

主管 中国有色金属工业协会

主办 矿冶科技集团有限公司

ISSN 2095-1744  
CN10-1004/TF

# 有色金属工程

Youse Jinshu Gongcheng

NONFERROUS METALS ENGINEERING

- 全国中文核心期刊
- 美国《艾博思科数据库》  
(EBSCOhost) 来源期刊
- 《日本科学技术振兴机构中国文献数据库》  
(JSTChina) 来源期刊
- 美国《乌利希期刊指南(网络版)》  
(Ulrichsweb) 来源期刊
- 俄罗斯《文摘杂志》(AJ) 收录

3

Vol.11

2021

ISSN 2095-1744



## 目 次

### 材料制备与加工

- 非晶合金宇航服役热环境下蠕变行为研究 ..... 秦怀德,高航,冯晨,马赟,汪洋,李岩(1)  
Ti 含量对 CNT/Al 复合材料组织与力学性能的影响 ..... 吴姚莎,张亚民,王丽荣,石澎,朱俊,刘孝青(8)  
 $Ba_{0.9}La_{0.1}Ti_{10.9}Fe_{0.1}O_3$  陶瓷的介电弛豫研究 ..... 刘军伟,刘巧丽,王辰,徐兴组,路大勇(16)  
玻璃钢/镁合金复合板的层间剪切性能研究 ..... 张玺,刘刚,解芳,刘蒙恩,胡发平(21)  
铝硅合金化法回收利用晶体硅切割废料研究 ..... 周仕博,都兴红,魏冬卉,孔剑,金星,姜胜南,邢鹏飞(27)  
7050-T7451 铝合金干切削表面完整性研究 ..... 岳修杰,张平,宋爱利,韩双凤,李宝顺(33)  
 $B_2$ -NiAl 晶体 Cr 微合金化力学效应理论研究 ..... 文韬,唐启东,陈律(42)  
2024 铝合金挤压型材拉弯回弹分析 ..... 高恩志,李作成,王杰,刘春忠(50)

### 提取冶金与化学工程

- 粗铅精炼除铜反应的热分析动力学 ..... 岳巧,李一夫,徐宝强,杨红卫(57)  
温度和钇含量对 LiF-YF<sub>3</sub>-Y<sub>2</sub>O<sub>3</sub> 电解质体系电导率的影响 ..... 于兵,康佳,黄海涛,张全军,刘玉宝,闫奇操(63)  
基于果蝇算法优化 GRNN 的生物氧化预处理温度预测 ..... 孔颜芳,南新元,石跃飞,苏比努尔·艾依来提(69)

### 矿物加工与工艺矿物学

- 硫粗精矿提质降杂试验研究 ..... 聂文林,罗斌(75)  
响应曲面法优化某低品位硫化铅锌矿浮选 ..... 杨含蓄,童雄,谢贤,杜云鹏,吴雅菡(81)  
闪锌矿表面铅活化及黄药吸附的密度泛函理论研究 ..... 唐箫琴,刘小妹,陈晔,陈建华(90)

### 地质采矿与安全工程

- 基于 KPCA-APSO-LSSVM 的充填管道磨损风险预测 ..... 骆正山,黄仁惠(96)  
非共面断续裂隙类岩石试件破断试验与分析 ..... 吴文渊,贺桂成,陈科旭,薛永明,王程程,王云(107)  
地震作用下预应力锚杆岩质边坡动力特性数值模拟研究 ..... 张炜(117)  
桂东北珊瑚钨锡矿床地质特征及流体包裹体研究 ..... 黄长帅,吴小雷,卢见昆,徐文杰,邓明国,黄理善(123)

### 环境科学与工程

- 预焙阳极煅烧烟气中可凝结颗粒物的排放研究 ..... 于洋,程俊峰,董长青,周欣,王玉山,刘英华(135)  
铅同位素特征值法在土壤源解析中的应用 ..... 张宇豪,廖敏,郭佳雯,徐娜,梁雨琦(143)

### 书评·广告

- 数学模型在矿物加工中的应用 ..... (I) ..... 机械工程专业英语教学理论与实践 ..... (IV)  
使用矿物色的美术绘画教学 ..... (III) ..... 地矿专业俄语的翻译与应用 ..... (V)

