

Table of Contents

Preface and Reviewers

Chapter 1: Materials Engineering

The Preparation of Water-Solution Mn-Doped ZnS Quantum Dots S. Shi, J.M. Zhang and Z. Dai	3
The Core-Shell CdTe@SiO₂ Particles Prepared via Reverse Microemulsion Method and their Fluorescence Properties Y. Liu, J.M. Zhang, Z. Dai and J. Wei	7
Studies on Surface Hydroxypropylation and Swellability of Bacterial Cellulose T. Wan, L.Y. Liu, W. Zeng and Y. Zhu	12
Effect of Chemisorptions on Wetting Property in TiO Nanosheet Film Y.P. Ye, W. Du, H.X. Li, L. Ji, J.M. Chen and H.D. Zhou	16
Preparation and Characterization of NiO Nanoparticles through Thermal Decomposition of Bis(glycinato)Nickel(II)dihydrate W.Y. Dan, J.F. Li, X.C. Tu and K.L. Jia	21
The Microstructure and Friction Properties of <i>In Situ</i> TiB₂ Particle-Reinforced Al-10Sn Matrix Composites G.M. Cui, X.X. Li and J.M. Zeng	26
Numerical Studies on Effect of Interpass Time on Distortion and Residual Stresses in Multipass Welding S.R. Kala, N.S. Prasad and G. Phanikumar	31
Decoration of Magnetic Nanoparticles on Functionalized Multi-Wall Carbon Nanotubes by <i>In Situ</i> Method H.F. Zhou and X.D. Wang	37
A Delamination Factor Prediction Model for Drilling of Composite Materials X. Wang, Y.L. He and J.Y. Wang	41
Research on Tensile Strength in the Ultrasonic Welding Joint of T-Type Wood-Plastic Composites Components H. Zhao, Y.L. Zhou, H.Y. Zhu and S.Y. Zhang	46
Ultrasonic Nondestructive Testing Analysis of 3D 5-Directional Braided Composites X.L. He, R. Wang, C. Liu and Q.Q. Zhang	50
Influence of Different Auxiliary Activators Doping on Spectral Properties of Sr₃Al₂O₆: Eu²⁺ Phosphors C. Xu, D.Q. Lu and H.F. Jiang	54
Changes of Mechanical Properties of Steel 12Cr18Ni10Ti after Electrolytic-Plasma Cementation S. Kurbanbekov, M. Skakov, M. Scheffler and A. Naltaev	59
Modification of Structure and Properties of Steel P6M5 at Electrolyte Plasma Treatment M. Skakov, B. Rakhadilov and M. Scheffler	64
Influence of Deformation on the Phase-Structural State of Steel 30CrMnSiA M. Skakov, G. Uazyrkhanova, N. Popova and M. Sheffler	69
Changes of Structural-Phase Condition in 18CrNi3MoA-SH Steel After Elektrolyte-Plasma Processing M. Skakov, L. Bayatanova and M. Sheffler	74
Influence of Regimes Electrolytic-Plasma Processing on Phase Structure and Hardening of Steel 30CrMnSi M. Skakov, L. Zhurerova and M. Scheffler	79
Preparation, Characterization of Cu Nanowires and their Tribological Property in Liquid Paraffin X.F. Zhang, Y. Zhou, K.W. Li and J. Huang	84
Study of Magnetism of Two-Dimensional Ferromagnetic Graphene B.Z. Mi, Y.H. Xue, H.Y. Wang, Y.S. Zhou and X.L. Zhong	89

Effect of UV Irradiation on the Migration of DEHP from Food-Grade PVC Film into Packaged Ground Meat S.L. Zhang	94
Research on the Porosity and Pore Size of Spun-Bonded Fabrics Based on Matlab7.0 Image Processing Technology R.F. Yuan, Y.Y. Wang and C.Y. Zhu	99
Machining FEM Model of Unidirectional Carbon Fiber Reinforced Laminate J.Y. Wang, Y.L. He and X. Wang	105
The Research on the Disperse Form of PEO Fiber by Electrostatic Spinning Method T. Lou, Y.B. Wu and T.B. Song	110
The Dynamic Behaviors and Structure Conservation of Protein BMP-2 on Hydroxyapatite Nano Surfaces X.L. Dong and C.W. Shao	115

