

# **International Conference on Materials, Environmental and Biological Engineering**

**(MEBE 2015)**

**Advances in Engineering Research Volume 10**

**Guilin, China  
28-30 March 2015**

**Part 1 of 2**

ISBN: 978-1-5108-0222-3

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2015) by Atlantis Press  
All rights reserved.

<http://www.atlantis-press.com/php/pub.php?publication=mebe-15>

Printed by Curran Associates, Inc. (2015)

For permission requests, please contact Atlantis Press  
at the address below.

Atlantis Press  
29 avenue Laumière  
75019 Paris  
France

[contact@atlantispress.com](mailto:contact@atlantispress.com)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

## PART 1

### BIOLOGICAL AND CHEMICAL ENGINEERING

<b>Orthogonal Test Optimization Coix Chinensis Tod. Polysaccharide Leaching Process Conditions</b> .....	1
<i>Yong-Guang Bi, Yu-Min Li</i>	
<b>Research and Application of Electrochemical Abrasive Belt Polishing Technology in Compressor Crankshaft</b> .....	5
<i>Hongwei Qu, Shisuo Li, Qiang Wang, Qingjin Zhang, Zhithui Xu</i>	
<b>Progress of Studies on the Fouling of Membrane in Membrane Bioreactor</b> .....	9
<i>Jingya Zhang, Huaming Xu</i>	
<b>The Effects of Paddy Soil Fungi Community Functional Diversity Under Organic Fertilizer Management Measures</b> .....	13
<i>Dongye Sun, Manqiang Liu, Feng Hu</i>	
<b>Study on Catalytic Performance of Heteropoly Acid Supported on MCM-41 Molecular Sieve in Synthesized of Butyl lactate</b> .....	17
<i>Xu Ling, Yun Yu Hai, Mei Duan Li, Rui Liu Zong</i>	
<b>The Analysis on Geochemistry of Groundwater in the Coastal Areas of Wanning, the Northeast Hainan Island</b> .....	21
<i>Yanyan Liang, Feng Li, Kaixuan Shen, Jiasheng Wen, Xiangyun Zeng, Xiaolin Long, Haijun He, Jinwei Zhang</i>	
<b>Mesoporous Indium Oxide for Nonenzymatic Uric Acid Sensing</b> .....	25
<i>Qingyou Huang, Yang Cao, Yong Chen, Wei Huang, Xiaohong Wang, Kexi Zhang, Jinchun Tu</i>	
<b>Experimental Study on the Effect of Fly Ash on Performance of Double Liquid Grouting Material</b> .....	29
<i>Yanfang Li, Hongliang Huang, Jianlin Hu</i>	
<b>Experimental Study on the Effect of Slag Powder on Performance of Double Liquid Grouting Material</b> .....	33
<i>Yanfang Li, Hongliang Huang, Lijun Qiu</i>	
<b>Cuprous Oxide Cubebox for Nonenzymatic Amperometric Hydrogen Peroxide Detection</b> .....	37
<i>Delun Chen, Yang Cao, Yong Chen, Wei Huang, Changjiu Li, Xiaohong Wang, Kexi Zhang, Jinchun Tu</i>	
<b>Influence of Calcined Shale on Sulphate Corrosion Resistance of Cement</b> .....	41
<i>Jingshun Yuan, Fang Fang, Bin Xue, Xiaohong Cong, Jiangtao Han</i>	
<b>Cloning and Site-specific Mutagenesis of DS Enzyme Gene of Corynebacterium glutamicum</b> .....	46
<i>Hansong Yu, Shuang Qu, Yuhua Wang, Chunhong Piao, Junmei Liu, Yaohui Hu</i>	
<b>Application of Geostatistics in the Study of Ore-controlling Factors : Taking Example of Manjiazhai Ore Segment in Dulong Tin Polymetallic Ore Deposit</b> .....	51
<i>Fuju Jia, Wu Wei, Hongliang Nian, Zize Xiao</i>	
<b>Determination of Total Alkaloids in Different Parts of Actinidia arguta by Spectrophotography</b> .....	55
<i>Yang-Yang Liu, Chang-Jiang Liu</i>	
<b>Extraction Process Optimization of Total Alkaloid from Actinidia arguta</b> .....	59
<i>Yang-Yang Liu, Chang-Jiang Liu</i>	
<b>Manganese-Induced Effects on Calcium Homeostasis of the Neurons in Hyline Cocks</b> .....	63
<i>Xiaofei Liu, Lirong Jing, Lv Xue, Yongqiang Ma, Huanan Guan, Wang Wei</i>	
<b>Effects of Dietary Manganese on Oxidative Damage of the Neurons in Cocks</b> .....	67
<i>Xiaofei Liu, Lirong Jing, Lv Xue, Yongqiang Ma, Huanan Guan, Wang Wei</i>	
<b>Study on the Structure and Properties of Novel Bio-based Polyamide56 Fiber Compared with Normal Polyamide Fibers</b> .....	71
<i>Xinmin Hao, Yafei Guo, Yueling Li, Yuan Yang, Yuhong Shen, Xi Hao, Jianming Wang</i>	
<b>Acetylcholinesterase Biosensor Based on Chitosan/ZnO Nanocomposites Modified Electrode for Amperometric Detection of Pesticides</b> .....	77
<i>Huanan Guan, Jialiang Jiang, Dandan Chen, Wei Wang, Yan Wang, Jiaying Xin</i>	
<b>Fabrication of Tyrosinase Nano-biosensor for Catechol Inspection</b> .....	81
<i>Huanan Guan, Benjun Li</i>	
<b>Compounds Developed from the La-As-Fe System at High Temperature</b> .....	85
<i>Chenlv Peng, Jinzhu Zhang</i>	
<b>Dissociation Mechanism of 6-APA Reacted with a Varying Number of H<sup>+</sup></b> .....	90
<i>Shuling Cui, Yuxi Ning</i>	
<b>Synthesis on a Type of Polycarboxylate Superplasticizer Under Room Temperature</b> .....	94
<i>Xing Li, Minghua Yuan, Chong Sun, Jinwen Wang</i>	
<b>Effect of the Initial Temperature on the Water-reducing Performance of Polycarboxylate-based Superplasticizers</b> .....	98
<i>Jinwen Wang, Guangjun Zheng, Minghua Yuan, Chong Sun, Yao Bi</i>	
<b>Study on New Viscosity Modifying Agents</b> .....	103
<i>Shaofeng Wang, Juxiang Xing, Chong Sun, Jinwen Wang, Yao Bi</i>	
<b>Effect on Rheological Properties with Different Carboxyl Density of Polycarboxylate Superplasticizer</b> .....	107
<i>Chengfei Fu, Hui Zhou, Minghua Yuan, Xing Li, Long Xiong</i>	
<b>Effect of Typical Clay Upon the Dispersion Performance of Polycarboxylate Superplasticizer</b> .....	111
<i>Long Xiong, Guangjun Zheng, Yao Bi, Chengfei Fu</i>	
<b>A New Polyether Mixture Air-Entraining Agent</b> .....	115
<i>Juxiang Xing, Guangjun Zheng, Yao Bi, Chong Sun, Shaofeng Wang, Xing Li</i>	

