

自动化与仪器仪表

(月刊)1981年创刊

2016年第12期(总第206期)

2016年12月25日出版

邮发代号:78-8

主管单位:

重庆市科学技术协会

支持单位:

中国自动化学会

中国仪器仪表学会

主办单位:

重庆市自动化与仪器仪表学会

重庆工业自动化仪表研究所

出版单位:

重庆科技发展有限公司

《自动化与仪器仪表》编辑部

刊社地址:

重庆市渝北区人和杨柳路2号

A塔楼14楼1405室

邮编:401123

网址:www.zdhyyqyb.cn

出版部电话:023-63050371,63050131

传真:023-63050621

成都办事处电话:028-81328130

高级顾问:汪燮卿院士

孙优贤院士

总编:刘斌

主编:孙怀义

执行主编:胡君德

常务副主编:张新国

广告部:胡君德 甘科 游先碧

制作部:邓雯静

客户服务部:万良力

印刷:重庆荟文印务有限公司

发行:重庆市邮政局

订购:全国各地邮政局

发行范围:国内外公开发行人

国外发行:

中国国际图书贸易总公司 BM2871

国际标准连续出版物号:

ISSN1001-9227

国内统一连续出版物号:

CN50-1066/TP

广告经营许可证:231318

定价:25.00元

中国光学学会光电技术专业委员会
中国仪器仪表学会光机电技术与系统集成分会

会刊

编辑委员会

名誉主编:叶声华

编委会主任:石祥聪

编委会副主任:刘铁根 王雪 王文海

委员(以姓氏拼音排序):

曹庄琪 陈茂 邓奥 董新永 方原柏 葛泉波 付三强 高仕斌 刘琴
李川 李艳秋 梁忠诚 刘桂雄 蒙建波 彭燕华 秦开宇 孙跃 石为人
孙怀义 桑新柱 宋爱国 涂亚庆 王平 王厚军 王刚 王大勇 王昭
吴朋 徐征 许立新 岳中明 杨军 张翠芳 张庆福 张凌 张存林
张伟刚 张旭莘 赵维谦 赵跃进 赵勇 赵光明 朱永 郝继贵

目次表

过程自动化

建筑垃圾资源化处理自动化控制装置研究	周进,刘春雷,周云军,雷玉常(1)
嵌入式软件测试技术分析研究	解志君(3)
一种单管共射放大电路的幅频特性研究	王海梅(5)
基于 BIM 的桥梁检测与安全评估系统研究	郝浩(8)
基于激光视觉数据融合的三维场景重构研究	周振华(10)
移动端通用推送通知技术研究	赵永国,刘志霞(13)
建筑设备电气自动化系统的节能控制研究	黄敏,马联华(16)
配电网中电缆状态监测技术研究	谭家祺(19)
基于小波分析的 EMI 噪声测量技术的研究	许立,龙在云(21)
一种接力式物联网水质在线监测系统的设计	莫斌,余名,唐云建,廖银伟,孙怀义(24)
通用汽车仪表自动化测试系统	孙锋(26)
基于分布式发电的并网逆变器有源阻尼控制策略设计	陈聪,武迪,郭健,郑玉山,巴秀玲(28)
一种改进的 BP 神经网络在软件可靠性预测中的应用	李梅(31)
采用称量测量法校准容积式油耗仪	詹娇,龚磊,王卫,李霞,李琪(33)
某型舰炮随动系统通信及数据采集模块的设计与应用	李睿,胡振兴,刘同庆(35)
一种分布式通信机房网络监控系统设计与应用	王水璋(38)
乏燃料批式溶解器温度控制系统的设计与实现	李海丽,刘晓莉(40)
三维运动捕捉系统在体育教学中的应用	胡炜(43)
电网视频监控系统的负载均衡改进方法及应用	樊腾飞,左智波,黄斌,陶文伟,张喜铭,李金(45)
西门子 DCS 与 Modbus PLC 的异构集成	孙竹梅,平国楠,王琦(47)
基于北斗/GPS 双模的汽车燃油监测报警系统	樊怡,李新颖,李子薇(50)
近景摄影测量方法在桥梁线形监测上的应用	张松雷(53)
基于标准化的移动应用安全接入	尚超(55)
相敏轨道电压传感器的设计与实现	雍鸿程(58)
基于 NFC 技术和短距离无线通信技术在智能抄表中的应用	谷江涛,王颖,孙经,徐英(61)
光纤传感器在煤矿井筒监测系统中的应用	阎家光(63)
温度变送器(带传感器)测量不确定度的评定	翟凯(65)
LIDAR 框架构建下的 gps 基站联合测量准确度探索	王晓磊(68)
基于特征融合的多摄像头无重叠区域运动目标跟踪	张文革,屈青青,李刚(71)

