

目 次

• 测试与故障诊断 •

龙芯3号板卡HT互联及内存故障诊断方法的设计与实现.....	冯珂珂, 贾 凡, 杜晓杰, 王玉钱 (1)
短丝纤维卷绕牵伸齿轮箱故障信号的图像特征提取方法.....	李亚利 (7)
基于ATML的D矩阵诊断模型实现.....	胡 宇, 文永康 (12)
基于改进粒子群算法的RBF神经网络磨机负荷预测研究.....	赵长春, 赵 亮, 王 博 (19)
基于灰色神经网络的装备计量预测研究与实现.....	周东方, 王志虎, 丁风海 (23)
基于频域分析的毛巾织物疵点检测.....	王竹毅, 赵晓军, 杨 梦 (28)
基于电阻抗谱特性与集成神经网络的天然气水合物饱和度软测量模型.....	曹胜昌, 邢兰昌, 魏 伟, 韩维峰, 牛佳乐 (32)
企业级固态硬盘最新进展及测试技术研究.....	吴家隐, 李先绪 (38)
基于GIS的震裂坡地降雨量监测预警系统设计.....	谢启杰, 魏伟锐, 陈春丽, 李智成 (42)
基于三维空气质量监测系统的非均匀分簇算法.....	于大为, 董茜茜, 张 昀, 于舒娟 (47)
基于随机神经网络集成模型的实时遥测数据处理.....	贾海艳 (52)
一种隧道基坑多维度时变预测EPS模型的应用.....	翁敦贤 (56)

• 控制技术 •

运算放大器特性参数偏差对控制系统稳定性的影响分析.....	曹英健, 王 岩, 曹巴甲, 郭翹楚 (61)
基于前馈-反馈控制的天然气分输站场控制及前馈控制率自适应方法.....	王树祺, 姜念琛, 闫 峰, 赵晓鹰, 王 健, 张 舒, 高小永, 殷卫兵 (66)
基于无线自组网的灯光照明控制系统设计.....	王俊影, 李 扬, 李伟明, 郝 敏 (70)
基于浸入-不变集的三旋翼无人机高度系统自适应控制器设计.....	徐晓旭, 郝 伟 (76)
基于Q学习的供热末端自适应PID控制算法.....	段中兴, 赵 莎, 马祥双 (80)
基于CPLD芯片的视频图像码率控制方法研究.....	陈建国, 康海静, 兰 英 (86)
基于图像序列拓扑关系的扎针机器人控制系统设计.....	许 林, 吴 丹, 袁 静, 孟 娜 (90)
基于区块链技术的高速移动视点视频监控跟踪系统设计.....	刘 丹 (95)

• 军事装备测控技术 •

枪弹激波实时监测系统的设计与应用.....	董高庆, 柳吉龄, 田新月, 宋学会 (99)
-----------------------	-------------------------

• 设计与应用 •

基于大数据的新兴产业计量校准服务平台研究.....	张修建, 杨 平, 张鹏程 (104)
基于神经网络的线性回波抵消与不完全传递函数的凸重构.....	文 锁 (108)
无人机侦察图像运动模糊复原方法研究.....	武永恒, 张小孟, 李小民, 李文广, 李 炭 (113)

