

# 计算机测量与控制

# 7

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2013

中国计算机自动测量与控制技术协会主办

第21卷

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## 北航测试技术研究室

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- 1553B 总线卡
- ARINC429 总线卡
- RS232/422/485 通用串口卡
- 16CH 并行 A/D 数据采集卡
- 16CH 多功能功能 A/D 卡
- 8CH 并行 D/A 卡
- 高速数字 I/O 卡
- 多路 I/O 卡
- 计数器卡
- 时统卡
- 脉冲发生器卡
- LVDS 数据 / 图像采集卡

### ■ 转接卡

- PCIe 转 CPCIe

### ■ 调理板卡

- 标准 AD/DA 调理类板
- 标准数字 I/O 调理板

### ■ 用户定制产品

- PCI/CPCI 专用测试卡
- 信号调理板卡

### ■ 测试设备及半实物仿真系统

- 专用测试设备
- 半实物仿真系统

### ■ 驱动程序

- Windows XP
- RTX
- VxWorks

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Image Fusion Algorithm Based on Wavelet Packet Transform and Characteristics of Circular neighborhood for Images..... Yang Shasha, Tian Xiaoping, Wang Xiaogang(1923)

基于TMS320C5416 DSP的无线扩频网卡设计..... 何江海, 黄莺, 朱燕, 等(1927)

Design of Wireless Spread-Spectrum-Communication Network Card Based on TMS320C5416 DSP..... He Jianghai, Huang Ying, Zhu Yan, et al(1927)

基于POS优化约束的混合动力模型多目标优化方法研究..... 陈献辉, 陈继延(1930)

Multi-Objective Optimization Method of Hybrid Model Plane Based on POS Optimization Constraints..... Chen Xianhui, Chen Jiyun(1930)

基于改进k-means的案例检索优化算法..... 袁文铎(1933)

An Optimization Case Retrieval Algorithm Based on Improved K-means..... Yuan Wenduo(1933)

基于μ综合的阵风载荷减缓系统设计..... 陈创, 杨永胜, 张冉(1935)

Gust Load Alleviation System Design Using μ-Synthesis..... Chen Chuang, Yang Yongsheng, Zhang Ran(1935)

基于霍尔开关的电动吸乳器的研制..... 纪达, 严荣国, 韩雪飞(1938)

Development of Electric Breast Pump Based on Hall Switches..... Ji Da, Yan Rongguo, Han Xuefei(1938)

气动薄膜调节阀控制气体压力的建模与仿真..... 张庆铭(1942)

Modeling of Linear System for Air Pressure Control by Using Pneumatic Diaphragm Valve..... Zhang Qingming(1942)

光纤光栅传感器信号解调设备小型化关键技术研究..... 李猛, 李永法, 敖凯军(1946)

Research on Key Technology of Miniaturization of Fiber Bragg Grating Sensor Demodulation Equipment..... Li Meng, Li Yongfa, Ao Kaijun(1946)

嵌入式Linux混合任务调度器的设计与实现..... 包增辉, 宋余庆, 陈健美(1950)

Design and Implementation of Embedded Linux Hybrid Task Scheduler..... Bao Zenghui, Song Yuqing, Chen Jianmei(1950)

一种改进的D-S证据合成方法..... 袁小珂, 王欣(1953)

Improved Synthesis Method to D-S Evidence Theory..... Yuan Xiaoke, Wang Xin(1953)

基于C/S架构的停车场车位信息发布与管理系统..... 钟新跃(1957)

Parking Space Information Publishing and Management System Based on C/S Architecture..... Zhong Xinyue(1957)

基于MT8808的多通道输入切换矩阵设计..... 奚晨辰, 周建江(1959)

Design of Multi-Channel Input Switch Matrix Based on Chip MT8808..... Xi Chenchen, Zhou Jianjiang(1959)

总线技术与PC机结合的通信系统设计..... 马新鲜, 魏胜利(1963)

Design of Communication System of Bus Technology Combined with PC..... Ma Jinxian, Wei Shengli(1963)

混合MFCC特征参数应用于语音情感识别..... 周萍, 李晓盼, 李杰, 等(1966)

Speech Emotion Recognition Based on Mixed MFCC Characteristic Parameter..... Zhou Ping, Li Xiaopan, Li Jie, et al(1966)

无人机侦察图像与三维地形实时融合显示系统..... 崔艳华, 李红光, 丁文锐(1969)

A Display System of UAV Reconnaissance Image Real-time Fusion into 3D Terrain..... Cui Yanhua, Li Hongguang, Ding Wenrui(1969)