机械制造自动化

基于可控硅的轴承加热器控制器的研究	张丰,王志国,张阳伟,李成凤(74)
110kV 泥烯北中线防雷研究	崔乐,刘斌(77)
基于物联网技术的电力设备状态检修	徐世军,裴徐良,刘进辉,毛峰超(79)
基于自由通信协议的航天电连接器拉力测试系统设计	韩建斌,李靖(82)
厂矿消弧供电系统单相接地故障分析	王彦军,程君妮(85)
面向智能电网的智能配电变压器研发和应用	赵赳赳(88)
机械设备故障诊断系统中决策树算法的应用研究	谭刚,李军(90)
PLC 控制在工业自动化中的应用研究	平澜(92)
基于性能设计理念下的公路桥梁结构设计研究	吴哲(94)
基于差分自回归移动平均模型的电气设备温度预测	何兴平,耿远松,郭志伟,王婷,段守胜(96)
实验快堆燃料棒压弹簧装置的研制	汪建红,何勇,陈德华,黎泉佐(99)
配电网窄型角钢塔装配式基础	王健,陈彬,黄达洋,王智聪(101)

管理自动化

铁路工程造价信息化与自动化创新策略研究	李妍蓓(104)
一种自动化技术的篮球竞赛优化实现系统管理研究	马杰(107)
基于关联规则和 ART 的电子商务推荐系统应用研究	曾贤灏,赵锡英(109)
基于云计算技术的智慧校园服务平台设计研究	杨随虎(112)
基于某供电局 10kV 配网故障管控措施的研究分析	孔祥轩(114)
基于模糊综合评价的配电网标准评分系统设计	陈晓明,李毅东,刘旭东,刘国庆,陈七友(117)
基于物联网技术的汽车供应链物流管理系统设计与实现	孙静(119)
基于多媒体技术应用下数学教师教学行为及相关建议研究	许尔伟(122)
新技术下的文档管理后台系统的设计与实现	王艳君(124)
基于 sql 的篮球运动员体能测试数据库管理系统设计	谢新涛(127)
基于 BPM 的企业财务会计信息系统设计	陈慧(129)
高职院校图书馆基于 RFID 智能化管理探析	仝丹娜,王丁(131)
大型办公自动化档案管理系统的设计与实现	史媛(134)
基于 B/S 结构的电力通信网络管理系统设计与实现	刘涵,郑秋云(137)
基于 RFID 技术的建筑施工物料管理方案的设计及实施	邓鑫(139)
基于 JavaEE 的企业库存管理系统的设计与实现	文静,朱正平,杜柯柯(142)
高校建筑智能化节能系统的设计与实现	史诺(144)
基于供电企业物资集约化管理信息平台建立与应用	黄丽莉(146)
探讨服装打板和排料理论及关键技术	杨玫(149)
现代信息技术在高职院校英语课堂中的应用创新探索	吴敏(153)
基于手机移动终端的新型现代教学管理系统的构建	郑雅(155)
配网巡视的移动作业实现分析	李有铨,余文辉(157)
高速公路气象监测管理系统的需求、设计原则与实例分析	周建东,赵洪浩(159)
自动化数据采集技术在建筑施工现场管理中的应用	邓卉(161)
信号系统与运输相互制约的案例分析	万生立(164)
分析自动化技术与绿色经济	徐倩倩(166)
UPS 电源系统的原理和维护	张波,黎燕,张睿(168)
基于 GIS 和 VR 技术的电力通道可视化管理	李玉芬,陈晓,曾文华,罗颀(170)
探讨建筑自动化教学中如何培养学生实际工程能力	牛萍萍(172)