基于Actor模型的浮式保障平台数据采集系统设计	陆俊杰, 周志刚, 李晓峰 (119)
基于FPGA的串行多节点数据采集传输系统的应用研究	纳杰斯, 岳雷, 马雪, 郭春福 (125)
基于凸包的电池片边缘缺陷检测算法	赵强, 黄远, 赵春海 (129)
无人机机载视频去雾系统设计	王健, 秦春霞, 杨珂, 任萍, 郑洁, 赵远鹏, 陈贵锋 (135)
基于支持向量机的水质浊度补偿研究	李文, 王兴浩, 何云霄, 罗学科 (140)
基于GIS的工程测绘机器人自动定位系统设计	马明 (144)
电力通信网络业务质量特征的数据流智能调度	田毅, 段志国, 闫震, 于振江, 王玉, 查凡 (148)
基于CHS软件的潜在通路分析方法	黄聪, 张宇, 霍宏 (153)
不同支配关系的多目标算法的柔性作业调度	李晓辉, 刁林倩, 张秀, 赵毅, 李杰 (158)
基因表达式算法的民航涡扇发动机可调放气阀门工作基线建模	谭燕 (165)
基于时空残差网络的区域客流量预测方法	董丽丽, 柳佳欢, 费城, 张翔 (170)
基于U-NET网络的心律失常信号识别算法研究	刘波, 嵇启春 (175)
多模双频段车载遥感地面站的设计及应用	王怀, 王强 (180)
基于卷积神经网络的钣金件表面缺陷分类识别方法	谢政峰, 王玲, 尹湘云, 殷国富 (187)
SMA丝驱动的手指康复机器人设计及实验研究	张瑛如, 王扬威, 刘凯, 赵东标 (191)
基于MX1601B-R的风洞数据采集系统设计与实现	曾星, 顾光武, 张文清, 杨兆欣, 王斌 (197)
无尾扑翼无人机动力学建模及仿真	陈登峰, 耿建勤, 张温, 刘国 (202)
一种结合矩阵分解和深度学习技术的POI推荐模型	董丽丽, 秦蕾, 张翔 (207)
融合目标检测和人体关键点检测的铁路司机行为识别	姚巍巍, 张洁 (212)
强声脉冲对接收机的干扰压制特性仿真	崔小明, 骆伟 (217)
基于数据优先级的雷达目标跟踪偏差补偿方法	罗辉 (222)
基于DenseNet的无人汽车制动意图识别方法	伍菁 (226)
基于PCF8563的数字钟FPGA设计与实现	付永乐, 王崇 (231)
激光雷达风速模拟系统设计	常博, 严志腾 (236)
基于Windows平台的实时信息处理方法	段红亮, 刘天博, 邵春收, 王鹏, 朱元元 (243)
雾计算平台的任务调度算法研究	黄思宇, 何通能 (247)

• 试验与评价技术 •

机翼疲劳试验控制精度提升方法研究	刘振宇, 米征 (252)
------------------------	---------------

• 智能仪器与传感技术 •

高流量呼吸湿化治疗仪的机理分析与数据建模	魏立峰, 杨私, 李雨桐, 周成广, 孙明仪 (257)
用于无线卫星通信网络系统的抑噪分频频率综合器设计	黄宇, 陈建国, 严南 (261)
基于深度学习的传感器故障数据分析系统设计	王心宇, 魏诗朦, 陈韵秋 (266)
某型飞机油量传感器修正及其流量特征提取方法研究	吴祯涛, 李学仁, 杜军 (271)

Contents

• Test and Fault Diagnosis •

Design and Realization of HT Interconnection and Memory Fault Diagnosis Method for Loongson-3 Mainboard.....	Feng Keke,Jia Fan,Du Xiaojie,Wang Yuqian(1)
Image Feature Extraction Method for Fault Signal of Short Fiber Winding and Drafting Gearbox.....	Li Yali(7)
Implementation of D-matrix Reasoning Model Based on ATML.....	Hu Yu,Wen Yongkang(12)
Research on Mill Load Prediction of RBF Neural Network Based on Improved Particle Swarm Optimization Algorithm.....	Zhao Changchun,Zhao Liang,Wang Bo(19)
Research and Implementation of Equipment Metrological Forecasting Based on Grey Neural Network.....	Zhou Dongfang,Wang Zhihu,Ding Fenghai(23)
Defect Detection of Towel Fabric Based on Frequency Domain Analysis.....	Wang Zhuyi,Zhao Xiaojun,Yang Meng(28)
Soft Sensing Model of Gas Hydrate Saturation Based on Electrical Impedance Characteristics and Ensemble Neural Network.....	Cao Shengchang,Xing Lanchang,Wei Wei,Han Weifeng,Niu Jiale(32)
Research on the Latest Development and Test Technology of Enterprise Solid State Drive.....	Wu Jiayin,Li Xianxu(38)
Design of Rainfall Monitoring and Warning System Based on GIS.....	Xie Qijie,Wei Weirui,Chen Chunli,Li Zhicheng(42)
Non-uniform Cluster Algorithm in the 3-Dimensional Air Quality Monitoring System.....	Yu Dawei,Dong Xixi,Zhangyun,Yu Shujuan(47)
An Ensemble Based on Neural Networks with Random Weights for Real-time Telemetry Data Processing.....	Jia Haiyan(52)
Application of a Multidimensional Time-varying Predictive EPS Model for Tunnel Pit.....	Weng Dunxian(56)

