

目次

CONTENTS

《制造技术与机床》2024年第01期(总第739期) No.01.2024 Total Issue No.739

独家策划 / Exclusive Planning

- 1 | 中国机床 自强之路——之五：国检中心 | 本刊记者 / 谭弘颖
- 5 | 国内外动态 / Information at Home and Abroad

专题专访 / Special Topics & Interview

- 8 | 聚焦高质量发展 推进标准化创新——全国金属切削机床标委会八届五次
会议暨高端装备关键技术与标准研讨会在京举办 | 本刊记者 / 谭弘颖
- 12 | 协同创新 互信合作——中国机床工具工业协会数控系统分会 2023 年理
事(扩大)会议暨数控系统及工业机器人高质量发展论坛在广州召开 | 本
刊记者 / 刘艳

增材制造 / Additive Manufacturing

- 13 | 基于超声调控浸润性的连续碳纤维复材 3D 打印研究/董传贺 孙晓宇
李旺鑫 贾睿昊 赵欣
Research on 3D printing of continuous carbon fiber composite materials based on ultrasonic
control of infiltration/DONG Chuanhe, SUN Xiaoyu, LI Wangxin, JIA Ruihao, ZHAO Xin
- 19 | 激光熔化沉积 30CrNi2MoVA 温度场数值模拟研究/丁鑫钰 李伟 张煜杭
陈龙庆 王宗平 殷鸣
Numerical simulation study of temperature field for laser melting deposition of 30CrNi2MoVA/
DING Xinyu, LI Wei, ZHANG Yuhang, CHEN Longqing, WANG Zongping, YIN Ming
- 26 | 增材制造 SLM 工艺对 Ti6Al4V 表面织构成型质量的影响/崔雲崑 田斌
王子妍 冯青源 冉志勇
Effect of additive manufacturing SLM process on the shape quality of Ti6Al4V surface texture/
CUI Yunwei, TIAN Bin, WANG Ziyang, FENG Qingyuan, RAN Zhiyong
- 32 | 基于改进型预估 FOPID 的选择性激光烧结预热温度控制研究/崔昊 郭艳玲
肖亚宁 蒋成雷 李健 王扬威
Research on preheating temperature control for selective laser sintering based on modified
predictive fractional-order PID/CUI Hao, GUO Yanling, XIAO Yaning, JIANG Chenglei,
LI Jian, WANG Yangwei

特种加工 / Non-traditional Machining

- 41 | 电源类型对短电弧-电化学复合加工放电凹坑影响研究/胡国玉 王家豪
周建平 张晟晟 付斐
Study on the influence of power supply types on discharge craters in short electric arc-electro-
chemical hybrid machining/HU Guoyu, WANG Jiahao, ZHOU Jianping, ZHANG Shengsheng,
FU Fei
- 48 | 超声滚压载荷对 25CrMo4 车轴钢表面强化特征的影响规律/王朝阳 黄俏梅
秦荣斌 丁志敏
Influence of the intensity of ultrasonic rolling on surface strengthening features of 25CrMo4
axle steel/WANG Chaoyang, HUANG Qiaomei, QIN Rongbin, DING Zhimin

- 53** | 超声滚挤压执行器的机床精密调高装置研究/卢邑彪 王晓强 田英健
凌远非 石青松 张旭
Research on machine tool precision heightening device of ultrasonic roller extrusion actuator/
LU Yibiao, WANG Xiaoqiang, TIAN Yingjian, LING Yuanfei, SHI Qingsong, ZHANG Xu

切削加工 / Cutting Processing

- 59** | TC4 表面精整车削三维仿真与验证/豆卫涛 史丽晨 康凯 韩飞燕
卢竹青 王哲
TC4 surface finishing turning 3D simulation and verification/DOU Weitao, SHI Lichen,
KANG Kai, HAN Feiyan, LU Zhuqing, WANG Zhe
- 67** | 外圆磨削非线性动力学模型与实验验证/封超 张金峰 许芝令 王保义
Nonlinear dynamics model of cylindrical grinding and experimental verification/FENG Chao,
ZHANG Jinfeng, XU Zhiling, WANG Baoyi
- 73** | 锥面分段开孔高速刀柄的设计方法/陈建超 张子名 戎纪冉 丁明超
王加春 李开颜
Design method of high speed toolholder with positioning cone surface containing sectionally
drilled holes/CHEN Jianchao, ZHANG Ziming, RONG Jiran, DING Mingchao, WANG Jiachun,
LI Kaiyan
- 80** | 铣削 20CrMnTi 钢已加工表面粗糙度的试验研究/周浩淳 金成哲 张文瑞
刘玮
Experimental study on the roughness of milled 20CrMnTi steel machined surface/
ZHOU Haochun, JIN Chengzhe, ZHANG Wenrui, LIU Wei

