line Contact under TEHL with Non-Newtonian Lubricants
R. Sountaree and M. Mongkol 736

Corrosion in T.L.E. Exchanger and Effect of Heat with Software Analysis
M.K. Amir, M. Samad and S.M. Behzad 743

Introduction to Turn-Milling Technology and Application
S.M. Yuan, C. Zhang and Y.Z. Huang 748

Segment Slot Partial Competitive Anti-Collision Algorithm for RFID System
Z.Y. Yang, J. Xing and X.G. Wang 753

Study on Method of Magnetic Flux Leakage Signals De-Noising for Cracks of Bar
H.C. Sun, Y.F. Xia and Y.C. Deng 757

Constitutive Equation of AZ80 Magnesium Alloy at Thermal Deformation
Z.T. Wang, G.F. Zhao, S.H. Zhang and Y.G. Deng 762

Chen’s Lattice Inversion Embedded-Atom Method for Nial and Ni₃Al Alloy
C.H. Zhang, J.J. Han, S. Huang and J. Shen 766

Characteristics of the InGaP/InGaAs/Ge Triple-Junction Solar Cells with Concentration Photovoltaic System
Z.L. Wang, H. Zhang, H.T. Zhang and Y. Li 773
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect of Liquid-Solid Lubricant on Mixed Lubrication in Line Contact</td>
<td>778</td>
</tr>
<tr>
<td>R. Sountaree, P. Jesda and M. Mongkol</td>
<td></td>
</tr>
<tr>
<td>Nonlinear Hysteretic Model of Giant Magnetostrictive Material Based on Inverse Magnetostrictive Effect</td>
<td>785</td>
</tr>
<tr>
<td>X.Q. Tang and Z.W. Zhu</td>
<td></td>
</tr>
<tr>
<td>Behavioral Mechanism: Advancing a Design State with Multi-Agents Coordinating</td>
<td>789</td>
</tr>
<tr>
<td>C.H. Chen</td>
<td></td>
</tr>
<tr>
<td>Effects of Cooling Air Temperature and Cutting Velocity on Cryogenic Machining of 1Cr18Ni9Ti Alloy</td>
<td>795</td>
</tr>
<tr>
<td>S.M. Yuan, S. Liu and W.D. Liu</td>
<td></td>
</tr>
<tr>
<td>Research on Lifecycle-Oriented Health Management Philosophy and Key Technologies for Complex Equipment</td>
<td>801</td>
</tr>
<tr>
<td>Y.F. Huang, J.K. Wang, R.J. Wu and J.L. Yan</td>
<td></td>
</tr>
<tr>
<td>Wear Characteristics Analysis of Pin-on-Disc Pairs Based on Finite Element Model</td>
<td>806</td>
</tr>
<tr>
<td>Y.F. Zhang, Z.J. Sun and Z. Yuan</td>
<td></td>
</tr>
<tr>
<td>Vehicle Routing Problem with Stochastic Demands and Simultaneous Delivery and Pickup</td>
<td>810</td>
</tr>
<tr>
<td>C.S. Wang and Y. Qiu</td>
<td></td>
</tr>
<tr>
<td>Numerical Simulation of Bubble Coalescence Based on VOF Method</td>
<td>814</td>
</tr>
<tr>
<td>Z.Y. Yang, J.D. Li and G.H. Zhang</td>
<td></td>
</tr>
<tr>
<td>A Review on Fractals and Fracture, Part I: Calculating Fractal Dimensions by CAD Model</td>
<td>818</td>
</tr>
<tr>
<td>A.A. Shariff and M.H. Hafezi</td>
<td></td>
</tr>
<tr>
<td>Structure and Composition of Supported PtCu-LaO&lt;sub&gt;x&lt;/sub&gt; Composite Multi-Layer Membrane Electrode</td>
<td>822</td>
</tr>
<tr>
<td>B. Yang and T. Xu</td>
<td></td>
</tr>
<tr>
<td>Chapter 5: Material Science and Technology</td>
<td></td>
</tr>
<tr>
<td>Experimental Research for Residual Strength of Composite π Joint</td>
<td>829</td>
</tr>
<tr>
<td>Y. Fu, J.Y. Zhang and L.B. Zhao</td>
<td></td>
</tr>
<tr>
<td>Research on Influence of Contact Stress on the Hinge Moment Balance Measures</td>
<td>833</td>
</tr>
<tr>
<td>Y. Xu and J.W. Qiu</td>
<td></td>
</tr>
<tr>
