

International Conference of Green Buildings and Environmental Management (GBEM 2018)

IOP Conference Series: Earth and Environmental Science
Volume 186

Qingdao, China
23 – 25 August 2018

Part 1 of 3

ISBN: 978-1-5108-7332-2
ISSN: 1755-1307

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© (2018) by the Institute of Physics
All rights reserved. The material featured in this book is subject to
IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

PART 1

BUILDING MATERIALS, STRUCTURE AND TECHNOLOGY

PREVENTING SHRINKAGE DEFECTS IN INVESTMENT CASTING OF SUS310 STAINLESS STEEL FEATHER KEYS	1
<i>Pei-Hsing Huang, Wei-Ju Huang</i>	
FACILE SYNTHESIS OF FE-DOPED NI₃S₂ NANOPARTICLES SUPPORTED ON NI FOAM AS HIGHLY ACTIVE ELECTROCATALYST FOR WATER SPLITTING	6
<i>Lingyou Zeng, Yunqi Liu, Chenguang Liu</i>	
HIGH PERFORMANCE OF NO OXIDATION OVER CO/ZR0.2CE0.8O2 CATALYSTS PREPARED BY ONE-POT METHOD	11
<i>Danhong Shang, Qin Zhong</i>	
EXPERIMENTAL STUDY ON MECHANICAL PROPERTIES OF FLY ASH CEMENTED FIRE PREVENTION MATERIALS	17
<i>Y Dong, H P Wang, G Liu</i>	
APPLICATION OF COMPUTER SIMULATION TECHNOLOGY IN MATERIAL SCIENCE	23
<i>Qingying Liu, Jiangping Ma, Yao Zhang, Ruixin Gao, Yunfeng Bai</i>	
STUDY ON THE LIMIT AND TIME OF SEPARATED LAYER INJECTION OF POLYMER FLOODING IN SECOND-CLASS OIL LAYERS	28
<i>Ly Xiao</i>	
STUDY ON MECHANISM OF WATER CONDENSATION AND FIELD EXPERIMENTS OF THOUSAND-HAND GUANYIN IN DAZU ROCK CARVINGS	34
<i>Zheng LeiLei, Fu XueZhi</i>	
OPTIMIZATION DESIGN OF ASSEMBLY PERFORMANCE OF NITINB SHAPE MEMORY ALLOY JOINT	40
<i>Xiang Chen, Wei Chen, Bin Chen, Hengwei Zheng, Yang Zhao</i>	
DESIGN AND APPLICATION OF ANALYTICAL SYSTEM FOR VERTICAL FOAM'S STRUCTURE	47
<i>F Xuecheng, H Cheng, S Bo, X Jianjun, C Yang, C Tao, J Lishuai, B Zhiming, Z Xianzhong, W Rongji</i>	
CONSTRUCTION OF SURFACTIN--POLYSORBATE-80 REVERSED MICELLE SYSTEMS AND ITS APPLICATION ON EXTRACTION OF CELLULASEE	52
<i>Xin Peng, Yu Tang, Peng-fei Xu, Hao Du, Lu Yuan, Yong Meng</i>	
MATHEMATICAL MODEL OF NANO/MICRON-SIZED POLYMERIC PARTICLES FLOODING	58
<i>Y Q Long, X H Huang, F Q Song, R Y Wang, L Q Chen</i>	
CO₂/N₂ RESPONSIVE PICKERING EMULSION STABILIZED BY SILICA NANOPARTICLES AND A COMMON NONIONIC SURFACTANT	64
<i>L Zhang, G Zhang, J Ge, P Jiang, H Pei</i>	
STUDIES OF BENTONITE ADDED PROTEIN-TANNIC ACID MULTILAYER THIN FILMS	70
<i>H H Lau, M V Kiryukhin, N L Yakovlev, C P Ooi</i>	
SYNTHESIS OF NANO-BI₂MOO₆/CALCINED MUSSEL SHELL COMPOSITE WITH ENHANCED VISIBLE LIGHT PHOTOCATALYTIC ACTIVITY	74
<i>Lu Cai, Yaru Zhou, Lili Ji, Jian Guo, Jianshe Liu, Wendong Song</i>	
MATERIAL DESIGN AND PERFORMANCE ANALYSIS OF POROUS CEMENT STABILIZED MACADAM	82
<i>Yin Jin-Ming, Miao Sheng-Long, Li Shi-Quan, Meng Wei</i>	
STUDY ON THE MICROSTRUCTURE AND PROPERTIES OF 9SICR CUTTING TOOLS STEEL BY HEAT TREATMENT PROCESS PARAMETERS	90
<i>Hongbo Li, Chunjie Li, Renbao Jiao, Biao Tang, Shoufan Rong, Xingyi Li, Hanchi Cheng</i>	
EFFECT OF DIFFERENT HEAT TREATMENT PROCESSES ON MICROSTRUCTURE AND HARDNESS OF 9SICR STEEL	94
<i>Hongbo Li, Chunjie Li, Biao Tang, Bing Li, Shoufan Rong, Jing Wang, Jian Song</i>	
EFFECT OF C ELEMENT CHANGE ON MICROSTRUCTURE AND PROPERTIES OF FE-CR-C SURFACING ALLOY	99
<i>Hongbo Li, Minghui Zhuang, Chunjie Li, Shuyan Wu, Shoufan Rong</i>	

IMMERSED CORROSION PROPERTIES OF THE MICROARC OXIDATION COATING ON AS-CAST AZ91D MAGNESIUM ALLOY	104
<i>Y Lv, J G Li, M Z Wu, H Y Wang, D Q Zhang, L L Wang</i>	
SYNTHESIS OF FOAM GLASS-CERAMIC FROM CRT PANEL GLASS USING ONE-STEP POWDER SINTERING	109
<i>Hao Yuan, Hongcheng Wu, Jie Guan</i>	
MECHANISM OF ADVANCED OXIDATION TECHNIQUE WITH IRON TO REMOVE COD	115
<i>Yongjie Hao, Beifu Wang</i>	
APPLICATION OF SEISMIC WAVEFORM INDICATOR INVERSION IN HORIZONTAL WELL DESIGN	121
<i>Wei Huazhi, Chu Songjie, Zhang Yu</i>	
ELECTROCHEMICAL CORROSION BEHAVIOR OF Q235B CARBON STEEL IN 10%NaCl AND H₂S SOLUTIONS WITH DIFFERENT PH	126
<i>Rongrong Xu, Beifu Wang, Lihong Nie, Yang Liu</i>	
THE DIFFERENCES OF TYPICAL ASSESSMENT STANDARD SYSTEMS FOR GREEN BUILDING AND IMPLICATIONS FOR CHINA	133
<i>Wei Ling, Dake Wei, Fei Lian</i>	
EFFECT OF ELECTROLYTE CONSTITUENT ON MORPHOLOGY AND COMPOSITION OF THE MICROARC OXIDATION COATING ON MAGNESIUM ALLOY	139
<i>Y Lv, J G Li, M Z Wu, J Q Zhang, P F Sun, Z H Sun</i>	
SYNTHESIS, THERMAL PROPERTIES AND THERMAL RELIABILITIES OF MICROSPHERES WITH ESTER MIXTURES AS PHASE CHANGE MATERIALS	144
<i>Yanhong Ma, Qifei Xie, Xinzhong Wang</i>	
ONE-STEP SYNTHESIS OF NITROGEN AND CHLORINE CO-DOPED FLUORESCENT CARBON NANODOTS FOR THE SENSITIVE DETECTION OF Ag⁺	150
<i>C Huang, H Y Liu, M Z Zhang</i>	
APPLICATION OF SURFACE TRANSLUCENT CARVING	157
<i>Dong Wen-ling</i>	
PREPARATION AND CHARACTERIZATION OF PES-C/PVPP NANOFIBROUS COMPOSITE MEMBRANES VIA SOLUTION-BLOWING	163
<i>Guocheng Song, Jing Li, Junrong Yu, Yan Wang, Jing Zhu, Zuming Hu</i>	
TRIBOLOGICAL PROPERTIES OF SOLID LUBRICANTS (GRAPHITE, MOS₂) FOR NI BASED MATERIALS	170
<i>Baiming Chen, Junxi Zhang, Jinlong Jia, Wei Hu, Chenggong Gong</i>	
COMPRESSIBLE NI AND REDUCED GRAPHENE OXIDE (NI-RGO) COATED POLYMER FOAMS FOR ELECTROMAGNETIC INTERFERENCE (EMI) SHIELDING	177
<i>Yangyang Lin, Genliang Hou, Xunjia Su, Song Bi, Jin Tang</i>	
THE PHOTOCATALYTIC PERFORMANCE OF HYDROXYLAPATITE AND TiO₂-NANOBELT COMPOSITES	182
<i>Feng Wang, Ying Gai</i>	
EFFECT OF PORTLAND CEMENT ON MAGNESIUM OXYSULFATE CEMENT USING LIGHT-BURNED DOLOMITE	188
<i>Yuanji Chen, Chengyou Wu, Cong Chen, Fangyu Chen</i>	
A SIMPLIFIED RESPONSE DISPLACEMENT METHOD FOR SEISMIC CALCULATION OF SHALLOW BURIED STRUCTURES USING NEW LOAD-STRUCTURE MODEL	195
<i>HongMin Ma, JianXun Ma</i>	
PREPARATION OF ZIRCONIUM PILLARED MONTMORILLONITE COMPOSITES	202
<i>Biyang Tuo, Lang Han, Sen Long, Xuxia Zhao</i>	
DEVELOPMENT OF THE BASIC OIL FOR ENVIRONMENTAL PROTECTION	207
<i>Yulin Liu, Yuxue Sun, Jingyuan Zhao, Fulei Zhao, Dianxue Sui</i>	
THE RESEARCH PROGRESS ON PREPARATION OF AL-TI ALLOY	212
<i>X D Wei, H M Kan, X Sun, N Zhang, X Y Wang, H B Long</i>	
RESEARCH PROGRESS OF EPOXY RESIN CONCRETE	218
<i>Xinying Xie, Xuan Zhang, Yujie Jin, Wei Tian</i>	
COMPARISON BETWEEN EPOXY RESIN CONCRETE AND TRADITIONAL MATERIALS UNDER HIGH TEMPERATURE	222
<i>Yujie Jin, Jiahui Liu, Xinying Xie, Lian Zhai</i>	
DIFFERENT EFFECTS OF STEEL FIBER AND NANO-SiO₂ ON EPOXY RESIN CONCRETE	225
<i>Yujie Jin, Jiahui Liu, Xinying Xie, Lian Zhai</i>	
THE EFFECTS OF POLYESTER FIBER AND POLYSULFIDE RUBBER CONTENT FOR THE MECHANICS PERFORMANCE OF POLYMER RESIN CONCRETE	231
<i>Xinying Xie, Xinnan Kang, Yujie Jin, Jingwei Cai</i>	

