Contents

Papers

Mechanics

Uncertainty Quantification of Circular Preload of an Axisymmetric Interference Assembled Structure

..... XIAO Shi-fu, HE Qin-shu, JIN Fan(8)

Physics

Micro-scale Rayleigh-Taylor Instability Based on MLBFS and Fractal Theory LIU Pei-yao,

LIN Xiang-quan, ZHANG Ying, LI Cheng-bo (14)

Astronomy and Geosciences

The Analysis on Spatial Distribution Diversity Characteristics of Urbanization Traffic Land—the Case of Zhengzhou City

··· GUO Xuan, ZHANG Xue-lei, REN Yuan-yuan(22)

Medicine

Ergonomics Analysis of the Field of View of the Night Vision Vehicle Head-up Display ZHAO Xiao-feng,

LIU Chang-qing, CAI Wei, QIAO Bin, ZHOU Liang(31)

Petroleum and Natural Gas Industry

> TIAN Ji, ZHU Guo-jin, TAN Xian-hong, LI Nan, YUAN Zhong-chao, JIA Zhen(39)

LIU Li-jun, WU Gai-hong, LI Rong-tao, GAO Li(45)

Mechanical and Instrumental Industry

IGES Data Decoder for Multi-axis Fused Deposition Modeling Process FAN Wei, LIU Hao(53)

Modeling and Training of Micro-channel Damping Feature Based on ANN HUANG Liu,

NIE Wei-rong, WANG Xiao-feng, XIE Lei(59)

Electrical Technology

Performance of Cantilever Beam Double Piezoelectric Vibration Energy Harvester

...... ZHANG Zhi-juan, NI Chao, HOU Li-qun(63) Study on the Low Voltage Ride through Control Method of Variable Speed Constant Frequency Doubly Fed Wind Turbine

····· LIU Meng-ting LI Jun-yong ZHAO Li-hong(69)

Automation and Computational Technology

Design of Secure Intelligent Wireless Network Communication Interface Based on Virtual Reality Technology

WANG Ming-quan, ZHANG Jun-sheng, LU Xiao-dong(81) SAR Target Image Recognition and Classification Based on Multitask Learning and Faster Region-based Convolution Neural Net-

Volume 17 Number 35 (Sum 432)

Restoring Method of the Tomb Fracture Based on Sample Patch and BSCB Model SHI Xiao-bo, LIN Su-zhen(104)

Architectural Science

Numerical Simulation Method for Urban Wind Environment Based on Regional Nestification and Split

..... LIU Ri-ming, GONG Guang-cai, MEI Xiong, DENG Xiao-rui, LIU Jia(112)

Finite Element Analysis on Haunched Beam Structure of Framesupported Short-leg Shearwall with Different Leg-thickness Ratio ZHONG Shu-sheng, ZHAO Jia-xiang, LI De-shun(118)

Numerical Simulation of Cohesive Soil Triaxial Shear Test Based on Particle Flow Discrete Element

Traffics and Transportations

Aeronautics and Astronautics

MING Xiao-jie, CHANG Wen-bo, WANG Cheng-jun(155) Simulation on Emergency Evacuation of Terminal Departure Hall ZHANG Pei-wen, SUN Hong, ZHOU Jie-song(162)

Environmental and Safe Science

Experimental Study of Effect of Slide Resistance and Deformation of Tree's Tap Root in Shallow Landslide—Parallel Double Root

ZHAO Ji-ling, LI Guang-fan,

ZHANG Jing, YUAN Lin, LIN Shuang(175)

Analysis on the Influence Factors of Traffic Noise of Elevated Combination Road in Taivuan

...... GAO Pan, JIN Mei-jun, LU Feng-hua (181)

Mixing Effect of Jet Agitation Device CAO Xiu-qin,

DING Hao, JIANG Zhu-he, YUAN Hai-guang (187)

Research Notes

Chemics

Synthesis of 3 ,4-dihydropyrimidin-2 (1H) -ones Catalyzed by Chitosan Grafted Magnetic Ionic Liquid WANG Ying-lei, DU Chao-jun, LIU Xue-guo, ZHANG Li(191)

Astronomy and Geosciences

Evaluation on Suitability and Spatial Distribution of Rural Residential Land in Loess Hilly Region: a Case Study of Taigu County in Shanxi Province XIA Kun-kun, LIU Li-wen(202)

Medicine

Prediction of Pilot's Mental Workload Based on GMDH and Regression Analysis \cdots BAI Jie, LONG Ying, YANG Kun(204)

Mining and Metallurgical Engineering

MA Jian-jun, DUAN Wei-dong (208)

Effect of Feed and Cutting Speed in Turning Hardened Stainless Steel Under Oil-on-water Lubrication Technology

..... LIU Yong-jiang,

GAO Li, LI Zhi-hang, WANG Xiao-jing(212)

Research on the Influence of Dielectric Conductivity on the Hole Precision in EDM of Nb-TiAl Alloy

