

# 中国有色金属学报

The Chinese Journal of Nonferrous Metals

February 2023

Volume 33 Number 2

中国科学技术协会 主管中国有色金属学会 主办

(总第 287 期)

# 目 次

# 材料科学与工程

微观组织对TA2和TC4氢损伤行为的影响	·· 刘晓镇,韩恩厚,宋影伟(307)
热输入对Ti180 钛合金电子束焊接接头组织和力学性能的影响	
	苹,李泽国,聂璞林,黄 坚(318)
Mo含量对粉末冶金Ti-Mo合金组织与力学性能的影响 ······· 王楚儿	孔,蔡 奇,刘金旭,严细锋(328)
TC18 钛合金模锻件低倍组织分层机理及预测	
陈 雷,张禹森,张启飞,胡峻华	华,薛明达,郭晓敏,金 淼(343)
增材制造Ti6Al4V合金损伤容限性能研究进展	
	云,徐伟伟,冉先喆,刘 栋(353)
激光熔化沉积原位制备三维网状 Ti6Al4V 基复合材料的组织与力学性能	
	慧,方旻翰,韩远飞,吕维洁(372)
激光选区熔化Cu-15Ni-8Sn合金的显微组织、拉伸和摩擦磨损性能	
李继康,张净旨	肌,张振武,李 伟,魏青松(386)
TC4合金表面激光熔覆 TiAI涂层的高温循环氧化行为	
	蹇,田雨鑫,冯进宇,肖 易(400)
柔性压电纤维复合材料传感器的制备及应用 肖志达,袁 昭	析,闫明洋,周科朝,张 斗(413)
超重力下CuAg合金熔体在石墨多孔介质中的非线性渗流	
	工,韦 华,张 泽,陈云敏(425)
一种结合晶体塑性及扩展有限元的短裂纹扩展模拟方法 徐宇飞,胡殿印	印,毛建兴,潘锦超,王荣桥(435)
高温合金籽晶材料对单晶外延生长的影响 马德新,赵运头	兴,徐维台,李重行,玄伟东(445)
$La_2Zr_2O_7$ 热障涂层中 $Y_2O_3$ : $Eu^{3+}$ 应力检测单元的高温稳定性及响应机制	
	建,翟海民,何东青,李文生(455)
嵌入式包覆型硅碳负极的制备及电化学性能 黄文龙,郑泽坤,张 雪	莹,孟必成,李林波,方 钊(468)
基于数值孪生模型的锂空气电池放电特性 张添昱,李 强,李 洋	吉,张唐虎,喻明富,孙 红(478)
AlCoCrCuFeNi <sub>x</sub> 高熵合金涂层组织与性能············· 冯 力,杨伟杰,马 岂	肌,袁昱东,安国升,李文生(490)

冶金硅造渣精炼制备太阳级硅研究进展
梁金山,叶宇融,吴昊天,李京伟,李军成,班伯源,陈 晨,汤文明,陈 健(504)
表面机械滚压处理T2紫铜的载流摩擦学行为 庄 辉,季德惠,沈明学,刘少鹏,肖叶龙,熊光耀(521)
模拟体液环境对 $Mg_{66}Zn_{30}Ca_4$ 非晶合金降解性能的影响 于潇洋,高 明,谭丽丽,付华萌,曹大力(531)
湿化学法W-Re合金制备与性能 黄胜猛,徐旺之,罗来马,吴玉程(540)
电解质及其交互作用对 A356 铝合金微弧氧化膜耐蚀性的影响 王占营,马 颖,梁志龙,安凌云(549)
电沉积层中Cr-O-C界面影响Cu/Ni复合体脱模的分子动力学模拟
杨 光,陈 菊,张玉周,王沁峰,田振岐,胡正晨(565)
冶金工程•矿业工程•化学化工
锆冶炼废酸中钪的萃取分离 朱光祥,宋 静,陶东平,曲景奎,孟 龙,齐 涛(577)
氧化对熔融NaCl-KCl-K <sub>2</sub> TiF <sub>6</sub> 体系离子结构的影响
锌冶炼钴渣梯级分离与钴富集行为 熊甲成,李存兄,张利波,张耀阳,吉文斌,林晓坦,张兆闫(598)
锌冶炼钴渣梯级分离与钴富集行为
复合药剂对独居石与萤石浮选分离效果的影响及作用机理 吴 旭,胡轶文,曹 钊(609)

