

**TABLE OF CONTENTS****目 录**

**基于 Unity3D 的电梯机械设计虚拟仿真实验平台**

**Virtual Simulation Experiment Platform for Elevator Mechanical Design Based on Unity3D**

乔硕 ..... 75

**基于 Solidworks 的 AGV 自动充电对接装置设计与仿真分析**

**Design and Simulation Analysis of AGV Automatic Charging Docking Device Based on Solidworks**

庄永丰, 陶为戈, 袁伟南 ..... 84

**螺栓拧紧技术的现状、发展和在轨道养护中的应用**

**Status and Development of Bolt Tightening Technology and Its Application in Track Maintenance**

王龙, 李晖, 魏子健, 陈林 ..... 94

**基于生物反馈的桌面上肢神经康复机器人的研究**

**Research on Desktop Upper Limb Neurorehabilitation Robot Based on Biofeedback**

徐海明, 吴海帆, 刘勇, 谭信国, 田谨晓, 王汝鑫, 李恩赐 ..... 102

**基于分步拓扑优化的装甲托架结构轻量化设计**

**Lightweight Structural Design of an Armor Bracket Based on Stepwise Topology Optimization**

符东, 计良, 晁慧泉 ..... 110

**车辆转向及操稳风格的研究与设定**

**Research and Setting of Vehicle Steering and Handling Styles**

嵇明月 ..... 120

**多功能上肢神经康复训练机器人的研究**

**Research on Multifunction Upper Limb Nerve Rehabilitation Training Robot**

谭信国, 吴海帆, 刘勇, 徐海明, 韩平吉, 朱广亚 ..... 132

**滚珠丝杠副运动精度可靠性柔性分析**

**Flexible Analysis of Ball Screw Motion Accuracy Reliability**

刘亚西, 孙奎洲 ..... 138

**某车型排气系统静力和模态分析**

**Static and Modal Analysis of Exhaust System of a Vehicle**

唐毅林, 赵铁梁, 张国顺, 龚运息 ..... 145

## 面向特定产品双工位气动夹具设计与应用

### Design and Application of Double Position Pneumatic Fixture for Specific Products

秦培亮, 刘洋河, 张磊, 陈行行 ..... 154

## 转向架位置及车间铰接距离对三模块有轨电车动力学性能影响研究

### Influence of Bogie Position and Articulation Distance on Dynamic Performance of Three-Module Tram

赵鹏宇, 黄运华 ..... 161

## 一种减振器衬套刚度试验工装设计方法介绍

### Introduction of a Design Method of Shock Absorber Bushing Stiffness Test Fixture

李旭伟, 牛治慧, 杨东绩 ..... 171

## 涨圈主密封面润滑状态判断及影响因素分析

### Judgment of Lubrication State of Main Sealing Surface of Piston Ring and Analysis of Influencing Factors

李神龙, 嵇佳佳 ..... 179