

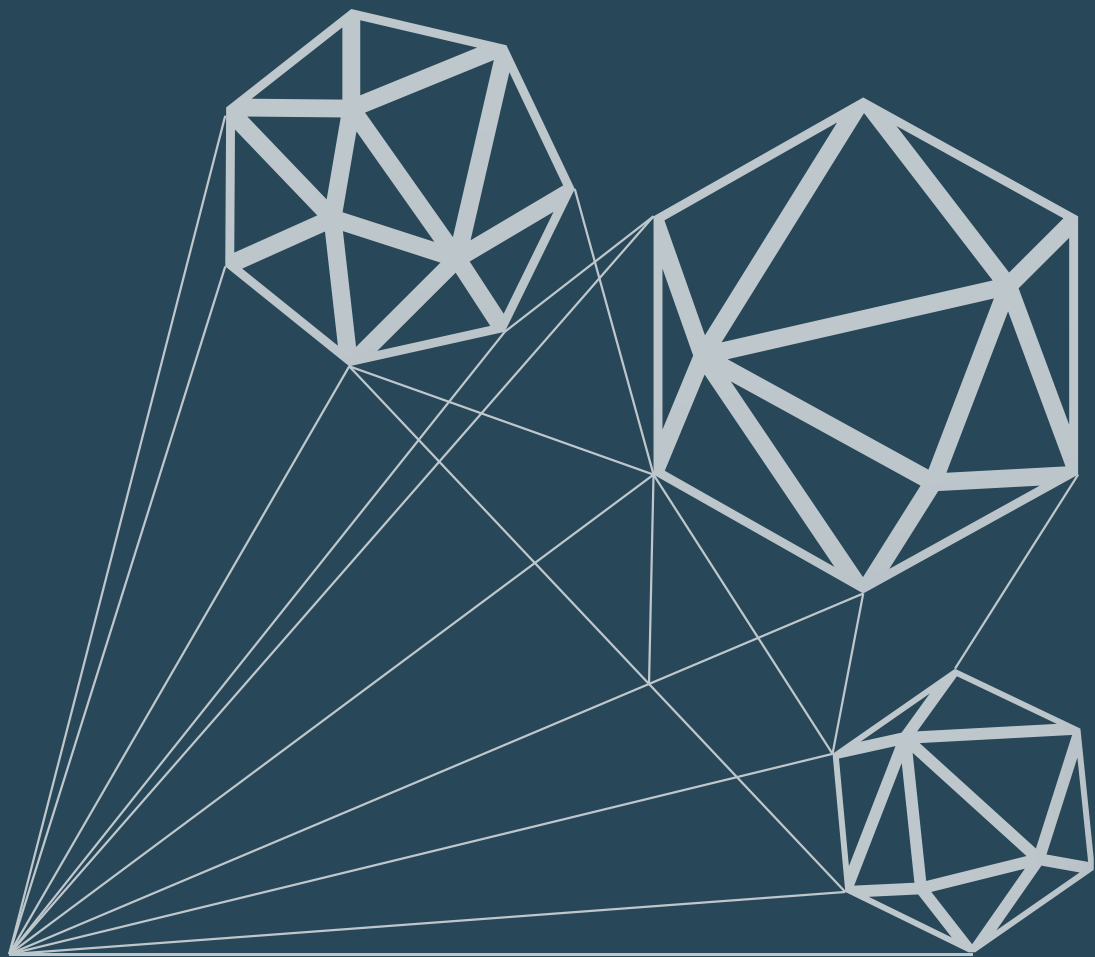
- ◎ 中文核心期刊
- ◎ 中国科技核心期刊      RCCSE中国核心学术期刊(A)
- ◎ 主办：陕西电子杂志社    陕西省电子技术研究所

Modern Electronics Technique

# 现代电子技术®

<http://www.xddz.com.cn>

◇ 中国电子学会重点支持期刊



**2017**  
第40卷  
Vol. 40 No. 13

**13**

## 目次

## 通信与信息技术

## 军事通信

- 基于交替投影的MIMO雷达波形设计 .....贺娅莉, 刘玉春, 王洪雁 (1)
- 军事通信中基于DCT域直流分量的音频数字水印技术研究 .....万旭光, 刘凡 (6)
- 基于多特征信息融合粒子滤波的红外目标跟踪 .....孙艳丽, 周伟, 李建海 (9)

