

东北大学学报(自然科学版)

Dongbei Daxue Xuebao (Ziran Kexue Ban)

第 43 卷 第 5 期 (总第 380 期) 2022 年 5 月

目 次

信 息 与 控 制

- 基于多目标优化的虚拟机部署策略 刘军, 代福成, 辛宁(609)
基于智能合约的易扩展高效去中心化跨链交易协议 焦梓, 周福才, 王强(618)
基于属性信息和结构特性的网络节点重要度研究 孔芝, 孙琦, 寇晓宇, 王立夫(625)
犯罪与网络行为特征的映射研究 陆育卉, 赵海, 刘晓, 施瀚(632)
基于深度嵌入聚类的 ICU 患者生理数据缺失插补 李建华, 朱泽阳, 徐礼胜, 孙国哲(639)

材 料 与 冶 金

- 时效对 10Ni10Mn2CuAl 钢组织及性能的影响 董艳伍, 彭飞, 田家龙, 姜周华(646)
电渣重熔 Inconel 625 合金铝钛氧化的热力学分析 刘福斌, 张海宝, 高俊哲, 耿鑫(652)

机 械 工 程

- 考虑负载时变的线路巡检机器人动态性能分析 李小彭, 樊星, 李凯, 张凌越(660)
弹性环式支承结构动刚度分析及其对转子系统的影响 罗忠, 刘家希, 刘凯宁, 孙凯(667)
光学自由曲面铣床静动态特性研究 李奇, 于天彪, 王宛山(674)
涂层微磨具的制备及磨削表面质量实验研究 温雪龙, 王承宝, 巩亚东, 孙付强(681)
多状态多阶段任务系统的可靠度理论计算方法 孙尧, 孙志礼, 周杰, 王健(689)
基于可靠性的 GH4169 车削参数优化 黄贤振, 孙良仕, 丁鹏飞, 朱会彬(696)

资 源 与 土 木 工 程

- 东鞍山浮选尾矿预富集精矿悬浮磁化焙烧试验研究 邵安林, 苏兴国, 韩跃新, 李艳军(703)
细粒滑石对孔雀石硫化浮选的影响 刘宇彤, 印万忠, 盛秋月, 姚金(709)
进料体积分数对旋流分离柱分离性能的影响 侯端旭, 魏德洲, 崔宝玉, 赵强(718)
多段矿口间的矿岩颗粒均匀流与应力演化规律 孙浩, 苏楠, 金爱兵, 陈帅军(724)
基于模糊综合评价的深部巷道破坏定量风险评估 刘建坡, 武峰, 王人, 张俊杰(733)
鞍本地区晚太古宙高镁安山岩的成因解释 郭荣荣, 李宗辉, 黄萧(740)
铝合金污泥中可燃气体的产生机理 李钰欣, 许开立, 王犇, 耿丽艳(748)
热风在高炉热风围管中流动特性的模拟研究 史本慧, 刘炳南, 罗志国, 邹宗树(755)

JOURNAL OF NORTHEASTERN UNIVERSITY

(NATURAL SCIENCE)

Volume 43 Number 5 (Sum 380) May 2022

CONTENTS

Information & Control

Virtual Machine Placement Strategy Based on Multi-objective Optimization	LIU Jun, DAI Fu-cheng, XIN Ning(609)
Easily to Expand and Efficient Decentralized Cross Chain Exchange Protocol Based on Smart Contract	JIAO Zi, ZHOU Fu-cai, WANG Qiang(618)
Research on the Importance of Network Nodes Based on Attribute Information and Structural Characteristics	KONG Zhi, SUN Qi, KOU Xiao-yu, WANG Li-fu(625)
Research on the Mapping Between Crime and Network Behavior Characteristics	LU Yu-hui, ZHAO Hai, LIU Xiao, SHI Han(632)
Interpolation of Missing Physiological Data of ICU Patients Based on Deep Embedded Clustering	LI Jian-hua, ZHU Ze-yang, XU Li-sheng, SUN Guo-zhe(639)

Materials & Metallurgy

Effect of Aging Treatment on Microstructure and Mechanical Properties of 10Ni10Mn2CuAl Steel	DONG Yan-wu, PENG Fei, TIAN Jia-long, JIANG Zhou-hua(646)
Thermodynamic Analysis of Aluminum and Titanium Oxidation During Electroslag Remelting Process of Inconel 625 Alloy	LIU Fu-bin, ZHANG Hai-bao, GAO Jun-zhe, GENG Xin(652)

Mechanical Engineering

Dynamic Performance Analysis of Line Inspecting Robots Considering Time-Varying Loads	LI Xiao-peng, FAN Xing, LI Kai, ZHANG Ling-yue(660)
Analysis of Dynamic Stiffness of the Elastic Ring Support Structure and Its Influence on the Rotor System	LUO Zhong, LIU Jia-xi, LIU Kai-ning, SUN Kai(667)
Research on Static and Dynamic Characteristics of the Optical Free-Form Milling Machine	LI Qi, YU Tian-biao, WANG Wan-shan(674)
Preparation of Coated Micro-grinding Tools and Experimental Research on Grinding Surface Quality	WEN Xue-long, WANG Cheng-bao, GONG Ya-dong, SUN Fu-qiang(681)
Theoretical Calculation Method of Reliability for Multi-state Phased-Mission Systems	SUN Yao, SUN Zhi-li, ZHOU Jie, WANG Jian(689)
Optimization of Turning Parameters of GH4169 Based on Reliability	HUANG Xian-zhen, SUN Liang-shi, DING Peng-fei, ZHU Hui-bin(696)

Resources & Civil Engineering

Experimental Study on Pre-concentration and Suspension Magnetization Roasting of Donganshan Iron Ore Flotation Tailing	SHAO An-lin, SU Xing-guo, HAN Yue-xin, LI Yan-jun(703)
Effect of Fine Talc on Sulfurized Flotation of Malachite	LIU Yu-tong, YIN Wan-zhong, SHENG Qiu-yue, YAO Jin(709)
Effect of Feed Concentration on Separation Performance of Cyclone Separation Column	HOU Duan-xu, WEI De-zhou, CUI Bao-yu, ZHAO Qiang(718)
Uniform Flow and Stress Evolution Laws of Caved Ore and Rock Particles Between Multiple Drawpoints	SUN Hao, SU Nan, JIN Ai-bing, CHEN Shuai-jun(724)
Quantitative Risk Assessment for Deep Tunnel Failure Based on Fuzzy Comprehensive Evaluation	LIU Jian-po, WU Feng, WANG Ren, ZHANG Jun-jie(733)
Petrogenesis for Late Neoarchean Era High Magnesian Andesites in the Anshan-Benxi Area	GUO Rong-rong, LI Zong-hui, HUANG Xiao(740)
Mechanism of Combustible Gas Production in Aluminum Alloy Sludge	LI Yu-xin, XU Kai-li, WANG Ben, GENG Li-yan(748)
Simulation Study on Flow Characteristics of Hot Blast in Bustle Pipe of Blast Furnace	SHI Ben-hui, LIU Bing-nan, LUO Zhi-guo, ZOU Zong-shu(755)

Serial parameters: CN21 - 1344/T * 1955 * m * A4 * 152 * zh * P * ¥ 15. 00 * 1000 * 21 * 2022 - 05

Editor of this issue: YANG Hai-liang