

计算机测量与控制

2022年8月 第30卷 第8期

目次

● 综述与评论 ●

大推力氢氧发动机全寿命周期健康管理研究进展·····乔夏君,薛薇(1)

● 测试与故障诊断 ●

一种新型车载控制及诊断系统部件设计·····刘纪龙,吴冬华,苗欣,李琳,江守亮,李言民,王滨,宋庆详(7)

基于遗传算法的大推力氢氧补燃发动机故障检测·····李宁宁,武小平,薛薇,胡慧,徐志强(14)

基于批量匹配算法模型的配电网故障诊断方法·····何冰,谢天祥,胡园园,游传强(19)

基于智能识别技术的铁路安检辅助分析装置研究·····杨栋,李超,吴兴华,王椿钧,唐雯(25)

一种标准化的软件性能测试流程设计与研究·····韦亚军,张文文(31)

民用飞机结构健康监测系统的设计方法·····魏元雷,高飞鹏(38)

基于智能技术的配电柜接线快速检测方法·····丁家皓,李柏岩,刘晓强,涂文奇,郑佳明(44)

基于改进萤火虫算法优化的电力光纤线路状态预测模型研究·····

·····孔历波,毛一凡,欧阳李亮,康恺,何超(50)

双翻斗式雨量传感器自动调节检定系统设计·····郑俊锦,夏利娜,陈龙福,李勇波(56)

基于光惯组合的风洞尾旋试验位姿参数测量方法·····宋晋,马军,颜来,成垒,刘欢,李春霞(62)

锂电池健康状态快速测量及系统实现·····钟文辉,肖兵,宁静(68)

基于CNN-LSTM-PSO的私有云故障检测·····曹炳尧,柏杰,侯佩儒(76)

国产智能气压测量仪实验室校准方法研究·····马修才,重阳,郑树芳,牛永红,刘海珍(83)

● 控制技术 ●

基于聚合等级的5G通信下行信道传输控制系统设计·····贾璐(90)

基于大数据聚类分析的爬壁机器人位姿定位控制系统设计·····宋容(96)

超混沌Lü系统同步控制与应用·····郭栋,白超(103)

基于载波频率的高频电流传感器均流控制系统设计·····王燕(111)

● 军事装备测控技术 ●

基于集成学习的装备小样本试验缺失数据插补方法研究·····马亮,郭力强,刘丙杰,杨静(116)

基于数传电台的靶弹微波源辅助控制系统设计·····王刚,刘基睿,杜江(122)

天基信息支持导弹对海打击应用优化仿真分析·····杨德运,马永春,高轶,马红梅,于薇,罗啸(129)

● 设计与应用 ●

- 基于FPGA的IEEE488接口协议实现及驱动程序开发·····刘阳,罗显志,周杨罗,李政(134)
- 基于深度学习算法的风电机组叶片开裂缺陷分析·····董礼,韩则胤,王宁,王恩路,苏宝定(142)
- 基于改进YOLOv5算法的管道漏磁信号识别方法·····王国庆,李璇,杨理践,高松巍,耿浩(147)
- 基站备用电源用燃料电池能量管理单元设计·····袁学飞,刘照智,张广孟,杨琰(155)
- 融合多维注意力机制CNN皮肤肿瘤图像分割提取·····高正君,张佩炯,司小强(161)
- 基于IGA-SVR随机Hough变换的预制构件螺栓孔节点定位·····段中兴,郭沛菁(169)
- 融合空间信息的改进FCM图像分割算法·····刘璇,高保禄,王朝辉(176)
- 基于NSGA-II的渣土车调度系统的研究与设计·····母洪铤,苟刚,姚文钦,黄伶俐(183)
- 改进Xception模型的乳腺钼靶图像识别研究·····李锦通,安建成,王悦,曹锐(189)
- 基于最大熵卡尔曼滤波的机载SINS星敏感器辅助空中标定技术·····王瑞,张志亮,郑百东,戴洪德(197)
- 基于锂电池SOC的运载火箭供电能源冗余管理研究·····汪灏,沈川杰,周恒保,王雨果,高飞,徐昕(204)
- 基于ARM及机器视觉的智能药品运送机器人系统设计与研究·····江龙韬,刘怡沛,张卓(211)
- 微重力空间下微纳遥感卫星太阳翼构型仿真分析·····董怡泽,付春雨,王超,孔祥磊,邢哲,高冀(218)
- 一种全向圆极化天线设计·····赵东贺,韩国栋,刘桂凤(224)
- 自适应容错算法在基站数据交互中的研究·····喻阳俭,雷磊,崔新友,陈世纯,刘台,朱超(230)
- 应用前馈神经网络的大柔性机翼阵风响应分析·····常辉,朱靖,安朝,刘松林,谢长川,杨超(236)
- 基于改进粒子群算法的多机器多任务3D打印智能调度方法·····周明霞,张梦娜,李琥宇,吴川,张潇(245)