A NOVEL DUAL RESPONSIVE NANOCOMPOSITE DOUBLE NETWORK HYDROGEL WITH GOOD MECHANICAL PROPERTY	237
<i>Yang Chen, Shiya Qiao, Junrong Yu, Yan Wang, Jing Zhu, Zuming Hu</i>	
RESEARCH ON THE APPLICATION OF GREEN BUILDING MATERIALS IN CHINA	245
<i>Hui Zhao, Yue Wang, Weiting Qiu, Weilu Qu, Xudong Zhang</i>	
A STUDY OF THE RELATIONSHIP BETWEEN FRACTAL DIMENSION OF BOUNDARY TRACE AND STABILITY OF THE LOESS-BEDROCK LANDSLIDE	250
<i>Bo Wu, Fa Suo Zhao, Shao Yan Wu, Zi Guang He, Zhao Duan</i>	
STUDY ON THERMAL KINETICS OF NANO AL/MICRO MnO₂ THERMITE SYSTEM	258
<i>Ding Wen, Guo Tao, Wang Hao, Song Jiaying, Mao Yiming, Fang Xiang</i>	
STUDY ON THERMAL CHEMICAL REACTION OF AL/MNO₂ THERMITE	264
<i>Song Jiaying, Guo Tao, Ding Wen, Mao Yiming, Fang Xiang, Wang Hao</i>	
THE ANALYSIS OF THE OPTIMAL OPERATION OF INTEGRATED ENERGY MICROGRID WITH MULTI-ENERGY SUPPLY AND ENERGY STORAGE	270
<i>Binbin Chen, Tian Xia, Bin Wang</i>	
A NOVEL PEROXIDASE MIMICS BASED ON THE CONCAVE OCTOPOD PTCU ALLOY NANOFRAMES AND ITS APPLICATION IN PHENOLIC COMPOUNDS REMOVAL	278
<i>Ying Zhoua, Jinghua Li, Xiaonan Li, Pan Yang, Lu Huang, Kaiyong Cai</i>	
THE STABILITY OF MULTIPLE CARBON AD-DIMER DEFECTS IN SINGLE-WALLED CARBON NANOTUBES AS A FUNCTION OF ITS DISTANCE FROM THE NANOTUBE END	285
<i>Qing-ya Meng</i>	
THE CHEMICAL EFFECT OF CO₂ ON THE METHANE LAMINAR FLAME SPEED IN O₂/CO₂ ATMOSPHERE	289
<i>Wang Feng, Liu Shibo, He Yizhuo, Jia Huiqiao</i>	
STUDY ON THE INFLUENCE FACTORS OF THE SEISMIC PERFORMANCE WITH SPECIALLY SHAPED COLUMNS UNDER RARE EARTHQUAKE	296
<i>Jian Tang, Pu Yang, Anqi Li, Xiaofang Li, Zheyu Yu</i>	
PROPERTIES AND APPLICATIONS OF BASALT FIBER AND ITS COMPOSITES	302
<i>Zongwen Li, Jianxun Ma, Hongmin Ma, Xin Xu</i>	
DETERMINATION OF WELL ADJUSTMENT METHODS AFTER STRATA REORGANIZATION OF BLOCK A	309
<i>Yu Miao</i>	
OPTIMIZATION OF TARGET SEGMENT PARAMETERS OF FISHBONE HORIZONTAL WELL BASED ON GENETIC ALGORITHM	315
<i>Zhang Xin</i>	
COMPARATIVE STUDY ON STABILITY THEORY OF STEEL-CONCRETE COMPOSITE BEAMS IN NEGATIVE MOMENT REGION BASED ON ABAQUS	325
<i>Shan Wang, Jianxun Ma, Zongwen Li, Hongmin Ma</i>	
EXPERIMENTAL TEST AND NUMERICAL SIMULATION OF THE INITIAL CRACK REINFORCED CONCRETE BEAM IN BENDING	333
<i>Xiaolin Yang, Lingxiao Liu, Yalong Wang</i>	
RESEARCH ON THE ARCHITECTURAL DESIGN METHOD OF GREEN MATERIALS RELATED TO TEAHOUSE SPACE: TAKING THE BAMBOO HOUSE FOR EXAMPLE	338
<i>Xiao-Li Fu</i>	
SYNTHESIS AND CHARACTERIZATION OF BAMBOO-LIKE MULTI-WALLED CARBON NANOTUBES BY ALCOHOTHERMAL PROCESS	343
<i>Yan Tang, Wei Luo</i>	
EFFECTS OF CREEP AGEING ON THE MECHANICAL PROPERTIES AND MICRO PRECIPITATES OF X2A66 ALLOY	348
<i>JinJun Xu, Mang Jiang</i>	
MECHANICAL PROPERTIES TEST OF NANO MODIFIED COATING MATERIAL FOR COLOR ANTISKID PAVEMENT	354
<i>Yongqiang Zhong</i>	
IMPACT ANALYSIS AND PROTECTION SCHEME OF SUBWAY SHIELD TUNNELING UNDER EXISTING RAILWAYS	361
<i>Zheng Hua He, Guo Quan Wang, Jian Wei Chen, Xu Zhi Zhang, Huang Yong</i>	
DEVELOPMENT OF CEMENTING MATERIAL OF FINE FULL-TAILINGS FILLING BY SLAG POWDER	368
<i>Jun Wang, Qian Gao, Gang Li, Junning Zhang, Luliang Wang</i>	
THE EFFECT OF DISPERSANT ON THE PROPERTIES PSN-PMS-PNN-PZT PIEZOELECTRIC CERAMICS	378
<i>F Wei, D Y Zheng, Z H Peng, L Yang, H W Zhu, T Zhou</i>	

EFFECT OF BORIC ACID AND LITHIUM CHLORIDE ON MAGNESIUM OXYSULFATE CEMENT	384
<i>Cong Chen, Chengyou Wu, Yuanji Chen, Jiazhen Niu</i>	
EFFECT OF USING MAGNESIUM PHOSPHATE CEMENT ON THE STRENGTHENING OF CONCRETE BONDED WITH DIFFERENT FIBER CLOTHS	390
<i>Yuanji Chen, Chengyou Wu, Cong Chen, Fangyu Chen</i>	
PREPARATION AND APPLICATIONS OF FOAM CERAMICS	395
<i>Mengqi Wang, Shuqiong Xu</i>	
THE APPLICATION OF MULTI-HYDROGEN STAGED ACIDIZING TECHNOLOGY IN M31-6 WELL	400
<i>Mengmeng Ning, Lina Zhang, Hang Che, Shoumei Qiu, Shuzhi Xiu, Zhengdong Xu, Bin Zhang, Xiaochao Wang, Peng Wang, Bingxiao Liu, Weizhong Kong, Jingzhi Cao</i>	

ENVIRONMENT AND ENVIRONMENTAL POLLUTION

EMISSION CHARACTERISTIC ANALYSIS ON HIGHWAY RAINWATER RUNOFF POLLUTION OF ASPHALT PAVEMENT	405
<i>Tao Shuangcheng, Xiong Xinzhu, Li Lingyun, Chen Chengyong, Li Hua, Kong Yaping</i>	
PRESENT SITUATION OF CADMIUM POLLUTION IN VEGETABLE FIELDS AND RESEARCH PROGRESS OF PHYTOREMEDIATION TECHNOLOGY	414
<i>Qianqian Ma, Zhide Wang, Feng Yang, Manman Tie, Wanyun Peng, Yexing Sun</i>	
THE MATHEMATICAL MODEL OF WATER FLOODING IN DIFFERENT STRUCTURE TYPES OF LOW PERMEABILITY CARBONATE ROCKS	419
<i>Fuquan Song, Kai Ji, Liwen Bo</i>	
SYNERGISTIC EFFECT OF CORN LEAF VOLATILE ODOR SUBSTANCES ON SEX PHEROMONE OF ASIAN CORN BORER, OSTRINIA FURNACALIS (GUENÉE)	425
<i>Z N Ma, Z C Ma, D W Zhang, H Y Pan</i>	
PILOT-SCALE STUDY OF BIOLOGICAL SYNERGIST EFFECT ON HIGH SALINITY PESTICIDE WASTEWATER BIOLOGICAL TREATMENT	429
<i>X.F. Zou, F. Ma, Q.C. Li, H.D. Ji, H.D. Zhuang, X. Tan, J.G. Wang, B. Liu</i>	
A NOVEL BROADBAND HIGH SENSITIVITY CURRENT PROBE DESIGN AND ANALYSIS FOR CONDUCTED EMISSION TESTING	434
<i>Sha Miao, Teng Wanxiu, Song Gang, Mu Xiaotong, Shang Baoying, Song Jilei, Lv Dongxiang</i>	
INFLUENCE OF VERTICAL MIGRATION PROCESS ON SEASONAL VARIATION AND HORIZONTAL DISTRIBUTION OF PB IN MARINE BAY	441
<i>Dongfang Yang, Lianguo Zhao, Xiaolong Zhang, Dong Lin, Haixia Li</i>	
THE DEVELOPMENT OF A DIAGNOSIS AND RISK ASSESSMENT MODEL FOR THE INDUSTRIAL CHAIN OF INDUSTRIAL PARK AND ITS VERIFICATION THROUGH CASE STUDY	445
<i>Yun Fu, Wanying Zhao, Ling Lin, Dongfeng Gao, Shuo Yang</i>	
APPLICATION OF ULTRAFILTRATION TECHNOLOGY IN WATER TREATMENT	450
<i>Xiangmin Li, Lei Jiang, Haixiang Li</i>	
RESEARCH ON THE ADSORPTION TREATMENT OF THE MALACHITE GREEN SIMULATED WASTEWATER ON FALLEN ACER MONOES LEAVES	458
<i>Wei Li, Fangfei Zhao, Hongfei Ma, Judi Li, Qiuju Han, Yanxiu Chen</i>	
EFFECT OF COPPER AND IRON IONS ON THE SULPHIDIZING FLOATATION OF COPPER IN COPPER SMELTING SLAG	464
<i>Qing-Qing Pan, Hui-Qing Peng</i>	
ENERGY-SAVING RECONSTRUCTION OF BUILDINGS IN COLD WINTER AND HOT SUMMER AREAS WITH THE GREEN ECOLOGICAL CONCEPT	475
<i>Qihong Liu, Qingying Liu, Weina Liu</i>	
THE PREPARATION OF AG-TIO₂ AND THE STUDY ON ITS BACTERIOSTATIC PROPERTIES	479
<i>Qi Yao Cui, Hong Hao Sun</i>	
PREPARATION OF FE₃O₄@SIO₂@CHITOSAN FOR THE ADSORPTION OF MALACHITE GREEN DYE	483
<i>Wen Jing Wang, Qi Yao Cui, Tang Qin, Hong Hao Sun</i>	
STUDY ON CHANGES OF CHLOROPHYLL CONTENT IN PLANT UNDER INDOOR BENZENE STRESS	488
<i>M Lu, J H Lu, D H Li, L F Zhang, X M Zhao</i>	