<td>Level Mobile Shot Blasting Machine Shot Blasting Wheel in the Dynamic Simulation Based on ADAMS</td>
<td>837</td>
</tr>
<tr>
<td>D. Zhang, Y.L. Liu and H.T. Li</td>
<td></td>
</tr>
<tr>
<td>Effect of Ar/O&lt;sub&gt;2&lt;/sub&gt; Ratio and Substrate Temperature on the Hydrophilicity of SiO&lt;sub&gt;2&lt;/sub&gt; Thin Films Prepared by RF Reactive Magnetron Sputtering</td>
<td>842</td>
</tr>
<tr>
<td>S.H. Gao and L.H. Gao</td>
<td></td>
</tr>
<tr>
<td>Constitutive Modelling of Sintering of 316L Stainless Steel Microsize Structures</td>
<td>846</td>
</tr>
<tr>
<td>L. Liu, N.H. Loh and B.Y. Tay</td>
<td></td>
</tr>
<tr>
<td>The Study of Fatigue Crack Growth Shape under Mode I Constant Amplitude Loading</td>
<td>852</td>
</tr>
<tr>
<td>W.F. Tu, Z.L. Gao and Z.J. Hu</td>
<td></td>
</tr>
<tr>
<td>Application of Artificial Neural Networks for Prognostic Modeling of Fire Resistance of Reinforced Concrete Pillars</td>
<td>856</td>
</tr>
<tr>
<td>M. Lazarevska, M. Knezevic and M. Cvetkovska</td>
<td></td>
</tr>
<tr>
<td>Conjugate Heat Transfer Analysis and Design Optimization of Internally Cooling Turbine Blade</td>
<td>862</td>
</tr>
<tr>
<td>M.H. Qu, S.Y. Sun and P. Xi</td>
<td></td>
</tr>
<tr>
<td>Coverage Optimization Methods in Wireless Homo-Sensor Network Based on Guided Swarms</td>
<td>868</td>
</tr>
<tr>
<td>H.Y. Zheng</td>
<td></td>
</tr>
<tr>
<td>Study on Martensite Phase Transformation near Crack Tip of Mode II in Shape Memory Alloy</td>
<td>875</td>
</tr>
<tr>
<td>B. Zhou, J. Lv, G.L. Hou and Y.R. Pan</td>
<td></td>
</tr>
<tr>
<td>Virtual Prototype Modeling and Starting Method of Belt Conveyor</td>
<td>879</td>
</tr>
<tr>
<td>D.M. Du, H. Li, C.S. Zhu and Q. He</td>
<td></td>
</tr>
<tr>
<td>Reuse of Thermal Energy in Municipal Reclaimed Water: Assessment for Transmission Distance</td>
<td>883</td>
</tr>
<tr>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Microwave Dielectric Properties of Low Temperature Fired CaO-Li₂O-Sm₂O₃-TiO₂ Ceramics with LBS Glass Addition</td>
<td>887</td>
</tr>
<tr>
<td>Y.J. Gu, J.L. Huang, L.H. Li, Q. Li, W. Hu and X. Wang</td>
<td></td>
</tr>
<tr>
<td>Concept Cartoons Based Two-Tier Online Testing System for Magnetism Conception</td>
<td>891</td>
</tr>
<tr>
<td>An Intrusion Detection Model Based on Non-Negative Matrix Factorization</td>
<td>895</td>
</tr>
<tr>
<td>S.X. Chen, S. Wu, Y. Cao and D.S. Tang</td>
<td></td>
</tr>
<tr>
<td>Synthesis and Characterization of ZnS: Fe/ZnS Core-Shell Nanocrystals</td>
<td>900</td>
</tr>
<tr>
<td>L.H. Li, Y.J. Gu, R.S. Xie and J.G. Zhu</td>
<td></td>
</tr>
<tr>
<td>Experimental Study on Properties of Concrete Mixed with Ferrous Mill Tailing</td>
<td>904</td>
</tr>
<tr>
<td>H.Z. Kang, K.W. Jia and L. Yao</td>
<td></td>
</tr>
<tr>
<td>Friction and Wear Behaviors of Al₂O₃ Based Ceramic Tool Materials at Temperatures up to 800°C</td>
<td>908</td>
</tr>
<tr>
<td>H. Zhang, J.X. Deng and Y.S. Lian</td>
<td></td>
</tr>
<tr>
<td>Research of Detectivity for Ultrasonic Infrared Thermography NDT in Composite Materials</td>
<td>914</td>
</tr>
<tr>
<td>Y.J. Song, W. Zhang, D.D. Wang and G.F. Jin</td>
<td></td>
</tr>
<tr>
<td>Fault Diagnosis of Gearbox Based on Wavelet Transforms and Neural Networks</td>
