

Table of Contents

Preface

Chapter 1: Materials and Processing Technology

Experimental Study on Wear of Indexable Coated Blades as Applied to Cutting of PCrNi3MoVA Gun Steel Workpieces T.Q. Wang, Y.Y. Qiu, Z.F. Liu and X.L. Han	3
Effects of Calcium Oxide and Magnesium Oxide Stabilizing Agents on the Critical Transformation Size of Tetragonal Zirconia L. Zhao, S. Yao, Y.Q. Li, Z.L. Zhao and Q.H. Xue	15
Effects of Material Reactivity on the Sintering Properties of Magnesium Oxide Partially Stabilized Zirconia Metering Nozzle L. Zhao, Q. Huang, S. Yao, H. Wang and Q.H. Xue	25
Evaluation of the Performance of the Composite Bamboo Yacht Material X.D. Huang, S.H. Zhuan, J.K. Huang, C.Y. Hse and T.F. Shupe	34
Study on the Transparent Electronic Isolation Layer Material - A Photoresist Composition which is Stable at High Temperature and Humidity W. Li, D.H. Li, J.P. Cao, X.J. Yun and P. Kunmar	44
Research on Deformation Model of Welding Material Based on Inherent Strain Finite Element Prediction Method W.C. Wang, L. Tang and F. Wang	58
Application Research of High Temperature Silver Plating in Products R.H. Xie, J.J. Feng and S.X. Feng	70
Innovative Production of Lead-Free Wood Leafhopper under High Temperature Firing Environment S.X. Feng, Z. Sun and Y.R. Wang	79
The Study of Surface Morphology and Roughness of Silicon Wafers Treated by Plasma J.R. Bai and R.X. Hou	88
Research Progress in the Stability of Organic-Inorganic Hybrid Perovskite Solar Cells H.X. Duan	97
Mechanical Properties Research of Carbon Fiber Composite Laminates H.W. Zhao, X.G. Liu and A. Kent	107
Simulation Research on Ploughing Extrusion Angle Influence on Machinability M. Li, R. Fan, L. Bao, X.Y. Zhang, H.Y. Wang and M.M. Blum	117
Study on Poor Welding of Anode Tab and Battery Case of 21700 Lithium Ion Battery S.H. Cui, J.P. Mei, W. Li and Y.Y. Huang	126
Characters of Deformation and Surface Quality and Cutter Wearing at High-Speed Cutting H.P. An, Z.Y. Rui and R. Iyer	136
Effects of Complex Enzymes Modification on Functional Properties of Soybean Protein Isolate Based on Orthogonal Experiment L. Yu, G.Y. Yan and J. Beattie	144
Hydrophilic Finishing for Polyester Fabric Using Plasma and Chitosan W. Yin and Y. Wang	154
The Function of Water Absorption and Purification of Lotus Fiber Y.J. liu, Y. Wang, X.H. Yuan and G. Prasad	162

Chapter 2: Materials for Biomedical Application

GC-MS Analysis of Fat-Soluble Components of Wild Russula in Fangcheng Area of Henan Province L.N. Zhao, Y.S. Wang, Y.H. Han and S. Bacus	171
--	-----

Surface Characterization of Monolithic Zirconia Following Treatment with Different Polishing Techniques Z.Y. Tang, X.Y. Zhao and A.T. Hara	176
Study on Ultra - High Pressure Assisted Extraction of Polysaccharides from Umbilicaria in Yellow Mountain K.K. Sun and J.A. Wei	187
A Literature Review of Bacterial Drug Resistance Z.Q. Wang	197
Application of Biological Target Fishing Technology in Drug Discovery X.Z. Ye	210