GROUNDWATER EXPLORATION IN THE BEDROCK AREA USING GEOELECTRICAL RESISTIVITY SURVEY	493
<i>Nur Islami</i>	
ADAPTABILITY OF PROTECTION PRINCIPLE OF CONVERTER PROTECTION IN DIFFERENT PROTECTION AREAS	497
<i>Hong-Yue Zhang, Yi Shi, Hai-Long Chen, Li-Hu Feng</i>	
TEMPORAL AND SPATIAL EXPOSURE OF GASEOUS POLLUTANTS AND ITS INFLUENCE FACTORS IN SHANDONG PROVINCE.....	505
<i>Qiang Zhao, Chunhui Zou, Qian Gao, Shengnan Zhang, Xiumei Li</i>	
EVALUATION OF ECOLOGICAL ECONOMY BENEFIT OF COASTAL WETLAND OF YENCHENG	511
<i>Yaqian Wu, Yanan Zhang</i>	
NETWORK MODEL EVALUATION OF THE EFFECTS OF PORE AND PARTICLE SIZE DISTRIBUTIONS ON DYNAMIC STRAINING-DOMINANT DEEP BED FILTRATION IN POROUS MEDIA	516
<i>Binbin Ding, Chaolin Li, Jianhui Xu, Jian Zhang, Yaowu Wang, Xiaoqing Dong</i>	
NUMERICAL SIMULATION OF THE EFFECT OF WIND SPEED ON VOCS DIFFUSION CONCENTRATION DISTRIBUTION IN LIQUID CARGO PORT AREA	527
<i>W F Wu, K B Zhu, C W Zhen, J W Zhang, J S Lu</i>	
STUDY ON THE WATER INFILTRATION AND RETENTION OF SOIL AFTER SHIFTING CULTIVATION IN NGHE AN PROVINCE, VIETNAM.....	532
<i>Tran Xuan Minh, Guoping Lei, Hoang Thi Tu Oanh</i>	
A REVIEW OF N₂O EMISSIONS AFFECTED IN FARMLAND ECOSYSTEM.....	538
<i>W Z Yang, Y Jiao</i>	
PHYSIOLOGICAL AND BIOCHEMICAL RESPONSES OF SYNECHOCYSTIS SP.PCC 6803 TO STRESS OF PHENOL	542
<i>Jun Ling, Yulin Ning, Yurui Zheng, Yujie Dai, Hexing Lv, Shiru Jia, Gao Chen, Yichao Geng, Yingqi Miao</i>	
SEA RECLAMATION PLANNING BASED ON SUITABILITY ANALYSIS: AN EXAMPLE OF HAINAN ISLAND UNDER THE ECOLOGICAL RED LINE	547
<i>Xin Fang, Chunling Hao, Yifei Zhang, Yunyun Xiang, Hui Yang, Qiao Yu, Pingting Lian, Wei Ni, Jingchen Wang</i>	
ADVANCES IN BIOGEOCHEMICAL PROCESSES OF ANTIBIOTICS IN SOIL.....	557
<i>Jingru Li, Yang Song, Shuang Cui, Ping Li, Mingrui Li, Jianhui Song, Feiyue Gao</i>	
RESEARCH PROGRESS ON ECOTOXICOLOGICAL EFFECTS OF MICRO-PLASTICS LOADED POLLUTANTS	561
<i>Jianhui Song, Shuang Cui, Ping Li, Mingrui Li</i>	
CLASSIFICATION AND APPLICATION OF FLOW UNITS IN CARBONATE RESERVOIRS.....	567
<i>Li Wei, Changlin Shi, Caihong Yang, Lanqing Liu</i>	
THE CLIMATIC CHARACTERISTICS AND FORMATION MECHANISM OF ACID RAIN IN GUILIN, CHINA	574
<i>Shan Zhong, Zengxian Wei, Lishan Zhang, Yongshan Li, Juan Du</i>	
STUDY ON THE MAXIMUM DRY DENSITY OF SEA MUD MODIFIED CLAY AS THE ANTI-SEEPAGE LAYER MATERIAL IN PETROCHEMICAL FIELD.....	581
<i>J J Ye, G M Zhu, J Lyu, M Q Zhang, X H Zhang, J K Shen</i>	
EFFECTS OF DIFFERENT FERTILIZATION METHODS ON GROWTH AND FRUIT QUALITY OF 'AIGANSHU' PEAR TREE.....	587
<i>Yinghuan Xu, Bo Xiong, Zhihui Wang, Xia Qiu</i>	
DEPOSITION OF FINE PARTICLES IN SUBMERGED VEGETATION PATCH IN RIVER FLOW.....	592
<i>Yan-Hong Li, Liquan Xie</i>	
TREATMENT OF SIMULATED WASTEWATER BY BIO-CATHODE MICROBIAL FUEL CELLS AT DIFFERENT C/N RATIO	596
<i>Tian Xu, Mingxuan Du, Gongdao Wang, Weiwei Wang, Li Li, Wen Liu, Daming Wu, Wei Wu</i>	
COAGULATION TOOL PARAMETERS DURING EMERGENCY DWASPOSAL OF DRINKING WATER SOURCE	601
<i>Sijie Du, Zhengwei Xiong, Yao Chen, Licai Hu, Qiwei Chen, Qingwei Guo, Sili Chen</i>	
IDENTIFICATION OF SINGULAR SAMPLES IN NEAR INFRARED SPECTRUM OF STARCH WATER CONTENT PREDICTION BY USING MONTE CARLO CROSS VALIDATION COMBINED WITH T TEST.....	608
<i>Yaxin Qu, Ziyang Cai</i>	
INSIGHT FOR FUTURE ENVIRONMENT DESIGN INSPIRED BY LAO AND ZHUANG'S PHILOSOPHY.....	613
<i>Tailin Zhou</i>	

REMOVAL OF URANIUM(VI) BY ADSORPTION ONTO PEANUT ACTIVATED SHELL CARBON POWDER	618
<i>Zheng-Ji Yi, Jun Yao, Xing Liu, Jian Liu, Rong-Ying Zeng</i>	
MATHEMATICAL MODEL ESTABLISHMENT AND IN-SITU EXPERIMENTAL VERIFICATION ABOUT THE EFFECTS OF METEOROLOGICAL ENVIRONMENTAL FACTORS ON THE TEMPERATURE OF PHOTOVOLTAIC MODULE	624
<i>Yuansheng Yin, Hao Zhang, Zijie Qin, Shuo Wang</i>	
ANALYSIS ON LIFE CYCLE ENERGY CONSUMPTION AND EMISSION OF VEHICLE GAS PRODUCED BY KITCHEN WASTE	633
<i>Feng Xiao, Shanshan Zhang, Yue Wang, Facun Pan, Siyu Lu, Xiaoping Huang, Fuchuan Huang</i>	
STRATEGIES OF FLOOD CONTROL AND WATER LOGGING IN THE FORBIDDEN CITY AND ENLIGHTENMENTS ON THE TREATMENT OF THE MODERN CITIES' WATER LOGGING.....	641
<i>Binbin Huang, Shaofei Wu, Fang Tian</i>	
EFFECT OF MIXED LIQUOR SUSPENDED SOLIDS (MLSS) ON SIMULTANEOUS NITRIFICATION AND DENITRIFICATION IN A SEQUENCING BATCH REACTOR	647
<i>Xi Tian, Shangli Guo, Kaicheng Xu, Chunling Zhao, Xuefeng Wang, Dejun Bian</i>	
ANAEROBIC CO-DIGESTION OF WASTES FROM FRUIT PROCESSING AND ACTIVATED SLUDGE REACTOR IN JUICE PRODUCTION INDUSTRY	653
<i>Q Y Wang, J Tian, M T Kato, Y J Rong, Y L He, F Ji</i>	
LEACHING BEHAVIOR OF HEAVY METALS FROM CEMENT PASTES CONTAINING SOLID WASTES	660
<i>Xiaolu Yuan</i>	
INVESTIGATION ON MACHINABILITY OF THE OXIDE LAYER IN ANODIC OXIDATION OF REACTION-SINTERED SILICON CARBIDE BY PURE-WATER	665
<i>Xiaocui Yang, Xinmin Shen, Zhizhong Li, Qunzhang Tu, Qin Yin</i>	
THE FORMATION MECHANISM OF RIVER EROSION-INDUCED LOESS LANDSLIDE	670
<i>X Q Yuan, Z Duan, F S Zhao</i>	
THE RESEARCH OF JUNGGAR BASIN PPW BLOCK GAS RESERVOIR IDENTIFICATION METHOD	676
<i>GongJun Wang, DongMei Wang</i>	
ANALYSIS ON THE CURRENT SITUATION AND CAUSES OF THE DESTRUCTION OF AQUATIC ECOSYSTEMS IN CHINA.....	680
<i>Jiaxun Li, Mingrui Zhang</i>	
ANALYSIS ON THE INVESTMENT EFFICIENCY OF INDUSTRIAL POLLUTION CONTROL BASED ON MARKOV AND DEA MODEL.....	686
<i>Yue Yu Li, A Ming Zheng</i>	
SEPARATION/ENRICHMENT OF TRACE NICKEL(II) BY POTASSIUM BROMIDE—8- HYDROXYQUINOLINE—PHENOLPHTHALEIN SYSTEM.....	695
<i>Yujun Zhong, Changqing Tu, Xinrong Wen</i>	

PART 2

CHANGES IN SOIL NUTRIENTS AND CARBON PROPERTIES IN RELATION TO GRASSLAND SALINIZATION	700
<i>Xuemao Zhao, Yao Zhong, Chengchen Pan</i>	
THE RESEARCH ABOUT THE REMOVAL OF ANTIBIOTIC POLLUTANTS IN WATER POLLUTION BY ADSORPTION MATERIALS AND PHOTOCATALYTIC MATERIALS	705
<i>Xiaoyu Yang, Shaohong You, Yucui Shi, Qi Yang, Xiaofen Ning</i>	
THE RESEARCH ABOUT HOW TO ABSORB THE HEAVY METAL CHROMIUM BY LEERSIA HEXANDRA WETLAND SYSTEM	710
<i>Xiaofen Ning, Shaohong You, Qi Yang, Xiaoyu Yang, Yucui Shi</i>	
A METHOD FOR THE PREPARATION OF A COMPOUND ADSORBENT FOR EUCALYPTUS AND $CaCl_2$.....	713
<i>Shen Liu, Zhaoju He, Minjie Qin, Li Zhu, Yanqin Lu</i>	
EXPERIMENT ON SURFACE WATER PRETREATMENT BY BIOLOGICAL CONTACT OXIDATION PROCESS FILLED WITH MODIFIED SUSPENDING BIOCHEMICAL PACKING	719
<i>Wen-Feng Tang, Feng-Ying Sun</i>	
ASYNCHRONOUS CULTIVATION AND DOMESTICATION OF AEROBIC ACTIVATED SLUDGE TO TREAT THE PICKLE WASTEWATER.....	726
<i>Yangjie Ou, Jinchuan Gu, Mengjia Ran, Hongmei Yang, Dehang Zhang</i>	