<td>919</td>
</tr>
<tr>
<td>G.B. Zhang, Y.J. Ge and Y.J. Liu</td>
<td></td>
</tr>
<tr>
<td>Study of the Crane Comprehensive Evaluation Index System</td>
<td>923</td>
</tr>
<tr>
<td>Q.L. Huang, X. Wang, R.J. Li and S.D. Gao</td>
<td></td>
</tr>
<tr>
<td>Copper Plating on the Carbon Fibers by Double Pulse</td>
<td>928</td>
</tr>
<tr>
<td>S. Gao, M.J. Fan and G.P. Wang</td>
<td></td>
</tr>
<tr>
<td>The Flow Conditions to Move Different Plastic Particles in Dilute Pneumatic Conveying</td>
<td>932</td>
</tr>
<tr>
<td>R. Wiwattanasirikul and P. Sujumnongtokul</td>
<td></td>
</tr>
<tr>
<td>Effect of Bulk Density of 1/3 Coking Coal on Pyrolysis Kinetics</td>
<td>938</td>
</tr>
<tr>
<td>Displacement Control of Hydraulic Pump with Servo System for Energy Saving</td>
<td>942</td>
</tr>
<tr>
<td>J.C. Song, G.A. Ren, Y.J. Ren and B.S. Zhang</td>
<td></td>
</tr>
<tr>
<td>Effect of Defects on Electrical Property of Multi-Crystalline Silicon</td>
<td>947</td>
</tr>
<tr>
<td>Y. Tan, Y.Q. Li, Q. Xu, Y.J. Liu, G.X. Hu and J.Y. Li</td>
<td></td>
</tr>
<tr>
<td>The Novel Heating Method for the Sample of Spectral Emissivity Measurement</td>
<td>951</td>
</tr>
<tr>
<td>L. Xing, Z.D. Yuan, M.C. Guo, D. Wei, L.Z. Cai and B.P. Wang</td>
<td></td>
</tr>
<tr>
<td>Foreign Objects Damage on the Leading Edge of the Blade with Centrifugal Preload</td>
<td>958</td>
</tr>
<tr>
<td>D.M. Yin and Z.X. Li</td>
<td></td>
</tr>
<tr>
<td>Electroless Plating Nickel Film on Surface of Epoxy Resin and Evaluation of its Electromagnetic Shielding Effectiveness</td>
<td>963</td>
</tr>
<tr>
<td>P. Jin, S.Y. Dong, B.S. Xu and Z.Y. Song</td>
<td></td>
</tr>
<tr>
<td>Stability Analysis of Rectangular Plate Based on Catastrophe Theory</td>
<td>968</td>
</tr>
<tr>
<td>Design of Tire Pressure Sensor Based on High Integrated Wireless Sensor</td>
<td>973</td>
</tr>
<tr>
<td>C.Y. Wang</td>
<td></td>
</tr>
<tr>
<td>The Role of Dissolved CH₄ in Soil Solution in the CH₄ Emission from Water-Saving Irrigated Rice Fields</td>
<td>977</td>
</tr>
<tr>
<td>D.X. Li</td>
<td></td>
</tr>
<tr>
<td>Modeling and Control of Excitation Systems for Synchronous Generators</td>
<td>983</td>
</tr>
<tr>
<td>F. Naeim, S. Liu and L.Y. Zhang</td>
<td></td>
</tr>
<tr>
<td>Study on Time-Varying Wires Structure in Wire-Driven Parallel Manipulators</td>
<td>987</td>
</tr>
<tr>
<td>S.L. Yue, Q. Lin, R.B. Liu, Z. Wang and Y.X. Chen</td>
<td></td>
</tr>
<tr>
<td>Energy Absorption of an Re-Entrant Honeycombs with Negative Poisson’s Ratio</td>
<td>992</td>
</tr>
<tr>
<td>S. Yang, C. Qi, D.M. Guo and D. Wang</td>
<td></td>
</tr>
<tr>
<td>Design and Implementation of Assembly Simulation Resource Model Library</td>
<td>996</td>
</tr>
<tr>
<td>Risk Assessment of Subsea X-Tree System</td>
<td>1000</td>
</tr>
<tr>
<td>C.Y. Wang, H.H. Zhang and M.L. Duan</td>
<td></td>
</tr>
<tr>
<td>Electric and Hydraulic Servo Actuator Fault Diagnosis Based on Genetic Optimization Neural Network</td>
<td>1007</td>
</tr>
<tr>
<td>Y.C. Chen and W. Yang</td>
<td></td>
</tr>
</tbody>
</table>
Effect of Al₂O₃ Powder on Properties of Fumed Silica Thermal Insulating Composites Using Mechanofusion Technique
L. Han, L. Yuan, J.Z. Liu and J.K. Yu 1011

