

目次

CONTENTS

机械制造与自动化

MACHINE BUILDING & AUTOMATION

2017年第5期(总第252期)
No.5 2017 (Total Issue No.252)

综述与展望 / Summaries of Special Topics

- 1 单级式三相光伏并网系统控制技术综述 ■王宏华,王成亮
Survey on Control Technology for Single-Stage Three-Phase Grid-Connected Photovoltaic System

机械制造 / Machine Manufacture

- 7 Ti-Si-C涂层刀具切削淬硬钢性能研究 ■刘森,卢文壮,闫鹏庆,潘韩飞,左敦稳
Study of Properties of Ti-Si-C Coated Tool in Cutting Hardened Steel
- 11 超声波油膜厚度测量研究综述 ■章何菁,马希直
Summary on Measurement of Oil Film Thickness by Ultrasound
- 15 工艺参数对多弧离子镀TiAlN涂层铝含量和硬度的影响 ■周陶,袁军堂,汪振华,黄雷
Effects of Deposition Parameters on Aluminum Content and Hardness of TiAlN Coatings by Multi-arc Ion Plating Technique
- 20 热压复合制备钛/铝层状复合材料界面组织演变研究 ■崔圣强,吴倩,范敏郁,陶杰
Microstructure Evolution at Interface of Ti/Al Laminated Composites Fabricated by Hot-press Bounding
- 24 CVD金刚石涂层拉伸模具内孔的抛光装置研制 ■王仕杰,相炳坤,周思浩,孟兆升,朱其豹
Development of Polishing Device for CVD Diamond Coating on Inner Hole of Drawing Die
- 27 一种具有收敛稳定性的改进协同优化方法 ■张超,陈亮,黄亚庆
A Modified Collaborative Optimization Method with Convergence Stability
- 31 基于PMAC的开放式外圆磨床数控系统研究 ■谢招龙,聂晓根
Research on Open CNC System for Cylindrical Grinder Based on PMAC
- 35 超超临界阀门的结构参数优化设计 ■杨小波,张晓云,瞿辉,郑寅
Optimization Design of Structural Parameter of Ultra-supercritical Valve
- 39 双脉冲对7A52铝合金MIG焊接质量的影响 ■张欣,冯曰海
Influence of Double Pulse MIG Welding on 7A52 Aluminum Alloy Welding Quality
- 42 柔性滚弯成形技术研究进展 ■宋攀峰
Research Progress of Flexible Roll Bending Technologies
- 45 高氮奥氏体不锈钢Cr22Mn18NiN MIG焊接接头组织性能研究 ■颜泽钢,王克鸿
Researching on Microstructural Properties of HNS Cr22Mn18NiN Welded Joints
- 48 基于ANSYS铜钢高频感应熔敷焊不同工况下温度场 ■刘超,余进,蒋恺,严恺
Numerical Simulation of Effects of Process Parameters on High Frequency Induction Welding of Steel-copper Based on ANSYS
- 53 一种基于最小外接圆法的圆度误差评定算法 ■姜传文,唐旭晟
Algorithm of Roundness Error Evaluation Based on Minimum Circumscribed Circle
- 59 填充奥氏体材料的螺柱焊接方法 ■张德库,康路路,吴俊超,王克鸿
Stud Welding With Austenitic Material Filler
- 62 基于支持向量机的飞机装配工艺模糊综合评价方法 ■王跃,谭昌柏,安鲁陵,王志国
Fuzzy Comprehensive Evaluation Method of Aircraft Assembly Process Based on SVM
- 67 圆锥型变幅杆的动力学分析及优化 ■熊为为,田会方,黄学鹏
Dynamic Analysis and Optimization of Conical Ultrasonic Horn
- 70 镍基高温合金切削热力学仿真 ■杨辉,刘文涛
Thermodynamic Simulation of Ni-base Superalloy Cutting
- 73 旋印电解加工辅助阳极设计和试验研究 ■王宁峰,朱增伟,王登勇,何斌
Design and Experiment Research of Auxiliary Anode for Counter-rotating Electrochemical Machining
- 79 角度快速调整装置在单轴数控车床上的应用 ■卢彬,姚家鑫
Application of Angle Rapid Adjustment Device in Single Axis CNC Lathes
- 82 汽车尾气歧管净化器焊接加工的数值模拟 ■徐辉,安伟
Numerical Simulation of Welding Process for Automobile Exhaust Manifold Purifier
- 87 带顶针的挖槽刀架装置在组合机床上的应用 ■黄晓萍,侯俊,姚家鑫
Application of Trench Knife Rest Device With Thimble on Modular Machine Tool