实验室自动化

基于 PSCAD 的电缆高阻故障测距仿真研究	高旭启,别士光,周明杰,平原(174)
配电网 10kV 线路单相接地故障定位算法方法研究	李国平(176)
车载导航系统最优路径搜索算法研究	滕文(179)
铁路风吹雪灾害防治原理及技术研究	何尚海(181)
基于 UML 和 RUP 技术的软件系统设计与研究	唐林(183)
装配式管线连接器自动分发回收作业系统设计	雍歧卫,蒋明,左永刚,杨建勇(186)
计算机软件开发语言与分层技术的运用及研究	郭涛,门瑞,刘正岐(188)
电力系统谐波评估有关问题的探讨	李笑蓉,丁健民,杨金刚,张毅威,丁超杰,王乐乐(191)
基于移动终端的视频实时传输关键技术研究	曹鹏飞,崔永艳(195)
基于电气自动化中无功补偿技术的应用研究	孙永芳,张刚(198)
基于多媒体网络教学平台的高校体育教学研究	易招华,李平(200)
基于 Android 的辅助体育运动软件构建	齐娇娇(202)
基于现代教学媒体的高校思政课的建设研究	高会燕(204)
基于网络教学平台辅助的健美操教学研究	边菊平(207)
基于遗传蚁群算法的组卷策略的可信度和效度的研究	张宏升,邹宁(209)
基于 ROP 服务框架的移动应用设计	洪雨天(212)
基于 BIM 技术的建筑结构计算机优化设计	赵静源(216)
基于 ASP 技术的体育教学网络辅助系统设计	刘俊民,郑利辉(218)
基于体育项目排球成绩测试系统的优化设计	魏星(221)
虚拟化技术在“数字校园”中的应用	何晓冬(223)
移动互联网 App 软件在企业物流转型中的应用	肖招娣,韩锦明,皇甫汉聪(225)
数据挖掘在学生体质健康测试系统中的应用	陈彩虹(227)
基于视错觉的军事工程伪装研究与应用	蒲欢,陈善静,康青(229)
基于全景仿真技术的计量互感器检测仿真培训系统的设计与实现	卓浩泽,李伟坚,龙东(233)
基于过采样的轨道移频信号检测算法设计与实现	刘鹏飞(236)
基于“互联网+”形态的体育教学软件的设计与开发	邓豪(239)
基于 Gstreamer 的安全视频流传输系统的开发与实现	崔永艳,曹鹏飞(241)
一种智能体育教学系统的设计与实现	刘冉(243)
航天发射场多径衰落模型的硬件实现及仿真	张跃飞,邹美凤,曹晓军,薛志伟,岳长亮(245)
联合配准算子耦合不变矩定位的残缺条码识别算法	张飞雁(248)
基于 Authorware 的心理学多媒体辅助教学系统	崔澜馨(252)
普通高校乒乓球多媒体演示系统的开发	彭文(254)

家庭自动化

基于物联网的智慧小区管理控制系统的研究	孙鸿昌,张绿原,孙加红,隆萍,于福奎(256)
基于 MSP430 的智能车主动安全系统设计	隋涛,朱威强,冯川,王博(259)
医院门诊楼智能建筑系统设计与实现	李频(261)
智能化的儿童近场定位安全服装设计	张琼(263)
绿色节能技术在暖通空调系统中的应用	冉利梅,侯景鑫(266)
基于物联网的智能温室控制与管理系统的	苏宝林(268)

Sponsor :

Chongqing Automation And
Instrumentation Society
Chongqing Institute of
Industrial Automation and
Instrumentation

Published by :

Editorial Office of AUTOMATION
and INSTRUMENTATION
(NO.2 Yangliu road renhe Yubei
Chongqing)

China ZIP Code:401123

Web: www. zdhyqyb. cn

Printed by :

Chongqing huiwen printing co.,. ltd.

