

## 目 次

## 铜及铜合金专题(李 周 教授主持)

- 铜及铜合金表面处理技术进展.....高铭余, 谢宏斌, 方攸同, 王宏涛, 刘嘉斌(1121)  
稳恒强磁场对 Cu-15Ni-8Sn 合金凝固组织、微观偏析及显微硬度的影响  
.....沈 喆, 任 朗, 林中泽, 朱家乐, 钟云波(1134)  
Cu-Zn-Ni-Sn 仿金合金在人工海水和人工汗液中的腐蚀行为  
.....于翔宇, 盛晓菲, 周 涛, 于 倩, 李 周, 傅 悅(1143)  
P 元素添加对 Cu-15Ni-8Sn 合金干摩擦磨损性能的影响  
.....郭诚君, 陈金水, 汪 航, 肖翔鹏, 黄 浩, 杨 斌(1156)  
上引连铸-连续挤压技术制备 Cu-Cr-Zr 合金的组织与性能  
.....张文婧, 解浩峰, 彭丽军, 黄国杰, 杨 振, 米绪军, 黄 略, 汪礼敏(1168)  
下引连铸 Cu-Ag 合金拉拔过程中组织与性能演变  
.....朱学峰, 肖 柱, 宋克兴, 盛晓菲, 戴 杰, 蒋洪镔, 周少强(1176)

## 材料科学与工程

- Mg-11Gd-4Y-2Zn-0.4Zr 合金热扭转过程组织演化规律及变形机理.....郑 策, 程 明, 张士宏(1188)  
长周期堆垛有序结构对镁合金力学性能和耐腐蚀性能的影响  
.....牟 字, 麻彦龙, 赵旭晗, 席国强, 马 凯, 王敬丰(1203)  
细晶高强度 Mg-Gd-Y-Zn-Zr 合金热变形本构方程及组织演变模型  
.....骆俊廷, 赵静启, 李 建, 王 强, 李洪波, 李英梅, 郤晨阳(1214)  
难溶结晶相对 7020 铝合金型材疲劳行为的影响  
.....单朝军, 叶凌英, 张新明, 黄青梅, 唐建国, 刘胜胆, 邓运来(1227)  
5182-O 铝合金板材自冲铆接工艺参数对接头组织和性能的影响  
.....毛晓东, 刘庆永, 李 利, 谷宁杰, 傅 垒, 赵丕植(1239)  
典型高速列车用 6N01 铝合金焊接接头的微观组织及疲劳性能  
.....周 松, 查 涛, 黄研清, 安金岚, 回 丽, 王 磊(1253)

- Al 含量对 Cu-Be-Ni 合金组织和性能的影响 ..... 王 菲, 姜雁斌, 张志豪(1261)  
电解铜箔表面处理技术及添加剂研究进展  
..... 师慧娟, 陆冰沪, 樊小伟, 李大双, 郑小伟, 刘 耀, 谭育慧, 唐云志(1270)  
操作次数对 Ag/ZnO 电触头电弧侵蚀行为的影响 ..... 徐国富, 黄润章, 元 梦, 吴 琼, 吴春萍(1285)  
Nb<sub>55-x</sub>V<sub>x</sub>Ti<sub>25</sub>Co<sub>20</sub> 合金的显微组织和氢传输性能  
..... 陈运灿, 闫二虎, 王金华, 狄翀博, 黄浩然, 徐 芬, 孙立贤(1299)  
稀土对金属电沉积过程及沉积层性能影响的研究现状 ..... 徐仰涛, 王雅宁(1310)  
新型 Bi<sub>2</sub>O<sub>3</sub>/ZnFe<sub>2</sub>O<sub>4</sub> 光阳极的制备及其光电催化降解有机物性能  
..... 王子衿, 刘芳洋, 贾 明, 蒋良兴, 赖延清, 李 劍(1320)