信息技术 / Information Technology

- 89 基于有限元法的装配工装离散化与优化设计 ■张节,沈建新
Discretization and Optimization Design of Assembly Fixture Based on Finite Element Analysis
- 93 车削氧化铝陶瓷刀具磨损有限元仿真研究 ■马廉洁,谭福慧,王佳
Finite Element Simulation of Tool Wear in Turning Alumina Ceramic
- 96 基于ADAMS的复合型增力传动系统仿真与优化设计 ■蔡祺祥,朱海华,杨俊,郭志宏
Simulation and Optimization of Composite Power Transmission System Based on ADAMS
- 100 虚拟环境下线束敷设路径评价模型研究 ■洪伟,闫静,张超,池梁
Research on Evaluation Model of Path of Wire Harness in Virtual Environment
- 104 力反馈系统控制参数优化研究 ■陈洋,顾宏斌,刘晖
Study of Optimization of Control Parameters of Force Feedback System
- 108 直升机桨叶填充物的自动化三维几何建模方法 ■王洋,张丽艳,赵秋华,黄瑛,杨建灵
Automatic Geometric Modeling of Helicopter Rotor Blade Filler

- 113 1600高速铝箔轧机工作辊温度场的有限元分析 ■王伟,孙常青
FE Analysis of Temperature Field of Work Roll of 1600 High-speed Aluminum Foil Mill
- 117 一种新型管道清洁机器人撑开机构动力学分析及其仿真 ■张淑珍,慕东,崔之超,赵培
Dynamic Analysis and Simulation of Modified Stretching Mechanism of In-pipe Cleaning Robot
- 122 基于MIMO模态实验法对某MPV NVH性能研究 ■王若平,李文武
NVH Performance Research of MPV Based on MIMO Modal Test Method
- 126 欠驱动手爪设计及接触力分析与仿真 ■田志伟,章军
Design of Under-actuated Gripper and Contact Force Analysis and Simulation
- 130 基于改进扩展卡尔曼滤波算法的锂离子电池荷电状态估计 ■邹峰,陈则王
Estimation of SOC of Li-ion Battery Based on Improved Extended Kalman Filter
- 134 基于POC方程的三平移并联机构拓扑结构设计 ■杜康,刘安心,张晓南,张筠松
Topological Structure Design of 3T-0R Parallel Mechanism Based on POC Equation
- 138 随机激励下车辆内声场分析与声学灵敏度优化 ■何源,王显会,高帆琴,张欢
Interior Acoustic Field Analysis and Acoustic Sensitivity Optimization
- 143 基于惯量辨识的前馈控制算法研究 ■李亚飞,游有鹏,孙金秋,蔡彬
Research on Feedforward Control Algorithm Based on Inertia Identification
- 146 基于ADAMS和MATLAB联合仿真的ABS试验分析 ■来翔,李守成
Analysis of ABS Based on Combined Simulation of ADAMS and MATLAB
- 149 基于STL切片数据截面轮廓的高质量分段拟合算法 ■陈博,李骁健,李春芳,喻志勇
High Quality Segmentation Fitting Algorithm Based on STL Slice Data
- 152 装甲钢复合热源搅拌摩擦焊接过程数值模拟 ■宋恺,王雪娟,安志恒,黄俊
Numerical Simulation of Armor Steel Composite Heat Friction Stir Welding
- 156 后坐力作用下某型车载榴弹炮车架结构响应分析 ■秦天柱,周云波,张鑫磊,何源
Response Analysis of Frame Structure of Certain Type Truck-Mounted Howitzer Under Recoil Force
- 160 双能X射线识别金属物料的R值曲线拟合算法 ■毛冬辉,叶文华,熊田忠,王祺顺,顾瑞华
R-value Curve Fitting Algorithm for Metal Materials' Identification Based on Dual Energy X-ray Technology
- 163 典型直升机尾传动轴系动力学建模与临界转速计算方法 ■李杨,李浩,陈奇
Dynamic Modeling and Critical Speed Calculation Method of Typical Helicopter Tail Shaft
- 167 一种四杆机构式电动载物爬楼机 ■董淑婧,程瑞
Design of Electrical Goods Trolley with Four-bar Mechanism for Going up and Down Stairs
- 169 沉浸感界面交互设计评估方法研究 ■陶艺文,陈炳发
Evaluation Method of Immersion Interaction Design Based on Fuzzy Analytic Hierarchy Process