FABRICATION OF SUPERHYDROPHOBIC SURFACE WITH DIFFERENT PARTICLE SIZE SIO₂ BY LAYER-BY-LAYER ASSEMBLY METHOD	733
<i>H Li, X J Su, G L Hou, S Bi, C H Liu, Y Y Lin, P H Li</i>	
ADVANCES IN THE EFFECT OF HEAVY METALS IN AQUATIC ENVIRONMENT ON THE HEALTH RISKS FOR BONE.....	739
<i>Jun-Jie Li, Li-Na Pang, Shan Wu, Meng-Da Zeng</i>	
THEORY AND PRACTICE OF ECOLOGICAL CITY CONSTRUCTION.....	748
<i>Chengzhong Ma, Jifeng Deng, Xiaojing Zhao, Yingchun Zhang</i>	
A METHOD TO IDENTIFY THE RISK PROBABILITY OF SYNCHRONOUS OCCURRENCE OF EXTREME RAINFALLS OF DIFFERENT HYDRO-ZONES	754
<i>T T Cui, L Z Wang, Y T Wang, Q F Hu, Y Q Long</i>	
SHORT-TERM EXPOSURE EFFECTS OF MAGNETIC FE₃O₄ NANOPARTICLES ON ANAEROBIC GRANULAR SLUDGE PERFORMANCE.....	761
<i>Chengyuan Su, Ronghua Qin, Peng Zheng, Yi Liu, Lijun Zhu, Xi Qin</i>	
EFFECT OF PIG MANURE AMENDMENTS ON MICROBIAL BIOMASS AND FUNCTIONAL DIVERSITY IN THREE AGRICULTURAL SOILS.....	766
<i>Jingnan Zhang, Mengjie Li, Peize Li, Weihua Kang, Jiabao Shi, Lin Yang, Shuaifeng Wang</i>	
BIODEGRADATION OF DIPHENYL ORTHO-PHTHALATE DPP BY PSEUDOMONAS SP. BET-7 ISOLATED FROM ACTIVE SLUDGE.....	772
<i>Ke Zhang, Jian Chen, Siqiao Yang, Wei Chen, Jia Chen</i>	
PHOSPHATE DSORPTION FROM AQUEOUS SOLUTION BY MESOPOROUS ADSORBENT FE-SBA-15.....	778
<i>Qina Sun, Yue Cui, Yanfei Chen, Mingyan Fu</i>	
BACKGROUND POLLUTION AND ANTHROPOGENIC IMPACT OF CR IN JIAOZHOU BAY 1989.....	784
<i>Dongfang Yang, Xiaolong Zhang, Lianguo Zhao, Qi Wang, Haixia Li</i>	
CHANGES OF CR CONTENTS DURING DIFFERENT MIGRATION PATHS	789
<i>Dongfang Yang, Hongmin Suo, Sixi Zhu, Xiaoye Gao, Bailong Fan</i>	
CHEMICAL STATE ANALYSIS OF LEAD AND ZINC IN SOIL OF XITIESHAN MINING AREA IN THE NORTHERN MARGIN OF Q Aidam Basin	794
<i>Jianguo Wang, Wen Zhang, Erfeng Ren</i>	
STUDY ON INFLUENCE FACTORS OF PURIFICATION EFFICIENCY OF WALL ABSORBING HAZE AUTOMATICALLY.....	800
<i>Chunzhen Qiao, Zhen Zhang, Jian Zhang, Zhiyong Li</i>	
ANALYSIS OF POLLUTION LEVELS OF 7 ANTIBIOTICS IN THE WENYU RIVER WATER OF BEIYUN RIVER WATER SYSTEM IN BEIJING AFTER THE POLLUTION CONTROL: A PRELIMINARY STUDY.....	806
<i>HT Ma, K Gao, YS Yang, XF Meng, HF Zhang, C Lang, CY Wang, Y Guo, JZ Dong, XM Song</i>	
ANALYSIS ON WATER QUALITY CHANGE TREND OF THE MUNICIPAL SEWER NETWORK BASED ON THE MANN-KENDALL METHOD	811
<i>Z X Peng, H F Zhang, Y Guo, C Lang, C Y Wang, J Z Dong, K Gao, X M Song, YS Yang</i>	
POLLUTION AND POTENTIAL ECOLOGICAL RISK ASSESSMENT OF HEAVY METAL OF THE SLUDGE IN TREATMENT PLANTS IN BEIJING	818
<i>Q Sheng, HF Zhang, CY Wang, C Lang, Y Guo, JZ Dong, K Gao, XM Song, YS Yang</i>	
EXPERIMENTAL STUDY ON THE EFFECT OF GROUTING INTERVAL ON MICROBIAL INDUCED CALCIUM CARBONATE PRECIPITATION	825
<i>Jiu-Ge Niu, Shi-Hua Liang, Xing Gong, De-Luan Feng, Qing-Zi Luo, Jun Dai</i>	
THE DIFFERENCE OF SENSORY QUALITIES OF APPLE FRUIT AMONG EIGHT CULTIVATED VARIETIES.....	831
<i>Danshi Zhu, Xiaojun Ren, Liwei Wei, He Liu, Xuehui Cao, Jianrong Li</i>	
ABSORPTION CAPACITY FOR CO₂ CAPTURE PROCESS USING DEAE-AMP AQUEOUS SOLUTION.....	836
<i>C Li, Y X Chu, L M Wang, X Feng, D Fu</i>	
STUDY ON APPARENT ABSORPTION RATE OF CO₂ IN DEAE-AMP AQUEOUS SOLUTIONS	840
<i>Y X Chu, C Li, L M Wang, X Feng, D Fu</i>	
ANALYSIS ON THE TEMPORAL AND SPATIAL CHARACTERISTICS OF AIR QUALITY IN THE MAIN URBAN AREA OF JINAN CITY	844
<i>Qian Gao, Qiang Zhao, Chunhui Zou, Dan Xiong</i>	
METHANE EMISSION IN CONSTRUCTED WETLAND WITH/WITHOUT EMERGED PLANT	850
<i>Hongying Sun, Quanwei Xin, Siren Lan, Zhihui Ma, Liyun Xiao, Zisen Li</i>	

OPTIMIZATION OF SUPERCRITICAL CO₂ FLUID EXTRACTION CONDITIONS OF FLAVONOIDS FROM SPINA GLEDITSIAE	855
<i>Xiaojuan Liu, Xia Gao</i>	
EFFECT OF SULFATE LOAD ON SULFUR REMOVAL IN MODEL CONSTRUCTED WETLANDS	860
<i>Jiangxin Hou, Wenrui Guo, Yue Wen</i>	
COOLING LOAD ANALYSIS IN HUBEI WITH GLOBAL WARMING	867
<i>Ming Xu, Zeng Haiyan, Zhang Meng</i>	
MATHEMATICAL MODELING OF THE HYDRODYNAMIC FORCES ON A LOW ASPECT-RATIO CURVED OTTER BOARD	875
<i>X Rao, H L Huang, J L Yang, L Z Li, S Chen</i>	
APPLICATION OF D-INSAR TECHNOLOGY IN URBAN LAND SUBSIDENCE MEASUREMENT: A CASE STUDY ON BEIHAI CITY	885
<i>X L Wang, J K You, L Hu, E L Qiu, J Xiang, K Guan, C Xu</i>	
ECOLOGICAL TOXICOLOGICAL EFFECT OF ANTIBIOTICS IN SOIL	891
<i>Feiyue Gao, Shuang Cui, Ping Li, Xiaohua Wang, Mingrui Li, Jianhui Song, Jingru Li, Yang Song</i>	
RESEARCH PROGRESS ON MODELLING OF ACTIVATED SLUDGE PROCESS IN CHINA	895
<i>Mingrui Li, Shuang Cui, Ping Li, Changbo Li, Jianhui Song</i>	
THE INFLUENCE OF INTERNAL HEAT EXCHANGER ON ENERGY EFFICIENCY AND ENVIRONMENTAL EFFECTS OF THE HEAT PUMP USING LOW-GWP REFRIGERANTS AS SUBSTITUTES	900
<i>Zhao Yuqing, Dai Yun, Gaoyan, Xie Lanyi, Hou Xiangyang, Gao Jianling</i>	

ENERGY, RECYCLING AND REUSE

INFLUENCE OF REACTION REACTION MEDIUM ON PHOTOCATALYTIC CO₂ REDUCTION	907
<i>J L Lin, X Liang, R Y Liao</i>	
OPTIMIZED CIRCULATION OF SCR APPLIED TO COAL-FIRED POWER PLANT	912
<i>Deng yongqiang, Wang qian, Wu fayuan, Liu ping</i>	
REGULATING CHINA'S SHALE GAS DEVELOPMENT: CHALLENGES, PRINCIPLES AND APPROACHES	919
<i>Jun Ou</i>	
ANALYSIS OF KEY FACTORS AFFECTING INVESTORS UNDER THE GLOBAL ENERGY INTERNET	925
<i>Wang Bo, Zai Wenjiao</i>	
ANALYSIS OF INFLUENCE FACTORS OF OIL AND GAS RESERVOIR DESCRIPTION ACCURACY	931
<i>Zhang Yu</i>	
SMALL SIGNAL STABILITY ANALYSIS OF MICRO-SOURCE INVERTER SYSTEM IN GRID-CONNECTED SERIES MICRO-GRID	937
<i>Xinggui Wang, Jianhua Zhang, Jinjing Zhang, Weiman Yang</i>	
RENEWABLE ENERGY TECHNOLOGIES APPLIED IN ARCHITECTURE AND ITS INNOVATIVE RESEARCH	948
<i>Shule Wei</i>	
DISTRIBUTED MODEL PREDICTIVE CONTROL FOR TWO-AREA INTERCONNECTED POWER SYSTEM	955
<i>Aimin An, Jian Lin, Chi Cheng, Wenpei Zhu</i>	
ENERGY TECHNOLOGY REVOLUTION AND CHINA'S AIR POLLUTION GOVERNANCE	964
<i>Jun Ou</i>	
THERMODYNAMIC EQUILIBRIUM ANALYSES OF TRANSFORMATION AND PARTITION OF PB DURING SLUDGE INCINERATION	970
<i>Haimeng Hou</i>	
VARIATION OF INTERFACIAL TENSION OF THE STEAM-FOAM DRIVE IN HEAVY OIL RESERVOIRS	974
<i>X H Huang, Y Q Long, Y Z Wang, F Q Song</i>	
TECHNIQUE POLICY FOR CONCURRENT DEVELOPMENT OF GAS CAP AND OIL RIM OF GAS CAP RESERVOIR	980
<i>Fan Zifei, Song Heng, Zhang Angang, Wu Xuelin</i>	