● 试验与评价技术 ●

- 基于典型集成电路的自动测试演示验证研究·····闫丽琴,王占选,冯建呈,闫静,任朝旭(251)
- 基于PHM的自动气象站健康评价与故障预判方法研究·····李文博,李宛桐,史静,姜明,崔明(256)
- 软件生命周期质量评价方法研究·····李海霞,王磊,李智,王月波(264)
- 基于多态共因失效的助航灯光供电系统可靠性分析·····侯启真,侯祎飞(269)
- 国产超大规模集成电路测试系统综合试验验证方法·····闫丽琴,冯建呈,王占选,殷晔,刘莹,李小龙(277)

● 智能仪器与传感技术 ●

- 内外源注意的无人系统智能感知应用研究·····唐勇,周典乐,王涛(283)
- 基于MEMS传感器的室内外多源融合导航系统设计·····田丹(289)
- 高值无线电干扰测量仪使用性能扩展方法研究·····黄卫华,许海,杨斌发,袁海文,周虎,李金猛,张祥东(296)

期刊基本参数: CN11-4762/TP*1993*m*16*300*zh+en*P*¥45*1500*46*2022-08

本期责任编辑: 任旺芳

COMPUTER MEASUREMENT & CONTROL

Vol. 30 No. 8 Aug. 2022

Contents

• Summary and Comment •

Research Process of Whole Life Health Management for Liquid Rocket Engines.....QIAO Xiajun,XUE Wei(1)

• Test and Fault Diagnosis •

Component Design of a New On-Board Control and Diagnosis System.....LIU Jilong,WU Donghua,MIAO Xin,LI Lin,JIANG Shouliang,LI Yanmin,WANG Bin,SONG Qingxiang(7)

Fault Diagnosis of High-Thrust LOX/LH2 Staged Combustion Cycle Engines Base on Genetic Algorithm.....LI Ningning,WU Xiaoping,XUE Wei,HU Hui,XU Zhiqiang(14)

Distribution Network Fault Diagnosis Method Based on Batch Matching Algorithm Model.....HE Bing,XIE Tianxiang,HU Yuanyuan,YOU Chuanqiang(19)

Research on Railway Security Inspection Auxiliary Analysis Device Based on Intelligent Identification Technology.....YANG Dong,LI Chao,WU Xinghua,WANG Chunjun,TANG Wen(25)

Design and Research of a Standardized Software Performance Testing Flow.....WEI Yajun,ZHANG Wenwen(31)

Architecture Design Method for Structural Health Monitoring System (SHM) of Civil Aircraft.....WEI Yuanlei,GAO Feipeng(38)

Fast Detection Method of Distribution Cabinet Wiring Based on Intelligent Technology.....DING Jiahao,LI Baiyan,LIU Xiaoqiang,TU Wenqi,ZHENG Jiaming(44)

Research on State Prediction Model of Power Optical Fiber Line Based on Firefly Algorithm Optimization.....KONG Libo,MAO Yifan,OUYANG Liliang,KANG Kai,HE Chao(50)

Design of Automatic Adjustment and Verification System of Double Tipping Bucket Rainfall Sensor.....ZHENG Junjin,XIA Lina,CHEN Longfu,LI Yongbo(56)

Measurement on Attitude and Position of Spin Test in Wind Tunnel Based on Combination of Optics and Inertia Technology.....SONG Jin,MA Jun,YAN Lai,CHENG Lei,LIU Huan,LI Chunxia(62)

Rapid Measurement and System Realization of State of Health of Lithium Battery.....ZHONG Wenhui,XIAO Bing,NING Jing(68)

LSTMPrivate Cloud Fault Detection Based on CNN-LSTM-PSO.....CAO Bingyao,BAI Jie,HOU Peiru(76)

Research on Laboratory Calibration Method of Domestic Intelligent Barometer.....MA Xiucui,CHONG Yang,ZHENG Shufang,NIU Yonghong,LIU Haizhen(83)

• Control Technology •

Design of 5G Communication Downlink Channel Transmission Control System Based on Aggregation Level.....JIA Lu(90)

Design of Pose Positioning Control System for Wall-Climbing Robot Based on Big Data Cluster Analysis.....SONG Rong(96)

Synchronization for a Hyper-chaotic Lü System and Its Application.....GUO Dong,BAI Chao(103)

Design of Current Equalization Control System for High Frequency Current Sensor Based on Carrier Frequency.....WANG Yan(111)

• Military Equipment Technology in Measurement and Control •

Research About Interpolating Missing Data on Small Sample Trials of Equipment Based on Ensemble Learning.....MA Liang,GUO Liqiang,LIU Bingjie,YANG Jing(116)

Design of Auxiliary Control System for Target Missile Microwave Source Based on Data Transceiver.....WANG Gang,LIU Jirui,DU Jiang(122)

Optimization Simulation Analysis of Space-Based Information Supporting Missiles for Sea Strike.....YANG Deyun,MA Yongchun,GAO Yi,MA Hongmei,YU Wei,LUO Xiao(129)

