



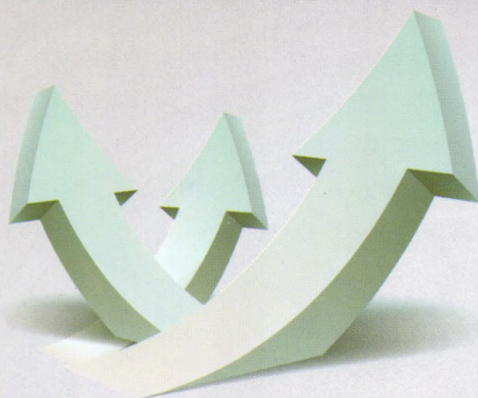
新技术新工艺

2013 9

NEW TECHNOLOGY & NEW PROCESS

月刊

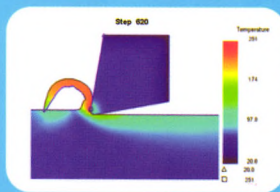
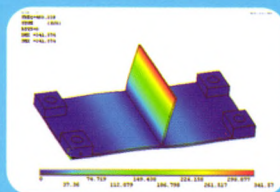
残余应力与变形控制 整体解决方案 供应商



提供型号装备快速制造、批量制造工艺解决方案及交钥匙工程

基于残余应力预测、加工过程仿真及工艺参数优化、模态分析、应力检测、频谱谐波时效等最前沿技术

- ▶ 指导——结构优化设计
- ▶ 控制——加工过程变形
- ▶ 定型——消除应力工艺
- ▶ 评估——变形控制及应力消除效果



SEMBOO 翔博科技



残余应力与变形控制联合实验室

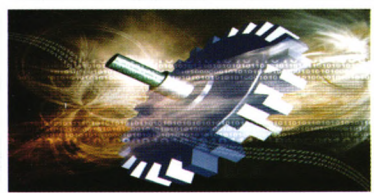
北京翔博科技有限责任公司
 电话：400-650-1016
 网址：www.semboo.com
 地址：北京市海淀区知春路108号豪景大厦A座8F

ISSN 1003-5311



9 771003 5311 36

数字技术与机械工程



- | | | |
|----|------------------------|----------|
| 1 | 基于变量编程加工的滚珠丝杠拟合切削可行性研究 | 张武 |
| 4 | 数控机床维持费用管理研究 | 袁洞明, 杨金鹏 |
| 8 | 深孔加工机器人主轴部件动态特性研究 | 王玮 |
| 11 | 一种三移副四杆机构的创新设计与应用 | 宁煜 |
| 12 | 切削液集中循环处理系统的设计及应用 | 颜力源 |

设计计算与试验研究



- | | | |
|----|-------------------------------|------------------------|
| 16 | 钢轨铣磨车磨粉收集装置的设计 | 翟中炎, 李洪升, 李海昆, 胡斌, 方健康 |
| 18 | 雷诺数对低速对称翼型气动性能的影响 | 史广泰, 李振朋 |
| 23 | Moldflow在某塑件浇口设计中的应用 | 沈立 |
| 25 | JJ225/43-K井架有限元模态分析 | 王敏, 李飞舟, 沈立 |
| 29 | 基于ANSYS的SUV型客车车架强度计算及优化设计 | 闫循波 |
| 32 | 基于Maxwell的盘式制动器辅助电磁制动装置的有限元分析 | 陈东, 范帅 |
| 36 | 组合式圆锥面自定心装配心轴 | 张恩南 |
| 38 | 基于测试验证的散料运输车底架承载梁的结构分析 | 张毅杰, 孔令琼, 邹欢, 施杰, 管毓斌 |
| 43 | 无铅和有铅混装技术研究 | 李宇君 |
| 45 | 多管旋流板式分离器的结构开发及性能试验研究 | 马艳杰 |
| 48 | 带式输送机卸料轨迹运算 | 吉永梅 |
| 50 | 推进剂界面脱黏的有限元分析 | 刘福海 |
| 53 | 柱塞泵机体模态频率影响研究 | 胡成功 |
| 56 | 焊接机器人虚拟样机的设计及运动仿真 | 赵彦博, 刘剑雄, 周红权 |
| 59 | 液压挖掘机反铲装置虚拟样机仿真研究 | 周红权, 刘剑雄, 赵彦博 |
| 63 | 基于温度场的层压机电加热板优化设计 | 陈惠贤, 冯国庆, 王保增, 杨成 |
| 66 | CAPP和CAM一体化设计的应用 | 黎先才, 龚环球, 陈正峰, 张继平 |