## 冶金工程 · 矿业工程 · 化学化工

- 水体中锑的形态及转化规律研究进展 ..... 刘晓芸, 刘晶晶, 柯 勇, 王庆伟, 颜 旭(1330)  
工艺参数对硅热法炼镁过程的影响机理 ..... 张 超, 宋建勋, 车玉思, 何季麟(1347)  
复杂高硅白合金硫酸氧化浸出工艺及提铜的动力学  
..... 吴选高, 龚 傲, 喻小强, 龙海军, 徐志峰, 田 磊(1358)  
邻丁基 S-(1-氯乙基)二硫代碳酸酯捕收剂在黄铜矿和黄铁矿浮选分离中的作用及机理  
..... 迟晓鹏, 郭芸杉, 袁水平, 钟 文, 吕旭龙(1369)  
超声波作用对尾矿底流浓密效果及流变性的影响 ..... 彭青松, 王洪江, 邢 鹏, 杨柳华, 王志凯(1377)  
基于未确知测度理论的矿山边坡稳定性评价方法  
..... 王 杰, 胡 斌, 李 京, 常 剑, 崔阿能, 崔 凯(1388)  
离子型稀土尾矿的氨氮淋洗去除 ..... 秦 磊, 胡世丽, 宋晨曦, 王观石, 卢加程, 尹升华(1395)  
Ln-MOFs 的制备及其对铀酰离子的吸附和检测  
..... 李映梅, 周夏雨, 夏雨欣, 胡 丹, 李哲漪, 张 旭, 李 乐, 戴仲然(1405)  
氯化镁焙烧分解独居石的反应机理研究  
..... 马升峰, 郭文亮, 孟志军, 夏郁美, 许延辉, 黄继民, 王 荣, 郑淇元(1413)  
  
投稿须知 ..... (1422)

责任编辑：龙怀中，何学锋，李艳红，王 超

[期刊基本参数] CN 43-1238/TG\*1991\*m\*A4\*301\*zh\*P\*¥80.0\*720\*27\*2021-05

# The Chinese Journal of Nonferrous Metals

## (ZHONGGUO YOUSE JINSHU XUEBAO)

Volume 31 Number 5

(Sum 266)

May 2021

## CONTENTS

### Special Topics on Copper and Copper Alloy(Guest Editor: Prof. LI Zhou)

- Progress in surface treatment techniques of copper and copper alloys ..... GAO Ming-yu, XIE Hong-bin, FANG You-tong, WANG Hong-tao, LIU Jia-bin(1121)  
Effect of static high magnetic field on solidification structure, microsegregation and microhardness of Cu-15Ni-8Sn alloy ..... SHEN Zhe, REN Lang, LIN Zhong-ze, ZHU Jia-le, ZHONG Yun-bo(1134)  
Corrosion behaviour of Cu-Zn-Ni-Sn imitation-gold copper alloy in artificial seawater and perspiration ..... YU Xiang-yu, SHENG Xiao-fei, ZHOU Tao, YU Qian, LI Zhou, FU Yue(1143)  
Effect of P addition on dry sliding wear properties of Cu-15Ni-8Sn alloy ..... GUO Cheng-jun, CHEN Jin-shui, WANG Hang, XIAO Xiang-peng, HUANG Hao, YANG Bin(1156)  
Microstructure and properties of Cu-Cr-Zr alloy fabricated by up-drawn casting-continuous extrusion ..... ZHANG Wen-jing, XIE Hao-feng, PENG Li-jun, HUANG Guo-jie, YANG Zhen, MI Xu-jun, HUANG Lue, WANG Li-min(1168)  
Microstructure and properties evolution of Cu-Ag alloy prepared by downward continuous casting ..... ZHU Xue-feng, XIAO Zhu, SONG Ke-xing, SHENG Xiao-fei, DAI Jie, JIANG Hong-yun, ZHOU Shao-qiang(1176)

### Materials Science and Engineering

- Microstructure evolution and deformation mechanism of Mg-11Gd-4Y-2Zn-0.4Zr alloy during hot torsion ..... ZHENG Ce, CHENG Ming, ZHANG Shi-hong(1188)  
Effect of long-period stacking ordered structure on mechanical properties and corrosion resistance of magnesium alloy ..... MOU Yu, MA Yan-long, ZHAO Xu-han, XI Guo-qiang, MA Kai, WANG Jing-feng(1203)  
Constitutive equation and microstructure evolution model of fine-grained and high-strength Mg-Gd-Y-Zn-Zr alloy during hot deformation ..... LUO Jun-ting, ZHAO Jing-qi, LI Jian, WANG Qiang, LI Hong-bo, LI Ying-mei, XI Chen-yang(1214)  
Effect of intermetallic particles on fatigue behavior of 7020 aluminum alloy profile ..... SHAN Zhao-jun, YE Ling-ying, ZHANG Xin-ming, HUANG Qing-me, TANG Jan-guo, LIU Sheng-dan, DENG Yun-lai(1227)  
Effects of technological parameters on microstructure and properties of self-piercing riveting joints of 5182-O aluminum alloy sheets ..... MAO Xiao-dong, LIU Qing-yong, LI Li, GU Ning-jie, YANG Hao, FU Lei, ZHAO Pi-zhi(1239)  
Microstructure and fatigue performance of typical 6N01 aluminum alloy welded joints for high-speed trains ..... ZHOU Song, ZHAO Tao, HUANG Yan-qing, AN Jin-lan, HU Li, WANG Lei(1253)