电气与自动化 / Electric and Automation

- 174 基于嵌入式 Web 的移动机器人安全性故障监控系统设计 ■赵庆涛,周翟和,虞波,陈如意
Design of Security Monitoring System in Mobile Robot Based on Embedded Web
- 177 基于 OptiStruct 的折弯机器人 Y 轴轴身的形状优化 ■安树阳,汤文成
Shape Optimization of Y-axis of Bending Robot Based on OptiStruct
- 181 并联 3-RRRPP 踝关节康复机构的设计与分析 ■郭晓宁,汤桂泉,高林芳,张晓东
Design and Analysis of 3-RRRPP Parallel Mechanism for Ankle Rehabilitation
- 185 呼吸信号检测用 PVDF 压电薄膜传感器设计 ■徐智俊,韩国强
Design of Respiratory Signal Detection System with PVDF Piezoelectric Film Sensor
- 188 基于立体视觉的工件识别与定位系统研究 ■兰佳,叶文华
Research on Parts' Recognition and Orientation Algorithm Based on Stereo Vision
- 194 基于 TLP250 的超音频 IGBT 驱动电路的设计 ■杜坤,王克鸿,吴统一
Design of IGBT Ultrasonic Frequency Driving Circuit Based on TLP250
- 198 立方星电源系统设计与实验 ■高海振,莫乾坤,张翔,廖文和
Design and Experiment of CubeSat Power System
- 202 一款基于 BP 神经网络的反激变换器设计 ■董华,刘宽,李祥
Design of Flyback Converter Based on BP Neural Network
- 206 基于 STM32 的机场电动车辆智能终端设计 ■崔元博,江剑
Design of Airport Electric Vehicle Intelligent Terminal based on STM32
- 211 基于 LabVIEW 的叶尖定时采集系统的信号处理方法研究 ■时辰,岳林,杨彬
Method of Signal Processing of Blade Tip Timing System Based on LabVIEW
- 214 基于激光传感器的高铁雪深多点测量研究 ■阚成勇,高旭东,邢宗义,张永,石奋义
Study of Multi-point Snow Depth Measurement in High-speed Rail with Laser Sensor
- 219 基于极限学习机的航空旋转整流器故障诊断技术研究 ■王潇雅,崔江,唐军祥,叶纪青
Fault Diagnosis Technology Research of Aircraft Generator Rotating Rectifier Based on Extreme Learning Machine
- 223 基于远程图像定位的快速灭火方法的研究 ■郭琳琳,赵敏,林亮
Study of Quick Fire Extinguishing Method Based on Remote Image Localization
- 228 某自动武器供弹动作可靠性分析 ■李锦
Reliability Analysis of Ammunition Feed Mechanism of Automatic Weapons
- 231 剪板机刀具变形量调节的控制装置设计 ■徐欢,李伯全,张西良,付文涛,许军成
Design of Tool Deformation Control Device of Shearing Machine
- 235 基于 STC89C52 的智能门禁系统的设计 ■马巧梅
Design of Smart Gate-ban System Based on AT89S52
- 239 一种多功能变电检修测试平台的研制 ■陈昊,徐晶冉,徐雯,黄祖荣,韩笑,邵美才
Development of Multifunctional Maintenance Test Platform
- 243 发动机电控系统故障诊断技术的研究与展望 ■吴刚,袁清珂
Engine Electronic Control System Fault Diagnosis Technology Research and Its Prospect
- 246 高精度烟支在线取样装置的设计 ■李捷,陆海华,陈赞赞
Design of High Precision On-line Sampling Device for Cigarette
- 248 基于 MBD 的电子节气门控制器设计 ■陆文昌,邵福双
Design of Electronic Throttle Controller Based on MBD
- 252 卷烟膨胀线热端除锁气锁的优化设计 ■苏福彬
Optimization Design of Air Lock in Hot End of Tobacco Expansion Plant