Distributor :

Chongqing post Office

Subscription :

All Domestic post Office

Code :78-8

Chief Editor:Sun Huai-yi

ISSN1001-9227

CN50-1066/TP

投稿须知

1. 本刊已加入“中国期刊网、中国学术期刊(光盘版)”、“万方数据-数字化期刊群”等,如作者不同意入编,请在投稿时注明,本刊将做适当处理。
2. 本刊有出版电子版、网络版等权力,作者著作权使用费(含上述几种方式)和稿酬一起一次性付清。

AUTOMATION & INSTRUMENTATION

NO. 12,2016

CONTENTS

PROCESS AUTOMATION

Automation control equipment design on construction waste recycling production Zhou Jin,Liu Chunlei,Zhou Yunjun,Lei Yuchang(1)

Analysis and Research on Embedded Software Testing Technology Xie Zhijun(3)

Research on bridge detection and safety assessment system based on BIM Hao Hao(8)

Research on Three-dimensional scene Reconstruction based on laser vision data fusion Zhou Zhenhua(10)

Universal mobile end push notification technology research Zhao Yongguo,Liu Zhixia(13)

Research on energy saving control of electrical automation system of building equipment Huang Min, Ma Lianhua(16)

Research on cable condition monitoring technology in distribution line Tan Jiaqi(19)

Research on EMI noise measurement technology based on wavelet analysis Xu Li,Long Zaiyun(21)

Design of Online Water quality Monitoring System Based on Relay-style Internet of Things Mo Bin, Yu Ming, Tang Yun-jian, Liao Yinwei, Sun Huaiyi(24)

Automatic test system of vehicle cluster Sun Feng(26)

Design of active damping control strategy for grid connected inverter system based on Distributed Generation Chen Cong, Wu Di, GUO Jian, Zheng Yushan, Ba Xiuling(28)

An improved BP neural network in the application of the software reliability prediction ... Li Mei(31)

Design and Application of a Type Naval Gun's Servo System Communication and Data collection Module Li Rui, Hu Zhenxing, Liu Tongqing(35)

Design and Application of the Network Monitoring and Control System for Distributed Communication Room Wang Shuizhang(38)

Design and Realization of Spent Fuel Batch Dissolver's Temperature Control System Li Haili, Liu Xiaoli(40)

The Application of Three-dimensional motion capture system in PE teaching Hu Wei(43)

Load Balancing Improved Method And Application of Power Grid Fan Tengfei, Zuo Zhibo, Huang Bin, Tao Wenwei, Zhang Ximing, Li Jing(45)

Heterogeneous integration of Siemens DCS and Modbus PLC Sun Zhumei, Ping Guonan, Wang Qi(47)

Vehicle fuel monitoring alarm system based on beidou/GPS dual mode Fan Yi, Li Xinying, Nan Ziwei(50)

The Applications Close-range photogrammetry in linear bridge monitoring Zhang Songlei(53)

Standards-based secure access to mobile applications Shang Chao(55)

The design and implementation of track phase angle sensor Yong Hongcheng(58)

Based on NFC technology and short distance wireless communication technology in the application of the intelligent meter reading Gu Jiangtao, Wang Ying, Sun Jing, Xu Ying(61)

Optical fiber sensor in the application of the shaft of coal mine monitoring system Yan Jianguang(63)

Temperature transmitter(with sensor) evaluation of measurement uncertainty Zhai Kai(65)

GPS base station joint measurement accuracy exploration under the framework of LIDAR Wang Xiaolei(68)

Objects tracking based on the multiple characteristics fusion in the non-overlapped multiple cameras surveillance system Zhang Wenge, Qu Qingqing, Li Gang(71)

MACHINERY MANUFACTURING AUTOMATION

The designation of Bearing heating controller based on SCR Zhang Feng, Wang Zhiguo, Zhang Yangwei, Li Chengfeng(74)