<b>Study on Preparation and Properties of Polycarboxylate Superplasticizer with Early-Age Strength</b> .....	119
<i>Xing Li, Weidong Ye, Hui Zhou, Minghua Yuan</i>	
<b>The Clay-Tolerance of Amide-modified Polycarboxylate Superplasticizer and Its Performance with Clay-Bearing Aggregates</b> .....	122
<i>Chong Sun, Hui Zhou, Xing Li, Shafeng Wang, Juxiang Xing</i>	
<b>Effect of Ferrous Ion on the Performance of Polycarboxylate Superplasticizers</b> .....	127
<i>Shaofeng Wang, Long Xiong, Juxiang Xing, Guangjun Zheng, Yao Bi</i>	
<b>Influence of Laser Remelting on Surface Topography and Chemical Component of K423A Nickel-base Superalloy</b> .....	131
<i>Gang Lu, Hao Wu, Qingsong Yan, Baiping Lu, Pu Mao, Min Liu</i>	
<b>Extraction of Oil in Cleaning Oily Waste in Helio Devices Equipped with Concentrating Elements</b> .....	135
<i>M. Abdibattayeva, A. Umbetbekov, G. Kalimbetov, A. Beketova</i>	
<b>Structural Analysis and Characterization of Cu, Sr-doped Hydroxyapatite Whiskers</b> .....	139
<i>Ying Guo, Jin Wen, Hongquan Zhang, Luwei Fu, Fei Yang</i>	
<b>Effects of Phosphate Bioglass on Sintering of Hydroxyapatite Scaffolds by Freeze-Drying</b> .....	143
<i>Luwei Fu, Jin Wen, Hongquan Zhang, Ying Guo, Fei Yang</i>	
<b>Naphthenic Acid Corrosion of 20G under High Flow Rate Flushing</b> .....	147
<i>Huifeng Li, Sihong Rao, Lei Wang, Yu Zhou, Sixian Rao</i>	
<b>Influence of Turbulence on Naphthenic Acid Corrosion of SA210C</b> .....	152
<i>Lei Wang, Huifeng Li, Ju Liu, Yu Zhou, Sixian Rao</i>	
<b>Influence of Turbulence on Naphthenic Acid Corrosion of A335-P5</b> .....	157
<i>Feifei Xu, Libing Zhang, Ju Liu, Yu Zhou, Sixian Rao</i>	
<b>Study on Improving the Anticorrosion Ability of Chemical Machinery</b> .....	162
<i>Zhenhui Luan, Chao Liu, Shan Wang, Yihua Li</i>	
<b>Research on the Broadband Operating Mode of Anisotropic Acousto-Optic Deflector Using Tellurium Dioxide Crystal</b> .....	166
<i>Jie Li, Yanlei Gao, Jingmin Liu, Zhenjun Yang, Zhaoguang Pang</i>	
<b>Development of Ti-Al Intermetallic Compounds Porous Material with Reactively Synthesizing and Its Biological Application</b> .....	170
<i>Xilin Xiao, Lifu Liao, Changming Nie, Xin Zhou, Bo He, Chang' Ai Deng</i>	
<b>Improved Performance of Multilayer TiON/TaON Structure as Gate Dielectric for InGaAs Metal-Oxide-Semiconductor Capacitor</b> .....	174
<i>Li-Sheng Wang, Jing-Ping Xu, Lu Liu, Han-Han Lu</i>	
<b>The Mineralogy Study of an Anshan Low Grade Hamatite</b> .....	178
<i>Wenli Jiang, Guangquan Liang, Xiwen Xia, Yimin Zhang, Tao Liu</i>	
<b>Preparation of Oxidation Resistance Coating of Silicide by Pack Cementation</b> .....	184
<i>Tao Lin, Huiping Shao, Wenwen Zhang</i>	
<b>Research on Certified Reference Material of Benzene in Toluene</b> .....	188
<i>Yuebing Sha, Xiaobo Yu, Ke Wang</i>	
<b>Molecular Modeling Studies on Binding of Chlorotetracycline and Enoxacin to Human Serum Albumin</b> .....	192
<i>Taoying Hu, Ying Liu</i>	
<b>The Visualization Research of Villus on Plant Organ Surface</b> .....	196
<i>Yingying Yin</i>	
<b>Numerical Simulation and Optimizing of the Hydrolysis Reaction About Methyl Ethyl Ketone Azine</b> .....	199
<i>Weiwen Wang, Guojian Zhu, Jihai Duan, Zisheng Zhang</i>	
<b>Simulation and Optimization for Separation of Ethylenediamine-water Azeotropic Mixture</b> .....	204
<i>Weiwen Wang, Qun Jia, Jihai Duan, Zisheng Zhang</i>	
<b>Numerical Investigation of the Impact of Shrinkage on the Pyrolysis of Biomass</b> .....	208
<i>Yuanyuan Lv, Jihai Duan</i>	
<b>Thermodynamic Calculation Study on Solid Solutions' Stabilities of Au-Pd-M (M=Mo, Y, Zr)</b> .....	214
<i>Saibei Wang, Ming Xie, Jiming Zhang, Song Wang, Jieqiong Hu, Manmen Liu, Aikun Li</i>	
<b>Establishment of a Duplex RT-PCR Assay for Simultaneous Detection of Rift Valley Fever Virus and Peste Des Petits Ruminants Virus</b> .....	218
<i>Guili Li, Yin Wang, Xueping Yao, Ling Hu</i>	
<b>Distribution of Black Carbon in The Sediments From The Changjiang River</b> .....	224
<i>Liang Huang</i>	
<b>Distribution of Polycyclic Aromatic Hydrocarbons in Sediments from the Changjiang River</b> .....	228
<i>Liang Huang</i>	
<b>A Novel Biomedical Sensor for Tumor Marker Based on Flexible Supported Solution Gated Graphene Field Effective Transistor</b> .....	232
<i>Cheng Ju, Qingjie Fan, Yunfang Jia</i>	
<b>Research on Non-linear Relationship among Histone Modifications in Yeast Genome</b> .....	236
<i>Panfeng Chen, Jihua Feng, Zhenhui Shan, Henhen Wei, Huan Hu</i>	
<b>Extraction Salidroside with Aqueous Two-phase System</b> .....	241
<i>Qingfeng Guo, Fengwei Wang, Donghui Chen, Daowu Wang</i>	
<b>Study on Distribution Behavior in Aqueous Two-phase System about Four Kinds of Alkaloids in Coptis Chinensis</b> .....	247
<i>Fengwei Wang, Daowu Wang, Qingfeng Guo, Donghui Chen</i>	
<b>Design of Living Beings Electrotherapy Instrument System</b> .....	251
<i>Chunhua Zhao, Xiaoqiang Ji, Chunyu Ning, Danfei Huang</i>	
<b>The Application on Aeromagnetic Delineation of Jiangling Depression in Potassium-rich Brine Prospect Area</b> .....	255
<i>Qiankun Liu, Shengjun Liang</i>	