● Design and Application ●

Implementation of IEEE488 Interface Protocol and Driver Development Based on FPGA.....	LIU Yang,LUO Xianzhi,ZHOU Yangluo,LI Zheng(134)
Crack Defect Analysis of Wind Turbine Blade Based on Deep Learning Algorithm.....	DONG Li,HAN Zeyin,WANG Ning,WANG Enlu,SUN Baoding(142)
Pipeline Magnetic Flux Leakage Signal Recognition Method Based on Improved YOLOv5 Algorithm.....	WANG Guoqing,LI Xuan,YANG Lijan,GAO Songwei,GENG Hao(147)
Design of Fuel Cell Energy Management Unit for Base Station Backup Power.....	YUAN Xuefei,LIU Zhaozhi,ZHANG Guangmeng,YANG Yan(155)
Combined Multidimensional Attention Mechanism Convolutional Neural Network in Skin Tumor Image Segmentation.....	GAO Zhengjun,ZHANG Peijiong,SI Xiaoqiang(161)
Bolt Hole Nodes Location of Prefabricated Components Based on IGA-SVR Combined with Random Hough Transform.....	DUAN Zhongxing,GUO Peijing(169)
Improved FCM Image Segmentation Algorithm Based on Spatial Information Fusion.....	LIU Xuan,GAO Baolu,WANG Zhaohui(176)
Research and Design of Muck Truck Scheduling System Based on NSGA-II.....	MU Hongcheng,GOU Gang,YAO Wenqing,HUANG Lingli(183)
Research on Mammograms Recognition with Improved Xception Model.....	LI Jintong,AN Jiancheng,WANG Yue,CAO Rui(189)
Maximum Correntropy Kalman Filter Based Self Calibration of Airborne SINS Adopting Aided by Star Sensor.....	WANG Rui,ZHANG Zhiliang,ZHENG Baidong,DAI Hongde(197)
Research on Power Supply Redundancy Management of Launch Vehicle Based on Lithium Battery SOC.....	WANG Hao,SHEN Chuanjie,ZHOU Hengbao,WANG Yuguo,GAO Fei,XU Xin(204)
Design and Research of Intelligent Drug Delivery Robot System Based on ARM and Machine Vision.....	JIANG Longtao,LIU Yipei,ZHANG Zhuo(211)
Simulation Analysis on the Solar Panel of Remote Sensing CubeSat with Different Structures in Microgravity Space.....	DONG Yize,FU Chunyu,WANG Chao,KONG Xianglei,XING Zhe,GAO Ji(218)
Design of Omnidirectional Circularly Polarized Antenna.....	ZHAO Donghe,HAN Guodong,LIU Guifeng(224)
Research on Real-time Adaptive Fault-tolerant Algorithm in Base Station Data Interaction.....	YU Yangjian,LEI Lei,CUI Xueyou,CHEN Shichun,LIU Tai,ZHU Chao(230)
Aeroelastic Analysis of Large Flexile Wing Based on Machine Learning Algorithm.....	CHANG Hui,ZHU Jing,AN Chao,LIU Songlin,XIE Changchuan,YANG Chao(236)
Multi-task and Multi-machine 3D Printing Intelligent Scheduling Method with Particle Swarm Optimization Algorithm.....	ZHOU Mingxia,ZHANG Mengna,LI Xiaoyu,WU Chuan,ZHANG Xiao(245)

● Test & Evaluation Technology ●

Research on Automatic Test Demonstration and Verification Based on Typical Integrated Circuits.....	YAN Liqin,WANG Zhanxuan,FENG Jiancheng,YAN Jing,REN Zhaoxu(251)
Research on Health Evaluation and Fault Prediction of AWS Based on PHM.....	LI Wenbo,LI Wantong,SHI Jing,JIANG Ming,CUI Ming(256)
Research on Software Life Cycle Quality Evaluation Method.....	LI Haixia,WANG Lei,LI Zhi,WANG Yuebo(264)
Reliability Analysis of Navigation Light Power Supply System Based on Multi-state and Common Cause Failure.....	HOU Qizhen,HOU Yifei(269)
Comprehensive Test Validation Method of Domestic Very-large-scale Integration Test System.....	YAN Liqin,FENG Jiancheng,WANG Zhanxuan,YIN Ye,LIU Ying,LI Xiaolong(277)

● Intelligent Instruments and Sensing Technology ●

Application Research on Intelligent Perception of Unmanned System Based on Internal and External Attention.....	TANG Yong,ZHOU Dianle,WANG Tao(283)
Design of Indoor and Outdoor Multi-Source Integrated Navigation System Based on MEMS Sensor.....	TIAN Dan(289)
Research on the Use Performance Expansion Method of High Value Radio Interference Measuring Instrument.....	HUANG Weihua,XU Hai,YANG Binfa,YUAN Haiwen,ZHOU Hu,LI Jinneng,ZHANG Xiangdong(296)