Lightning Protection Research on 110kV Northern and Central Transmission Line in Nixi Cui Le, Liu Bin(77)

Condition based maintenance of electric power equipment based on Internet of things technology Xu Shijun, Pei Xuliang, Liu Jinhui, Mao Fengchao(79)

Design of Tension Testing System for Aerospace Electrical Connector Based On Free Communication Protocol Han Jianbin, Li Jing(82)

Analysis of the factories and arc suppression single-phase grounding power system fault Wang Yanjun, Cheng Junni(85)

For the smart grid research and development of intelligent power distribution transformer and the application Zhao Jiuyue(88)

Application of Mechanical Equipment Fault Diagnosis System Decision Tree Algorithm Tan Gang, Li Jun(90)

The application of PLC control technology in industrial automation Ping Lan(92)

Research on highway bridge structure design based on performance design concept Wu Zhe(94)

The substation equipment temperature prediction based on time sequence ARIMA model He Xiping, Gen Yuansong, Guo Zhiwei, Wang Ting, Duan Shousheng(96)

Narrow distribution network type prefabricated Angle steel tower foundation Wang Jian, Chen Bin, Huang Dayang, Wang Zhicong(101)

MANAGEMENT AUTOMATION

Research on the innovation strategy of railway engineering cost information Li Yanbei(104)

Design of basketball competition management system based on automation technology	Ma Jie(107)
Application of Electronic Commerce Recommendation System based on Association Rules and ART	Zeng Xianhao,Zhao Xiyi(109)
Wisdom campus service platform design based on cloud computing technology research	Yang Suihu(112)
Based on a certain power supply bureau of 10 kv distribution network fault controls the research analysis	Kong Xiangxuan(114)
Design of standard evaluation system of distribution network based on fuzzy comprehensive evaluation	Chen Xiaoming,Li Yidong,Liu Xudong,Liu Guoqing,Chen Qiyu(117)
Based on the technology of Internet of automobile supply chain logistics management system design and implementation	Sun Jing(119)
Research on the teaching behavior of mathematics teachers and related suggestions based on the application of multimedia technology	Xu Erwei(122)
The research and design of the background system of the document system under the new technology	WANG Yanjun(124)
The design of basketball players' physical fitness test database management system based on SQL	Xie Xintao(127)
BPM-based Financial Accounting Information System	Chen Hui(129)
Analysis on the RFID intelligent management of the library of Higher Vocational College	Tong Danna,Wang Ding(131)
Design and implementation of large scale office automation file management system	Shi Yuan(134)
Design and implementation of electric power communication network management system based on B/S structure	Liu Han,Zheng Qiuyun(137)
Design and implementation of construction material management scheme based on RFID Technology	Deng Xin(139)
Design and implementation of enterprise inventory management system based on JavaEE	Wen Jing,Zhu Zhengping,Du Keke(142)
Colleges and universities in the system of intelligent building energy efficiency design and implementation	Shi Nuo(144)
Based on the power supply enterprise supplies intensive management information platform building and applications	Huang Lili(146)
Study of garment drafting and layout theory and key technology	Yang Mei(149)
The application of modern information technology in English class of Higher Vocational Colleges	Wu Min(153)
The construction of a new modern teaching management system based on mobile phone	Zheng ya(155)
Distribution of mobile patrol work to achieve Analysis	Li Youcheng,Yu Wenhui(157)
Highway meteorological monitoring and management system requirements,design principles and case analysis	Zhou Jiandong,Zhao Honghao(159)
Application of automatic data acquisition technology in construction site management	Deng Hui(161)
Case Analysis of Signal System and Transportation Mutual Restricting	Wan Shengli(164)
Analysis of automation technology and green economy	Xu Qianqian(166)
Analysis on the principle and maintenance of UPS power supply system	Zhang Bo,Li Yan,Zhang Rui(168)
GIS-based visualization and VR real power channel	Li Yufen,Chen Xiao,Zeng Wenhua,Luo Kun(170)
Discussion on how to cultivate students' practical engineering ability in the teaching of building automation	Niu Pingping(172)