## CONTENTS

### Materials Preparing and Processing

- Research on Creep Behaviors of Metallic Glass at Space Thermal Environment ..... QIN Huaide ,GAO Hang ,FENG Chen ,MA Yun ,WANG Yang ,LI Yan(1 )  
Effect of Ti Addition on the Structure and Mechanical Properties of CNT/Al Composites ..... WU Yaosha ,ZHANG Yamin ,WANG Lirong ,SHI Peng ,ZHU Jun ,LIU Xiaoqing(8 )  
Study on Dielectric Relaxation of  $Ba_{0.9}La_{0.1}Ti_{0.9}Fe_{0.1}O_3$  Ceramic ..... LIU Junwei ,LIU Qiaoli ,WANG Chen ,XU Xingzu ,LU Dayong(16 )  
Study on Interlaminar Shear Properties of GFRP/Mg Laminate ..... ZHANG Xi ,LIU Gang ,XIE Fang ,LIU Meng'en ,HU Faping(21 )  
Study on Recovery and Utilization of Crystalline Silicon Cutting Waste by Al-Si Alloying ..... ZHOU Shibo ,DU Xinghong ,WEI Donghui ,KONG Jian ,JIN Xing ,JIANG Shengnan ,XING Pengfei(27 )  
Study on Surface Integrity of Dry Cutting of 7050-T7451 Aluminum Alloy ..... YUE Xiujie ,ZHANG Ping ,SONG Aili ,HAN Shuangfeng ,LI Baoshun(33 )  
Theoretical Study on the Mechanical Effect of  $B_2$ -NiAl Crystal Cr Microalloying ..... WEN Tao ,TANG Qidong ,CHEN LV(42 )  
Springback Analysis of 2024 Aluminum Alloy Extrusion Profile in Stretch Bending ..... GAO Enzhi ,LI Zuocheng ,WANG Jie ,LIU Chunzhong(50 )

### Extractive Metallurgy and Chemical Engineering

- Thermal Analysis Kinetics of Copper-stripping Reaction in Refining of Lead Bullion ..... YUE Qiao ,LI Yifu ,XU Baoqiang ,YANG Hongwei (57 )  
Effects of Temperature and Yttrium Content on Conductivity of  $LiF-YF_3-Y_2O_3$  Molten Salt System ..... YU Bing ,KANG Jia ,HUANG Haitao ,ZHANG Quanjun ,LIU Yubao ,YAN Qicao(63 )  
Optimization of Generalized Regression Neural Network Temperature Prediction Based on Improved Drosophila Algorithm ..... KONG Yanfang ,NAN Xinyuan ,SHI Yuefei ,Subinur • Gayrat(69 )

### Mineral Processing and Process Mineralogy

- Experimental Research on Improving Quality and Reducing Impurities of Rough Sulfide Concentrate ..... NIE Wenlin ,LUO Bin(75 )  
Response Surface Method to Optimize the Flotation of a Low-grade Lead-zinc Sulfide Ore ..... YANG Hanxu ,TONG Xiong ,XIE Xian ,DU Yunpeng ,WU Yahan(81 )  
Density Functional Theory (DFT) Study of Lead Activation and Xanthate Adsorption on Sphalerite Surface ..... TANG Xiaoqin ,LIU Xiaomei ,CHEN Ye ,CHEN Jianhua(90 )

### Geology ,Mining and Safety Engineering

- Risk Prediction of Filling Pipe Wear Based on KPCA-APSO-LSSVM ..... LUO Zhengshan ,HUANG Renhui(96 )  
Fracture Test and Analysis of Rock Specimen with Non-coplanar Intermittent Fissures ..... WU Wenyuan ,HE Guicheng ,CHEN Kexu ,XUE Yongming ,WANG Chengcheng ,WANG Yun(107 )  
Numerical Simulation of Dynamic Characteristics of Prestressed Anchor Rock Slope under Seismic Action ..... ZHANG Wei(117 )  
Geology and Fluid Inclusion of Shanhu Tungsten-Tin Deposit in Northeast Guangxi ..... HUANG Changshuai ,WU Xiaolei ,LU Jiankun ,XU Wenjie ,DENG Mingguo ,HUANG Lishan(123 )

### Environment Science and Engineering

- Study on Emission of Condensable Particulate Matter in Flue Gas from Prebaked Anode Calcination ..... YU Yang ,CHENG Junfeng ,DONG Changqing ,ZHOU Xin ,WANG Yushan ,LIU Yinghua(135 )  
Application of Lead Isotope Signature in Soil Source Apportionment ..... ZHANG Yuhao ,LIAO Min ,GUO Jiawen ,XU Na ,LIANG Yuqi(143 )