



ISSN 1004-0609
CN 43-1238/TG
CODEN ZYJXFK

中国有色金属学报

The Chinese Journal of Nonferrous Metals

January 2023

Volume 33 Number 1

中国科学技术协会 主管
中国有色金属学会 主办

目 次

材料科学与工程

航天用高温铌合金研究进展..... 朱宝辉,吴向东,万 敏,赵 刚,曹艳飞,罗 文,李树荣,何季麟(1)

铸态(TiB+TiC)/Ti1100 复合材料高温拉伸性能及蠕变行为

..... 徐丽娟,孙 佑,郑云飞,肖树龙,郑 凌,韩兆祥,田 竟,陈玉勇(27)

粉末镍基高温合金缺陷破坏的认识及力学方法..... 施 玮,杨晓光,吕双祺,徐 岳,石多奇,黄渭清(40)

718Plus 合金时效初期强化相的析出规律..... 支雅倩,张孟超,唐榕卿,李 慧(55)

二元铝锂合金析出相错配度的第一性原理计算..... 梁超平,王飞龙,唐 赛,刘文胜,马运柱(68)

高强 2A12 铝合金修正 Johnson-Cook 本构模型 王晨宇,许进升,李 辉,郭宗韬,宋奇轩(78)

机器学习辅助预测铜铝复合材料界面结构与性能 夏 钊,赵 帆,刘新华,谢建新(88)

分子动力学方法在高熵合金研究中的应用现状与展望..... 田 楠,仝永刚,赵超杰,胡永乐,吉希希(100)

长周期有序堆积 Mg 基合金力学和腐蚀行为及机理研究进展

..... 郑亚琪,张 源,陈连生,田亚强,郑小平,李静媛,闫克霄(112)

$\text{Cu}_y\text{Bi}_2\text{Te}_{2.62}\text{S}_{0.08}\text{Se}_{0.3}$ 热电材料的微观结构与热电性能 马正青,杨明杰(127)

C,Fe,Si 掺杂 Al_3V 合金的电子结构与力学性能 唐树伟,吴孟修,罗东明,王鑫林,白树林(138)

冶金工程 • 矿业工程 • 化学化工

非平衡态萃取分离相邻重稀土 Er 和 Tm 隋 娜,苗书凯,崔凯辉,黄 焜(149)

钠钙硅渣常压脱碱同步制备硅酸钙粉体 李 彤,潘晓林,施凌壬,卫见银,吴鸿飞,于海燕(160)

微细浸染型金矿石二氧化氯预氧化-浸出动力学 董再蒸,朱一民,高 鹏,韩跃新(172)

铝合金在 HEDP 电解液中的阳极氧化行为及膜层结构
..... 何 坚,王帅星,王春霞,田继红,康 佳,杜 楠(180)

Mn-N 共掺杂 TiO₂/ZSM-5 复合材料及光催化降解含氰废水
..... 张 洋,张亚莉,黄耀国,贾 云,陈琳琳(191)

有色金属矿产地球物理勘探专题

“有色金属矿产地球物理勘探专题”内容简介

(专题主持:柳建新 教授)..... (I)

激发极化法在有色金属矿产勘查中的研究进展 刘海飞,柳建新,刘 嵘,佟铁钢,刘春明(203)

电阻率法在有色金属矿产勘探中的研究进展 崔益安,柳建新,郭友军,肖建平,刘春明(223)

重力与磁法在有色金属矿产勘探中的研究进展 任政勇,柳建新,岳国璇,张远磊(240)

电磁法在有色金属矿产勘查中的研究进展 柳建新,刘 嵘,郭荣文,童孝忠,谢 维(261)

海洋有色金属矿产地球物理勘探进展 郭振威,李方达,柳建新,杨 斌,王妍艺(285)

责任编辑:李艳红,何学锋,龙怀中

[期刊基本参数] CN 43-1238/TG*1991*m*A4*306*zh*P*¥80.0*720*21*2023-01

The Chinese Journal of Nonferrous Metals

(ZHONGGUO YOUSE JINSHU XUEBAO)

Volume 33 Number 1

(Sum 286)

January 2023

CONTENTS

Materials Science and Engineering

Research progresses of high temperature niobium alloy for aerospace applications

..... ZHU Bao-hui, WU Xiang-dong, WAN Min, ZHAO Gang, CAO Yan-fei,
LUO Wen, LI Shu-rong, HE Ji-lin(1)

High temperature tensile properties and creep behavior of as-cast (TiB+TiC)/Ti1100 composite

..... XU Li-juan, SUN You, ZHENG Yun-fei, XIAO Shu-long, JIA Ling,
HAN Zhao-xiang, TIAN Jing, CHEN Yu-yong(27)