LABORATORY AUTOMATION

Simulation Research on high impedance fault location of cable based on PSCAD	Gao Xuqi,Bie Shiguang,Zhou Mingjie,Ping Yuan(174)
Research on location algorithm of single phase to earth fault in distribution network 10kV	Li Guoping(176)
Shaanxi Institute of International Trade&Commerce	TengWen(179)
Study on the principle and technology of railway wind blown snow disaster	He Shanghai(181)
Design and research of software system based on UML and RUP Technology	Tang Lin(183)
Design on Automatic Distribution and Withdrawing Operation Mechanism of Pipeline Connector	Yong Qiwei,Jiang Ming,Zuo Yonggang,Yang Jianyong(186)
A study of the application of computer software development language and layered Technology	Guo tao,Men Rui,Liu Zhengqi(188)
Research on Key Technologies of real time video transmission based on mobile terminal	Cui Yongyan,Cao Pengfei(195)
The application of reactive power compensation technology in electrical automation	Sun Yongfang,Zhang Gang(198)
The research about university sports teaching based on multimedia network teaching platform	Yi Zhaohua,Li Ping(200)
The construction of auxiliary sports software based on Android	Qi Jiaojiao(202)
Research on the construction of Ideological and political education in Colleges and Universities Based on the modern teaching media	Gao Huiyan(204)
Aerobics Teaching Research Network Teaching Platform Based on assisted	Bian Juping(207)
The group strategy based on genetic ant colony algorithm of reliability and validity of the study	Zhang Hongsheng,Zou Ning(209)
Mobile Application Design Framework Based ERP services	Hong Yutian(212)
Computer optimization design of building structure based on BIM Technology	Zhao Jingyuan(216)
Design of network assistant system of physical education teaching based on ASP Technology	Liu Junmin,Zhen Lihun(218)
Optimum Design Volleyball Sports Achievement Test System Based on	Wei Xing(221)
Virtualization technology in the application of the "digital campus"	He Xiaodong(223)
Application of mobile Internet App software in logistics enterprise transformation	Xiao Zhaodi,Han Jinming,HuangPu Hancong(225)
Data Mining in Student Physical Health Testing System	Chen Caihong(227)
Application and prospect of military engineering camouflage based on visual illusion	Pu Huan,Chen Shanjing,Kang Qing(229)
Design and Implementation of Simulation Training System for Electric Energy Measuring Instrument Based on Virtual Reality Technology	Zhuo Haoze,Li Weijian,Long Dong(233)
The Design and Implementation of Track Frequency Shift Signal Detection Algorithm based on Oversampling	Liu Pengfei(236)
The Design and Development of Physical Education Teaching Software Based on Internet Plus	Deng Hao(239)
Development and implementation of secure video stream transmission system based on Gstreamer	Cui Yongyan,Cao Pengfei(241)
Design and Implementation of Intelligent Physical Education System	Liu Ran(243)
Hardware implementation and simulation of the multipath fading model of space launch site	Zhang Yuefei,Zou Meifeng,Cao XiaoJun,Xue Zhiwei,Yue Changliang(245)
Incomplete Barcode Recognition with high coverage Based on Image Mosaicing and Invariant Moments Positioning	Zhang Feiyan(248)
Multimedia Psychology Instruction System Based on Authorware	Cui Lanqian(252)
Development of College Tennis Multimedia Presentation System	Peng Wen(254)

AUTOMATION

Research of intelligent community management control system based on Internet of things	Sun Hongchang,Zhang Luyuan,Sun Jiahong,Long Ping,Yu Fukui(256)
The design of smart car with active safety systems based on MSP430	Sui Tao,Zhu Weiqiang,Feng Chuan,Wang Bo(259)
Design and implementation of intelligent building system for hospital outpatient building	Li Ping(261)
Intelligent children's near field orientation safety clothing design	Zhang Qiong(263)
The application of the green energy-saving technology in hvac system	Ran Limei,Hou Jingmei(266)
The intelligent greenhouse control and management system based on Internet of things	Shu Baolin(268)