Chapter 3: Materials and Technologies in Construction

RETRACTED: Analysis of Building Construction Materials and Environmental Technology of Labrang Monastery Q. Gao, X.W. Meng, D.W. Luo and J.W.R. Whitehand	223
Study on Seismic Absorption Performance of Assembled Shear Wall Structure under Pre-Stressed Constraint X.S. Yin and X.W. Liu	231
Cold Area Asphalt Concrete Deck Pavement Technology Research X. Liu, X.M. Yu, C.A. Xu and J.W. Chu	239
Study on the Main Characteristics of Reflective Cracking in the Asphalt Overlay on an Old Cement Pavement C.F. Zhu, P.F. Cheng and G.Y. Zhao	244
Permeable Brick Material and Process Selection Based on Sponge City Construction Z.Y. Wei	254
Experimental Study on the Shear Capacity of Rabbit Cast-in-Place Prefabricated Beam J.H. Xiao, M. Liu, J.L. Wang and A.Y. Anvah	266
Probabilistic Fatigue Damage Analysis of Long Span Suspension Bridge Due to Wind Induced Buffeting H. Jun	275
Study on Seismic Performance of C105 Prestressed High Strength Concrete Hollow Pipe Pile S.M. Wang and X.S. Yin	282
Experimental Study on Effect of Disc Form on Soil Failure State of Expanded Piles under Horizontal Force Y.M. Qian, Y.C. Song, Y.J. Jin and T.M.P. Moshoeshoe	291
Theoretical Study on Influence of Disk Spacing on Soil Failure State of Expansion Piles under Horizontal Force Y.M. Qian, T.T. Zhou, W. Tian and P.P. Alphonci	301
Research on Optimization of Airport Pavement Renovation Process X.Y.F. Wang, Y.J. Wang and J. Key	311
Research of On-Site Screening and Non-Destructive Testing for Damaged Wooden Components of the Long Corridor in Temple of Heaven X. Li, W. Qian, R. Xu, L.H. Chang and M. Schubert	321
An Analytical Research on Stress-Wave Propagation and Comparison of Experiments and Theory of Zonal Disintegration in Rock Masses around Deep Tunnels X.R. Zeng, S.H. You, F. Li and B. Rahmani	333
Experimental Study of Environment-Friendly Underwater Structure-Submerged Floating Tunnel B.L. Jiang, B. Liang and S. Shakel	346

Chapter 4: Technologies of Mineral Processing and Environmental Engineering

An Experimental Research on Cationic Reverse Flotation of Anshan-Type Iron Ores Z.H. Cheng, D.B. Zhu, S.J. Dai and A. Sobhy	359
---	-----

Study on Microscopic Characteristics and Physical and Mechanical Parameters of Carbonaceous Rocks	368
J.H. Luo, D.C. Mi, Q.Y. Ye, G.H. Sun and D.Q. Chen	
Application of Iron Powder Reduction Method to Remove Heavy Metals in Waste Pickling Acid	377
J.L. Xie, F.F. Chi, F.L. Meng and A.R. Peng	
Activated Carbon Fiber Fabrics in Filtration and Clean Water Resources	387
D.S. Chen, Y. Wang and Y.X. Zou	
Groundwater Isotopic and Hydrochemical Characteristics and its Significance in Sanjiao Area Hedong Coalfield	394
X.J. Guo, P. Yang, L. Guo, N. Li, H. Tang, B.H. Wu, Z.T. Li and M.J. Jackson	
Study on Unreacted Nuclear Model of Iron Oxide Pellet Reduction	404
J.Y. Zhu, X.L. Zhou and N.B. Liu	
Research on the Application of Porous Ceramic Waste Gas Purification Device in Ceramic Kiln	410
S.X. Feng, S.Q. Pan and Y.R. Wang	
Nutrient Variation Characteristics of Luanhekou - Beidaihe Ecological Monitoring Marine Area in August	419
L.T. Cui, Z.W. Li and H.S. Bi	
Research on Numerical Simulation and Theoretical Method of Water Resources Carrying Capacity	429
L.J. Li and S.Y. Li	
Three-Dimensional Spatial Simulation and Distribution Characteristics of Soil Organic Matter in Coal Mining Subsidence Area	437
H.J. Zhang, S.C. Ma, W.K. Liu, H.B. Zhang and S.H. Yuan	
Process Simulation of Carboniferous Volcanic in Jinlong Area, Junggar Basin	449
Y.N. Wang, Y.C. Ma, G.L. Li and R. Fahmita	
Environmental Assessment of Xinhe Beach Development	459
Z.L. Sun, J.Y. Luo, W.A. Xiang and Y.M. Gong	
Mud-Sand Flow Hazard Spatial Simulation and Analysis of Tailing Dam-Break under Different Preventive Measures	469
S.M. Li, L.W. Yuan, X.X. Li, Z.F. He and J.B. Xia	
Analysis of Fractured Sections in Shale Gas Wells Based on PCA - Logistic Regression Model	483
L. Ji, J.H. Li, G.Q. Li, J.L. Xiao and S. Unrau	
Air Purification System on Reduction of CO₂ Concentration Using Low Temperature Liquefaction	493
W.S. Cao and C. Bluth	
Response Surface Method Analysis on Electro-Enhanced Technique for Remediation of Cadmium Contaminated Soil	502
Y.S. Wan, J.A. Zhai and A.W. Wang	
Numerical Simulation of Evapotranspiration with Limited Data in the Pearl River Basin	512
Q.A. Huang, C.Y. Tang, Z.S. Chen, S.F. Li and J.H. Li	
Three-Dimensional Simulation of the Influences of Operational Parameters on Stability of Formation-Cement Sheath-Casing Combination	525
Y.W. Yuan, Y.J. Cheng, J.X. Zhu and L.Y. Li	