Buckling and Vibration of Carbon Nanotubes Embedded in Polyethylene Polymers
D. Shi and Q. Wang 1016

A Small Size Environment Monitoring System for Solid Booster
W.D. Huang, H. Lv and Y.T. Sui 1021

Experimental Study on Mixing Ratio of Concrete Adding Fly Ash and Slag Powder
L. Yao, H.Z. Kang and K.W. Jia 1025

The Design of Well Logging Data Acquisition Based on FPGA
Y.H. Li 1029

The New Rotor Diameter Selection of Vertical Shaft Impact Crusher Based on EDEM
D.R. Duan, F. Zhao, X.X. Chen and W. Guo 1033

Design and Realization of One Key Download Software Based on Distributed Control System
Y.G. Kong and B. Huang 1037

Research on the Construction Strength and Pressurize Capability of Two-Joint Mating System of Underwater Vehicle
Z.L. Zhang and L.Q. Wang 1041

The Application of Signal Processing Techniques in Improving Spectrometer Detection Limit
Z.Y. Wu, Y. Zhang and Z.Y. Shen 1045

Maximizing Volumetric Efficiency of a Diesel Engine Using an Air Pump to Compress Air-Biogas Mixture into the Engine via Venturi
K. Wichettapong and S. Bureerat 1051

Application of ANSYS in the Hydraulic Generator Rotor Bracket Crack
Z.G. Li, F.Y. Yang, X.X. Pu, J.H. Chen and G.L. Si 1058

The Effect of Sulfuration on Wear Behavior of NBR under Water Lubricating Sliding
X.R. Lv, S.J. Wang and H. Han 1062

Optimization of LDPC Coded IDMA System
J.X. Zhang 1066

Study of Fuzzy Control for Turbofan Engine Based on Improved Genetic Algorithms Optimization
Y. Hu, Y.C. Yang, S.Y. Zhang and X.X. Yu 1072

