

专稿 Feature

- 14 面向零件轮廓精度的五轴机床位置环增益智能匹配方法
吕盾 赵宇飞 刘硕 索奇 刘辉 张会杰
Intelligent Matching Methods of Five-Axis Machine Tools Position Loop Gains for Parts Contouring Accuracy
LÜ Dun ZHAO Yufei LIU Shuo SUO Qi LIU Hui ZHANG Huijie

封面文章 Cover Story

- 22 冷喷涂固态增材制造技术：演变、现状与机遇挑战
李文亚 黄春杰 徐雅欣
Solid-State Cold Spray Additive Manufacturing: Evolution, Current Status, and Opportunities & Challenges
LI Wenya HUANG Chunjie XU Yaxin

论坛 Forum

超材料 Metamaterial

- 38 基于Voronoi图的可控随机声学超材料设计及性能研究
陈文炯 李智琦
Design and Performance Study of Controllable Random Acoustic Metamaterials Based on Voronoi Diagram
CHEN Wenjiong LI Zhiqi
- 47 面向多功能工程应用的力学功能超材料的研究进展
毛振军 许海波 滕园 陈远杭 王佳骏 闵业恒 焦鹏程
Research Progress of Mechanically Functional Metamaterials Towards Multifunctional Engineering Applications
MAO Zhenjun XU Haibo TENG Yuan CHEN Yuanhang WANG Jiajun MIN Yeheng JIAO Pengcheng
- 63 超表面电磁增透技术研究进展
李铁夫 楚遵天 韩亚娟 杨杰 丁畅 贾宇翔 富新民 柳兆堂 冯存前 王甲富
Research Progress of Metasurface-Electromagnetic-Anti-Reflection Technologies
LI Tiefu CHU Zuntian HAN Yajuan YANG Jie DING Chang JIA Yuxiang
FU Xinmin LIU Zhaotang FENG Cunqian WANG Jiafu
- 82 基于固定网格法的力-热多功能超材料拓扑优化设计及多级晶格填充
陈雪乾 任宏源 张海西 周平章 杜建斌
Topology Optimization Design of Mechanical-Thermal Multifunctional Metamaterials Based on Fixed Grid Method and Multi Level Lattice Filling
CHEN Xueqian REN Hongyuan ZHANG Haixi ZHOU Pingzhang DU Jianbin

92 双稳态机械超材料的力学特性及吸能特性研究

商荣伟 刘腾飞 吴玲玲 田小永 李涤尘

Study on Mechanical Properties and Energy Absorption Characteristics of Bistable Mechanical Metamaterials

SHANG Rongwei LIU Tengfei WU Lingling TIAN Xiaoyong LI Dichen

研究论文 Research

104 湿热老化下固体火箭发动机壳体裙部环氧树脂基体跨尺度损伤机理

魏傲楠 李静 于知非 黄薇 许进升 陈雄

Cross-Scale Damage Mechanism of Epoxy Resin Matrix of Skirt on Solid Rocket Motor During Hot-Humid Aging

WEI Aonan LI Jing YU Zhifei HUANG Wei XU Jinsheng CHEN Xiong

113 五轴3D打印设备系统标定方法研究

陈泓宇 戴宁 王宏涛

Research on Calibration Method of Five-Axis 3D Printing Equipment System

CHEN Hongyu DAI Ning WANG Hongtao

121 电弧增材制造铜铁合金材料组织与性能的研究

周祥曼 谭晨宇 赵美云 赵新泽 熊晓晨 李梅 袁有录

Study on Microstructure and Properties of Cu-Fe Alloy Fabricated by Wire Arc Additive Manufacturing

ZHOU Xiangman TAN Chenyu ZHAO Meiyun ZHAO Xinze XIONG Xiaochen LI Mei YUAN Youlu

130 基于微量润滑的Al-60% Si合金铣削性能试验研究

沈炜智 牛秋林 荆露 刘俐鹏 王星华 戴福朋

Experimental Study on Milling Performance of Al-60% Si Alloy Based on Minimum Quantity Lubrication

SHEN Weizhi NIU Qiulin JING Lu LIU Lipeng WANG Xinghua DAI Fupeng