智能制造 / Intelligent Manufacturing

- 85** | 双机器人不同约束下的协调运动轨迹规划方法的研究/苏赫朋 苗鸿宾
李梦虔 申光鹏 余浪
Research on coordinated motion trajectory planning method of dual robots with different
constraints/SU Hepeng, MIAO Hongbin, LI Mengqian, SHEN Guangpeng, YU Lang
- 93** | 应用于机床加工的总线数字量模块开发与试验研究/靖娟 金卫凤
Development and experimental study of bus digital module applied to machine tool
processing/JING Juan, JIN Weifeng

综述 / Special Reports

- 100** | 超声椭圆振动切削难加工材料的研究进展/孙玉涵 张艺嘉 杨延朝
蒋振峰 付秀丽
Research progress of ultrasonic elliptical vibration cutting difficult-to-machine materials/
SUN Yuhan, ZHANG Yijia, YANG Yanzhao, JIANG Zhenfeng, FU Xiuli

设计与研究 / Design and Research

- 108** | 加工时间模糊车间多目标调度与奖惩灰靶决策/韩文颖 赵明君 春兰 巴特尔
Workshop multi-object scheduling under fuzzy processing time and rewards-punishments
grey target decision/HAN Wenying, ZHAO Mingjun, CHUN Lan, BA Teer
- 115** | 基于内网穿透的 FANUC 数控系统 PMC 远程访问方法/叶亮亮 罗敏 樊峻杉
Remote access method for FANUC CNC system PMC based on intranet penetration/
YE Liangliang, LUO Min, FAN Junshan
- 124** | 精密立式磨床天然大理石床身测试分析与优化设计/虞荣华
Structural optimization design and analysis of test analysis and optimization design of
natural marble bed for precision vertical grinding machine/YU Ronghua

- 130** | 基于 Bootstrap- C_{pu} 的机床进给机构装配过程能力评估方法/惠阳 牛博雅 史建猛 梅雪松
A method for evaluating the assembly process capability of machine tool feed mechanism based on Bootstrap- C_{pu} /HUI Yang, NIU Boya, SHI Jianmeng, MEI Xuesong
- 136** | 内外圈相对倾斜对圆柱滚子轴承寿命的影响/魏延刚 段同江 姚金池 吕海霆
The influence of relative inclination of inner and outer rings on the life of cylindrical roller bearings/
WEI Yangang, DUAN Tongjiang, YAO Jinchi, LV Haiting

工艺与制造 / Technology and Manufacture

- 143** | 淬火 20CrMnMo 合金钢工件液氮冷装工艺研究/杨宏 李自力 范小斌 李申 张志强
Research on liquid nitrogen cooling process for quenching 20CrMnMo alloy steel workpieces/
YANG Hong, LI Zili, FAN Xiaobin, LI Shen, ZHANG Zhongqiang
- 151** | 平面磨削 GT35 残余应力形成机理与可控工艺方案/付天章 李媛 陈明 尹滦 李立杰 杨纪东
Mechanism of residual stress formation and controllable process in plane grinding GT35/
FU Tianzhang, LI Yuan, CHEN Ming, YIN Luan, LI Lijie, YANG Jidong
- 158** | 基于原点偏移的磨齿滚轮齿廓数控修整/秦香果 张子英 武志伟
Application of origin offset method in NC trimming of tooth profile of grinding roller/
QIN Xiangguo, ZHANG Ziying, WU Zhiwei
- 164** | 超声混粉电火花加工热力学仿真及表面形貌研究/董颖怀 张少剑 王岩 牛跃博 周文
Thermodynamic simulation and surface morphology study on ultrasonic powder mixing EDM/DONG Yinghuai, ZHANG Shaojian, WANG Yan, NIU Yuebo, ZHOU Wen

检测与质量 / Test and Quality

- 171** | 基于优化 Faster R-CNN 算法的金属板材表面缺陷检测/孔思曼 周晨阳 王家华 李林 孙践知
Surface defect detection of metal sheets based on optimized Faster R-CNN algorithm/
KONG Siman, ZHOU Chenyang, WANG Jiahua, LI Lin, SUN Jianzhi
- 179** | 基于改进 YOLOv5s 的铝材表面缺陷检测方法/谢昆 方凯 陈娟 杨召岭
Aluminum surface defect detection method based on improved YOLOv5s/XIE Kun,
FANG Kai, CHEN Juan, YANG Zhaoling
- 185** | 基于三维点云的曲轴同轴度误差测量方法研究/窦亚萍 郑述 杨治飞 任慧茹 顾旭辉 隋文涛
Research on the measurement method of crankshaft coaxiality error based on three-dimensional point cloud/DOU Yaping, ZHENG Shu, YANG Zhifei, REN Huiru, GU Xuhui, SUI Wentao
- 191** | 污染环境中织状复材蒙皮孔的视觉检测技术研究/李博 章绍昆 高鑫 喻志勇 卢仁华
Study on vision measurement technology for holes on textured composite skin in polluted environment/LI Bo, ZHANG Shaokun, GAO Xin, YU Zhiyong, LU Renhua