...... YANG Xiao-peng, WANG Yan-qing, CAO Ming-rang, YANG Sheng-qiang, LI Wen-hui(216)

Petroleum and Natural Gas Industry

Characteristics of the Carboniferous Volcanic Reservoirs in the Eastern Junggar Basin LU Zhi-yuan, ZHANG Xiao-li, JIANG Qing-ping, WANG Zi-tian, LIU Kai(221)

A Method of Predicting Volcanic Fault and Its Application in Dixi Area HOU Ye-wei, OUYANG Yong-lin,

ZENG Qing-cai, GUO Xiao-long, DAI Chun-meng(227)
Establishment and Application of Generalized Water Drive Chart
of Conglomerate Reservoir in the Northwestern Margin of Junggar
Basin LÜ Heng-yu, HU Yong-le,
ZOU Cun-you, TIAN Ya-jie(233)

Analysis on Influence Factors of Adsorbance of Shale Gas in Fenggang Area in Northern Guizhou

LIU Shang-ping, YIN Xin, HUANG Hai-fan, SHEN Zhong-hui, LI Wei-wei(239)

Energy and Power Engineering

MEI Jia-ming, LI Hai-ping, CHEN Deng-yu(244) Heat Transfer Characteristics of Stirling Machine Porous Media Heater Based on Attaching Effect PAN Deng-yu,

LI Qi-fen, LI Zhuo-neng, JIAO Gui-hai (250)

Electrical Technology

Research on Parameter Matching of New Energy Excavator Based on Battery Dynamic Characteristics

· ·· LI Bo, KE Jian, ZHANG Xi-chuan, YE Fu-yi(255)

Automation and Computational Technology

Facial Expression Recognition Based on Multi-scale Deformable Part Model MENG Yan-bin, ZHOU Hai-ying(261)

```
Three-dimensional Surface Reconstruction with Reference Object Based on Uncalibrated PMS

SUN Yu-juan, WANG Zeng-feng(267)

Automatic Segmentation of Internal Defects of Auto-hub
```

WANG Ming-quan, DING Jie, ZHANG Kun(271)

Convolutional Neural Network for Palmprint Recognition

····· ZHENG Shi-wei,

HAN Jun-gang, WANG Yi-fei, ZHANG Jing-dan(276) Improved Bat Algorithm with Particle Swarm Optimization Acceleration Factor and Individual Cognition

...... HU Chen-hao, YANG Rui-feng, GUO Chen-xia, ZHANG Peng, GAI Ting, LANG Guo-wei(282)

Architectural Science

An Analytical Calculation Method for Uplift Group Piles

...... ZHANG Xiao-zhong, SUN Yan-hua, ZHAO Zhi-feng(288)

Experimental on Improvement of Expansive Soils with Alkali Activated Straw Ash ZHANG De-heng, SUN Shu-lin(294) Rapid Consolidation Experiment with Standard Consolidation the Comparison and Analysis of Experimental Results

...... HAN Chun-peng, LI Jian-hua, ZHANG Jian, TIAN Jia-yi (299)

Compressive Test of the Hollow Brick of Papermaking White Clay Shale HUANG Bang-biao, LI Xiao,

HUANG Bing-zhang, QI Wei-wei, PAN Jia-yu,

WANG Jun-yun, LI Zhi, LIAO Tian-quan, ZHANG Bei(306) Experimental Study on Moisture Migration of Seasonal Frozen Soil in Changchun Area

······ LI Yang, WANG Qing, WANG Tan-hua(311)

Hydraulic Engineering

The Mechanism and Experimental Study on Reducing Water Hammer Pressure by Closing Multi-valves

...... ZHAO Yu, QIAN Li-qin, TU Yi-liu, WU Han, XIA Cheng-yu, WANG Peng(317)

Traffics and Transportations

Grey Correlation Analysis on Storage Stability and Conventional Performance of SBS Composite Modified Asphalt LI Lin-ping, GUO Xin, YU Jiang, WANG You-guo(324)

The Research of Optimization to Reasonable Period of Testing Based on Pavement Performance Reliability

...... CUI Hong-jun, YAN Han, LI Xia(329) The Development of Electric Vehicles Urban Driving Cycle ...

...... XU Xiao-jun, LI Jun, LIU Yu, ZHANG Yi(336)

Aeronautics and Astronautics

WANG Qi, LI Li-xia, QIN Qiang(340)

Tightly GPS/INS Integrated Navigation System Based on Single Frequency Pseudo-range and Its Rate

······ XIE Lan-tian, YE Shi-rong, HU Nan-nan(346)

Environmental and Safe Science

Remove of Phenol by Activated Carbon Catalyzeper-sulfate System ····· CHENG Ai-hua, SHAO Xin-lan, WANG Qian(351) Two-step Resourceful Technology of Sump Oil in Refinery

...... SUN Xu-bo, SUN Gen-xing(356)