• Control Technology •

Impact Analysis of Operational Amplifier Characteristic Parameters on System Stability.....	Cao Yingjian,Wang Yan,Cao Sijia,Guo Qiaochu(61)
Feedforward-backward Control based Natural Gas Distribution Site Control and Feedforward Control Law Updating Method.....	Wang Shuqi,Jiang Nianchen,Yan Feng,Zhao Xiaoying,Wang Jian,Zhang Shu,Gao Xiaoyong,Yin Weibing(66)
Design of Lighting Control System Based on Wireless Ad Hoc Network.....	Wang Junying,Li Yang,Li Weiming,Hao Min(70)
Design of Adaptive Controller for Height System of Three Rotor UAV Based on Immersion Invariant Set.....	Xu Xiaoxu,Hao Wei(76)
Heating End Adaptive PID Control Algorithm Based on Q Learning.....	Duan Zhongxing,Zhao Sha,Ma Xiangshuang(80)
Research on Video Image Bit Rate Control Method Based on CPLD Chip.....	Chen Jianguo,Kang Haijing,Lan Yin(86)
Design of Control System of Needle Robot Based on Topological Relation of Image Sequence.....	Xu Lin,Wu Dan,Yuan Jing,Meng Na(90)
Design of High-speed Mobile Viewpoint Video Surveillance Tracking System Based on blockchain Technology.....	Liu Dan(95)

• Military Equipment Technology in Measurement and Control •

Design and Application of Bullet's Shock Wave Real-time Monitoring System.....	Dong Gaoqing,Liu Jiling,Tian Xinyue,Song Xuehui(99)
--	---

• Design and Application •

Research on Metrology and Calibration Service Platform of Emerging Industry Based on Big Data.....	Zhang Xiujian,Yang Ping,Zhang Pengcheng(104)
Linear Echo Cancellation and Convex Reconstruction of Incomplete Transfer Function Based on DNN.....	Wen Suo(108)
Research on Motion Blur Restoration Method of UAV Reconnaissance Image.....	Wu Yongheng,Zhang Xiaomeng,Li Xiaomin,Li Wenguang,Li Tan(113)

