

## 目次

## □综述

刀具类型及工艺方法对纤维增强复合材料制孔加工质量影响的研究进展 .....

..... 李哲 王超 朱雁南 万青 张乐军(1)

树脂基导电纳米复合材料电磁屏蔽性能的研究进展 ..... 岳生金 蒲浩 颜春 祝颖丹 冯力(23)

镍锌铁氧体吸波材料研究进展 ..... 谭春林 李宇东 陈肯 刘墨轩(29)

## □计算材料学

纳秒激光脉冲宽度对2024铝合金损伤特性的影响 ..... 杨文锋 李天权 林德惠 李绍龙 杨帆(36)

模具材料线胀系数对复合材料固化变形的影响研究 ..... 郑伟涛 饶华 江开林 陈浩 张小波(43)

## □新材料新工艺

星载低真空逸气氰酸酯树脂的制备与性能 ..... 曹洪涛 马海龙 程涛 夏振涛 孟凡革(49)

复合纳米自润滑金刚石砂轮磨削SiC陶瓷的试验研究 ... 汤熊 张松辉 张晓红 李伟 郭兵(56)

三种金相组织钛合金切削过程切削力实验研究 ..... 刘东 周开祥 王新 陈赫(67)

表面处理方法对铝锂合金胶接强度的影响 ..... 李梓厦 刘庭欣 龚渝 向延鸿 李剑(73)

基于KUKA重载机器人的柔性搅拌摩擦焊接系统开发与试验研究 .....

..... 张新棋 董传杰 谢冬 孙丹 毕煌圣(79)

空间用高导热柔性石墨烯膜冷链性能研究 ..... 周吉 王振营 吕玮东 刘英军 张彦虎(86)

## □测试分析

太阳电池阵基板锁相红外检测中的缺陷特征分析 ..... 郑金华 盛涛 向革 徐红杰 陈超(93)

## □工程实践

星载迈克尔逊干涉仪扫描角镜装调工艺研究 ..... 李松 江希龙 张迪 李星 赵亨(98)

AEROSPACE MATERIALS & TECHNOLOGY  
YUHAN CAILIAO GONGYI

(Bimonthly)

(Starting Publication in 1971)

ISSN 1007-2330  
CN 11-1824/V

Vol.54 No.1 February 2024 (Series No.311)

CONTENTS

Research Advances of Effect of Tool Type and Technology Strategy on Machining Quality During Hole Making of Fiber Reinforced Composites ..... LI Zhe WANG Chao ZHU Yannan WAN Qing ZHANG Lejun(1)

Research Progress in Electromagnetic Shielding Performance of Resin Matrix Conductive Nanocomposites ..... YUE Shengjin PU Hao YAN Chun ZHU Yingdan FENG Li(23)

Research Progress of NiZn Ferrite Microwave Absorbing Materials..... TAN Chunlin LI Yudong CHEN Ken LIU Moxuan(29)

Influence of Nanosecond Laser Pulse Width on Damage Characteristics of 2024 Aluminum Alloy..... YANG Wenfeng LI Tianquan LIN Dehui LI Shaolong YANG Fan(36)

Research on the Influence of Thermal Expansion Coefficient of Mold Materials on the Forming of Thermally Cured Composites ..... ZHENG Weitao RAO Hua JIANG Kailin CHEN Hao ZHANG Xiaobo(43)

Preparation and Properties of Spaceborne Low Vacuum Outgassing Cyanate Ester Resin ..... CAO Hongtao MA Hailong CHENG Tao XIA Zhentao MENG Fanping(49)

Experimental Research on Grinding of SiC Ceramics by Composite Nanometer Self-lubricating Diamond Grinding Wheel ..... TANG Xiong ZHANG Songhui ZHANG Xiaohong LI Wei GUO Bing(56)

Experimental Research on Cutting Forces of Titanium Alloys of Three Kinds of Metallographic Structure in Cutting Process ..... LIU Dong ZHOU Kaixiang WANG Xin CHEN He(67)

Effect of Surface Treatment on Bonding Strength of Al-Li Alloy ... LI Zixia LIU Tingxin GONG Yu XIANG Yanhong LI Jian(73)

Development and Experimental Research of Flexible Friction Stir Welding System Based on KUKA Heavy Duty Robot ..... ZHANG Xinqi DONG Chuanjie XIE Dong SUN Dan BI Huangsheng(79)

Thermal and Mechanical Performances of Cold Chain With High Thermal Conductivity Flexible Graphite Film for Space Application ... ZHOU Ji WANG Zhenying LYU Weidong LIU Yingjun ZHANG Yanhu(86)

Analysis of Defect Characteristics in Phase-locked Infrared Detection of Solar Array Substrate ..... ZHENG Jinhua SHENG Tao XIANG Ping XU Hongjie CHEN Chao(93)

Research on Scanning Angle Mirrors Assembly Technology for Spaceborne Michelson Interferometer ..... LI Song JIANG Xilong ZHANG Di LI Xing ZHAO Heng(98)