一种激光驾束制导仪控制场模拟器设计..... 孙传新, 王民钢, 侯美婵(1972)

Design of Laser Beam Riding Guidance's Controlling Light Simultaor..... Sun Chuanxin, Wang Mingang, Hou Meichan(1972)

ATA总线控制器接口在固态硬盘中的应用..... 黄梦玲, 翟正军, 索晓杰(1975)

An Application of ATA Bus Controller Interface for SSD..... Huang Mengling, Zhai Zhengjun, Suo Xiaojie(1975)

基于相位差检测算法的磁栅导轨拼接技术研究..... 李芳, 谷文韬, 雷少坤, 等(1978)

Research of Magnetic Grid Rail Splicing Technology Based on Phase Difference Detection Method..... Li Fang, Gu Wentao, Lei Shaokun, et al(1978)

DCT域遗传算法自适应优选分量的人脸认证算法..... 张俞, 冷璐, 黎明(1984)

Face Verification with Adaptive Selection of DCT Coefficient Optimized by Genetic Algorithm..... Zhang Yu, Leng Lu, Li Ming(1984)

基于处理时间的网络地图云服务调度算法..... 陈军, 卢涵宇, 姚丹丹(1987)

An Scheduling Algorithm for Web Map Cloud Service Based on Processing Time..... Chen Jun, Lu Hanyu, Yao Dandan(1987)

基于中频模拟器的雷达嵌入式仿真训练系统..... 孙博, 周国安, 焦光龙, 等(1990)

Embedded Radar Simulation and Training System..... Sun Bo, Zhou Guoan, Jiao Guanglong, et al(1990)

基于RSSI测距和物联网技术的游客实时定位系统设计..... 陈作聪(1993)

Design of Real-Time Positioning System Based on RSSI Ranging and Internet of Things Technology..... Chen Zuocong(1993)

基于动态优化神经网络的非确定语音识别研究..... 马建红, 姬莉霞, 张晗(1996)

Speech Recognition is Determined Based on the Dynamic Optimization of Neural Network Research..... Ma Jianhong, Ji Lixia, Zhang Han(1996)

一种零力矩点机器人行走轨迹规划的研究..... 徐迎曦, 高春玲, 孙泽宇, 等(1999)

Research on Trajectory Planning of the Robot Walking with Zero Moment Point..... Xu Yingxi, Gao Chunling, Sun Zeyu, et al(1999)

基于AMBE1000和nRF24L01的电台训练器实现..... 王晓红, 左蔚, 段艳丽(2002)

A Radio Station Simulator System based on AMBE1000 and nRF24L01..... Wang Xiaohong, Zuo Wei, Duan Yanli(2002)

### • 软件工程技术 • Software Engineering Technology

基于模糊推理的软件可维护性度量模型研究..... 李贵根, 朱小冬, 王毅刚(2005)

Metrics Model of Software Maintainability Based on Fuzzy Logic..... Li Guigen, Zhu Xiaodong, Wang Yigang(2005)

基于CBR和XML软件体系结构改进方法..... 刘丽, 朱小冬, 叶飞, 等(2008)

An Approach to Software Architecture Design Improvement Based on CBR and XML..... Liu Li, Zhu Xiaodong, Ye Fei, et al(2008)

Linux Gadget框架的研究及在USB程控中的应用..... 陈刚, 肖铁军, 郭林(2011)

Study of Linux Gadget framework and Its Use in USB Program Control..... Chen Gang, Xiao Tiejun, Guo Lin(2011)

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便携式实时心电图监护分析系统的设计..... 朱洪波, 杨光晨, 杨鹏, 等(2015)

Portable Real-time ECG Monitor and Analysis System Design..... Zhu Hongbo, Yang Guangchen, Yang Peng, et al(2015)

基于物联网的智能电表系统设计..... 蓝集明, 符长友, 周苗苗(2018)

Design of Smart Meter System Based on IOT..... Lan Jiming, Fu Changyou, Zhou Miaomiao(2018)

基于校正距离误差的无线传感器网络节点定位算法..... 薛霞, 孟朝霞(2020)

Node Localization Algorithm Based on Corrected Distance Error in Wireless Sensor Network..... Xue Xia, Meng Zhaoxia(2020)

基于差分进化算法的无线传感器网络节点定位方法研究..... 林雯, 张烈平, 王守峰(2023)

Research on Nodes Localization Method for Wireless Sensor Networks based on Differential Evolution Algorithm..... Lin Wen, Zhang Lieping, Wang Shoufeng(2023)