<b>Research on Collophane and Ions of Backwater in Yunnan</b> .....	259
<i>Ting Hu, Zhiyong He, Xiaofeng Yang</i>	
<b>Application of Analytic Hierarchy Process on the Study of Soil Salinization in the Northern Yinchuan Plain, China</b> .....	263
<i>Chenchen Huo, Yanyan Gao, Hui Qian, Jia Yang</i>	
<b>Conversion of Xylose Solution into Furfural at Atmospheric Pressure over the Solid Acid</b> .....	267
<i>Yuankui Wang, Huizhen Jia, Yunzheng Li, Qingshan Zhang, Hongquan Yin</i>	
<b>The Comparison of Three Fast Screening Methods for RO Scale Inhibitors</b> .....	271
<i>Maodong Li, Mengsha Hu, Lin Yang, Juan Liu, Jiaqiang Wei, Baiqing Zhou</i>	
<b>High Efficient Removal of Tetracycline from Solution by the Nanoscale Zerovalent Iron</b> .....	275
<i>Yuncong Fu, Qingru Zeng, Liang Peng, Huijuan Song, Jihai Shao, Jidong Gu</i>	
<b>Yaojia-Nenjiang Formation Hydrocarbon Accumulation Characteristics in Songliao Basin, Northeastern China</b> .....	279
<i>Chao Wang</i>	
<b>Comparison of Fuel Properties between Diesel and Fatty Acid Methyl Ester</b> .....	283
<i>Chunhong Zhu, Jiangtong Song, Jie Li</i>	
<b>Evaluation of Anticorrosion Performance for Composite Coatings with Polyaniline and Core-Shell Fluorine-containing Polyacrylate Emulsion</b> .....	288
<i>Yufeng Li, Xiaohui Gao, Jingjing Zhu, Di Wang</i>	
<b>Electrophysiological Recording of Potassium Currents in Hippocampal Neurons</b> .....	292
<i>Yuxiang Wu, Minfang Huang, Tao Song, Guodong Xu</i>	
<b>Comparison of Intercalated and Exfoliated Montmorillonite/Amidoximated Polyacrylonitrile: Preparation, Characterization and Adsorption Capacity of Uranyl</b> .....	296
<i>Weiping Li, Xiaoyuan Han, Xiaoyun Wang, Ruirong Zhang, Xiufang Zhai, Yu Wang, Hui Xu, Hongxia Zhang</i>	
<b>Influence of the Types of Stress on Hydrogen Induced Damage By Simulating Hydrogen Diffusion</b> .....	300
<i>Shaojie Zhang, Hehui Wang, Feng Hou, Hu Chen, Pingqing Tan</i>	
<b>Mechanism Analysis of Hydrogen Blisters on the Surface of a Gas Tank and Research on Its Preventive Measures</b> .....	305
<i>Yajuan Feng, Hehui Wang, Feng Hou, Hu Chen, Pingqing Tan</i>	
<b>Synthesis of Poly (2-aminothiazole) Using Chemical Oxidation Method</b> .....	310
<i>Xia Wang, Lu Wang, Hua Zou, Wei Qian, Yaozu Liao</i>	
<b>A Hybrid Bacterial Foraging Optimization based on Time-varying Chemotaxis Step and Dynamic Topology Structure</b> .....	314
<i>Chen Guo, Zhiwen Guo, Ben Niu, Ying Bi</i>	
<b>Study on Dynamic Response Characteristics of Cu-Zeolite SCR Catalyst based on Kinetic Model</b> .....	318
<i>Jiao Tang, Guoxiang Li, Jun Zhang, Xiaohua Wang, Jianzhong Tao</i>	
<b>An Experimental Investigation for Electric Discharge Grinding Chemical Vapor Deposition Silicon Carbide</b> .....	323
<i>Qidong Geng, Chunyan Li, Jun Wang</i>	
<b>Determination of Four Volatile N-nitrosamines in the Process of Chinese Preserved Meat</b> .....	327
<i>Qingqing Zhu, Junping Wang, Shuangshuang Liu, Yan Zhang</i>	
<b>Monte Carlo Simulations of Corrosion Inhibition of Copper by Two Schiff Bases</b> .....	331
<i>Lei Guo, Xiaolei Ren, Yang Zhou, Shenying Xu, Yulong Gong</i>	
<b>Research of Magnetohydrodynamics in a Free-Burning</b> .....	335
<i>Yi Wang, Xiong Chen, Hao Chen, Zhengzhi Du</i>	
<b>Study on Martensitic Transformation, Magnetic and Compressive Properties of Spray Casting Ni-Mn-Ga Alloys</b> .....	339
<i>T. Y. Song, J. Bai, W. T. Wang, S. Lin, P. Xie, Y. C. Lv, S. Wang, K. H. Wu, S. P. Sun, L. J. Liu</i>	
<b>Esterification of Atopic Acid and 1-butanol Catalyzed by So3H- Functionalized Ionic Liquid</b> .....	343
<i>Jian Gao, Jianjun Hu, Tiezhen Fan, Guoji Liu</i>	
<b>Time Dependent Chloride Diffusion Coefficient in Concrete in Cold Regions</b> .....	347
<i>Sijia Chen, Xiaobing Song, Xila Liu</i>	
<b>Study of Modified Epoxy Resin</b> .....	353
<i>Shuiyun Ren, Hongjun Huang, Zhihong Du</i>	
<b>Finite Element Modeling of Propellant and Inhibitor Interface Debonding</b> .....	358
<i>Jia-Quan Yu, Jian Zheng, Deng Jia, Chang-Sheng Zhou</i>	
<b>Analysis of the Chemo-thermal Stresses Around a Spherical Cavity in a Saturated Porous Medium</b> .....	364
<i>Pan Xue, Liang Chen, Luwu He</i>	
<b>Toxicity of Single Walled Carbon Nanotubes to Human Epithelial Cells As Affected by Norfloxacin</b> .....	371
<i>Xuesong Cao, Yanan Xu, Shaokun Men</i>	
<b>Fabrication and Application of Removing Microcystin of CTA-based Forward Osmosis Membrane</b> .....	375
<i>Aihua Shang, Jing Ye</i>	
<b>Performance Analysis and Research of the Balance Model Foam Concentrate Mix Equipment</b> .....	380
<i>Liu Zhu, Hong-Wu Chen, Hai-Peng Zhang, Shi-Ai Ren, Shan-Shan Wu</i>	
<b>Numerical Simulation of the Release of Alkali Metal During the Combustion of Biomass-fired Boiler</b> .....	386
<i>Fang Wang, Xianbin Xiao, Tengge Mi, Changqing Dong</i>	
<b>Research on the Present Status and Prospects of China's Biomass Energy Power Generation</b> .....	390
<i>Ling-Wen-Ying Li</i>	
<b>Investigation of the Preparation Process for Pulsatilla Chinensis (Bunge) Regel Total Saponins-Hydroxypropyl-<math>\beta</math>-Cyclodextrin Inclusion Compound Pellets</b> .....	395
<i>Zhenhua Chen, Suzhen Liu, Yongmei Guan, Ying Yin, Ming Yang, Hongning Liu</i>	
<b>Investigation of HP-<math>\beta</math>-CD Inclusion Compound Preparation Process for Pulsatilla Chinensis (Bunge) Regel Total Saponins</b> .....	400
<i>Zhenhua Chen, Suzhen Liu, Yongmei Guan, Ni Zhang, Ming Yang, Hongning Liu</i>	