加工工艺与材料研究

- 69 TiO₂纳米管制备修饰及应用研究进展 王亚云, 邵谦
- 73 镀铝锌线卷取机卷筒的加工工艺研究 马爱兵, 陈婧
- 77 中型电动机机座的加工变形分析及工艺研究 胡加勇, 陈涛, 唐晓春, 唐建清
- 80 轨道车辆薄壁铝型材的典型加工工艺 张政民, 王忠平, 宋福田
- 84 微应力底模板的制造工艺研究 崔洪才
- 86 钛合金零件喷丸工艺及质量控制 郭初阳, 王晓平, 胡愈刚
- 89 盘管式燃气冷却器清洗工艺与技术 高晓, 陈国强, 陈勇进, 赵燕春, 谈臻
- 91 钛合金零件的机械加工工艺和质量控制 王晓平, 郭初阳, 周亮
- 94 具有缓冲层的ZnO光阳极染料敏化太阳电池研究 党威武, 李燕
- 97 聚氨酯橡胶在冲裁模中的应用
张继平, 庞利军, 毛慧英, 陈美英, 张维强, 于利红
- 100 基于SWOT分析的氯化法钛白工艺技术发展研究
赵泽权, 刘建良, 杨光灿, 李雪刚, 江书安, 汪云华, 李建军
- 103 基于Taguchi试验设计的储箱箱盖注射工艺参数研究
党玉春, 刘泓滨, 翟秀云, 陈明通

电子信息与自动控制

- 106 城市轨道交通直流PWM电源的研制 褚晓锐
- 110 新型混凝土制品养护控制系统开发及应用 田红军, 都春义
- 112 一种轮式抓钢机液压系统 韩美香, 郭太清
- 116 柴油机风扇电子自动控制装置改进设计 石凤琴, 袁秀丽

质量控制与故障分析

- 118 线切割中加工不良原因分析与排除 刘瑞己
- 122 某型飞机环境控制系统常见故障分析及维护策略 李玲, 魏华凯, 王超勇
- 125 基于六西格玛原理的导向筒生产质量的改进 韦靖, 马柯

Contents

Digital Technique and Mechanical Engineering

- Research on Feasibility of the Ball Screw Fit-turning based on Variable Program Processing ZHANG Wu (1)
Research on NC Machine Tools Maintenance Costs Management YUAN Dongming, YANG Jinpeng (4)
Research on Spindle Dynamic Characteristics for Deep-hole Boring Robot WANG Wei (8)
Innovative Design and Application of a Kind of Three-shift Four-bar Linkage Mechanism NING Yu (11)
Design and Application of the Cutting Fluid Centralized Circulating Processing System YAN Liyuan (12)