## 无线通信

- 无线信道指纹特征识别技术研究 .....张雷, 王军 (13)
- 基于地理-机会的水下无线传感网的混合路由 .....徐晓晖, 吴立华, 张春海 (17)
- 基于IFOA优化DV-distance算法的无线传感器网络定位研究 .....庞先伟, 左仁淑, 王婷婷, 李学军 (22)
- 无线传感器网络多汇聚节点分簇算法 .....周伟 (26)
- 基于多终端多平台高速信息服务系统的实现 .....王海涛, 程耕国, 程骅, 杨涛, 吴建霞 (30)
- 海量监控视频分级摘要生成系统研究 .....马元元, 李向伟, 刘艳飞 (34)
- 基于CAN总线的高精度称重传感器节点设计 .....王晓华 (38)
- 云计算数据中心可扩展服务器的能耗管理与优化 .....王超 (41)

## 信号与图像处理

- 基于深度图像和稀疏表示的多手势识别算法 .....沈先耿, 谭志国, 周歌, 朱海刚 (44)
- 大小渐变目标检测与跟踪算法研究 .....王敏敏, 孙胜利, 廖星星, 张磊 (48)
- 基于天空分割的改进型雾天图像增强方法 .....刘佳嘉, 刘建华 (53)
- 基于在线字典学习的人脸超分辨率重建 .....刘芳华, 阮若林, 王建峰, 倪浩 (57)
- 静态背景下运动目标边缘提取 .....郭溪溪, 陈小林, 王博, 李治根, 刘岩俊 (62)
- 基于改进神经网络算法的变电站变压器裂纹图像识别 .....吴曦, 姚楠, 许建刚 (66)
- 基于小波的声发射信号去噪研究 .....杨慧, 顾菊平, 华亮, 罗来武, 陈猛 (70)
- 基于Mean Shift算法的网球运动视频目标跟踪研究 .....王皓蜀 (73)

## 通信设备

- 超宽带实用型介质谐振器天线研究与设计 .....阚国锦, 林文斌, 郑浩天, 邹德友 (77)
- 基于单片机控制的嵌入式智能无线传感器设计 .....张希洋, 曹国强, 梁峰, 栾美娟 (80)
- 物流配送信息智能传输系统设计 .....吴婷 (83)

## 信息安全

- 可证明安全的随机密钥协商协议 .....张小梅, 吴福生, 彭长根 (87)
- 小波分析和ARIMA的信息安全态势预测 .....李波 (91)
- 基于改进遗传算法的电子商务交易风险评估 .....叶艺勇 (94)

数据库安全代理的研究与实现 .....夏春梅, 虞翔 (98)

## 测试·测量·自动化

### 测控技术

一种利用数字全息成像测量粒子周长的方法 .....张文超, 王圣旭, 孙启利, 谈世哲, 曾贞 (101)

四旋翼直升机的滑模控制研究 .....刘晓青, 罗刘敏, 李晋, 程全, 杨静 (106)

基于 Matlab GUI 的大型公共活动拥挤踩踏事故风险预警及应用研究 .....郝豫 (110)

基于剔除孤立点的物流成本预测模型 .....邓必年 (114)

区域电网光缆线路智能监测系统的数据传输技术研究 .....何书毅, 吴春吉, 龙致远, 黄孙新 (118)

### 自动化技术

基于组合规则的证据合成方法 .....魏永超, 庄夏, 傅强 (122)

支持向量机的远程教学质量评估模型 .....班丽丽, 纪二娟 (126)

云计算下的图书馆条码分类与查询技术研究 .....宋惠兰 (130)

海量互联网数据中英文翻译术语高效搜索系统设计 .....罗霞 (134)

海量图书检索中的模糊目标确定技术 .....张艳菊 (137)

## 电子技术应用

### 节能减排技术

基于遗传算法优化的线光源节能排列方式研究 .....冯雯 (141)

### 工控技术

基于小型 PLC 的有轨小车寻线高精度控制数学模型设计 .....刘明明, 刘志红 (144)

三线式三维运动协调控制系统的设计与研究 .....李嘉楠, 王富东, 朱成海, 杨歆豪 (148)

基于物联网的农业大棚温度自动控制系统设计 .....王峰 (152)

### 电子技术

多层分布式防伪第三方物流管理系统设计 .....常青 (155)