<b>Ozone Pre-oxidation to the Degradation Technology Research of MC-LR Under the Condition of Different pH</b> .....	405
<i>Yingzi Lin, Mingli Chen, Guan Li</i>	
<b>The Application of Computer and Its Influence in Coal Quality Testing</b> .....	409
<i>Yugang Luo, Yuli Wang</i>	
<b>The Study on the Application of Computer Technology in Coal Quality Detection</b> .....	413
<i>Yang Ding, Jianzhong Jing, Chuanjun Zhan</i>	
<b>Synthesis and Application of Blocked Waterborne Polyurethane Crosslinker</b> .....	417
<i>Xingyuan Ma, Xiaohan Qiu, Shufang Zhang</i>	
<b>Synthesis of A Single-Phase Superfine Na-Y Zeolite from Coal Fly Ash</b> .....	422
<i>Lixia Zou, Huiling Ding, Lanping Zheng, Mejuan He, Qiong Xu</i>	
<b>The Activator Optimization of Low-temperature SnBi Lead-free Solder Paste</b> .....	426
<i>Yan Jiang, Ke Shan, Li-Da Sun, Zi-Jing Li, Rui-Ming Xiao</i>	
<b>An Experimental Investigation on Thermal Properties of Molybdenum Disulfide Nanofluids</b> .....	430
<i>Yu Su, Le Gong, Bi Li, Dandan Chen</i>	
<b>Solid-Phase Microextraction Fiber Coating for Biological Analysis</b> .....	435
<i>Yi Yu, Fei Xu, Jing Tian, Longquan Xu, Yi Wang</i>	
<b>Necessity of Combination of Porous Ceramic Filtration and UV Radiation on Marine Bacteria Inactivation</b> .....	439
<i>Manxia Zhang, Chengyu Yuan, Yan Yan, Wen Shi, Yimin Zhu</i>	
<b>Plasticity as a Physical-Chemical Process of Deformation of Crystalline Solids</b> .....	444
<i>G. Kurapov, S. Lezhnev, E. Orlova, I. Volokitina, A. Tolkushkin</i>	
<b>Isotropic and Uniaxial Strain Induced Band Modulation of PbTe</b> .....	452
<i>Xiaoguang Wang, Yazhou Sun, Liangming Peng</i>	
<b>Study on Synthetic Technology of Sulfonated Acetone Formaldehyde Polycondensate</b> .....	456
<i>Shimou Huang, Zhiming Yu</i>	
<b>Effect of Gefitinib, As a New Stent Coating Material, on the Cell Proliferation and the Expression of Caspase-3 and Bcl-2 in Vascular Smooth Muscle Cells</b> .....	460
<i>Ting Xiao, Suyan Wang, Jian Luo, Zhixiong Wu, Ou Zeng, Fang Li, Jun Yang</i>	
<b>Photodegradation of Tetracycline by Bi-doped In<sub>2</sub>O<sub>3</sub> Nanospheres Under Visible Light</b> .....	464
<i>Pingge Zhao, Gehong Zhang, Xian Zhang, Wenbo Wang, Xiaode Zhou</i>	
<b>Biomimetic Apatite Layer on Titanium by Diluted Alkali Treatment</b> .....	468
<i>Wenjun He, Ruifu Zhu, Yupeng Lü</i>	
<b>Microbial Conversion of Progesterone with Aspergillus Sp.</b> .....	473
<i>Guangqiu Zhang, Shujuan Li, Haiying Yang</i>	
<b>Experimental Study of Resistance of Concrete to Sulphate Attack</b> .....	477
<i>Kai Quan Xia, Zhan Guo Li, Xue Wu Liu, Shi Shun Gan</i>	
<b>The Effect of Boron Incorporation on the Thermo-oxidative Stability of Phenol-formaldehyde Resin and Its Pyrolyzate Phase</b> .....	481
<i>Jie Ding, Zhixiong Huang, Yan Qin, Haitao Luo, Jiawei Mao</i>	
<b>Size and Shape Tunable Fe<sub>3</sub>O<sub>4</sub> Nanoparticles</b> .....	485
<i>Qingwei Qiu, Xiaowen Xu</i>	
<b>Synthesis and Magnetic Properties of Mn<sub>1-x</sub>Co<sub>x</sub>Fe<sub>2</sub>O<sub>4</sub> Nanoparticles</b> .....	489
<i>Qingwei Qiu, Xiaowen Xu</i>	
<b>Research on Treating Wastewater Containing Heavy Metal by Biological Immobilization</b> .....	493
<i>Li Meng, Hong-Guo Zhang, Guo-Dong Chen, Ding-Gui Luo, Yong-Heng Chen</i>	
<b>Vertical Distribution and Sedimentation of Volatile Phenols in Jiaozhou Bay</b> .....	497
<i>Dongfeng Yang, Xinhuai He, Jie Gao, Ping Wang, Feijuan Wang</i>	