ANALYSIS ON TREATMENT MEASURES OF TANK EXHAUSTING WASTE GAS IN OIL-REFINING ENTERPRISES	987
<i>Min Wang</i>	
RESEARCH ON MARINE LOW SULPHUR FUEL OIL SUPPLY BUSINESS DEVELOPMENT OF MARINEIN ZHEJIANG FREE TRADE ZONE	992
<i>Yanhong Zhao, Wendong Song, Lijiao Zhou, Yang Xu, Yuejun Zhang</i>	
STUDY ON THE EOR EXPERIMENT AND FIELD TEST OF AIR FOAM FLOODING IN WULIWAN OILFIELD	996
<i>Zhou Jin, Yan Wende, Yu Guangming, Luo Taotao, Duan Wenbiao, Fan Wei</i>	
DESIGN OF A SMALL PLASMA MULTI-PHASE FLOW SIMULATED ABLATION SYSTEM BASED ON AUTOMATIC CONTROL	1004
<i>B L Zha, Q D Su, F Xie, Y A Shi, J J Wang</i>	
NUMERICAL SIMULATION OF OBLIQUE HEATING OF IONOSPHERE IN EAST CHINA	1013
<i>Zhe Guo, Hanxian Fang, Shiqi Wang</i>	
THERMAL EFFICIENCY CALCULATING MODEL OF PULVERIZED COAL AND BLAST FURNACE GAS CO-FIRED BOILERS BASED ON SEPARATE COMBUSTION CALCULATION	1019
<i>Ya-Lan Ye, Hong-Ming Wang, Xiang An, Wen-Hao Jiang</i>	
STUDY ON PREDICTION TECHNOLOGY OF RESIDUAL OIL IN PRESTACK SEISMIC INVERSION	1026
<i>Chu Songjie</i>	
DESIGN OF THE CONTROL SYSTEM FOR THE BIOMASS BRIQUETTE FUEL PRODUCTION LINE	1031
<i>Song-Li Sun, Le-Ying Zhang, Jing Zhu, Dian-Xiang Zhu</i>	
RESEARCH AND DEVELOPMENT OF PRODUCTION LINE FOR ANNUAL OUTPUT OF 300 THOUSAND TONS WOODY COAL AND ITS KEY MANUFACTURING TECHNOLOGY	1036
<i>Le-Ying Zhang, Yan Liu, Yue Zhang, Dian-Xiang Zhu</i>	
A STUDY ON THE PREPARATION METHOD OF THERMOELECTRIC POWER GENERATION MODULE	1043
<i>Taohua Liang, Shiqing Yang, Zhi Chen, Yifeng Meng</i>	
NUMERICAL CALCULATION AND ANALYSIS OF DIESEL UREA-SCR SYSTEM	1051
<i>Yunjing Jiao, Yashuang Bai, Qingping Zheng</i>	
FUEL CYCLE ENVIRONMENTAL ASSESSMENT FOR ELECTRIC VEHICLES IN CHINA	1057
<i>Shuhua Li, Qinxing Cao, Jun Li, Ying Gao</i>	
NUMERICAL SIMULATION AND OPTIMIZATION OF CLEANING BIDIRECTIONAL NOZZLE OF LARGE PETROLEUM STORAGE TANK	1064
<i>J Lyu, J J Ye, Z G Lou, J R Xu</i>	
RHEOLOGICAL PROPERTIES OF BCG-CO₂ FRACTURING FLUID FOR SHALE GAS	1070
<i>Shuzhong Wang, Xiangrong Luo, Zefeng Jing</i>	
FRICITION PERFORMANCE OF BCG-CO₂ FRACTURING FLUID FOR SHALE GAS	1074
<i>Shuzhong Wang, Xiangrong Luo, Zefeng Jing</i>	
A NEW HIGH TEMPERATURE POLYMER FRACTURING FLUID	1078
<i>Cai Bo, Xu Yun, Wang Xin, He Chunming, Gao Yuebin, Duan Guifu, Jiang Wei, Yan Xuemei, Xu Zhihe</i>	
MODEL FOR TANGENTIAL CONTACT DAMPING ENERGY DISSIPATION FACTOR OF PLANE JOINT INTERFACES	1085
<i>Jingfang Shen, Hongbo Yan, Jiajun Yang</i>	
RESEARCH ON THE DISTRIBUTED GIS FOR DISTRIBUTION NETWORK BASED ON CIM	1090
<i>Y Q He, Y H Chen, H B He, C Liu, X B Hou</i>	
ENVIRONMENTAL BENEFIT ASSESSMENT UNDER THE VISION OF GLOBAL ENERGY INTERCONNECTION	1099
<i>Jun Shu Feng, Qiu Li Zhao</i>	
RECYCLABLE MAGNETICALLY DRIVEN SUPERHYDROPHOBIC POLYURETHANE SPONGE FOR HIGHLY EFFICIENT OIL/WATER MIXTURES AND EMULSIONS SEPARATION	1106
<i>Xuemei Zhang, Guang Wang, Feng Fu, Xiaoming Gao, Fengxing Niu, Qingbo Wei, Xiufang Hou</i>	
COMPARATIVE ANALYSIS OF BOILER ENERGY EFFICIENCY REGULATION SYSTEM	1113
<i>Ren Liu, Yuejin Zhao, Xiuying Liang, Wei Liu</i>	
CALCULATING THE MAXIMUM PENETRATION CAPACITY OF DISTRIBUTED GENERATION CONSIDERING CURRENT PROTECTION	1120
<i>Jingsong Deng, Yingming Wang, Difei Sun, Chenling Zheng, Hanting Yan, Xiaojing Gao</i>	
STUDY ON THE PROPERTIES AND GOLD LEACHING KINETICS OF A NEW ORGANIC LEACHING AGENT	1127
<i>Chen Rong, Hou Yanan, Zhao Yaming, Liang Hongwei</i>	

INFLUENCE OF PHOTOVOLTAIC GENERATION HARMONIC ON FERROMAGNETIC RESONANCE OF DISTRIBUTION NETWORK	1133
<i>Xinggui Wang, Yingzhong Zhao, Xiaoying Li</i>	
EXPERIMENTS ON SEEPAGE FLOW PATTERNS IN FINE CONTROLLED FRACTURED THIN AND POOR RESERVOIR	1141
<i>Q N Yu, Y K Liu, S Liang, X Liu, D Yao, Y Yu</i>	
EXTRACTION CONDITIONS AND ANTIOXIDANT ACTIVITIES OF THE EXTRACT OF PINEAPPLE PEEL BY ULTRASONIC	1150
<i>Sheng-Hui Liu, Yu-Ge Liu, Xiu-Mei Zhang</i>	
APPLICATION OF DISTRIBUTED TRAVELING WAVE RANGING TECHNOLOGY IN FAULT DIAGNOSIS OF HVDC TRANSMISSION LINE	1156
<i>Heng Jin, Bingbing Lu, Fali Tan, Peilin Chen, Wenrong Si, Lei Yang</i>	
THERMAL POWER PLANT ENVIRONMENTAL PERFORMANCE EVALUATION BASED ON DATA ENVELOPMENT ANALYSIS	1163
<i>Yicong Huang, Zhou Lin, Meifang Yao</i>	
THREE-DIMENSIONAL FRACTURE PROPAGATION MODEL AND SIMULATION STUDY OF CBM WELLS	1169
<i>Yunxiang Zhao, Dali Guo, Dong Chen, Xiao Pu</i>	
EXPERIMENTAL STUDY ON PERFORMANCE EVALUATION OF FRACTURING FLUID SYSTEM WITH ENHANCED OIL RECOVERY	1175
<i>Bing Xu, Yikun Liu, Qiannan Yu, Chengshi Xiao</i>	
MODEL AND FEATURE ANALYSIS OF ENERGY STORAGE PARTICIPATING IN INTERACTION	1180
<i>Mingyu Dong, Dezhi Li, Rongjun Chen, Yutong Ye</i>	
APPLICATION AND ANALYSIS OF AIR SOURCE HEAT PUMPS IN COUNTRYSIDE HOME HEATING WITH SUBSTITUTING ELECTRICITY FOR COAL	1184
<i>Luming Zhou, Hailong Bao, Kaiyuan Jin, Hongyu Zhang, Zheng Chen, Bin Hou, Jianhua Yang</i>	
U(VI) REMOVAL EFFICIENCY BY NATURAL PYRITE UNDER THE OXYGEN-RICH CONDITIONS WITH/WITHOUT BICARBONATE PRESENT	1191
<i>Yanpei Xie, Qi Fang, Yingfeng Luo, Zhenghang Tan, Zhihong Wang, Liu Ding</i>	
FORECASTING OF POWER GRID INVESTMENT CAPABILITY BASED ON GREY NEURAL NETWORK COMBINATION MODEL	1197
<i>Ersheng Pan, Hui Li, Yongli Wang, Dong Peng, Zhidong Wang, Yujing Huang</i>	
EXPERIMENTAL RESEARCH ABOUT THE EFFECT OF PARTICLE SIZES ON THE MELT-THROUGH EFFECTS OF AL-MNO₂ FLAME JET THERMITE	1205
<i>Hao Wang, Xiang Fang, Tao Guo, Miao Yao, Jiaying Song, Wen Ding</i>	
STUDY ON THE RECHARGE ABILITY OF SANDSTONE GEOTHERMAL RESERVOIR IN DONGYING FORMATION OF LIAOCHENG CITY	1211
<i>Fan-Qi Meng</i>	
THE RESEARCH AND APPLICATION OF COILED TUBING TECHNOLOGY OF HORIZONTAL WELL IN DRAINAGE GAS RECOVERY	1217
<i>Zehong Du, Lingli Shi, Xiaotao Yang, Wei Zhang, Hao Zhou, Wei Zhao, Guangming Wang</i>	
EFFECTS OF HOMOGENIZATION PROCESS ON PRECIPITATION OF AL₃ZR AND RECRYSTALLIZATION RESISTANCE IN AL-CU-LI-ZR ALLOY	1223
<i>Chun Xiong, Mang Jiang, JinJun Xu</i>	
THOUGHTS ON THE CONSTRUCTION OF "VILLAGE TO VILLAGE ROADS" IN RURAL AREAS	1229
<i>ChengBo Zheng</i>	
PRELIMINARY STUDY ON STEADY-STATE COMBUSTION CONDITION DURING AMMUNITION DESTRUCTION BY HIGH-ENERGY COMBUSTION METHOD	1235
<i>Wen Ding, Tao Guo, Miao Yao, Xiaofeng Liu, Yiming Mao, Hao Wang</i>	
OPTIMAL DESIGN OF CONVERTERS AND CIRCUIT BREAKERS IN HIGH VOLTAGE SUBSTATION SYSTEM	1241
<i>Yufeng Lu, Yi Su, Feifeng Wang</i>	
ACCUMULATION STATUS AND SOURCES OF HG IN GREENHOUSE VEGETABLE PRODUCTION SYSTEMS	1245
<i>Xubin Qian, Zuhui Xu, Wenmiao Guo, Shuang Cui, Jun Wang</i>	
EXPERIMENTAL STUDY ON PHYSICAL SIMULATION OF SHALE GAS HYDRAULIC FRACTURING	1250
<i>Jun Yin, Peifei Zhang, Zhihui Liu, Rongjing Wang, Jingyu Xie, Guosheng Jiang</i>	