Effects of Doping ZnO-2B₂O₃-7SiO₂ Glass by Sol-Gel Method on BaO-Sm₂O₃-4TiO₂ Ceramics
Z. Yan, J.L. Huang, Y.J. Gu, L.H. Li and X. Wang 1077

Virtual Testing for Frontal Impact of High-Top Cab of Heavy Truck
W. Wang, X.L. Xie, F.L. Shen and X.F. Wang 1081

The Study of Type Twin Annealing in High Mn Steel
G.R. Razavi 1085

Design and Testing of Experiment Platform for Urban Rail Vehicle Vibration
Q.S. Feng and H. Li 1089

Effective Stress Parameter for Unsaturated Soils under Drying and Wetting Processes
P. Voottipruex, A. Uchaipichat and E. Man Koksung 1093

Chapter 6: Energy Systems

Research on Parallel Scheduling of Maximize the Number of Task Processing under Time Constraints- an Example to De-Icing Operation
B. Li, X.Y. Fu, D. Su and G.S. Jiang 1101

A Micromechanical Model for Debonding Process in Composite Solid Propellants
G.C. Li, Y.F. Wang, A.M. Jiang and X.Y. Liu 1107

Equivalent Viscous Damping Ratio of Steam Turbine Foundation in Nuclear Power Plants
X.Y. Zhou 1113

Petri Nets-Based Implement Process Model for Engineering Change on Aero-Engine Assembly Field
L.H. Li, R. Mo, H.B. Sun and Z.Y. Chang 1118
Research on Thermal Comfort in HVAC Laboratory
H.C. Sun, J.Y. Zhao, W.H. Wang and Z.Y. Gao 1122

Experimental Study of Mine AE Signal Based on Wavelet Analysis
X.Z. Cheng, Z. Yu and G. Zhu 1127

Energy and Exergy Analysis for Three Type 500MW Steam Power Plants
Z. Li, Z.M. Li and Z.L. Yan 1131

Analysis and Research on the Performance of the Ground Source Heat Pump System in Different Areas of China
Z.S. Qi, Q. Gao, Y. Liu, Y.Y. Yan and J.D. Spitler 1137

Critical Condition of Dynamic Recrystallization of IN690 Using Strain Hardening Rate
Z.T. Wang, Y.G. Deng, S.H. Zhang and M. Cheng 1141

An Improved BM Pattern Matching Algorithm in Intrusion Detection System
C. Yin 1145

Study on Electro-Pneumatic Clutch for Automatic Mechanical Transmission
W.C. Zhang and Y. Zhai 1149

The Collection System of Relay Electrical Endurance Based on LabVIEW
X.G. Huang and Z.R. Jing 1154

Feasibility Assessment of Using Cassava Rhizomes for Firing Pottery in Dan Kwian, Thailand
J. Jongpluempiti and K. Tangchaichit 1158

Existence of Periodic Solutions for a Class of Second-Order Nonlinear Difference Systems
W.M. Tan and F. Su 1164

Research on Robust Tracking Control Based Improved Fuzzy Disturbance Observer for Flight Simulator
Z.H. Liu, X. Yu and Y.Y. Hua 1170

Crashworthiness Design for Reinforced Thin-Walled Column under Oblique Impact Using a Magic Cube Approach
S. Yang, C. Qi and D.M. Guo 1175

Oxidation of Austenitic Steel TP347HFG Exposed to Supercritical Water with Different Dissolved Oxygen Concentration
N.Q. Zhang, B.R. Li, Y. Bai and H. Xu 1179

Refloowed Aqua Ammonia Explosion Pretreatment for Corn Stover
B. Li, C. Zhang, F. Pang and Y. Kang 1184

Research on Concept System of Mechanical Scaling-Translation Symmetry
Z.Y. Ma 1190

The Establishment and Numerical Calculation of Thin Film Lubrication Model
D.L. Liu, S.H. Cao and A. Sun 1194

Effect of Casting Parameters on Porosity in LFC
S. Izman, A. Shayganpour and M.H. Idris 1198

Strength Calculation Analysis of Diesel Engine Linkage Based on Three-Dimensional Contact Finite Element Method
G.X. Wang, X.B. Li, L.J. Guo and J.Y. Ma 1202