Design of Data Acquisition System for Floating Support Platform Based on Actor Model.....	Lu Junjie,Zhou Zhigang,Li Xiaofeng(119)
Application Research of Serial Multi-node Data Acquisition and Transmission System Based on FPGA.....	Na Jiesi,Yue Lei,Ma Xue,Guo Chunfu(125)
Solar Cell Edge Defect Detection Algorithm Based on Convex Hull.....	Zhao Qiang,Huang Yuan,Zhao Chunhai(129)
Design of the Airborne Video Demisting System for UCAV.....	Wang Jian,Qin Chunxia,Yang Ke,Ren Ping,Zheng Jie,Zhao Yuanpeng,Chen Guifeng(135)
Turbidity Sensor Compensation Method Based on SVM.....	Li Wen,Wang Xinghao,He Yunxiao,Luo Xueke(140)
Design of Auto-positioning System for Engineering Surveying Robot Based on GIS.....	Ma Ming(144)
Intelligent Data Flow Scheduling for Service Quality Characteristics of Power Communication Networks.....	Tian Yi,Duan Zhiguo,Yan Zhen,Yu Zhenjiang,Wang Yu,Zha Fan(148)
Sneak Circuit Analysis Method Based on CHS Software.....	Huang Cong,Zhang Yu,Huo Hong(153)
Flexible Job Scheduling Based on Multi-objective Algorithms with Different Dominance Relationship.....	Li Xiaohui,Diao Linqian,Zhang Xiu,Zhao Yi,Li Jie(158)
Operation Baseline Modeling of Civil Aviation Turbofan Engine's Variable Bleed Valve by Gene Expression Programming Algorithm.....	Tan Yan(165)
Regional Traffic Prediction Method Based on Spatiotemporal Residual Network.....	Dong Lili,Liu Jiahuan,Fei Cheng,Zhang Xiang(170)
Recognition Algorithm of Arrhythmia Signal Based on U-NETt Network.....	Liu Bo, Ji Qichun(175)
Design and Application for Multi-mode and Dual-band Vehicle-borne Remote Sensing Ground Station.....	Wang Huai,Wang Qiang(180)
Classification and Recognition Method of Sheet Metal Parts Surface Defects Based on Convolution Neural Network.....	Xie Zhengfeng,Wang Lin,Yin Xiangyun,Yin Guofu(187)
Research on Bionic Finger Rehabilitation Robot Actuated by Shape Memory Alloys Wires.....	Zhang Yingru,Wang Yangwei,Liu Kai,Zhao Dongbiao(191)
Design and Implementation of Wind Tunnel Data Acquisition System Based on MX1601B-R.....	Zeng Xing,Gu Guangwu,Zhang Wenqing,Yang Zhaoxin,Wang Bin(197)
Dynamic Modeling and Simulation of a Tailless Flapping Wing Robot.....	Chen Dengfeng,Geng Jianqin,Zhang Wen,Liu Guo(202)
A POI Recommendation Model Combining Matrix Factorization and Deep Learning Technology.....	Dong Lili,Qin Lei,Zhang Xiang(207)
Railway Driver Behavior Recognition Based on Fusion Object Detection and Person Keypoints Detection.....	Yao Weiwei,Zhang Jie(212)
Simulation of Interference and Suppression Characteristics of Receiver by High Acoustic Pulse.....	Cui Xiaoming,Luo Wei(217)
Deviation Compensation Method of Radar Target Tracking Based on Data Priority.....	Luo Hui(222)
DenseNet-based Braking Intention Recognition Method for Unmanned Vehicles.....	Wu Jing(226)
FPGA Design and Implementation of Digital clock Based on PCF8563.....	Fu Yongle,Wang Chong(231)
Design of Wind Velocity Simulation System for Lidar.....	Chang Bo,Yan Zhiteng(236)
Real-time Information Processing Method Based on Windows Platform.....	Duan Hongliang,Liu Tianbo,Shao Chunshou,Wang Peng,Zhu Yuanyuan(243)
Research on Task Scheduling Algorithm of Fog Computing Platform.....	Huang Siyu,He Tongneng(247)

• Test & Evaluation Technology •

Research on Method of Improving Control Accuracy of Wing Fatigue Test.....	Liu Zhenyu,Mi Zheng(252)
--	--------------------------

• Intelligent Instruments and Sensing Technology •

Mechanism Analysis and Data Modeling of High-Flow Heated Respiratory Humidifier.....	Wei Lifeng,Yang Si,Li Yutong,Zhou Chengguang,Sun Mingyi(257)
Noise Suppression Frequency Synthesizer Design for Wireless Satellite Communication Network System.....	Huang Yu,Chen Jianguo,Yan Nan(261)
Design of Sensor Fault Data Analysis System Based on Deep Learning.....	Wang Xinyu,Wei Shimeng,Chen Yunqiu(266)
Research on Modification of Aircraft Fuel Sensor and Extraction of Fuel Flow Characteristic.....	Wu Zhentao,Li Xueren,Du Jun(271)