责任编辑: 龙怀中, 何学锋, 李艳红

投稿须知-----(652)

# The Chinese Journal of Nonferrous Metals (ZHONGGUO YOUSE JINSHU XUEBAO)

Volume 33 Number 2 (Sum 287) February 2023

### **CONTENTS**

## **Materials Science and Engineering**

Effect of microstructure on hydrogen damage behavior of TA2 and TC4
LIU Xiao-zhen, HAN En-Hou, SONG Ying-wei(307)
Effect of heat input on microstructure characteristics and mechanical properties of Ti180 alloy electron beam
welded joints ······ WEI Qi, WU Jia-yun, MA Xiu-ping, LI Ze-guo, NIE Pu-lin, HUANG Jian(318)
Effects of Mo content on microstructure and mechanical properties of Ti-Mo alloys prepared by
powder metallurgy WANG Chu-fan, CAI Qi, LIU Jin-xu, YAN Xi-feng(328)
Mechanism for macrostructure delamination of TC18 titanium alloy die forging and its prediction
CHEN Lei, ZHANG Yu-sen, ZHANG Qi-fei, HU Jun-hua, XUE Ming-da,
GUO Xiao-min, JIN Miao(343)
Research progress of damage tolerance properties of additive manufactured Ti6Al4V alloy
······ YU Wen-jun, RONG Peng, LI Rui-qi, CHENG Xu, GAO Chuan-yun,
XU Wei-wei, RAN Xian-zhe, LIU Dong(353)
Microstructure and mechanical properties of in-suit synthesized Ti6Al4V matrix composites with three-
dimensional network structure fabricated by laser melting deposition
LIU Hua-qiang, WANG Zhi-han, FENG Shu-hui, FANG Min-han, HAN Yuan-fei, LÜ Wei-jie(372)
Microstructure, tensile and tribological properties of Cu-15Ni-8Sn alloy fabricated by selective laser melting
LI Ji-kang, ZHANG Jing-kai, ZHANG Zhen-wu, LI Wei, WEI Qing-song(386)
High-temperature cyclic oxidation behavior of laser cladding TiAl coating on TC4 alloy surface
ZHOU Xuan, XIAO Hua-qiang, ZHAO Xin-xin, TIAN Yu-xin, FENG Jin-yu, XIAO Yi(400)
Fabrication and applications of flexible piezoelectric fiber composites sensor
XIAO Zhi-da, YUAN Xi, YAN Ming-yang, ZHOU Ke-chao, ZHANG Dou(413)
Nonlinear seepage of CuAg alloy melt in graphite porous media under hypergravity conditions
CHEN Wei-xuan, YAN Hao, ZHAO Jian-jiang, WEI Hua, ZHANG Ze, CHEN Yun-min(425)
A short crack growth simulation method using crystal plasticity combining with extended finite element method
Influence of seeding materials on epitaxial growth of single crystal superalloys
High temperature stability and response mechanism of Y <sub>2</sub> O <sub>3</sub> :Eu <sup>3+</sup> stress detection unit in La <sub>2</sub> Zr <sub>2</sub> O <sub>7</sub> thermal
barrier coating CHENG Bo, WANG Yu, CHU Qian-qian, AN Guo-sheng, ZHANG Xin-jian,
ZAI Hai-min, HE Dong-qing, LI Wen-sheng(455)
Preparation and electrochemical performance of embedded coated silicon carbon anode
HUANG Wen-long, ZHENG Ze-kun, ZHANG Ying, MENG Bi-cheng, LI Lin-bo, FANG Zhao(468)
Discharge characteristics of lithium-air battery based on digital twin model
ZHANG Tian-yu, LI Qiang, LI Jie, ZHANG Tang-hu, YU Ming-fu, SUN Hong(478)