Experimental Research on a New-Type Concrete Antifreeze
B.M. Wang, K. Song and N. Tu 1209

Theoretical Analysis for Storage Reliability of Underwater Vehicle
Y. Xie, B.C. Yuan and Q.Y. Meng 1214

Research on Friction Disk’s Surface Temperature Distribution and Oil Groove Configuration in Wet Friction Clutch
Y.H. Jia 1218

A Singlet Oxygen Generator with Rapid Separation Process

Determination the Heat Price of a Combined Heat and Power Plant with the Energy Grade Theory
Z.M. Li, Z. Li and J. Guo 1227

Research on the Braking System Control Strategy of Hybrid Electronic Bus
J.S. Liu, J. Li, Y.S. Zhang, L. Chu and L. Yao 1231
Surface Treatment and Adhesive Interface Investigation of a New Type of Aluminum Lithium Alloy  
Z.Q. Sun and M.H. Huang  
1236

Macroscopy Lattice Deformation of Martensitic Transformation in Fe-Based Shape Memory Alloy  
X.P. Lin, Y. Dong and L.W. Yang  
1240

The Automatic Analysis System of the Main Beam of Horizontal Directional Drilling Based on APDL  
Z.G. Han, T. Han, R.Q. Hao, J.F. Yang and Z.W. Li  
1244

An Iterated Local Search Algorithm for Fuel Consumption Optimization of Vehicle Routing Problems  
X.D. Wu  
1248

Effect of Temperature on Performance Parameters of Metallurgical Grade Polysilicon Solar Cells  
L.F. Zhang, Y. Tan, Z.Q. Yang, Z.F. Gao and Y. Nie  
1252

On Chip Kalman Filtering Strategy-Based for VRLA Battery Control Unit  
C.H. Piao, M.L. Liu, Q. Zhang and Q.F. Liu  
1256

Identification of Properties of HVAS Waste-Oil Equipment Coating Based on T_S Fuzzy Model  
B. Chen, G. Liu and X.M. Zhang  
1260

Design of Marine Diesel Engine Waste Heat Recovery System with Organic Rankine Cycle  
G.Q. Yue, S.W. Dong, Q. Zheng and J.R. Li  
1264

Material Parameter Determination in Glass Wool Mat for Sound Absorption  
1271

Removal of C. I. Reactive Red 2 from Aqueous Solution by Ni-Al Layered Double Hydroxide  
L.F. Zhang  
1276

High-Precision Monitoring and Controlling System of Temperature and Humidity Based on CAN Bus  
Z.H. Huang, J. Lin and D. Lv  
1280

Impact on Structure and Composition of Carbon Supported PtCuLaO_x Membrane Electrode by Acid Treatment  
B. Yang and M.Z. Shen  
1285

Influence of Cooling Intensity on Residual Stress State of TIG Dressing Zone for T-Joint Welded Toe  
K. Zhou, C.Y. Shi and C. Jin  
1289

Application of Layered Media as Substrate in Infiltration Treatment System for Municipal Wastewater Treatment  
L. Zheng, Z.J. Sun and A.Z. Ding  
1295

Effect of High Pressure Carbon Dioxide Fluids on the Birefringence of Polymer Optical Fiber  
C. Zhao, J.P. He, J.W. Xing, H. Kenji and T. Hori  
1299

The Research on Production Operations of Job Shop Based on eM-Plant in Simulation  
M. Zhao, X.X. Zhao and Y.F. Zhang  
1303

Tribological Behavior among Piston Ring -Hydrorefined Mineral Oil- Cylinder Liner for Diesel Engine  
Y. Shen, J.J. Xu, M. Jin, J.J. Wang, L. Wang, X.G. Han, H.P. Zhang and Y.D. Zhang  
1307

Chapter 7: Materials and Energy Saving

Study on Relationship between Paper Performance and Ink Transfer Based on Quality Control  
W.G. Chen  
1315