Understanding and mechanical method of failure induced by defects in powder metallurgy nickel-based

superalloys SHI Yi, YANG Xiao-guang, LÜ Shuang-qi, XU Yue, SHI Duo-qi, HUANG Wei-qing(40)

Precipitation of strengthening phase in 718Plus alloy during early aging

..... ZHI Ya-qian, ZHANG Meng-chao, TANG Rong-qing, LI Hui(55)

First principles calculation of lattice misfit of binary Al-Li precipitates

..... LIANG Chao-ping, WANG Fei-long, TANG Sai, LIU Wen-sheng, MA Yun-zhu(68)

Modified Johnson-Cook constitutive model of high strength 2A12 aluminum alloy

..... WANG Chen-yu, XU Jin-sheng, LI Hui, GUO Zong-tao, SONG Qi-xuan(78)

Prediction of interface structure and properties of Cu-Al composites assisted by machine learning

..... XIA Zhao, ZHAO Fan, LIU Xin-hua, XIE Jian-xin(88)

Application and prospects of molecular dynamics methods in high entropy alloys

..... TIAN Nan, TONG Yong-gang, ZHAO Chao-jie, HU Yong-le, JI Xi-xi(100)

Research progress on mechanical and corrosion behavior and mechanism of long-period ordered stacking

Mg-based alloys ZHENG Ya-qi, ZHANG Yuan, CHEN Lian-sheng, TIAN Ya-qiang,
ZHENG Xiao-ping, LI Jing-yuan, YAN Ke-xiao(112)

Microstructures and thermoelectric properties of $\text{Cu}_y\text{Bi}_2\text{Te}_{2.62}\text{S}_{0.08}\text{Se}_{0.3}$ thermoelectric materials

..... MA Zheng-qing, YANG Ming-jie(127)

Electronic structure and mechanical properties of C, Fe, Si doped Al_3V alloy

..... TANG Shu-wei, WU Meng-xiu, LUO Dong-ming, WANG Xin-lin, BAI Shu-lin(138)

Metallurgical Engineering, Mine Engineering, Chemistry and Chemical Engineering

Separation of adjacent heavy rare earths Er and Tm by non-equilibrium extraction

..... SUI Na, MIAO Shu-kai, CUI Kai-hui, HUANG Kun(149)

Dealkalization of sodium calcium silicate residue under atmospheric pressure for preparing calcium silicate

powder LI Tong, PAN Xiao-lin, SHI Ling-ren, WEI Jian-yin, WU Hong-fei, YU Hai-yan(160)

Kinetics of preoxidation leaching of micro-disseminated gold ores with chlorine dioxide	.....	DONG Zai-zheng, ZHU Yi-min, GAO Peng, HAN Yue-xin(172)
Anodizing behavior and film microstructure of aluminum alloy in HEDP electrolyte	.....	HE Jian, WANG Shuai-xing, WANG Chun-xia, TIAN Ji-hong, KANG Jia, DU Nan(180)
Mn-N co-doped TiO ₂ /ZSM-5 composite and its photocatalytic degradation of cyanide-containing wastewater	.....	ZHANG Yang, ZHANG Ya-li, HUANG Yao-guo, JIA Yun, CHEN Lin-lin(191)

Special Topics on Geophysical Exploration in Nonferrous Metal Minerals

Introduction of “Special Topics on Geophysical Exploration in Nonferrous Metal Minerals”

(Guest Editor: Prof. LIU Jian-xin) (I)

Research progress of induced polarization method in nonferrous metal mineral exploration	.....	LIU Hai-fei, LIU Jian-xin, LIU Rong, TONG Tie-gang, LIU Chun-ming(203)
Research progress of resistivity method in nonferrous metal mineral exploration	.....	CUI Yi-an, LIU Jian-xin, GUO You-jun, XIAO Jian-ping, LIU Chun-ming(223)
Research progress of gravity and magnetic method in nonferrous metals mineral exploration	.....	REN Zheng-yong, LIU Jian-xin, YUE Guo-xuan, ZHANG Yuan-lei(240)
Research progress of electromagnetic method in nonferrous metal mineral exploration	.....	LIU Jian-xin, LIU Rong, GUO Rong-wen, TONG Xiao-zhong, XIE Wei(261)
Research progress of geophysical exploration in marine minerals deposits	.....	GUO Zhen-wei, LI Fang-da, LIU Jian-xin, YANG Bin, WANG Yan-yi(285)

(Managing Editors: LI Yan-hong, HE Xue-feng, LONG Huai-zhong)