## **ENVIRONMENTAL AND CIVIL ENGINEERING**

<b>Research on Seismic Reliability Analysis of Urban Water Supply Network</b> .....	501
<i>Fengxia Cong, Ying Zhao</i>	
<b>Environmental Impacts Research for Scroll Compressor Based on Life Cycle Assessment</b> .....	505
<i>Junli Shi, Zhanjie Li, Zhi Cao, Han Wang, Yuqi Lu, Yu Wang</i>	
<b>Evaluation on Ecological Security of Hangzhou Urban Land based on BP Neural Network</b> .....	509
<i>Jiawei Ye</i>	
<b>The Model Research of Urban Land Planning and Traffic Integration</b> .....	514
<i>Lang Wang</i>	
<b>Analysis on the Landscape Design in the Ecological Planning Concept</b> .....	520
<i>Xu-Dan Zhou, Yue Qi, Hao Qi</i>	
<b>Pollution Level and Source of Cyanide in Jiaozhou Bay, Eastern China</b> .....	524
<i>Dongfeng Yang, Xinhuai He, Jie Gao, Aijie Xin, Feijuan Wang</i>	
<b>Enhancement of PAC Addition for MBR Treating Micro-Polluted Water Resource Loading with 2,4,6-TCP</b> .....	528
<i>Quan Zhang, Wenyi Dong, Lei Liu, Rubing Han</i>	
<b>Experimental Research on Hysteretic Behaviors of Square Tubular T-joint</b> .....	533
<i>Peng Deng, Benbing Li, Huiling Wang, Qibiao Zhang</i>	
<b>Theory Research and Practice of Structure Safety Measures and Deformation Prediction in Goaf</b> .....	537
<i>Peng Deng, Lei Tai, Huiling Wang, Qibiao Zhang</i>	
<b>Research on Construction Method of Agricultural Domain Ontology</b> .....	541
<i>Guoxia Yang, Ziyu Liu, Xiaomin Shen</i>	

<b>Study on Modified Mechanism of Asphalt of PPA in Conjunction with SBS</b> .....	545
<i>Yaodong Wu</i>	
<b>Leakage Causes Analysis on a Boiler Enclosure Wall Superheater</b> .....	550
<i>Weiyong Li, Yaofang He, Xin Guan, Yanjun Meng</i>	

## PART 2

<b>Durability Research of C60 High-strength Mass Concrete Foundation Slab</b> .....	554
<i>Wen Yang, Hanyang Huang, Erbo Pang, Lei Qu</i>	
<b>Carrying Capacity of Semi-Rigid Joint of Timber-Concrete Beams</b> .....	558
<i>Petr Agel, Kristýna Klajmonová, Antonín Lokaj, Roman Fojtík</i>	
<b>Pollution Level of Volatile Phenols in Surface Water in a Bay in Shandong Province, Eastern China</b> .....	563
<i>Dongfeng Yang, Huazhong He, Sixi Zhu, Chuanyan Diao, Yi Wang</i>	
<b>Environmental Feasibility Analysis of Heating Boiler Energy Substitution</b> .....	567
<i>Dan Ge, Xingyu Liu, Baiyu Gao, Tong Wang</i>	
<b>The Necessity of Energy Alternative Under the Haze Background</b> .....	570
<i>Dan Ge, Xingyu Liu, Baiyu Gao, Tong Wang</i>	
<b>The Soil Inorganic Phosphorus Distribution of Vegetation-growing Concrete Substrate in the Disturbed Engineering Area</b> .....	574
<i>Xin Ma, Wennian Xu, Zhenyao Xia, Yajing Wang, Shifeng Guan, Linlin Zhang</i>	
<b>Late Cretaceous Sedimentary Evolution Characteristics in Songliao Basin, Northeastern China</b> .....	579
<i>Chao Wang</i>	
<b>Marine Water Quality Assessment and Comparison During Major and Minor Tides in Near Sea Area of Fujian Province</b> .....	583
<i>Yang Luo, Wanmin Ni, Ling Cai, Haining Huang, Liping Jiao</i>	
<b>Inside Surface Temperature Evaluation of Hollow Blocks Wall by Reduced Linear State Model</b> .....	591
<i>Ran Liu, Yan Gao, Jing Zhou</i>	
<b>Research on the Mechanism of Low Pressure Economizer Wet Fouling Shape</b> .....	598
<i>Bingwen Zhang, Zhigang Zhang</i>	
<b>A Comparative Analysis of Environmental Quality Assessment Methods—A Case Study of Heavy Metal-Contaminated Soil</b> .....	603
<i>Zhichao Liu, Liangmin Gao, Ning Liu, Xiaoxiao Zhang</i>	
<b>Soil Pollution of Abandoned Tailings in One Zinc Antimony Mine and Heavy Metal Accumulation Characteristics of Dominant Plants</b> .....	611
<i>Xu Jin, Shaohong You</i>	
<b>Ore Prospects of Heibei Quzhou Based on Aeromagnetic Anomalies</b> .....	616
<i>Qiankun Liu, Rong Yang</i>	
<b>Research on Method of the Heavy Traffic Airport Cement Concrete Pavement Thickness Design</b> .....	620
<i>Wei Wu, Jianwu Wang, Chao Zhang, Qingkun Yu</i>	
<b>Applied Research of Tops is Technology in Contaminated Soil Remediation</b> .....	624
<i>Fei Lu, Jingpo Yang, Jianmei Luo, Jing Chen</i>	
<b>Research on Prediction and Engineering Application of Deep Mining Rock Burst in Metal Mine</b> .....	628
<i>Hongsen Luo, Li Chao</i>	
<b>Parameter Design for Viscous Dampers to Near-fault Cable-stayed Bridge Based on Equivalent Damping Ratio</b> .....	632
<i>Yongfu Huang, Yan Xu, Jianzhong Li</i>	
<b>Investigation and Protection of Drinking Water Source Environment Status of Yulin in Guangxi City</b> .....	638
<i>Xiuu Bu, Jinsong Guo, Guangqing Zeng, Yazhi He, Jie Liao</i>	
<b>Regional Energy Efficiency and Energy Saving Potential Analysis based on Slack-Based Measurement Approach</b> .....	641
<i>Miao Hu, Yage Wang</i>	
<b>The Influence of Contact Type of Composite Bridge Deck Pavement on Stress in Pavement Interface</b> .....	646
<i>Hu Wang, Fei Han</i>	
<b>Land Surface Temperature Remote Sensing Inversion of Black Soil Area and Spatial Variation Analysis Based on Landsat TM6</b> .....	651
<i>Guang-Yu Zhang, Wei Shen, Zhao-Zhuo Ouyang, Fu-Chao Na, Fang Yang</i>	
<b>Evaluating Horizontal Multistage Fracture Well Placement in Low Permeability Reservoir</b> .....	657
<i>Chang Wang, Yuan Yu, Zhi Zhou</i>	
<b>The Analysis and Evaluation for the Development Environment of Yangluo Port</b> .....	661
<i>Mei Zhang, Chengxuan Cao</i>	
<b>Curve Analysis of Shear Lag Effect of Box Girder Bridge</b> .....	666
<i>Hongtao Yang, Rui Li, Zhiqiang Chen</i>	
<b>Study on Development Prediction and Evaluation Model of New Energy Wind Power</b> .....	670
<i>Yanli Hu, Jun Liang</i>	
<b>Preliminary Studies on Occurrence of Middle-season Rice High Temperature Damage in Southwest China in Past 50 Years</b> .....	674
<i>Yan Wang, Li Fan, Yongkun He</i>	
<b>Environmentally Friendly Road Asphalt Mixtures</b> .....	680
<i>Ján Mandula, Brigita Salaiová, Peter Orolin, Marián Dubravský, Tomáš Olexa, Olga Frolova</i>	
<b>Research on Rigidity Distribution between Arch and Girder for Tied Arch Bridges with Trough Girder</b> .....	684
<i>Xun Wu, Xin Yuan</i>	