Finite Element Simulation and Experimental Study on Blow Forming of Plastic Cups  
X. Hu, Y.S. Zhang, H.Q. Li and D.Q. Li  
1319

Effect of Stirrup on Reinforcement Corrosion-Induced Cover Cracking  
Q. Li, X.J. Zhang and T.T. Ding  
1323

Modeling and Analysis of Piezoelectric Vibrating Generator of Cantilever  
Q. He, Z. Yan, L.K. Fei and B. Song  
1327
Advancement of Aluminum-Water Reaction and Application

Electrochemical Drilling of Micro Holes with Flatted Electrode
Y.K. Wang, X.L. He, Z.L. Wang and H. Chen

Research of LiMnPO$_4$/C Synthesized by Solid-State Reaction with Different Carbon Sources
X.W. Liu, X. Li, G.C. Liu, S. Chen and G.H. Chen

Labor and Social Security Integrated Information Platform Based on Spatial Cloud Computing
J.X. Dai and Y.L. Zhang

Phases Evolution and Y Solid Solution Microstructure in the Mg-6Zn-3Y Alloy Solidified under Super-High Pressure
Y. Dong, X.P. Lin, R.G. Zheng and S.H. Jiao

Improving the Granulating and Sintering Performance by Pretreating Concentrates Using Extrusion Machine
Y.P. Mo, J. Pan, D.Q. Zhu, T.J. Chun and D. Chen

Study on Machining Error of Globoidal Cam Profile Resulting from Motion Error of Machine Tool in Machining
F.H. Bu, Y.M. Zhang and D.G. Shang

Classification of Underwater Echo Based on Fractal Theory and Learning Vector Quantization Neural Network
P.H. Tang, M.R. Zhou and Y.Y. Bu

GPU Accelerated Parallel Cholesky Factorization
L. Wang, Y.S. Zhang, B. Zhu, C. Xu, X.W. Tian, C. Wang, J.H. Mo and J. Li

Application of EFDC Model in Preventing Water Quality Deterioration through Water Circulation
X.Y. You, S.F. Chen, Q.H. Hong and Z.G. Niu

Effect of Rare Earth Salt on Ceramic Membrane Formed by Micro-Arc Oxidation
S.J. Li, R.N. Ma, J.J. Xue and A. Du

Effect of Dynamic Baking on BH Value of Ultra Low-Carbon IF Steel
J. Hou, W.J. Li, L.W. Zhang, X. Dong and L. Jin

Water Lubricated Mechanism Based on Multilevel Method
J.M. Peng and J.B. Yu

Research on Virtual Design and Simulation System of Characteristic Fruit Manipulator in Southern China
W.L. Cai, Y. Chen, M.S. Zhu, X.J. Zou, J. Li and H.P. Xiang

Material Selection of the Four Main Pipelines for 1000mW Ultra Supercritical Unit
Z.M. Li, Z. Li and J. Guo

Metal Magnetic Memory Testing of X60 Pipeline Steel under Tension Load and Fatigue Load
S.J. Liu, Z.X. Li and Y. Su

Numerical Simulation for Groundwater-Source Heat Pump Engineering Disposing Wells Scheme in the Coastal Region
J. Pan, C. Liu and Y. Li

Finite Element Analysis, Simulation and Experimental Investigation for Epoxy Laminated Lattice Structure Embedded with SMA Wires
S.A.A. Tirmizi and X. Shen

The Microstructure and Texture of Fine Grain High-Strength IF Steel after Continuous Annealing
L.W. Zhang, Z.M. Wang, H.M. Zhang and J. Hou

Grid Computing Based Middleware for Labor and Social Security Data Storage Resources Discovery
J. Yu

Research on Sustainable Function Innovation Based on TRIZ
G.Z. Cao, H.X. Guo, C.Y. Zhang and Q.H. Li

A Comparative Study on Scoping Numerical Calculations of Anisotropic Diffusion Experiment in Clay
Q.C. Yang
A Novel Robust Smooth Support Vector Machine  
S.C. Sun and D. Huang  
1438