Chapter 2: Mechanical Engineering, Construction and Manufacturing Technology

The Hydraulic Characteristics of Slope Flow Z.Z. Shen, W.Y. Yao, Z.B. Li, P.Q. Xiao, M. Li and J.S. Yang	123
Evaluation of Tobacco Mixing Uniformity Based on Projection Pursuit J.L. Li, J.L. Mao and G.Y. Yin	128
Reasonably Water Injection Time about Abnormal Pressure of Low Permeability Reservoir X.L. Huang	134
Ship Synchronized Phasor Measurement Method Based on TTCAN W. Zuo, Y. Shao, L.M. Wang and M. Lei	139
Finite Element Stress Analysis of a 600 MW Supercritical Boiler Superheater Outlet Header H. Dou, D.Y. Li, Y. Dai, Z.G. Fu, Q. Zhang and T. He	144
Stress Analysis of a 600 MW Supercritical Boiler Start-Up Separator in Peak Load Operation H. Dou, Q. Zhang, Y. Dai, Z.G. Fu, D.Y. Li and Y. Jing	149
Assembly Simulation and Analysis of Dynamic to Ingoter Based on Pro/E X.F. Xu	158
A Dual-Band LTCC Antenna with Cross Circuitous Structure H.G. Hao, W.S. Hu, H.Y. Tian and Y. Ren	163
Seismic Vulnerability Assessment of Multistory Timber Braced Frame Traditional Masonry Structures N. Ahmad, Q. Ali and M. Umar	168
Finite Element Analysis of 2450 Type Close-Top Mill Housing X. Wang and C.L. Xu	173
Manufacture and Research on a Kind of Double-Channel MRFs Testing Equipment H. Sun, T. Sun, S.P. Jiao, C.X. Xu and X.H. Peng	177
Optimization of DVG850 Dual-Screw Worktable System Based on ANSYS Workbench J.M. Yi, D.Q. Gao, F. Zhang and H. Lin	181
Analysis of Land Use Changes on Groundwater Dynamics X.H. Lu, Z.J. Li and Y. Wang	186
CFD Application for Performance Based Safety Verification of Reinforced Concrete Beam in Computer Simulation Building Fire C.C. Yu, S.C. Wang, C.S. Lin and T.C. Chen	190
Hand-Motion Recognition System Using Directional Patterns of Gyroscope for Smart Device Control K.H. Park	196
Normal and Abnormal Non-Speech Audio Event Detection Using MFCC and PR-Based Feature Sets B.D. Barkana, B. Uzkent and I. Saricicek	200
Optimization Method of Wavefront Reconstruction Based on Spatial Light Modulator L. Nie, X. Jiang, J. Wu and R.L. Guo	209
Evaluation of Sensorial Qualities of Fruit Wines by Kohonen Neural Network J.C.C. Santana, C.G. Dias, R.J. Sassi, R.R. de Souza and E.B. Tambourgi	216

Numerical Simulation of Meso-Mechanism of Liquefaction in Saturated Stratified Silty Sands	
Y.X. Yang, J.H. Hu and J.F. Wang	222
Experimental Research on Chloride-Induced Service Life of Structures under Loading Capacity Criterion	
F.X. Sun and Y.H. Zhu	227
Fast Test and Evaluation Method for Online Dynamic Performances of Feed Drive System of CNC Machine Tool	
Z.H. Liu, G. Liao, W.T. Niu and J.Q. Wang	232
Model for Yarn Transport Systems	
S. Praček	237
Parameter Modeling Method for Aeroengine Virtual Testing System	
X. Yang, C. Zhang and Y. Lei	242
Simulation and Optimization of a Biscuit Processing Production in an Industrial Scale by Use of MLP and RBF Neuro Fuzzy Network	
P.R. Menita, C.d.O. Affonso, J.C.C. Santana, R.J. Sassi and R.M. Vanalle	247
Abrasion Simulation of a Reciprocating Seal	
X. Li, G.L. Peng and W.J. Liu	253
Transient Dynamic Characteristics Study on Reactor Coolant Pump in Variable Working Conditions	
R.S. Zhu, X.L. Wang, Y. Long, Z.J. Yu and Q. Fu	258
Study on the Tensile Strength in X-Cor Sandwich by Using Finite Element Method	
X.D. Dang, S.J. Shi and J. Xiao	265
Finite Element Analysis of Flow Field and Temperature Field in Continuous Casting Mold	
X.J. Zhang, H. Zhang and Z.N. Xu	270
Theory of Yarn Dynamics during Unwinding from Packages	
S. Praček	275
Time-History Response Analysis of Jacket Offshore Platform due to Water Level Variation and Safety of Structural Members	
M.A. Lotfollahi-Yaghin and R. Rezaei	280
Support Vector Regression Based Nonlinear Model Reference Adaptive Control	
X.X. Ye, J.G. Lu and Q.M. Yang	289
Investigation of Performance of Scramjet Combustion Used Kerosene with Clean Air	
W.Q. Li and F.T. Luo	294