<b>Study on Tied Arch Bridge with Through Girder Design</b> .....	687
<i>Xun Wu, Hui Li, Zhichao Zhang</i>	
<b>Pavement Performance Research on Asphalt Mixture of AC-13C with Lucobit</b> .....	691
<i>Yemao Zhang, Kun Wang</i>	
<b>Study on Asphalt Pavement Pothole Structure Based on Finite Element</b> .....	695
<i>Weiqi Zhou, Xinhe Li, Kun Wang</i>	
<b>The Model Test About Silty Clay's Deformation As Water Pressure Decreasing</b> .....	699
<i>Gangchen Sun, Jianbing Peng, Xiaohan Sun</i>	

## **MATERIALS ENGINEERING**

<b>Study on Measurement Method of Material Elastic Index</b> .....	703
<i>Yanxia Wang, Hai Yun, Tiantian Sun, Qinghui Shang, Yongli Bao</i>	
<b>Exploration on Thermal Shock Mechanical Properties of Ceramic Materials</b> .....	707
<i>Yanxia Wang, Tiantian Sun, Qinghui Shang, Yongli Bao, Xiaomin Ma</i>	
<b>Influence of Quenching Temperature on Microstructure and Properties of Cr5 Steel</b> .....	711
<i>Ya-Sha Yuan, Wen-Yan Wang, Jing-Pei Xie, Kai-Hui Xu, Hao-Yin Zhang, Ai-Qin Wang, Luo-Li Li</i>	
<b>Progress in Fabrication Technique of Carbon Nanotubes Reinforced Al Matrix Composites</b> .....	715
<i>Chun Wu, Wenxin Ma, Yaping Chen, Yan Liying Chen, Jing Li</i>	
<b>Experimental Study on Influence of Slurry Concentration on Gel Time of Double Liquid Grouting Material</b> .....	719
<i>Yanfang Li, Hongliang Huang, Sulan Li</i>	
<b>Experimental Study on Influence of Baume Degrees on Double Liquid Grouting Material's Consolidation Strength</b> .....	723
<i>Yanfang Li, Hongliang Huang, Pingyin Yang</i>	
<b>Isothermal Crystallization Kinetics and Morphology of Nanodiamond/Polyphenylene Sulfide Composites</b> .....	727
<i>Shuling Deng, Chongmin Du, Hubin Lin, Jianyi Zhu, Zhidan Lin</i>	
<b>Interface Bonding Performance of CuW Alloy Coating on Cu Substrate</b> .....	731
<i>Jiliang Zhang, Fei Wang, Jie Yan, Yonghua Gu, Kaiyong Jiang</i>	
<b>Analysis of Facet Temperature Distribution of Semiconductor Lasers</b> .....	735
<i>Tiansheng Zhao, Zaijin Li, Te Li, Peng Lu, Yi Qu, Baoxue Bo, Guojun Liu, Xiaohui Ma, Yong Wang</i>	
<b>The High Vacuum Cleaving Passivation Characteristic on 980nm Diode Laser</b> .....	739
<i>Tiansheng Zhao, Zaijin Li, Te Li, Peng Lu, Yi Qu, Baoxue Bo, Guojun Liu, Xiaohui Ma, Yong Wang</i>	
<b>Investigation and Research on Railway Passenger Car and EMU Battery</b> .....	743
<i>Yuan Wen</i>	
<b>New Type of Bimetal Composite Casting and Welding Connection Square Hammer</b> .....	747
<i>Penghui Yang, Shoufan Rong, Xingming Zhao, Yongchang Zhu, Yanhe Wu, Xingyi Li</i>	
<b>Research of The Excavator Form-Relieved Tooth Texture with The Medium Carbon Medium Alloy Bainite Wear-Resistant Steel</b> .....	752
<i>Xingming Zhao, Shoufan Rong, Xiulan Duan, Penghui Yang, Yanhe Wu, Xingyi Li</i>	
<b>Study of Microstructure and Mechanical Property on Bulk Ni-Fe Alloys Fabricated by Electrodeposition</b> .....	757
<i>Wei Ding</i>	
<b>Research About the Combustion Synthesis Welding of U75V Rail Steel</b> .....	761
<i>Shuzhen Li, Bolin He, Kang Wei, Zongmin Li</i>	
<b>Analysis of the Coating surface Properties of Coated Paper</b> .....	765
<i>Ying Li, Jie Zhang, Haishan Li, Wen Juan Gu, Banggui He</i>	
<b>Study on the TIG Welding Technology of the Aluminized Steel</b> .....	769
<i>Bixin Guo, Xiaowei Du</i>	
<b>The Effect of Magnesium Doped on Microstructure of Aluminum Alloy Under Ultrasonic Vibration</b> .....	773
<i>Chun Li, Da Li, Wen Cheng Huang</i>	
<b>Research on the Binder Distribution Depth and Evenness in Coated Paper</b> .....	777
<i>Ying Li, Jie Zhang, Haishan Li</i>	
<b>The Microstructure and Texture Analysis of Ti-6Al-4V Alloy Through Linear Friction Welding</b> .....	781
<i>Heng Zhao, Qingbin Liu, Yaole Xie</i>	
<b>Subjective Evaluations of Fabric Wear Prickle Sensation by Using New Rating Scale</b> .....	787
<i>Rabie Ahmed Mohammed Asad, Naftali Kiplagat, Weidong Yu</i>	
<b>Extrusion Pressure Analysis of Powder State Material of Non-Plug Solid Conveying in Feeding Section of Single Screw Extruder</b> .....	791
<i>Dali Shi, Chunhui Liu, Jianhua Qin</i>	
<b>Elastic Rebound Research in Cold Bending Processing on Aluminum Alloy Plate</b> .....	796
<i>Libin Zhou, Huanguo Chen</i>	
<b>Physical and Functional Properties of Antibacterial Nylon/Bamboo Polyester/Stainless Steel Wrapped Yarns and Knitted Fabrics</b> .....	800
<i>Zhi-Cai Yu, Jian-Fei Zhang, Ching-Wen Lou, Jia-Horng Lin</i>	
<b>Mechanical Behaviors Study of Epoxy Resins Reinforced with Nano-SiO<sub>2</sub> Particles</b> .....	804
<i>Jian Zheng, Xiong Chen, Deng Jia, Xin Tong</i>	
<b>Influence of Al Concentration on the High Temperature Cyclic Oxidation Resistance Behavior of Fe-15Cu Alloys</b> .....	809
<i>Lingyun Bai, Xianchao Xu, Junhuai Xiang, Songping Wang, Ting Wang</i>	
<b>Research on Effect of Elastic Modulus on Material Load-relieving Ability</b> .....	813
<i>Jun Li, Binan Jiang, Chuang Liu, Chunsheng Hu</i>	