Calculation and Study of the Integrated Emissivity of Cylindrical Cavity  
1442

A Reliability Data Analysis Method Using Mixture Weibull Distribution Model  
Y.K. Gu, D.L. Ge and Y.G. Xiong  
1449

Optimization Design of Controlling Differential Continuously Variable Transmission Based on MATLAB  
Z.Y. Li, C. Zhang and T. Ji  
1454

Theoretical Analysis and Experimental Research on Soil Deformation due to Pipe-Soil Interaction for Pipe-Laying  
1458

The Definition of 3D Full-Information Model of Aircraft Machining Parts  
L.G. Qu, S. Zheng and X.G. Han  
1464

Optimal Heat Exchanger Network Synthesis via Particle Swarm Optimization  
P. Wang, J.L. Xu and T. Lu  
1468

Emissivity Calibration and Temperature Measurement of High Strength Steel Sheet in Hot Stamping Process  
1473

The Study of Technics Behaviors of Micro-Arc Oxidation on Al-Ti Alloys  
S.J. Li, Y.Z. Fan, L.Y. Liu and A. Du  
1478

Investigation of Array Magnetic Memory Testing Technology on Extension of Metal Crack  
W.M. Zhang, C.F. Chen, H.Y. Li and S.X. Liu  
1483

A Study on the Kinematics of 2-DOF Parallel Manipulator  
1487

The Study of Permeability Revolution in Coal Reservoir during Methane Production  
B. Cui, H.L. Han and D. Elsworth  
1491

Synthesis and Characterization of TiO₂ Thin Film by Self-Assembly Method  
W.N. Mu and S.Z. Shi  
1500

Performance Improvement of a HFO Fuelled Medium-Speed Diesel Engine  
L.Y. Feng, B.G. Du, J.X. Li and X. Liu  
1504

Kinematic-Dynamic Modeling and Test Control of Tracked Drive Vehicle for Indoor Mapping  
H. Bin Khalid and B.S. Luhur  
1510

Z. Li, Z.M. Li and J. Guo  
1514

A Study on Economic Analysis of HOQ  
Y.L. Cao, K. Zhao, J.X. Yang, J.Y. Guan and B. Li  
1519

The Schur Complement on Weak Block Diagonally Dominant Matrices and Weak Block H-Matrices  
S.H. Liu, H. Su and Z.H. Huang  
1523

Wind/PV Hybrid Energy System Matching Design Based on Backward Inference  
F. Zhao, X.H. Liu, H. Liu, F. Zhang and X.H. Weng  
1527

CSCW Based Dental Clinic Image & Video Signal Processing  
X.L. Lu  
1534

A Machining Method of Sculptured Surface Based on the Quad-Tree Partition  
L.C. Fan and F.F. Zhang  
1538

Research on the Evaluation Method of Energy-Saving Technology about Traffic and Transportation  
X. Li, L. Liu and Q. Li  
1543

Research on the Design of Diamond Size in Diamond Drill Bits and Diamond Saw Blades  
J.D. Yang, W.L. Lin and Y. Wang  
1548

Modeling and Analysis of C2 Network System  
X. Song, L.D. Qian, X.C. Shi and S.Y. Zhang  
1554

Wide Spectrum Absorption of CuGaS₂ with Intermediate Bands  
M.S. Qin, F.Q. Huang and P. Chen  
1558
Theoretical Analysis of Meniscus Forces between Two Spherical Nanoparticles at Various Humidities
L.F. Wang, B. Guo, W.B. Rong and L.N. Sun 1562

Effect of Incremental Copper Powders Third Body on Friction Properties of Q235 Steel
H.L. Liu, F. Gao, W.H. Nong and R. Fu 1567

Controlling Track Coalescence Using Improved JPDA Filter
M. Zhu, Y.B. Xu, Z.S. Fan and J.S. Ma 1572

Performance Analysis of MIA Algorithm for LDPC Codes in near Space Rain Attenuation Channel
Y.D. Su, S.X. Chen and H. Wu 1576