



扫一扫,有好礼

自动化与仪表®

Zidonghua yu Yibiao

月刊 1981年创刊

第35卷 第6期(总第267期)

2020年6月

主管单位:天津中环电子信息集团有限公司

支持单位:中国自动化学会
中国仪器仪表学会

主办单位:天津工业自动化仪表
研究所有限公司

天津市自动化学会

协办单位:北京市自动化学会

河北省自动化学会

山西省自动化学会

内蒙古自动化学会

编辑出版:《自动化与仪表》编辑部

主 编:张 昊

副 主 编:陈 兵

责任编辑:朱 琳 张淑英

广告、发行联系:刘 凯 斯久莉

网站管理:李 迎

编辑部电话:(022)23015608

广告部电话:(022)23016582 23015623

传真:(022)23015614

地址:天津市河西区环湖中道9号

邮编:300060

电子邮箱:zdhyyb@vip.sina.com

网址:www.zdhyyb.com

www.zdhyb.com

自动化仪表网.com

自动化仪表网.中国

微信公众号:zdhybw

——公开发刊——

国际标准刊号:ISSN 1001-9944

国内统一刊号:CN 12-1148/TP

广告经营许可证:津工商广字

1201034000061号

国内发行:天津市邮政报刊发行局

国内订阅:全国各地邮局

邮发代号:6-20

国外发行:中国国际图书贸易集团
有限公司(北京399信箱)

国外代号:MO4145

印 刷:天津中铁物资印业有限公司

国内定价:12.00元/期

出版日期:每月25日

目 次

专题研究与综述

电网电压不平衡条件下并网逆变器稳定性分析

..... 祁霄鹏,杨维满,王兴贵,等(1)

基于VR技术的沉浸式变电站仿真培训系统

..... 李仙琪,张俊伟,王 翀,等(8)

控制系统与智能制造

基于飞轮储能的VSG虚拟惯量自适应控制

樊千惠,赵巧娥(12)

小型航空涡喷发动机地面控制单元设计

李晓艳,王 鹏,吕志刚,等(17)

基于强化学习的电机位置伺服系统的研究

房学鑫,潘松峰(21)

广义预测控制在模拟发酵温度控制中的应用

区杰勇,董瑞丽,左 锋(25)

人工智能与机器人

并联机器人夹持机构水果夹取控制研究

李雅倩,高国琴(30)

基于UWB及图像识别的变电站无人机巡检系统设计

..... 余楚云,伍国兴,张晶焯,等(36)

检测技术与数据处理

基于复合点云帧改进的激光SLAM闭环检测算法

黄永新(42)

烟花仓库温湿度无线灰色预警系统设计

文渊博,毛夏煜,郭温钰,等(48)

仪表与自动化装置

安规仪器在数字化车间的应用研究

景 军,孙忠锋,蒋典兵,等(54)

基于云端的注塑机参数监测系统研究与设计

..... 张 辉,陈烁夷,张 阳,等(58)

抓取微流血型检测卡机械手的设计与试验研究

..... 周露露,丁 原,马海涛(62)

内燃机车永磁同步发电系统分析

冯海波,胡继胜(65)

煤矿用阀门电动执行器硬件系统研究

蒋洪庆,李 涛,赵庆川(69)

系统建模、仿真与分析

决策树算法在健康监测设备自动连接中的应用

高 雄,葛艳红(74)

基于粒子群优化算法的等比例分数阶系统建模

..... 李灵芝,黄姣茹,钱富才,等(80)

新型并联电容混合型电力滤波器的仿真研究

刘 盛,石 伟,常晨琛(84)

白油回收系统控制策略研究与仿真

胡田力,邱叶林(88)

创新与实践

华龙一号主泵转速测量系统研究

王雪梅,朱慈微,朱加良,等(92)

大数据平台数据实时接出服务的实现

赵志伟(97)

新型智能生产过程调度中心的研究

孙 燕(101)

BLVDS总线信号扩展技术的研究

来 晓,郑艺扬(105)

期刊基本参数:CN 12-1148/TP * 1981 * m * A4 * 112 * zh * P * ¥12.00 * 10000 * 23 * 2020-6



扫一扫,有好礼

AUTOMATION & INSTRUMENTATION

(Monthly since 1981)

Vol.35 No.6

(Sum 267)

Publishing date: 2020-6

CONTENTS

Thematic Studies and Reviews

- Stability Analysis of Grid-connected Inverter Under Unbalance Voltage Condition *QI Xiao-peng, YANG Wei-man, WANG Xing-gui, et al*(1)
- Immersive Substation Simulation Training System Based on VR Technology *LI Xian-qi, ZHANG Jun-wei, WANG Chong, et al*(8)