Design Calculation and Experimental Investigation

- Design of Grain Suction System of Rail Milling Machine ZHAI Zhongyan, LI Hongsheng, LI Haikun, HU Bin, FANG Jiankang (16)
Effects of Reynolds Number on Low Speed Symmetrical Airfoil Aerodynamic Performance SHI Guangtai, LI Zhenpeng (18)
Application of Moldflow in Design for a Plastic Part Gate SHEN Li (23)
Finite Element Model Analysis of the JJ225/43-K Drilling Derrick WANG Min, LI Feizhou, SHEN Li (25)
Strength Calculation and Optimal Design of SUV Coach Frame based on ANSYS YAN Xunbo (29)
FE Analysis of Electromagnetic Braking Device Used in Disc Brake based on Maxwell CHEN Dong, FAN Shuai (32)
Assembling Spindle of Combined Type and Centre Cone ZHANG Ennan (36)
Analysis of Structure of Load-bearing Beam of Bulk Materials Truck under Frame based on Test Verification
..... ZHANG Yijie, KONG Lingqiong, ZOU Huan, SHI Jie, GUAN Yubin (38)
Research on Lead-free and Lead Mixed Assembly Technology LI Yujun (43)
Structural Development and Performance Study of Multi-tube Cyclone Plate Separator MA Yanjie (45)
Discharging Path Operation of Belt Conveyor JI Yongmei (48)
Finite Element Analysis of Propellant Interface Debonding LIU Fuhai (50)
Research on Effects of Plunger Pump Body Modal Frequency HU Chenggong (53)
Welding Robot Virtual Prototype Design and Movement Simulation ZHAO Yanbo, LIU Jianxiong, ZHOU Hongquan (56)
Research on Virtual Prototype Simulation of Backhoe Device of Hydraulic Excavator ZHOU Hongquan, LIU Jianxiong, ZHAO Yanbo (59)
Optimal Design of Electric Heating Plate of Laminating Machine based on Temperature Field
..... CHEN Huixian, FENG Guoqing, WANG Baozeng, YANG Cheng (63)
Application of CAPP and CAM Integration Design LI Xiancai, GONG Huanqiu, CHEN Zhengfeng (66)

Processing Technics and Investigation of Materials

- Preparation Modification and Researching Development of TiO₂ Nanotube WANG Yayun, SHAO Qian (69)
Research on Machining Process of Plated Aluminum-zinc Line Coiler Reel MA Aibing, CHEN Jing (73)
Research on Deformation Analysis and Process of the Deformation of Mid-size Motor Base
..... HU Jiayong, CHEN Tao, TANG Xiaochun, TANG Jianqing (77)
Typical Machining Process of Thin-walled Aluminum Profiles of Rail Vehicles ZHANG Zhengmin, WANG Zhongping, SONG Futian (80)
Design of Manufacture Process of Low Stress Molding Base CUI Hongcai (84)
Shot Process and Quality Control of Titanium Alloy Parts GUO Chuyang, WANG Xiaoping, HU Yugang (86)
Process and Technology of Coil-type Gas Cooler Clearing GAO Xiao, CHEN Guoqiang, CHEN Yongjin, ZHAO Yanchun, TAN Zhen (89)
Machining Process and Quality Control of Titanium Alloy Parts WANG Xiaoping, GUO Chuyang, ZHOU Liang (91)
Research on Dye-Sensitized Solar Cell of ZnO Optical Anode with Blocking Layer DANG Weiwu, LI Yan (94)
Application of Polyurethane Rubber in Die
..... ZHANG Jiping, PANG Lijun, MAO Huiying, CHEN Meiyong, ZHANG Weiqiang, YU Lihong (97)
Research on Development of Chloride Process Titanium Dioxide Technology based on SWOT Analysis
..... ZHAO Zequan, LIU Jianliang, YANG Guangcan, LI Xuegang, JIANG Shu'an, WANG Yunhua, LI Jianjun (100)
Research on Compartment Cover Injection Molding Process Parameters based on Taguchi Experimental Design
..... DANG Yuchun, LIU Hongbin, ZHAI Xiuyun, CHEN Mingtong (103)

Electronics Information and Automatic Control

- Development of DC PWM Power Source Used in Urban Track Traffic CHU Xiaorui (106)
Development and Application of a New Concrete Products Curing Control System TIAN Hongjun, DU Chunyi (110)
A Kind of Wheeled Steel Grabbing Machine Hydraulic System HAN Meixiang, GUO Taiqing (112)
Improved Design of Electronic Diesel Engine Fan Automatic Control Device SHI Fengqin, YUAN Xiuli (116)

Quality Control and Malfunction Analysis

- Analysis and Ruling out of Bad Reasons in Wire-cutting Processing LIU Ruiyi (118)
Fault Analysis and Maintenance Strategy of the Environment Control System of a Kind of Aircraft
..... LI Ling, WEI Huakai, WANG Chaoyong (122)
Producing Quality Improvements of Certain Product Direction Canister Part base on Six Sigma Theory WEI Jing, MA Ke (125)