Chapter 3: Information Technologies and Computer Application

An Authentication Structure across Trust Domains	
Y.K. Zhang, F.T. Hou and C. Yang	301
Research on Delegation Authorization Model Based on TRBAC and Attribute	
J. An, S.Z. Yao and L. Zhang	307
One-Hop Path Routing Based on Heuristic-K Method Using ACO	
Z. He, F. Wei, X.H. Huang and Y. Ma	312
SSR-CDPS: A Novel Continuous Data Protection System Supporting Service Recovery	
J.J. Wu, Y. Cheng, S.Z. Mei, J.C. Ren, Z.Y. Wang, J. Zhou and J. Ma	318
Towards Web Service Discovery Based on Context-Aware	
S. Gao, H. Huang and B. Ge	325
Contribution to the Mapping of the Landslide of Ain El Hammam (Algeria)	
L. Djerbal and B. Melbouci	332
Research on Data Recovery of Oracle Database in Linux	
F. Zhao, J.S. Zhang and Z.X. Wang	337
Digital Forensic Technology of Solaris	
F. Zhao, J.S. Zhang and Z.X. Wang	342
Optimal Order Picking in Carousels Storage System	
X.Z. Wang and G.Q. Wang	347
Welfare - Oriented Public House Distribution System by Knowware System	
W.J. Sun, S.L. Lo, Y. Chen, D.L. Chen and L. Ding	354

Expressway Event Management Expert System Based on Ontology and Rule Reasoning Z.X. Yang, T. Xiao, L. Song and G.Q. Dong	361
Unified Information Modeling for Achieving High-Performance Information Sharing in the Information Grid Y.C. Zhang, J. Zhang, Q.Z. Yu, F. Ye, W. Li and Z.M. Shen	369
A GPS-Less Cell-Based Localization Technique for Wireless Sensor Networks X.J. Li	376
The Design of Inter-Regional Fire and Rescue Mobilization System C.Y. Li	383
Network Manufacturing Technology Based on Cloud Computing P.F. Wang and X.H. Diao	390
A New Document Representation Using a Unified Graph to Document Similarity Search T.W. Kim, H.C. Jeon and J.M. Choi	394
Model Checking of Constraint-Based Workflow Based on Linear Temporal Logic W.B. Zhou and S.Z. Yao	401
The Waterfilling Based Subcarrier and Power Allocation for OFDM Cognitive Radio Networks Y.H. Ma, D.M. Zhang and Y.Y. Xu	406

