

计算机测量与控制

2026年6月 第34卷 第6期

目 次

● 测试与故障诊断 ●

基于数字孪生的红外光学设备数据模型混合驱动故障预测.....
.....房红征,赵爽,段程予,李昕航,李蕊,游子璇(1)

新一代运载火箭附加系统温度测试台过压保护设计.....金豹,汪灏,徐玮,徐昕(10)

基于改进YOLOv10n的X射线焊缝缺陷检测方法研究.....耿冉冉,王海彬,童金武,胡浩严,史腾(18)

基于置信规则库推理的咽喉病辅助诊断系统的研究.....俞杉杉,屠嘉骏,郭振(27)

一种非线性系统自适应故障检测与估计.....刘明(34)

基于改进U-Net的遥感图像道路检测.....张桐瑞,杨延宁,张佳豪(42)

基于头部姿态估计的听障生课堂专注度监测方法及系统.....卓然,高飞(49)

基于双层多重编码结构的GIS遥感影像变化检测与异常识别模型设计.....高越,董典伟(55)

基于注意力机制和多尺度特征的场景文本检测算法.....李琼,邢景松,廖海斌,翁灿(62)

基于无监督学习的两阶段显著性目标检测.....陈奕晖,毕钰(71)

多模融合与端-边-云-用协同的矿工岗前健康监测管理系统.....刘妮,周燕(80)

● 控制技术 ●

柔性关节机械臂接触力阻抗控制系统设计.....毕梦莹(89)

基于改进Bi-RRT算法的双臂空间机器人关节角驱动力矩控制.....孙列(97)

移动机器人关节末端残余振动增广自适应控制系统设计.....段赞,王博,刘聪,陈蕊蕊(104)

基于融合深度神经网络的刚柔耦合机械臂优化控制系统设计.....王博,段竹,汪德忠,王文明(114)

新能源汽车用永磁同步驱动电机同步控制系统设计.....吴玮玮(122)

基于列车模型的ATO超前预测优化控制算法研究.....吴争展,苏辉亮,刘泽,任颖,姜德昭(130)

基于Java的针织控制系统设计与实现.....张团善,吴妙,韩起立(139)

● 军事装备测控技术 ●

基于FPGA的火工品电子模拟测试系统设计.....邹伟,郑伟华,国胜,洪应平(147)

● 设计与应用 ●

- 嵌入式系统中KSZ8851-32MLL的网络风暴影响及自恢复机制研究·····夏加高,张晓金,石毅杰,梁绪,魏文彬,马少君(156)
- 一种针对双旋转惯导系统的协同初始对准算法·····徐长申,贺涛,李冲辉(165)
- 运载火箭的电磁兼容性分析与设计·····徐梓菲,顾寒烈,徐玮,徐昕,汪灏(174)
- 高轨卫星通信系统链路预算模型设计·····曹晓伟,徐永强,宋强,付小彬,魏瑞刚,郑宝辉(181)
- 融合改进A*与增强型DWA算法下的无人路面洒水车分层路径优化方法·····仲济磊,陈珍萍,吴祥(190)
- 基于切片自查询的室外自监督单目深度估计·····张刚,张晖敏,张培媛,张海龙(199)
- 基于JSD-Informer模型的分布式光伏发电功率短期预测方法·····谭晶,马洲俊,蒋承伶,郭金坤,徐溯,魏训虎,富思(208)
- 基于OA-YOLOv8的学生课堂行为识别方法研究·····郭婷,闫佳,王瑞(216)
- 基于四叉树网格的卫星可见性快速获取方法·····曾凡琳,宋庆龙,王港,朱光熙,张超,王萍,侯谨毅(223)
- 基于边云协同的车辆场景多模态语义补全与语义压缩方法·····叶仕通(229)
- 离岸机群限寿件预防性维修与携行备件联合优化·····张永强,陈森鑫,高万春,崔骏夫,朱飞(236)
- 基于深度逐平面扫描的立体体积构建方法·····关珍博,姬红兵,段同乐,梁海涛(244)
- 时序姿态扰动补偿下无人机多模态特征混叠目标视觉标定系统设计·····袁雪梦(251)
- 面向复杂三维场景无人机自适应混沌优化航路规划算法·····杨帆,刘蓉,许程凯,马军锋,王彩凤(261)
- 面向高速载体测控通信的宽带宽波束端射天线设计·····李其强,王鹏毅,周世钢(269)