SPATIAL DISTRIBUTION CHARACTERS OF PETROLEUM HYDROCARBON IN JIAOZHOU BAY 1989	1258
<i>Dongfang Yang, Haixia Li, Xiaolong Zhang, Lianguo Zhao, Qi Wang</i>	
BRIEF ANALYSIS ON CLOSED-LOOP ECOSYSTEM OF TEXTILE AND CLOTHING RECYCLING	1265
<i>Shi Wang</i>	
SAFETY RISKS IN VOCS TREATMENT PROCESS OF OIL STORAGE TANK FARMS	1270
<i>Peng Wang, Wenyin Dang, Anfeng Yu</i>	
A STUDY OF USING CONSTRUCTION WASTE AND RECYCLABLE MATERIALS IN MODERN LANDSCAPE DESIGN	1276
<i>H Luo, H L Guo, Y S Gao, J J Liu</i>	
PRINCIPLE AND APPLICATION OF STRATIFICATION TRANSFER PREDICTION METHOD OF MINING SUBSIDENCE IN COAL MINING AREA	1281
<i>Shijie Song, Shuangming Wang</i>	
DISCUSSION ON GREEN EXPRESS PACKAGING	1287
<i>Hong Yan, Lu Wu, Xiao Yi, Dan Dan Wang, Xin Li</i>	
METHODOLOGY AND CASE STUDY ON WATER FOOTPRINT OF GAS-FIRED POWER GENERATION COMPANY	1293
<i>Junfei He, Jiayu Huang, Zeqiong Xie, Qingwen Chen, Zhao Wang</i>	
ALTERNATION OF AROMA AND FLAVOR PROFILES IN BISCUITS BY AN ENZYMATIC APPROACH	1299
<i>Z P Han, W H Zhang, W Zhou, Y P Cao, L K Liao, S D Peng, J H Li</i>	
ADVANCE OF THE METHOD ESTIMATING THE BENEFIT OF STORM WATER USAGE IN URBAN AREA	1306
<i>Y Q Long, Y W Gai, X K Guan, X Y Hu, T T Cui</i>	
A SURVEY OF DEVELOPMENT AND APPLICATION OF ARTIFICIAL INTELLIGENCE IN SMART GRID	1312
<i>Junhui Li, Yang Zhao, Chenjun Sun, Xichun Bao, Qi Zhao, Haiming Zhou</i>	
IMPACT OF AIR HUMIDITY ON WIND POWER GENERATOR'S OUTPUT	1317
<i>Xiankui Wen, Jiasheng Wang, Qiang Fan</i>	
RESEARCH ON RENEWABLE ENERGY POLICIES AND PRICING MECHANISMS	1322
<i>Fengyun Wang, Lufei Wang</i>	
STRUCTURE AND PHOTOLUMINESCENCE PROPERTIES OF SM^{3+} ION-DOPED $LiSRBITEO_6$ PHOSPHOR	1330
<i>Bin Deng, Chong-song Zhou, Hui Liu, Jun Chen</i>	
RESEARCH ON MODELS OF OVERALL LAND-USE PLANNING BASED ON ECOLOGICAL PROTECTION THOUGHT	1337
<i>Dandan Zeng, Long Chen, Zhenhua Song</i>	
ENERGY ECOLOGICAL FOOTPRINT CHANGES AND ITS INFLUENCING FACTORS AT THE PROVINCIAL SCALE IN CHINA	1346
<i>Tao Wang</i>	
BODIPY CONJUGATED ORGANIC DYES WITH ARYLAMINE VARIETY FOR EFFICIENT DYE-SENSITIZED SOLAR CELLS	1352
<i>Junxu Liao, Yuan Jiaojiao, Hongbin Zhao, Yongjun Xu, Weinan Zhou, Yutang Fang</i>	
COLLAPSED PERFORMANCE OTHERNESS ANALYSIS FOR KINDS TRANSMISSION TOWER-LINE SYSTEMS UNDER WIND-INDUCED LOAD	1361
<i>Zhuoqun Zhang, Li Hongnan, Shao kangjie</i>	
DIGITAL MANAGEMENT OF POWER TRANSMISSION AND TRANSFORMATION WORKS BASED ON BUILDING INFORMATION MODEL	1366
<i>Lili Zhang, Zhuoqun Zhang, Jing Li</i>	
COMBUSTION SIMULATION OF 130KW LARGE CYLINDER NATURAL GAS HEATER WITH INTERMEDIATE HEAT CARRIER MEDIUM	1371
<i>Yazhou Jiang, Yun Guo</i>	
NONLINEAR PROPERTIES OF WATER-SOLUBLE Ag_2S AND PbS QUANTUM DOTS UNDER PICOSECOND LASER PULSES	1377
<i>Qing Chang, Ying Gao, Xiwen Liu, Cun Chang</i>	
LAND USE CHANGE AND CARBON EMISSIONS IN CHINA FROM 1990 TO 2015	1384
<i>Tao Wang</i>	
REVIEW ON THE DEVELOPMENT OF PHOTOVOLTAIC POWER GENERATION SYSTEM OF NEW ENERGY	1390
<i>Yuexu Bian, Li Yunfang</i>	

ARCHITECTURAL ENVIRONMENT AND EQUIPMENT ENGINEERING

SPECIFICATION FOR ENGINE BORESCOPE INSPECTION REPORT	1395
<i>Zhongda Yuan, Mingguang Liu</i>	

PART 3

EXPERIMENTAL AND NUMERICAL STUDY ON THE TEE RESISTANCE REDUCTION IN VENTILATION AND AIR CONDITIONING	1400
<i>Ran Gao, Kaikai Liu, Angui Li, Zhiyu Fang</i>	
MODELING AND SIMULATION OF DOUBLY-FED INDUCTION GENERATOR BASED ON ADPSS	1405
<i>Shengnan Li, Peng He, Xiaoyu Guo, Tingyi He</i>	
RESEARCH ON FREQUENCY ADAPTABILITY OF DOUBLY-FED INDUCTION GENERATOR UNDER ASYNCHRONOUS POWER GRID	1414
<i>Tingyi He, Shengnan Li, Shuijun Wu, Junzhen Peng, Xiaoyu Guo</i>	
CALCULATION OF ION FLOW FIELD IN HVDC TRANSMISSION LINES UNDER THE INFLUENCE OF HAZE	1422
<i>Huijuan Wang</i>	
STUDY ON THE IDENTIFICATION OF COMPOSITE SAND BODY SINGLE CHANNEL BY WELL SEISMIC COMBINATION	1430
<i>Xinkai Cui</i>	
APPLICATION OF VARIABLE SPRAY TECHNOLOGY IN AGRICULTURE	1435
<i>Hongbin Dou, Chengliang Zhang, Lei Li, Guangfa Hao, Bofeng Ding, Weike Gong, Panlin Huang</i>	
DESIGN AND SIMULATION OF SERIES RESONANT PUSH-PULL 3KV DC HIGH VOLTAGE POWER SUPPLY	1446
<i>Zhiqing Yang, Qi Fan, Zhiqin Yang</i>	
THE PERFORMANCE IMPROVEMENT OF AXIAL FLOW FAN WITH LARGE TIP CLEARANCE BY USING WINGLET	1452
<i>Lee Chan, Hyun Gwon Kil, Hyo Sang Kim, Hwan Geol Yeo</i>	
APPLICATION OF FIBER BRAGG GRATING SENSOR IN PHC PIPE PILE: AXIAL FORCE TEST	1456
<i>Suyang Feng, Chao Zhang, Yong Zhou, Qijun Jia, Riqing Xu</i>	
RESEARCH ON ADAPTABILITY OF UNBALANCED THREE-PHASE PV AFTER ASYNCHRONOUS NETWORKING	1463
<i>Shengnan Li, Tingyi He, Peng He, Xiaoyu Guo</i>	
DISPLACEMENT RESPONSE ANALYSIS OF THE SCR RIGID BODY ROTATION UNDER THE WAVE AND X DIRECTION MOTION OF THE RISER HANGING POINT EFFECTS BASED ON CABLE3D	1472
<i>Bo Zhu, WeiPing Huang, XingLong Yao, Juan Liu</i>	
DESIGN AND HEAT RELEASE RATE TEST OF FREIGHT CARRIAGE MODEL	1480
<i>H Weiping, L Yi, L Xin, J Lishuai, L Wanfu, Zhisheng Xu, Y Dongxing, T Liwei, Z Xianzhong, X Jianjun, H Guang, W Jianqiang</i>	
STUDY ON PRESSURE AND VISCOSITY OF FERROFLUID FILM IN A SPIRAL GROOVE MECHANICAL SEAL	1484
<i>Penggao Zhang, Zhongju Li, Long Wei, Xiu Feng</i>	
THE DESIGN OF THE OXYGEN GUN WITH THE POWDER INJECTION FOR CONVERTER	1490
<i>Biao Tang, Qifu Xiang, Hongbo Li, Xinfeng Ren, Bing Li, Xingyi Li, Yunlong Zhang, Hanchi Cheng</i>	
SIMULATION AND OPTIMIZATION FOR INVESTMENT CASTING OF IMPELLER BASED ON 3D PRINTING	1495
<i>Yue Zhang, Xue-Ying Li, Le-Ying Zhang, Bei-Shang Rong, Qiang-Hu Cai, Run-Feng Zhu, Yue Xu</i>	
RESEARCH ON VARIOGRAM THEORY AND ITS APPLICATION IN PROPERTY MODELING	1501
<i>DaCheng Wang</i>	
EXPERIMENTAL RESEARCH ON THE CONVEYANCE CAPACITY OF A SLUICE PROJECT	1507
<i>Minzhe Zhou, Tongchun Li, Yuan Ding, Guangyuan Liu, Jinlei Jiang</i>	
TEST STUDY ON INFLUENCE OF A SLUICE ON NAVIGATION OF SHIPS	1513
<i>Minzhe Zhou, Tongchun Li, Jinlei Jiang, Yuan Ding, Guangyuan Liu</i>	
SHORT-TERM WIND POWER PREDICTION MODEL BASED ON ENCODER-DECODER LSTM	1519
<i>Kuan Lu, Wen Xue Sun, Xin Wang, Xiang Rong Meng, Yong Zhai, Hong Hai Li, Rong Gui Zhang</i>	