基于 HBase 的配用电海量时序数据存取研究 .....张福铮, 黄文琦, 陈华军, 郭晓斌, 陈承志 (159)

无线传感器网络不相交多路径路由容错缠绕系统设计 .....徐忠根, 蒋琳 (164)

对数螺旋锥齿轮有限元接触分析前处理 .....李强, 常云龙, 蒋建锋, 王丽婷 (168)

基于软测量的图谱变化检测技术在变电站状态智能分析中的研究与应用  
.....俞华, 王天正, 芦竹茂, 杨冬冬, 白鹭 (171)

基于 51 单片机的电子时钟设计 .....许珂乐 (175)

云计算环境下的海量数据特定特征挖掘技术 .....蹇旭 (178)

### 智能交通与导航

基于路径优化的 A\* 算法与 Dijkstra 算法的性能比较 .....刘云翔, 杜杰, 张晴 (181)

一种面向“互联网+”智能交通管理的车辆类型识别方法 .....吕林涛, 李志勋, 吕晖, 袁琴琴, 高环 (184)

# Contents

|  |  |
|--|--|
| MIMO radar waveform design based on alternating projection .....   | HE Yali, LIU Yuchun, WANG Hongyan (1)                              |
| Study on audio digital watermarking technology based on DC component of DCT domain in military communication .....         | WAN Xuguang, LIU Fan (6)   |
| Infrared target tracking fusing particle filtering with multi-feature information .....                                    | SUN Yanli, ZHOU Wei, LI Jianhai (9)                                |
| Research on fingerprint feature recognition technology of wireless channel .....   | ZHANG Lei, WANG Jun (13)   |
| A geographic-opportunistic hybrid routing for underwater wireless sensor networks .....                                    | XU Xiaohui, WU Lihua, ZHANG Chunhai (17)                           |
| Research on IFOA-based DV-distance algorithm for WSNs localization .....   | PANG Xianwei, ZUO Renshu, WANG Tingting, LI Xuejun (22)            |
| Multiple sink nodes based clustering algorithm for wireless sensor network .....   | ZHOU Wei (26)  |
| Implementation of high-speed information service system based on multi-terminal and multi-platform .....                   | WANG Haitao, CHENG Gengguo, CHENG Hua, YANG Tao, WU Jianxia (30)   |
| Study on hierarchical summary generation system of massive surveillance video .....  | MA Yuanyuan, LI Xiangwei, LIU Yanfei (34)                          |
| Design of high-precision weighting sensor node based on CAN bus .....  | WANG Xiaohua (38)  |
| Energy-consumption management and optimization of extendable server for cloud computing data center .....                  | WANG Chao (41)   |
| Multi-objective gesture recognition algorithm based on depth image and sparse representation .....                         | SHEN Xiangeng, TAN Zhiguo, ZHOU Ge, ZHU Haigang (44)               |
| Research on variable-sized target detection and tracking algorithm .....   | WANG Minmin, SUN Shengli, LIAO Xingxing, ZHANG Lei (48)            |
| Improved foggy image enhancement method based on sky segmentation .....  | LIU Jiajia, LIU Jianhua (53)                                       |
| Human face super-resolution reconstruction based on online dictionary learning .....                                       | LIU Fanghua, RUAN Ruolin, WANG Jianfeng, NI Hao (57)               |
| Edge extraction of moving object in static background .....  | GUO Xixi, CHEN Xiaolin, WANG Bo, LI Zhigen, LIU Yanjun (62)        |
| Substation transformer crack image recognition based on improved neural network algorithm .....                            | WU Xi, YAO Nan, XU Jiangang (66)                                   |
| Research on acoustic emission signal denoising based on wavelet .....  | YANG Hui, GU Juping, HUA Liang, LUO Laiwu, CHEN Meng (70)          |
| Research on Mean Shift algorithm based video object tracking of tennis sports .....  | WANG Haoshu (73)   |
| Research and design of practical UWB DRA .....   | KAN Guojin, LIN Wenbin, ZHENG Haotian, ZOU Deyou (77)              |
| Design of embedded smart wireless sensor based on SCM control .....  | ZHANG Xiyang, CAO Guoqiang, LIANG Feng, LUAN Meijuan (80)          |
| Design of intelligent transmission system for logistics distribution information .....                                     | WU Ting (83)   |
| Random key agreement protocol for provable security .....  | ZHANG Xiaomei, WU Fusheng, PENG Changgen (87)                      |
| Information security situation prediction based on wavelet analysis and ARIMA .....  | LI Bo (91)   |
| E-commerce transaction risk assessment based on improved genetic algorithm .....   | YE Yiyong (94)   |
| Research and implementation of database security proxy .....   | XIA Chunmei, YU Xiang (98)   |
| A method of measuring particle circumference with digital holography imaging .....   | ZHANG Wenchao, WANG Shengxu, SUN Qili, TAN Shizhe, ZENG Zhen (101) |
| Research on sliding-mode control of quadrotor .....  | LIU Xiaoqing, LUO Liumin, LI Jin, CHENG Quan, YANG Jing (106)      |
| Research on Matlab GUI based stampede accident risk pre-warning of large public event and its application .....            | HAO Yu (110)   |
| Logistics cost prediction model based on isolated point elimination .....  | DENG Binian (114)  |
| Research on data transmission technology of optical cable line intelligent monitoring system for regional power grid ..... | HE Shuyi, WU Chunji, LONG Zhiyuan, HUANG Sunxin (118)              |

