

专稿 Feature

- 14 难加工金属材料超低温冷却加工表面完整性研究进展
王永青 左月帅 韩灵生 姜少玮 李建明 刘阔 刘海波
Surface Integrity of Difficult-to-Machine Metal Materials for Cryogenic Machining: A Review
WANG Yongqing ZUO Yueshuai HAN Lingsheng JIANG Shaowei LI Jianming LIU Kuo LIU Haibo

封面文章 Cover Story

- 26 未来大型客机发展方向及关键设计技术研究
雷国东 徐悦
Development Directions and Key Design Technologies Research of Future Large Airliners
LEI Guodong XU Yue

论坛 Forum

难加工材料高效高质加工

High-Efficiency and High-Quality Processing of Difficult-to-Cut Material

- 40 陶瓷基复合材料多能场辅助高效低损伤铣削加工工艺
安庆龙 李晗 陈杰 明伟伟 陈明
Multi-Energy Field Assisted High-Efficiency and Low Damage Milling Process of Ceramic Matrix Composites
AN Qinglong LI Han CHEN Jie MING Weiwei CHEN Ming
- 52 基于等效刃型矢量法的钛合金螺旋铣孔切削力机械模型研究
周兰 安国升 李光奇 朱宗孝 冯照和
Research on Mechanistic Model of Cutting Force in Helical Milling of Titanium Alloy Based on Equivalent Cutting Edge Vector Method
ZHOU Lan AN Guosheng LI Guangqi ZHU Zongxiao FENG Zhaohe
- 59 难加工材料超高速磨削亚表面损伤研究
郭塞 江庆红 刘昊 卢守相 张璧
Subsurface Damage in High-Speed Grinding of Difficult-to-Machine Materials
GUO Sai JIANG Qinghong LIU Hao LU Shouxiang ZHANG Bi
- 72 超声纵振辅助螺旋铣削内壁形貌预测模型
徐捷 冯平法 颜健辉 张建富 许超 马原 冯峰
Prediction Model of Inner Wall Morphology in Ultrasonic Longitudinal Vibration Assisted Helical Milling
XU Jie FENG Pingfa YAN Jianhui ZHANG Jianfu XU Chao MA Yuan FENG Feng

- 80 芳纶纸蜂窝芯结构件加工技术研究与应用进展
—————周进 袁信满 陈杰 胡智钦 张也 陈保林 罗潘 侯珺森
Research Progress and Application Status on Machining Technology of Aramid Honeycomb Core
ZHOU Jin YUAN Xinman CHEN Jie HU Zhiqin ZHANG Ye CHEN Baolin LUO Pan HOU Junsen
- 100 外涵对开机匣精密高效加工工艺研究
—————张世贵 张晟玮 陈鹏飞 王灿 王宇航 王国名 孙剑飞
Research on High-Effect and Precise Machining Technology of Bypass Duct Split Casing
ZHANG Shigui ZHANG Shengwei CHEN Pengfei WANG Can WANG Yuhang WANG Guoming SUN Jianfei

专题 Special Topic

柔性装配 Flexible Assembly

- 108 基于滑模控制的球头自适应入位技术
—————张忠清 李沈霖 刘洋
Adaptive Positioning Method for Ball Head Based on Sliding Mode Control
ZHANG Zhongqing LI Shuanggao LIU Yang
- 118 弱刚性薄壁件夹具布局优化方法研究概述
—————王张浩 李东升 翟雨农
A Review of Fixture Layout Optimization Method for Weakly-Rigid Thin-Walled Workpieces
WANG Zhanghao LI Dongsheng ZHAI Yunong

视觉检测 Visual Inspection

- 136 面向航空发动机油路密封管件的高鲁棒性视觉定位算法研究
—————崔俊佳 刘泉 赖铭 王绍螺 蒋浩 李光耀
Research on Robust Visual Localization Algorithm for Aero-Engine Oil Sealing Pipe Fitting
CUI Junjia LIU Xiao LAI Ming WANG Shaoluo JIANG Hao LI Guangyao
- 143 基于机器视觉的铣刀磨损在机检测方法
—————彭锐涛 丁珑 赵林峰 陈美良 高江雄 刘嘉晨
Milling Cutter Wear Detection Method Based on Machine Vision
PENG Ruitao DING Long ZHAO Linfeng CHEN Meiliang GAO Jiangxiong LIU Jiachen