EMPIRICAL STUDY ON CNG REFILLING BEHAVIORS OF DIFFERENT TIMESCALE BASED ON BOXPLOT METHOD.....	1526
<i>Yang Li, Yulian Zhao, Jian Shao</i>	
AN IMPROVED PARTICLE SWARM OPTIMIZATION ALGORITHM AND ITS APPLICATION IN ENERGY SAVING OPTIMIZATION OF CENTRAL AIR CONDITIONING.....	1533
<i>YuTing Liu, XiangDong Wang, ShuJiang Li</i>	
OPTIMIZATION OF ELECTRIC SYSTEM FOR OFFSHORE WIND FARM BASED ON LIGHTWEIGHT SUBSTATION.....	1538
<i>Yong Cui, Kaihua Zhang, Zhiwei Zhang, Saisong Yang, Hanlu Xu, Yang Liu</i>	
QUANTITY OPTIMIZATION OF SPARE PARTS FOR OFFSHORE WIND FARM BASED ON COMPONENT UPDATING.....	1547
<i>KaiYu Zhang, YuYao Feng, Yong Cui, ZeNing Wang, Fan Yang</i>	
SIMULATION AND EXPERIMENTAL RESEARCH ON THE PHASE CHANGE HEAT STORAGE TANK OF SOLAR THERMAL POWER GENERATION SYSTEM.....	1556
<i>Jinghui Song, Hui Yuan, Jianhua Deng</i>	
OPTIMIZATION AND PROMOTION OF AUTOMATIC GENERATION CONTROL STRATEGY UNDER LARGE-SCALE WIND POWER.....	1561
<i>Jun Li, WenChuan Sun, Yu Shi, Huicong Li, WeiWei Li, Na Li, Feng Hua</i>	
DESIGN OF EIB-BUS INTELLIGENT CONTROL SYSTEM BASED ON TOUCH SCREEN CONTROL.....	1568
<i>Cui-Xia Hao, Ling Zhang</i>	
EXPERIMENTAL STUDY ON BACK PRESSURE CORRECTION COEFFICIENT OF ULTRA-SUPERCritical STEAM TURBINE.....	1573
<i>Zhong-Hai Wan, Wen Cai, Jun He, Tao Yan, Hong-Yan Yang</i>	
AN IMPROVED HYBRID PLANNING MODEL FOR WIND POWER TRANSMISSION CHANNELS.....	1578
<i>Zhuan Liu, Yi-Zhe Wang, You-Fei Liu, Juan Liu</i>	
SIMULATION RESEARCH OF SCR OPTIMAL OPERATION.....	1585
<i>Yong-Jun Xia, Yan Zheng, Jie Zheng, Yun-peng Zhu</i>	
PREDICTION MODEL OF THE BUILDING VIBRATION CAUSED BY ELEVATED RAIL TRAFFIC.....	1591
<i>B Song, X H Wang, C Z Huyan</i>	
RESEARCH OF MECHANICAL CHARACTERISTICS AND ROADWAY SUPPORT IN TWO-SOFT AND ONE-HARD COAL SEAM.....	1598
<i>Hai Tao Wang, Cheng Tong, Ya Jun Wang, Tao Li, Nian Hua Qu</i>	
ANALYSIS OF SOOTBLOWING EXPERIMENTS AND RESEARCH ON SOOTBLOWING STRATEGY FOR COAL-FIRED UTILITY BOILER.....	1604
<i>Lei Zhang, Zunjiu Dong</i>	
PREDICTION FOR FLUID'S TRANSPORT COEFFICIENTS DUE TO PRESSURE RESULTS WITH MDS UNDER PERIODIC BOUNDARY CONDITIONS.....	1610
<i>Dong-Yu Xia</i>	
DESIGN AND MODELING OF A WALKING MECHANISM FOR THE SELF-ADAPTING PIPELINE ROBOT.....	1616
<i>Xiaocui Yang, Panfeng Bai, Xinmin Shen, Zhizhong Li, Qin Yin</i>	
RESEARCH ON THE ARCHITECTURE OF POWER GRID DATA ASSET MANAGEMENT SYSTEM BASED ON DATA ASSET SPACE MODEL.....	1622
<i>Wei Song, Mo Hai, Jun Wang, Hanqing Hu, Yuejing Zhang, Haifeng Li</i>	
EFFECT OF WIRING METHOD ON COUPLING OF CABLES UNDER HEMP IRRADIATION.....	1629
<i>Pei Hu, Xiao-Dong Mu, Zhao-Xiang Yi, Shao-Chong Wang</i>	
STRUCTURAL PARAMETER OPTIMIZATION OF HELICAL BAFFLES HEAT EXCHANGER BASED ON MOPSO.....	1636
<i>Yue Wang, Dongli Gan, Yanjie Zhang, Fuchuan Huang</i>	
EXPERIMENTAL STUDY ON INFLUENCE OF ELECTRONIC EXPANSION VALVE OPENING ON PERFORMANCE OF WATER SOURCE HEAT PUMP UNIT.....	1643
<i>Yuqing Zhao, Qingqing Liu, Jianling Gao</i>	
DESIGN AND APPLICATION ON THE GAS JET DOUBLE PREHEATED LADLE BAKER.....	1650
<i>Z X Zhang, L Fu, M B Zheng</i>	
ENERGY HUB DISPATCH CONSIDERING HEATING NETWORK FLEXIBILITY.....	1657
<i>Wenbo Li, Chunlong Chen, Linlin Ma, Cheng Wu, Guangfeng Zhao, Lulu Li</i>	
AN ENSEMBLE MODEL BASED ON MACHINE LEARNING METHODS FOR SHORT-TERM POWER LOAD FORECASTING.....	1663
<i>Liqiang Ren, Limin Zhang, Haipeng Wang, Lin Qi</i>	

MECHANICAL RESPONSE OF VOIDING CEMENT PAVEMENT UNDER LOAD	1672
<i>Nan Chen, Yongyan Yu, Huayang He</i>	
INFRARED IMAGE RECOGNITION AND DEVELOPMENT OF MANAGEMENT SYSTEM FOR ELECTRICAL EQUIPMENT	1677
<i>H Zhong, X B Lin, F Hu, Y F Li, Z Yuan</i>	
OPTIMIZE RESEARCH OF TURBINE SPEED GOVERNING SYSTEM MODELING METHOD BASED ON POWER GRID STABILITY ANALYSIS	1683
<i>Bo Yan, Jun He, Cong Qi</i>	
RESEARCH ON WIND POWER ACCOMMODATION OF INTEGRATED ENERGY SYSTEM CONSIDERING POWER-TO-GAS OPERATIONAL COST	1689
<i>Shuai Dong, Shijie Xu, Jun Liang</i>	
TRANSFORMATION AND VISUALIZATION OF BPMN MODELS TO PETRI NETS	1695
<i>Lei Li, Fei Dai</i>	
DESIGN OF BRUSHLESS DIRECT CURRENT MOTOR CONTROL SYSTEM BASED ON DSP	1702
<i>Danlan Tian, Zhigong Huang</i>	
ANALYSIS OF HANDLING STABILITY OF HYDRAULIC HYBRID VEHICLE BASED ON ADAMS/CAR SIMULATION	1710
<i>Chao Wang, Xiaohui He, Xinmin Shen, Jingwei Zhu, Qin Yin, Lei Xu</i>	
STUDY ON A NOVEL VARIABLE CAPACITY TECHNOLOGY AND CONTROL STRATEGY FOR REFRIGERATED SHIPPING CONTAINER UNIT	1717
<i>Kaitai Hua</i>	
APPLICATION AND RESEARCH OF FUZZY PID CONTROL IN RESISTANCE FURNACE TEMPERATURE CONTROL SYSTEM	1723
<i>Y Zhang, L Li, Z L Wang, T H Xiao, J X Huang</i>	
THE INFLUENCE OF NUMERICAL CALCULATION METHODS ON THE MOLECULAR DYNAMICS SIMULATION RESULTS	1729
<i>Dong-Yu Xia</i>	
GOBI VEGETATION RECOGNITION BASED ON LOW-ALTITUDE PHOTOGRAMMETRY IMAGES OF UAV	1735
<i>Demeng Yang</i>	
THE APPLICATION OF BIM IN SMALL AND MEDIUM-SIZED SMART SUBSTATION—A CASE STUDY OF PREFABRICATED BUILDING DESIGN	1743
<i>Qingsong Tang, Zhongyang Liu, Wei Chen, Jinmei Zhang, Xinyuan Dong</i>	
THERMODYNAMIC BEHAVIOR OF SICL4 IN HYDROGENATION SYSTEM OF SIEMENS PROCESS	1748
<i>Chunlong Wang, Wenbao Fang, Peng Du, Lin Tian, Gang Xie, Yan Lin, Yanqing Hou</i>	
RESEARCH AND OPTIMIZATION OF DYNAMIC STOCHASTIC NEURAL NETWORKS IN COMPUTER SYSTEMS	1755
<i>Rui Yang</i>	
COORDINATED AND UNIFIED CONTROL SCHEME OF IP AND OPTICAL NETWORKS FOR SMART POWER GRID	1762
<i>Zhibin Yin, Jia Gao, Shaoli Feng, Yanbin Song</i>	

SUSTAINABLE CITY AND REGIONAL DEVELOPMENT

A METHOD OF EMERGENCY FREQUENCY CONTROL BASED ON MULTI-RESOURCES COORDINATION	1767
<i>Hongming Shen, Yuhai Yao, Na Du, Tiechen Li, Wei Chen, Xianglong Zhang, Ge Zou</i>	
RESEARCH ON PHYSICAL AND MECHANICAL PROPERTIES OF XINJIANG DAXIGOU LOESS	1775
<i>Yao Zhang, Zaiqiang Hu, Shan Lin, Zhijuan Li, Hongru Li</i>	
DISEASE GENE KNOWLEDGE MAP CONSTRUCTION TECHNOLOGY	1789
<i>Yayun Shu, Jiamei Liu, Shanshan Xiong</i>	
APPLICATION OF INTERACTION DESIGN TECHNOLOGY IN ELDERLY PEOPLE'S WEARABLE HEALTH PRODUCTS	1795
<i>Ning Yun</i>	
ACCOUNTING METHOD AND APPLICATION OF THERMAL POWER GENERATION'S WATER FOOTPRINT	1801
<i>Zhao Wang, Qingwen Chen, Junfei He, Zeqiong Xie, Jiayu Huang, Zhenqian Xiao, Ming Zhao, Shaoshan Feng</i>	
ANTI-FOULING BY CONTROLLING ELECTRIC CHARGES ON THE METAL PIPE	1807
<i>Zhaoyang Liu, Jingkun Yu, Xin Yang, Xinghui Hou</i>	