Evidence combination method based on combination rule .....WEI Yongchao, ZHUANG Xia, FU Qiang (122)

Distance teaching quality evaluation model based on support vector machine .....BAN Lili, JI Erjuan (126)

Research on library barcode classification and query technology under cloud computing .....SONG Huilan (130)

Design of English translation term efficient search system in massive Internet data .....LUO Xia (134)

Fuzzy target determination technology for massive book retrieval .....ZHANG Yanju (137)

Research on line light source energy-saving arrangement mode based on genetic algorithm optimization .....FENG Wen (141)

Design of high-precision control mathematical model for rail guided vehicle line tracking based on small PLC  
.....LIU Mingming, LIU Zhihong (144)

Design and research on trilinear 3D motion coordination control system .....LI Jianan, WANG Fudong, ZHU Chenghai, YANG Xinhao (148)

Design of Internet of Things based automatic temperature control system for agricultural greenhouse .....WANG Feng (152)

Design of third-party logistics management system with multilayer distributed anti-fake .....CHANG Qing (155)

Research on HBase-based massive time series data storage for distribution grid  
.....ZHANG Fuzheng, HUANG Wenqi, CHEN Huajun, GUO Xiaobin, CHEN Chengzhi (159)

Design of disjoint multipath routing fault-tolerant winging system for wireless sensor network .....XU Zhonggen, JIANG Lin (164)

Pretreatment of finite element contact analysis for logarithmic spiral bevel gear  
.....LI Qiang, CHANG Yunlong, JIANG Jianfeng, WANG Liting (168)

Research and application of spectrum change detection technology based on soft measurement in substation state intelligent analysis  
.....YU Hua, WANG Tianzheng, LU Zhumao, YANG Dongdong, BAI Lu (171)

Design of electronic clock based on 51 MCU .....XU Kele (175)

Specific characteristic mining technology of massive data in cloud computing environment .....JIAN Xu (178)

Performance comparison between A\* algorithm and Dijkstra algorithm based on path optimization  
.....LIU Yunxiang, DU Jie, ZHANG Qing (181)

A vehicle type identification method oriented for "Internet+" intelligent traffic management  
.....LÜ Lintao, LI Zhixun, LÜ Hui, YUAN Qinqin, GAO Huan (184)

二〇一七  
年  
理  
事  
会  
企  
业  
名  
录

- ※ 军械工程学院导弹工程系
- ※ 中国移动通信集团陕西有限公司
- ※ 中国电子系统工程第二建设有限公司陕西分公司
- ※ 国家无线电频谱管理研究所
- ※ 陕西广电网络传媒股份有限公司
- ※ 陕西华达科技有限公司
- ※ 陕西长岭电子科技有限公司
- ※ 中国人民解放军西安通信学院
- ※ 中国电子科技集团公司第三十九研究所
- ※ 西京电气总公司
- ※ 西安卫光半导体有限公司
- ※ 西安卫光科技有限公司
- ※ 陕西省广播电视信息网络股份有限公司
- ※ 中国航天时代电子公司第七七一研究所
- ※ 中国电信股份有限公司陕西省分公司

欢  
迎  
加  
盟

共  
同  
成  
长