Control System and Intelligent Manufacturing

- VSG Virtual Inertia Adaptive Control Based on Flywheel Energy Storage *FAN Qian-hui, ZHAO Qiao-e*(12)
- Design of Ground Control Unit for Small-sized Aviation Turbojet Engine *LI Xiao-yan, WANG Peng, LV Zhi-gang, et al*(17)
- Research on Motor Position Servo System Based on Reinforcement Learning *FANG Xue-xin, PAN Song-feng*(21)
- Application of Generalized Predictive Control in Temperature Control of Simulated Fermentation *OU Jie-yong, DONG Rui-li, ZUO Feng*(25)

Artificial Intelligence and Robotics

- Research on Fruit Clamping Control of Parallel Robot Clamping Mechanism *LI Ya-qian, GAO Guo-qin*(30)
- Research on Substation UAV Inspection Technology Based on UWB and Image Recognition *SHE Chu-yun, WU Guo-xing, ZHANG Jing-zhuo, et al*(36)

Measurement and Data Processing

- Improved Loop Closure Detection Algorithm of Laser SLAM Based On Multiscans-to-map Matching Method *HUANG Yong-xin*(42)
- Design of Wireless Gray Early Warning System for Temperature and Humidity in Firework Warehouse *WEN Yuan-bo, MAO Xia-yu, GUO Wen-yu, et al*(48)

Instrumentation and Automation Devices

- Research on Application of Safety Instrument in Digital Workshop *JING Jun, SUN Zhong-feng, JIANG Dian-bing, et al*(54)
- Study and Design of Cloud-based Injection Machine Parameter Monitoring System *ZHANG Hui, CHEN Shuo-yi, ZHANG Yang, et al*(58)
- Design and Experimental Study of Grasping Microfluidic Blood Group Detection Manipulator *ZHOU Lu-lu, DING Yuan, MA Hai-tao*(62)
- Analysis of Permanent Magnet Synchronous Power Generation System for Diesel Locomotive *FENG Hai-bo, HU Ji-sheng*(65)
- Research on Hardware System of Electric Actuator for Coal Mine Valve *JIANG Hong-qing, LI Tao, ZHAO Qing-chuan*(69)

System Modeling, Simulation and Analysis

- Application of Decision Tree Algorithm in Automatic Connection of Health Monitoring Equipment *GAO Xiong, GE Yan-hong*(74)
- Modeling of Equal Proportion Fractional Order System Based on Particle Swarm Optimization Algorithm *LI Ling-zhi, HUANG Jiao-ru, QIAN Fu-cai, et al*(80)
- Simulation Analysis of Novel Parallel Hybrid Power Filter *LIU Sheng, SHI Wei, CHANG Chen-chen*(84)
- Research and Simulation on Control Strategy for White Oil Recovery System *HU Tian-li, QIU Ye-lin*(88)

Innovation and Practice

- Research of Reactor Coolant Pump Speed Measurement System in HPR 1000 Nuclear Power Plant *WANG Xue-mei, ZHU Bi-wei, ZHU Jia-liang, et al*(92)
- Analysis of Real-time Computing Monitoring Scheme for Big Data Platform *ZHAO Zhi-wei*(97)
- Research on New Intelligent Production Process Scheduling Center *SUN Yan*(101)
- Research on Signal Integrity of BLVDS *LAI Xiao, ZHENG Yi-yang*(105)

Sponsored by:

Tianjin Institute for Process Automation and Instrumentation Co., Ltd.
Tianjin Society of Automation

Edited by:

The Editorial Office of Automation & Instrumentation

Chief editor:ZHANG Hao

Vice chief editor:CHEN Bing

Editor:ZHU Lin ZHANG Shu-ying

Ad-contactman:LIU Kai SI Jiu-li

Network administrator:LI Ying

Editorial department phone:

(86 22)23015608

Ad department phone:

(86 22)23016582 23015623

Fax: (86 22) 23015614

Address: 9 Huanhuzhongdao, Hexi District, Tianjin, China

Post code: 300060

E-mail: zdhyb@vip.sina.com

http:// www.zdhyb.com

www.zdhyb.com

WeChat official account: zdhybw

Distributed in China and abroad

Publishing number:

ISSN 1001-9944

CN 12-1148/TP

Ad-licence:

Business No. 1201034000061

Distributed in China by:

Tianjin Newspaper and Magazine Publishing Bureau

Subscribing place:

All the post offices in China

Distributed abroad by:

China International Book Trade Co., Ltd. (P.O.Box 399, Beijing, China)

Post distributing number:

domestic: 6-20 abroad: MO4145

Printed by:

Tianjin Zhong-Tie Printing Co., Ltd.

Price: 12.00(US\$)(Foreign)

Publication date: 25th of each month