- Effect of Al content on microstructure and properties of Cu-Be-Ni alloy ..... WANG Fei, JIANG Yan-bin, ZHANG Zhi-hao(1261)
- Research progress of electrolytic copper foil surface treatment technology and additives ..... SHI Hui-juan, LU Bing-hu, FAN Xiao-wei, LI Da-shuang, ZHENG Xiao-wei, LIU Yao, TAN Yu-hui, TANG Yun-zhi(1270)
- Influence of operation numbers on arc erosion behavior of Ag/ZnO electrical contact materials ..... XU Guo-fu, HUANG Run-zhang, YUAN Meng, WU Qiong, WU Chun-ping(1285)
- Microstructure and hydrogen transport properties of  $Nb_{55-x}V_xTi_{25}Co_{20}$  alloys ..... CHEN Yun-can, YAN Er-hu, WANG Jin-hua, DI Chong-bo, HUANG Hao-ran, XU Fen, SUN Li-xian(1299)
- Research status of effect of rare earth on metal electrodeposition process and properties of deposited layer ..... XU Yang-tao, WANG Ya-ning(1310)
- Preparation and photoelectrochemical property of novel  $Bi_2O_3/ZnFe_2O_4$  photoanode ..... WANG Zi-jin, LIU Fang-yang, JIA Ming, JIANG Liang-xing, LAI Yan-qing, LI Jie(1320)

## **Metallurgical Engineering, Mine Engineering, Chemistry and Chemical Engineering**

- Research progress on speciation of antimony in natural water ..... LIU Xiao-yun, LIU Jing-jing, KE Yong, WANG Qing-wei, YAN Xu(1330)
- Influence mechanism of technology parameters on silicothermic reduction process ..... ZHANG Chao, SONG Jian-xun, CHE Yu-si, HE Ji-lin(1347)
- Process and kinetics of extracting copper from complex high silicon white alloy by sulfuric acid oxidation leaching ..... WU Xuan-gao, GONG Ao, CHEN Li-jie, LONG Hai-jun, XU Zhi-feng, TIAN Lei(1358)
- Effect and mechanism of *o*-butyl S-(1-chloroethyl) carbonodithioate collector in flotation separation of chalcopyrite and pyrite ..... CHI Xiao-peng, GUO Yun-shan, ZHONG Shui-ping, ZHONG Wen, LÜ Xu-long(1369)
- Influence of ultrasonic irradiation on thickening effect and rheology of tailings underflow ..... PENG Qing-song, WANG Hong-jiang, XING Peng, YANG Liu-hua, WANG Zhi-kai(1377)
- Slope stability evaluation and application of open-pit mine based on uncertainty measurement theory ..... WANG Jie, HU Bin, LI Jing, CHANG Jian, CUI A-neng, CUI Kai(1388)
- Removal of ammonia nitrogen from ion type tailings ..... QIN Lei, HU Shi-li, SONG Chen-xi, WANG Guan-shi, LU Jia-cheng, YIN Sheng-hua(1395)
- Synthesis of Ln-MOFs and its adsorption and fluorescence recognition of uranyl ions ..... LI Ying-mei, ZHOU Xia-yu, XIA Yu-xin, HU Dan, LI Zhe-yi, ZHANG Xu, LI Le, DAI Zhong-ran(1405)
- Decomposition mechanism of monazite roasted with magnesium chloride ..... MA Sheng-feng, GUO Wen-liang, MENG Zhi-jun, XIA Yu-mei, XU Yan-hui, HUANG Ji-min, WANG Rong, ZHENG Qi-yuan (1413)

**Information for contributors** ..... (1422)

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