Chapter 4: Management and Economy

Improvement and Research of Lean Production in Car-Seat Assembly Line Y. Li	415
Action Mechanism of Psychological Empowerment on OCBs W. Wang	420
Establishing a Marketing Plan for Nowdar Company Applying a Taxonomy Method M.L. Mohammad and H.R.A. Seyed	426
Irrational Bidders, the First-Price Sealed Auction and Trembling-Hand Perfect Equilibrium Z.G. Han, W.J. Wang and L.R. Qing	432
Mathematical Decomposition for Influence Factors of Unit GDP Energy Consumption and Demonstration in China C.Y. Dai, X.L. Zhang, E.C. Wang, Z. Liu, M.H. Li and C.M. Liu	437
Based on the Model of ISM in Risk Analysis for the BT Reclaimed Water Project X.K. Gao and J.Y. Yang	449
Performance Assessment for Digital Convergence Development in Taiwan W.C.J. Hsu, M.H. Tsai and M.J.J. Lin	454
A Study on the Optimization of Box-Type Kitchen Equipment Materials X.H. Zhang, H. Yang, Y.J. Li and L.J. Yin	459
Estimation of Value-at-Risk Based on ARFIMA-FIAPARCH-SKST Model B. Tan	464
A Graph Partition Model for Cross Docking Schedule Problem J. Huang and H.B. Wang	470
The Application of Combination Forecasting Method in Total Power of Agriculture Machinery Based on RS R.X. Suo, F.L. Wang, M.M. Huang and Y.R. Liu	476
Resource-Efficient Production: Characterization, Theoretical Framework and Implementation Q. Sun and W.M. Zhang	484
Knowledge Innovation Network of Advanced Manufacturing System K. Dong	489
Developed Mechanism and Solutions to Modern Eco-Logistics Industry in China P. Sun and X.X. Luo	494
The Study and Application of Process Modeling Methods Based on Global Design D. Yi, C. Zhang, H. Liu, J.H. Wang and Z. Liu	500
Effect of ICT on the Social Dimension of Short-Term and Long-Term Alignment of the Participants in the Construction of a Knowledge Society L. Ljerka and M. Bojović	508

The Current Situation and Tactics for Financing of Small and Medium Company P.C. Feng, S.L. Yuan and Y. Jia	514
Multi-Objective Optimization of Human Resource Allocation in Production Cells with Different Training Modes C.J. Li, X.Y. Wu and X.D. Zhang	521
Dynamic Co-Integration Analysis of the Relationship between Energy Consumption and Carbon Dioxide Emissions F.Y. Wang and J.L. Dou	526
The Prediction of Energy Consumption Based on GM(1,1) Model in Liaoning Province Y.X. Jiang, X.C. Wei and L. Lin	532
The Comparative Analysis of International Competitiveness on China's Peanut Industry D. Chen and J. Lv	537
The Case Study of an Extended Diffusion of Substitution for Successive Generations of a Product with Norton Model J.H. Yang and W.J. Wei	542
Creation of Stock Analysis System Depend on the Prediction Research of Individual Stock Price Behavior by Moving Average Method P.W. Ling	547
The Supply Chain Automorphism from the Perspective of Metadata Ontology: An Extended Supply-Chain Operations Reference-Model S.C. Fu and H.F. Wang	554
A Game Theory Based Analysis of the Tacit Knowledge Sharing and Incentive Mechanism G.Y. Niu	564
An Interval Optimization Model of Multi-Criteria Parameters in the Process of Selecting Manufacturing Suppliers H.F. Wang	570
Study on Management of Software Engineering Capability in Japan through Cross-Section Analysis and Panel Analysis K. Yasuo	576
Bridging the Gap between Technology and Business within Corporate Governance of Enterprise: Focus Areas of Special Attention in the Technology Domain I.A. Alonso, J.C. Verdún and E.T. Caro	584
Tactic of Supply Chain Coordination when the Freight Cost of Unit Product is Sensitive to Lot Size H.M. Gui	593
The Moderating Effect of Usage Experience on the Antecedents and Consequences of Customer Satisfaction: The Case of Non-Profit Organizations Offering Web Services D.C.L. Kuo, A.W.C. Liao and M.M.Y. Tsai	599
The Effect of Government Technology Funding on Business R & D Expenditure in China and OECD Countries Q. Tang and Y.J. Liu	606
Mould Risk Assessment Based on RST-BN Approach Y.Q. Zhou and X. Tan	611
Indicators Systems for Evaluating the Efficiency of Political Awareness of Rational Use of Electricity V. Silva and A. Jesús	618
Emerging Markets: Product and Service Opportunities for Middle and Upper Middle Class D. Loi, S. Ganapathy and S. Prabhala	626