



1981年创刊

全国中文核心期刊
中国科技论文统计源期刊 中文科技期刊数据库收录期刊
美国“CA”千种表中国化学化工类核心期刊 SCOPUS数据库收录期刊
美国《剑桥科学文摘》、英国《皇家化学学会系列文摘》收录期刊

ISSN 1000-7571
CODEN: YEFEET

冶金分析

METALLURGICAL ANALYSIS VOL.42 NO. 2



精湛的德国技艺，百年的行业经验；
布鲁克XRF，值得信赖的行业解决方案专家。

广告



X射线荧光光谱仪
第二代S8 TIGER

布鲁克（北京）科技有限公司

电话: 010-5833 3165

传真: 010-5833 3199

www.bruker.com

Info.baxs.cn@bruker.com

扫描二维码，关注布鲁克AXS官方微信



ISSN 1000-7571



主办单位：
中国钢研科技集团有限公司
中国金属学会

2
2022

目 次

电感耦合等离子体质谱法测定镍基单晶高温合金中痕量稀土元素 张馨元,胡净宇,侯艳霞,刘晓波,齐 荣,刘庆斌(1)

阳离子树脂交换分离-电感耦合等离子体质谱法测定地球化学样品中硼砷溴钨 王艳超,何汉江,刘金龙,张 霞,张成信(8)

X 射线荧光光谱镶嵌制样无标测定不锈钢 安晓娇,马 贤,刘 涛,王 筠(15)

熔融制样-X 射线荧光光谱法测定钒铁中钒硅磷锰铝铁铬镍铜 於利慧,郑小敏,张婷婷,李吉春(21)

电感耦合等离子体原子发射光谱法测定氧化钼中镧和钇 张育诚,王 津(27)

电感耦合等离子体原子发射光谱法测定多金属矿中二氧化硅 吴 俊,李 策,任小荣,曲少鹏,高 钰(33)

微波消解-电感耦合等离子体原子发射光谱法测定钴铬钨系合金粉末中钨 罗海霞,王 强(40)

线性滴定法测定六氟磷酸锂电解液中游离酸 陈田田,唐 卓,金 玲,靳素荣,蔡宏伟(47)

过氧化氢分光光度法测定湿法提钒工艺中钒 曾繁武,宋明明,王隆菲(53)

分光光度法测定石灰石及白云石中二氧化钛 邓军华,亢德华(58)

以乙基紫为指示剂滴定法测定酸洗废液中盐酸浓度 陈 杰,田 丰,赵明杰,刘晓静,栗勇田,张震斌(64)

基于惰气熔融-红外法的镍助熔剂法和锡浴法测定钛及钛合金中氢的方法对比 张 毅,刘 攀,孟秋达,张欣耀(70)

风电用行星轮轮齿开裂原因分析 陈 鹏,刘晓明,刘 明,韩少强,吴冰寒,钟振前(76)

ARL4460 火花放电原子发射光谱仪电路板故障分析与维修 王明利,刘凤刚,张小辉,文关俊,王立志(83)

广告目次(7),《物理测试》征稿启事(14),《冶金分析》征稿启事(32),《冶金分析》2022 年征订启事(46),宝钢组织 2022 年全国检测领域能力验证计划公告(52),“测试分析”微信公众平台(57),2022 年《冶金分析》征订单(I),《冶金分析》理事会(II)

Contents

- Determination of trace rare earth elements in nickel-based single crystal superalloy by inductively coupled plasma mass spectrometry
..... ZHANG Xinyuan ,HU Jingyu ,HOU Yanxia ,LIU Xiaobo ,QI Rong ,LIU Qingbin(1)
- Determination of boron ,arsenic ,bromine and tungsten in geochemical samples by cation resin exchange separation-inductively coupled plasma mass spectrometry
..... WANG Yanchao ,HE Hanjiang ,LIU Jinlong ,ZHANG Xia ,ZHANG Chengxin(8)
- Determination of stainless steel by mosaic sample preparation combined with standardless X-ray fluorescence spectrometry AN Xiaojiao ,MA Xian ,LIU Tao ,WANG Jun(15)
- Determination of vanadium ,silicon ,phosphorus ,manganese ,aluminum ,iron ,chromium ,nickel and copper in ferrovanadium by X-ray fluorescence spectrometry with fusion sample preparation
..... YU Lihui ,ZHENG Xiaomin ,ZHANG Tingting ,LI Jichun(21)
- Determination of lanthanum and yttrium in molybdenum oxide by inductively coupled plasma atomic emission spectrometry ZHANG Yucheng ,WANG Jin(27)
- Determination of silicon dioxide in polymetallic ore by inductively coupled plasma atomic emission spectrometry WU Jun ,LI Ce ,REN Xiaorong ,QU Shaopeng ,GAO Yu(33)
- Determination of tungsten in cobalt-chromium-tungsten alloy powder by inductively coupled plasma atomic emission spectrometry with microwave digestion LUO Haixia ,WANG Qiang(40)
- Determination of free acid in lithium hexafluorophosphate electrolyte by linear titration
..... CHEN Tiantian ,TANG Zhuo ,JIN Ling ,JIN Surong ,CAI Hongwei(47)

Determination of vanadium in vanadium hydrometallurgy by hydrogen peroxide spectrophotometry	ZENG Fanwu ,SONG Mingming ,WANG Longfei(53)
Determination of titanium dioxide in limestone and dolomite by spectrophotometry	DENG Junhua ,KANG Dehua(58)
Determination of hydrochloric acid concentration in waste pickling solution by titration using ethyl violet as an indicator	CHEN Jie ,TIAN Feng ,ZHAO Mingjie ,LIU Xiaojing ,LI Yongtian ,ZHANG Zhenbin(64)
Comparison of nickel flux method and tin bath method based on inert gas fusion-infrared method for the determination of hydrogen in titanium and titanium alloy	ZHANG Yi ,LIU Pan ,MENG Qiuda ,ZHANG Xinyao(70)
Fracture cause analysis of gear tooth of planetary wheel for wind power	CHEN Peng ,LIU Xiaoming ,LIU Ming ,HAN Shaoqiang ,WU Binghan ,ZHONG Zhenqian(76)
Fault analysis and repairing of circuit board for ARL4460 spark discharge atomic emission spectrometer	WANG Mingli ,LIU Fenggang ,ZHANG Xiaohui ,WEN Guanjun ,WANG Lizhi(83)

声 明

为扩大本刊所载论文在国内外的学术影响,促进科技信息的广泛交流,本刊已同意国内外刊物、中国知网(CNKI)等摘引或转载本刊所登论文。凡投寄我刊稿件,本刊将视为已许可上述出版物引用。本刊所付稿酬已包括上述出版物稿酬。