<b>Simulation on the Equivalent Relation Between Different Armour Plates Penetrated a Tungsten Sphere</b> .....	817
<i>Ran Xiong, Bin Zhang, Yongshi Xu</i>	
<b>Density Functional Theory Calculation on Electronic Structure and Optical Properties of Copper Doped SnO<sub>2</sub></b> .....	822
<i>Weigen Wu</i>	
<b>Die to Package Interconnection Materials and Technologies</b> .....	826
<i>Xiaoming Hu</i>	
<b>Ab Initio Study of the Roles of Fe in the Electronic Properties of Ferropentacite</b> .....	833
<i>Cui Zhou, Kai Li, Rong Zhang, Xiao Liu, Qingbo Wang</i>	
<b>First Principles Study of the Electronic Properties of MgO Under Pressure</b> .....	837
<i>Cui Zhou, Zhiqiang Liu, Rui Kang, Yue Huang, Qingbo Wang</i>	
<b>Impact of the Content of LaNd on Physical Properties of Zn9.3Al7Cu Solder</b> .....	841
<i>Shitao Ma, Yanfu Yan, Jinhong Zhu</i>	
<b>Evaluation of Photocatalytic Activity of Co<sub>3</sub>O<sub>4</sub>/Graphene Composite</b> .....	845
<i>Wentai Wang, Gabriel Levi, Moses O. Tade, Qin Li</i>	
<b>Research on the Wet Shot Blasting Technology of Strip Steel Surface Topography and Finite Element Simulation</b> .....	849
<i>Zhi Gao, Yinjian Bu</i>	
<b>Research of Factors Affecting Orientation of PAN Precursor used in Carbon Fiber</b> .....	853
<i>Yue Tang, Fubin Hou</i>	
<b>Status and Development of Surface Alloying by Electron Beam</b> .....	857
<i>Junwei Duan, Yiping Huang, Ruibin Zhang, Li Wan, Hang Li, Juan Liu</i>	
<b>Research on the Formability of Metallic Thin-walled Tube Hydroforming</b> .....	861
<i>Yulai She, Hongyi Liao, Jianwei Liu, Yuhan Li, Chenmei Kong</i>	
<b>Experiment Research on the Mechanical Performance of EPDM Insulation Pyrolysis Process</b> .....	865
<i>Jing Jiang, Jin-Sheng Xu, Xiong Chen, Zhong-Shui Zhang</i>	
<b>Study on the Strain-compensated Arrhenius-type Constitutive Model of Mg-4Al-3Ca-1.5Zn-1Nd-0.2Mn Magnesium Alloy</b> .....	871
<i>Gang Chen, An Zhen Guo, Li Ma, Wei Chen, Guowei Zhang</i>	
<b>The Research Progress and Application Expectation of Metal Rubber Vibration Isolator</b> .....	876
<i>Shu-Lu Wang, Hong-Bai Bai, Ghun-Hong Lu</i>	
<b>Study on Fire Performance of the Insulation Photovoltaic Building Components</b> .....	882
<i>Liang Yang</i>	
<b>Fatigue Small Crack Propagation Analysis of Aero-Aluminium Alloy Considering Crack Tip Plasticity</b> .....	887
<i>Guangming Kong, Xuexia Gao, Xudong Li, Zhitao Mu, Tao Liu</i>	
<b>The Influence of Welding Process Parameters on Aluminium Alloy Multi-pass Welding Residual Stress</b> .....	892
<i>Cang Song</i>	
<b>Synthesis and Characteristics of Multi-walled Carbon Nanotubes Coated Nanostructure TiO<sub>2</sub></b> .....	898
<i>Jingheng Deng, Kanping Yu, Jianguo Xie</i>	
<b>Assembly of L-cys Coated Quantum Dots-Au@Ag Nanorods Structure with Fluorescence Enhancement</b> .....	904
<i>Xiaoming Lin, Renming Liu, Jiahua Li, Xuehua Wang</i>	
<b>Yellow Mud/Gel Composites for Preventing Coal Spontaneous Combustion</b> .....	909
<i>Yinghua Zhang, Peiling Zhou, Zhi'An Huang, Yukun Gao, Liwen Jiang</i>	
<b>Analysis of Building Life Cycle Energy Consumption Based on the Wall Insulation Materials</b> .....	916
<i>Lina Zhao, Junlan Yang</i>	
<b>Identification of Complex Blocks in the Corner of Underground Chamber</b> .....	922
<i>Jianyong Lia, Guangxiang Yuan, Yang Zhao, Anming Wang, Zhiquan Huang</i>	
<b>Study on the Effect of Titanate Coupling Agent on the Impact Properties Improvement of Polystyrene/TiO<sub>2</sub> Nanocomposites</b> .....	928
<i>Dongmei Zhang, Xiaoyan Wang, Xinrong Kan</i>	
<b>Analysis on Micro-Mechanical State at Tip of Stress Corrosion Cracking in Nickel base Alloy</b> .....	933
<i>Xue He, Yongqiang Li, Yinghao Cui, Zheng Chen</i>	
<b>Research on the Influence of Coating Solid on Binder Migration</b> .....	938
<i>Ying Li, Jie Zhang, Wen Juan Gu, Banggui He</i>	
<b>Study on the Coating Surface Characteristics of Coated Paper</b> .....	942
<i>Ying Li, Qinming Wang, Wenjuan Gu, Banggui He</i>	
<b>Improvement of Etching Method of Macroscopic Metallographic Examination Based on TRIZ Theory</b> .....	946
<i>Jianjun Yu, Xucheng Rong</i>	
<b>Brief Analysis on the Aging of Traction Transformer Insulation</b> .....	950
<i>Yanhong Guo</i>	
<b>Study on the Coating Surface Binder Content by SEM and AFM</b> .....	954
<i>Ying Li, Jie Zhang, Wenjuan Gu, Banggui He</i>	
<b>Research on the Organization Performance of AgSnO<sub>2</sub> Electrical Contact Materials</b> .....	958
<i>Xingrong Jiang</i>	
<b>The Preparation of ITO Nano-Powder by Arc Plasma Method</b> .....	962
<i>Lida Sun, Jing Wang, Yan Jiang, Zijing Li, Ruimin Xiao, Shenggang Zhou</i>	
<b>The Research and Development of Heat Insulation Materials with Low Thermal-Conductivity in High Temperature</b> .....	966
<i>Yanjuan Yu</i>	
<b>The Preparation &amp; Characterization of Au/HZSM-5 Catalyst and Its Application in CH<sub>4</sub> Adsorption</b> .....	970
<i>Aisha Nulahong, Wenlong Mo, Fengyun Ma</i>	