● 智能仪器与传感技术 ●

- 基于动态能效优化的自持型无线倾角仪设计与实现·····伍德行,刘明强,孙辉,胡洪林,黄运川(278)

● 试验与评价技术 ●

- 数据驱动的红外导引头伺服预测仿真验证平台·····肖泽鹏,王净巍,宫祥宇,房红征,白鸿豪(285)

期刊基本参数: CN11-4762/TP*1993*m*16*300*zh+en*P*¥45*1000*36*2026-6

本期责任编辑: 任旺芳

COMPUTER MEASUREMENT & CONTROL

Vol. 34 No. 6 Jun. 2026

Contents

• Test and Fault Diagnosis •

Hybrid-driven Fault Prediction of Infrared Optical Equipment Data Model Based on Digital Twin.....	
.....FANG Hongzheng,ZHAO Shuang,DUAN Chengyu,LI Xinhang,LI Rui,YOU Zixuan(1)	
Design of Overvoltage Protection for the Temperature Testing Platform of New-Generation Launch Vehicle Auxiliary Systems.....	
.....JIN Bao,WANG Hao,XU Wei,XU Xin(10)	
Study on X-Ray Weld Defect Detection Method Based on Improved YOLOv10n.....	
.....GENG Ranran,WANG Haibin,TONG Jinwu,HU Haoyan,SHI Teng(18)	
Research on Throat Disease Auxiliary Diagnosis System Based on Belief Rule Base Reasoning.....	
.....YU Shanshan,TU Jiajun,GUO Zhen(27)	
Adaptive Fault Detection and Estimation for a Nonlinear System.....	
.....LIU Ming(34)	
Road Detection in Remote Sensing Images Based on Improved U-Net.....	
.....ZHANG Tongrui,YANG Yanning,ZHANG Jiahao(42)	
Method and System for Monitoring Classroom Concentration of Deaf Students Based on Head Pose Estimation.....	
.....ZHUO Ran,GAO Fei(49)	
Detection and Anomaly Recognition Model for GIS Remote Sensing Images Based on Dual-Layer Multi-Encoding Structure.....	
.....GAO Yue,DONG Dianwei(55)	
Scene Text Detection Algorithm Based on Attention Mechanism and Multi-scale Features.....	
.....LI Qiong,XING Jingsong,LIAO Haibin,WENG Can(62)	
Detection of Two-Stage Salient Objects Based on Unsupervised Learning.....	
.....CHEN Yihui,BI Yu(71)	
Pre-shift Health Monitoring and Management System for Miners Based on Multimodal Fusion and End-Edge-Cloud-Application Collaboration.....	
.....LIU Ni,ZHOU Yan(80)	

• Control Technology •

Design of Contact Force Impedance Control System for Flexible Joint Robot Arms.....	
.....BI Mengying(89)	
Joint Angle Driving Torque Control of Dual Arm Space Robots Based on Improved Bi-RRT Algorithm.....	
.....SUN Lie(97)	
Augmented Adaptive Control System for Residual Vibration at the Joint End of Mobile Robots.....	
.....DUAN Yun,WANG Bo,LIU Cong,CHEN Ruirui(104)	
Optimization Control System for Rigid Flexible Coupling Robot Arms Based on Fusion Deep Neural Networks.....	
.....WANG Bo,DUAN Zhu,WANG Dezhong,WANG Wenming(114)	
Design of Synchronous Control System for PMSM in New Energy Vehicles.....	
.....WU Weiwei(122)	
Research on ATO Advance Prediction and Optimal Control Algorithm Based on Train Models.....	
.....WU Zhengzhan,SU Huiliang,LIU Ze,REN Ying,JIANG Dezhao(130)	
Design and Implementation of Knitting Control System Based on Java.....	
.....ZHANG Tuanshan,WU Miao,HAN Qili(139)	