RESEARCH ON EVALUATION METHOD AND APPLICATION OF WATER-SAVING SOCIETY BUILDING BASED ON CHEN SHOUYU FUZZY SET	1812
<i>Zhi Chun Xue, You Jin Jun, Changhai Qin, Yunzhong Jiang</i>	
HORIZONTAL MIGRATION PROCESS OF PB IN BOTTOM WATERS IN JIAOZHOU BAY 1989	1822
<i>Dongfang Yang, Haixia Li, Yuan Zhang, Qi Wang, Xiaolong Zhang</i>	
MODELING FOR HORIZONTAL AND VERTICAL MIGRATION OF PB IN MARINE BAY	1826
<i>Dongfang Yang, Sixi Zhu, Bailing Fan, Xiaoye Gao, Xiuqin Yang</i>	
RISK-BASED REACTIVE POWER OPTIMIZATION BASED ON TRIBE Q-LEARNING ALGORITHM	1831
<i>Li Feng, Xu Zhibin, Xiao Li</i>	
DECOMPOSITION STUDY OF FACTORS FOR ENERGY INTENSITY CHANGE IN SHAANXI PROVINCE BASED ON LMDI METHOD	1842
<i>Wen Zhang, Yu Ting Nie</i>	
RESEARCH ON M&A PERFORMANCE OF ENVIRONMENTAL PROTECTION ENTERPRISES UNDER "ONE BELT AND ONE ROAD"	1847
<i>Yahong Feng, Yunyun Wang</i>	
THE EFFECT OF LABOR TRANSFER BASED ON PANEL DATA ON FARMERS' PER CAPITA CONSUMPTION OF COMMODITY ENERGY	1854
<i>Wang Ping, Zhu Min</i>	
THE CURRENT SITUATION, PROBLEMS AND SUGGESTIONS OF THE SCIENCE AND TECHNOLOGY SERVICE INDUSTRY IN SHANDONG PROVINCE	1863
<i>Hongyu Li</i>	
STUDY ON CONSUMERS' MULTIPLE LEVELS COGNITIVE BEHAVIOR TO PURCHASE FRESH AGRICULTURAL PRODUCTS ONLINE	1870
<i>Dan Han, Mu Jing</i>	
QUANTITATIVE ANALYSIS OF THE IMPACT OF VIRTUAL WATER TRADE IN SHANDONG PROVINCE WITH OTHER REGIONS	1877
<i>Wenliang Li, Weian Wang, Shisong Qu, Fengli Li, Guowei Cheng</i>	
OUTWARD FOREIGN DIRECT INVESTMENT AND TOTAL FACTOR PRODUCTIVITY: EVIDENCE FROM CHINA'S ENTERPRISE DATA	1883
<i>Xiaoxue Du, Nisha Jia, Hongzhen Lei, Juanli Lan</i>	
DATA ANALYSIS-BASED APPROACH TO THE GREEN RETROFIT OF EXISTING PUBLIC BUILDINGS IN NORTHERN CHINA: A CASE STUDY OF SCHOOL BUILDINGS	1890
<i>Wei Ling, Song Liu, Xiaojiao Zhu, Yahui Sun, Dake Wei</i>	
INDUSTRIAL STRUCTURE AND COD EMISSION OF LIVESTOCK AND POULTRY BREEDING IN LIAONING PROVINCE, NE CHINA: EMPIRICAL RESEARCH ON THE PANEL THRESHOLD MODEL	1896
<i>Yujie Yang, Weixin Luan</i>	
FLAVOR AND STABILITY IMPROVEMENT OF PURPLE SWEET POTATO - PEANUT COMPOUND BEVERAGE	1903
<i>Guangyang Jiang, Xuedan Zeng, Zhangying Wang, Anjun Chen, Shanshan Li, Xingyan Liu, Meiliang Li, Guanghui Shen, Hejun Wu, Zhiqing Zhang</i>	
AN EMPIRICAL STUDY OF DYNAMIC ON CHINESE ENTERPRISES INVESTING HYDROPOWER PROJECT IN SOUTHEAST ASIAN COUNTRIES1	1909
<i>Song Xue, Ningzi Xu, Tao Yang</i>	
NOCTURNAL SAP FLOW OF HEDYSARUM SCOPARIUM AND ITS RESPONSE TO METEOROLOGICAL FACTORS IN SEMIARID NORTHWEST CHINA	1916
<i>Jifeng Deng, Hangyong Zhu</i>	
RESEARCH ON BENEFIT AND OPTIMUM DEVELOPMENT OF RESIDENTS' HEATING PROJECTS BASED ON DIFFERENT WAYS	1923
<i>Shudong Zhang, Jingyan Xuan, Han Song, Zhang Yan, Chengri Jin, Dongzhu Yan</i>	
EMPIRICAL ANALYSIS ON DOMESTIC TOURISM CONSUMPTION STRUCTURE IN SHANDONG	1933
<i>Tong Yu</i>	
ANALYSIS OF THE INFLUENCE OF THE NEW POLICY OF POSTAL TAX ON OVERSEAS SHOPPING	1938
<i>Xiu-Ling Wu</i>	
THE EVALUATION AND IMPROVEMENT OF PERFORMANCE FOR PRECISE POVERTY ALLEVIATION IN HAINAN PROVINCE	1945
<i>Aolin Xu, Jiarong Wang, Yiwei Cui</i>	

PRESENT SITUATION AND PROMOTION STRATEGIES OF AGRICULTURAL SCIENTIFIC AND TECHNOLOGICAL ACHIEVEMENTS TRANSFORMATION AND APPLICATION IN CHONGQING	1951
<i>Yuan Wu, Shuangfu Tang, Xiangui Yin, Yi Ou, Bo Li</i>	
DECOMPOSITION ANALYSIS OF TRANSPORTATION ENERGY CONSUMPTION IN CHINA'S THREE MAJOR REGIONS	1957
<i>X C Fang, X Wu, W Peng</i>	
STUDY ON THE STORM-SEDIMENT YIELD MODEL OF THE BAIZHANG CREEK SMALL WATERSHED	1964
<i>Jinjuan Zhang, Gang Li, Xin Shi, Yousong Zhang</i>	
STUDY ON THE INDUSTRIAL ANALYSIS AND CALORIFIC VALUE OF COAL BLENDING	1971
<i>Yan Min Zhang, Guo Zhe Guo, La La Zhang, Hu Jun Wang</i>	
DISCUSSION ON THE HEALTH PROBLEMS OF INDOOR LIVING	1975
<i>Zhi Neng Tong</i>	
ACCUMULATION CHARACTERISTICS AND SOURCES OF AVAILABLE PB IN SOILS UNDER GREENHOUSE CULTIVATION CONDITION IN NORTHEAST CHINA	1980
<i>Naxia Wang, Danxin Liang, Shuang Cui, Wenmiao Guo, Wei Li, Jun Wang</i>	
MONITORING AND ANALYSIS OF THE CURRENT SITUATION OF THE DRAINAGE NETWORK IN A CITY OF NORTHERN CHINA	1985
<i>XC Liu, H F Zhang, XM Song, Y Gao, C Lang, C Y Wang, Y Guo, J Z Dong, K Gao, YS Yang</i>	
THE ANALYSIS OF MONITORING ACHIEVEMENT ON KEY SEWERAGE USERS FROM 2012 TO 2016 IN BEIJING: A PRELIMINARY STUDY	1991
<i>Y Zhu, H F Zhang, C Lang, C Y Wang, Y Guo, J Z Dong, K Gao, X M Song, Y S Yang</i>	
EVALUATION OF THE ECOLOGICAL CIVILIZATION CONSTRUCTION OF SHENYANG, LIAONING PROVINCE P.R. CHINA	1998
<i>Chengzhong Ma, Jifeng Deng, Gang Wang, Xiangfei Kong, Qi Liang</i>	
HOW TO IMPROVE CORPORATE SOCIAL RESPONSIBILITY IN THE ERA OF ARTIFICIAL INTELLIGENCE?	2006
<i>Wei-Wei Zhao</i>	
RESEARCH ON PHYSICAL EDUCATION TEACHING QUALITY IMPROVEMENT BASED ON CLUSTERING ANALYSIS	2012
<i>Wenjuan Zhang</i>	
RESEARCH ON DECISION MODEL OF PASSENGERS' TRAVEL ROUTE SELECTION IN URBAN RAIL TRANSIT	2022
<i>Dongyu Kuang, Zhili Liu</i>	
A CONDITION-BASED MAINTENANCE STRATEGY CONSIDERING OPPORTUNISTIC MAINTENANCE IN MULTIPLE FAILURE MODES	2028
<i>Si Yang, Yan Wang, Yijing Xu, Mingqiang Wang, Donglei Sun, Wenbo Li</i>	
SOIL PARTICLE SIZE COMPOSITION AND DIFFERENCES OF DIFFERENT GRASSLAND TYPES IN THE SOUTHERN SLOPE OF QILIAN MOUNTAIN	2033
<i>Min Yu, Guangchao Cao, Shengkui Cao, Jie Yuan, Congcong Qu, Zhirong Chen, Erlong Diao, Zhen Chen</i>	
THE FORECAST STUDY ON FREIGHT VOLUME OF MULTIMODAL TRANSPORT IN JINAN	2040
<i>Xiangru Meng, Jianmeng Sun, Haining Wang</i>	
PLATFORM RESEARCH ON CAR FREE CARRIER BASED ON THE "INTERNET +"	2045
<i>Yingjie Zhao, Xiuyun Duan, Jialu Gao</i>	
RESEARCH ON SPATIAL DISTRIBUTION CHARACTERISTICS AND MECHANISM OF 4A LEVEL AND ABOVE TOURISM SCENIC SPOTS IN HENAN PROVINCE	2050
<i>Jun-Yuan Zhao</i>	
DYNAMIC CHANGES OF NET PRIMARY PRODUCTIVITY AND ITS RESPONSE TO TEMPERATURE AND PRECIPITATION IN CHINA	2061
<i>Tao Wang</i>	
RESEARCH ON INDEX SYSTEM CONSTRUCTION OF AGRICULTURAL E-COMMERCE OF HUBEI PROVINCE	2068
<i>Jianfang Ding, Lv Dan, Yaguang Zhang</i>	
RESEARCH ON LOGISTICS INDUSTRY TRANSFORMATION AND UPGRADING BASED ON RESOURCE INTEGRATION AND SHARING	2077
<i>Licai Zhang</i>	
LOCATION SELECTION OF COLD CHAIN LOGISTICS PARK BASED ON "HF-A" MODEL	2083
<i>Huaqiong Liu, Lixue Fan</i>	

DRIVERS' USAGE INTENTION AND INFLUENCING FACTORS OF MOBILE TERMINAL CARLOAD APPLICATION	2090
<i>Bian Wenliang, Jianfeng Liu, Xue Liu</i>	
THE INFLUENCE OF ACCOUNTING INFORMATION QUALITY ON CAPITAL ALLOCATION EFFICIENCY OF THE HIGH-TECH ENTERPRISES IN HENAN PROVINCE	2095
<i>Xiao-Na Li</i>	
Author Index	