<b>Electrical Property of Carbon Nanotube Fibers from Chemical Vapor Deposition Synthesis</b> .....	975
<i>Jingdong Zhu</i>	
<b>Preparation and Characterization of the Phthalazinone Structure-based Microporous Organic Polymer</b> .....	979
<i>Kuanyu Yuan, Cheng Liu, Hongmin Duan, Manxia Zhang, Xigao Jian</i>	
<b>Thermal Improvable Behavior of A Pressed Fitting Mixed Explosive</b> .....	983
<i>Lin Jia, Lin-Jun Zhang, Dong-Mei Zhang, Yan Gu, Kai-Di Xin, Zhi-Qun Chen, Jie-Yu Luan, Ke-Yong Wang, Zhu Chen, Juan Zhao, Xu-Dong Sun, Wen-Jing Zhou</i>	
<b>Wear Characteristics of a W6Mo5Cr4V2 High Speed Steel in Friction Stir Welding of AA6061/SiC/55p Composite</b> .....	987
<i>Xuecheng Song, Lijie Guo, Xiaosong Feng, Fan Cui</i>	
<b>Thermal Property of Carbon Nanotube Fibers from Chemical Vapor Deposition Synthesis</b> .....	991
<i>Jingdong Zhu</i>	
<b>Toughening Analysis of Eutectic Ceramic Composite with Damage</b> .....	995
<i>Heng Liu, Gang Zhao, Runze Xiong</i>	
<b>Preparation and Mechanical Properties of Carbon Nanotubes Reinforced Al<sub>2</sub>O<sub>3</sub>/TiC Composites</b> .....	1002
<i>Jing Li, Hui Liu</i>	
<b>Porous WO<sub>3</sub> Beads Fabricated by Microfluidic Device</b> .....	1006
<i>Jun Tian, Zeliang Dong, Yanjie Wang, Dongmei Zhao, Yanhong Zhang, Liguao Sun</i>	
<b>Effect of Mo on the Microstructure and Thermal Expansion of High Si Ferritic Heat-Resistant Ductile Iron</b> .....	1010
<i>Kyeong-Hwan Choe, Kyong-Whoan Lee, Myung-Ho Kim</i>	
<b>Effect of Minor Gd on the Corrosion Behavior of AZ81 Alloy</b> .....	1016
<i>Jun Chen, Qing Zhang, Xing-Yuan Zhang, Quan-An Li</i>	
<b>Microstructure and Mechanical Properties of AZ81 Magnesium Alloy</b> .....	1020
<i>Quan-An Li, Xiaoya Chen, Qing Zhang, Jun Chen, Yao Zhou</i>	
<b>Microstructure and Mechanical Properties of Mg-12Gd-2Y-1Sm-0.5Zr Alloy</b> .....	1024
<i>Yao Zhou, Quan-An Li, Jun Chen, Qing Zhang, Xiaoya Chen</i>	
<b>Research Progress of Gadolinium in Heat Resistant Magnesium Alloys</b> .....	1028
<i>Jinglong Yan, Quan-An Li, Xiaoya Chen, Yao Zhou</i>	
<b>Study on Processing Parameters of Cold Spray Al coating on Magnesium Alloy</b> .....	1032
<i>Yuliang Liu, Qing Zhang</i>	
<b>Lightweight Design of an Axial Flow Roller Based on Sensitivity Analysis</b> .....	1036
<i>Yufeng Du, Zhenghe Song, Falong Lu, Zhongxiang Zhu</i>	
<b>Research on Microstructures and Mechanical Properties of Mg-Gd-Y-Sr-Zr Alloy</b> .....	1042
<i>Lei-Lei Chen, Quan-An Li, Jun Chen, Qing Zhang, Xing-Yuan Zhang</i>	
<b>The Crack Tip Fields for Anti-plane Crack in Functionally Graded Piezoelectric Materials with Arbitrarily Gradient Direction</b> .....	1046
<i>Yao Dai, Xiao Chong, Wei-Hai Sun</i>	
<b>The Higher Order Crack Tip Fields for Anti-plane Crack in Power Functionally Graded Piezoelectric Materials</b> .....	1050
<i>Yao Dai, Xiao Chong, Jing-Wen Pan</i>	
<b>Study on the Relation Between Plastic Strain Rate and Micro Movement of Dislocation in <math>\gamma</math>-TiAl Alloy</b> .....	1054
<i>Weiping Zhao, Guotao Zhang, Rui Wang, Xiaohui Wang</i>	
<b>The Assembly Dimension Control Technology of Stainless Steel Pipe and Copper Fins for Thermal Shroud</b> .....	1058
<i>Fei Xu, Yuzhong Li, Wanqing Yang, Yongli Tong, Lijun Cui</i>	
<b>Surface Strengthening of High Speed Steel by PCVD Combined Nitriding-Coating</b> .....	1065
<i>Yuezeng Xu, Jiang Fan</i>	
<b>Fabrication of the MaO Coating on Mg Alloy and Friction Behaviors Analysis</b> .....	1069
<i>Changqing Li, Yunlong Zhang, Shucheng Wang, Yumin Zhang, Yufeng Zhou</i>	
<b>A Soft Template Method to Graphene Oxide Nanosheet/Polypyrrole Nanofibers Hybrid as Supercapacitor Electrode Material</b> .....	1073
<i>Weitong Xu, Xiwen Yang, Ke Jiang, Li Li Zhang, Lijuan Luo, Xiaoning Tian</i>	
<b>Effect of Cooling Speed on Microstructure of As-Cast Mg-3.7Zn-0.6RE Quasi-Crystal Alloy</b> .....	1079
<i>Yang Yang, Kui Zhang, Minglong Ma</i>	
<b>Strong <math>\eta</math> Texture Development and Magnetostriction in Recrystallized Fe<sub>81</sub>Ga<sub>19</sub> Thin Sheet</b> .....	1083
<i>Quan Fu, Yuhui Sha, Fang Zhang, Fan Lei, Liang Zuo</i>	
<b>Compressive Property of Aluminum Pyramidal Lattice Material</b> .....	1088
<i>Yunchao Jia, Zhidong Guan, Xingyi Chen</i>	
<b>Research of Dynamic Recrystallization of Ferrite in a Low Carbon Steel</b> .....	1093
<i>Meng Wang, Yangbo Liu, Qingsong Sun, Qian Tong</i>	
<b>Size, Shape-Controlled Synthesis of BaSiF<sub>6</sub> Nanostructures in a Hydrothermal Process</b> .....	1098
<i>Rongli Sang, Hengyong Wei, Yuzhu Zhang</i>	
<b>Improvement of Self-crosslinking HXNBR by Multi-walled Carbon Nanotubes in Latex Blending</b> .....	1103
<i>Dongmei Yue, Lin Su</i>	
<b>Author Index</b>	