● Military Equipment Technology in Measurement and Control ●

Design of Electronic Simulation Test System for Pyrotechnics Based on FPGA.....
.....ZOU Wei,ZHENG Weihua,GUO Sheng,HONG Yingping(147)

● Design and Application ●

Research on Network Storm Impact and Self-Recovery Mechanism for KSZ8851-32MLL in Embedded Systems.....
.....XIA Jiagao,ZHANG Xiaojin,SHI Yijie,LIANG Xu,WEI Wenbin,MA Shaojun(156)

A Collaborative Initial Alignment Algorithm for Two RINS.....XU Changshen,HE Tao,LI Chonghui(165)

Analysis and Design of Electromagnetic Compatibility for Launch Vehicles.....
.....XU Zifei,GU Hanlie,XU Wei,XU Xin,WANG Hao(174)

Design of Communication Link Budget Model for High-Orbit Satellites.....
.....CAO Xiaowei,XU Yongqiang,SONG Qiang,FU Xiaobin,WEI Ruigang,ZHENG Baohui(181)

A Hierarchical Path Optimization Method for Unmanned Road Sprinkler Vehicles Integrating Improved A*
Algorithm with Advanced DWA Algorithm.....ZHONG Jilei,CHEN Zhenping,WU Xiang(190)

Outdoor Self-Supervised Monocular Depth Estimation Based on Slice Self Query.....
.....ZHANG Gang,ZHANG Huimin,ZHANG Peiyuan,ZHANG Hailong(199)

Short-Term Prediction Method for Distributed Photovoltaic Power Generation Based on JSD-Informer Model
.....TAN Jing,MA Zhoujun,JIANG Chengling,GUO Jinkun,XU Su,WEI Xunhu,FU Si(208)

Research on Student Classroom Behavior Recognition Method Based on OA-YOLOv8.....
.....GUO Ting,YAN Jia,WANG Rui(216)

Rapid Acquisition Method for Satellite Visibility Based on Quad-Tree Grid.....
.....ZENG Fanlin,SONG Qinglong,WANG Gang,ZHU Guangxi,ZHANG Chao,WANG Ping,HOU Jinyi(223)

Multi-Modal Semantic Completion and Compression Method for Vehicle Scenarios Based on Edge-Cloud Collaboration
.....YE Shitong(229)

Joint Optimization of Preventive Maintenance and Carrying Carried Spare Parts for Offshore Aircraft Fleet Life-
limited Components Scenarios.....ZHANG Yongqiang,CHEN Miaoxin,GAO Wanchun,CUI Junfu,ZHU Fei(236)

Stereo Volume Reconstruction Method Based on Depth-by-Plane Scanning.....
.....GUAN Zhenbo,JI Hongbing,DUAN Tongle,LIANG Haitao(244)

Design of Unmanned Aerial Vehicle Multimodal Feature Aliasing Target Visual Calibration System under Temporal
Attitude Disturbance Compensation.....YUAN Xuemeng(251)

Adaptive Chaotic Optimization Route Planning Algorithm for UAVs in Complex Three-Dimensional Scenarios.....
.....YANG Fan,LIU Rong,XU Chengkai,MA Junfeng,WANG Caifeng(261)

Design of Wideband Wide-Beam Endfire Antenna for Measurement and Control Communication of High-Speed
Platforms.....LI Qiqiang,WANG Pengyi,ZHOU Shigang(269)

● Intelligent Instruments and Sensing Technology ●

Design and Implementation of Self-sustaining Wireless Inclinometers Based on Dynamic Energy Efficiency Optimization
.....WU Dehang,LIU Mingqiang,SUN Hui,HU Honglin,HUANG Yunchuan(278)

● Test & Evaluation Technology ●

Data-Driven Predictive Simulation and Verification Platform for Infrared Seeker Servo Systems.....
.....XIAO Zepeng,WANG Jingwei,GONG Xiangyu,FANG Hongzheng,BAI Honghao(285)