

第 34 卷 第 10 期
Vol.34 No.10

ISSN 1009-5896
CODEN DKXUEC
CN 11-4494/TN

电子与信息学报

JOURNAL OF ELECTRONICS & INFORMATION TECHNOLOGY

2012

10



中国科学院电子学研究所 主办
国家自然科学基金委员会信息科学部

科学出版社 出版

电 子 与 信 息 学 报

DIANZI YU XINXI XUEBAO

第 34 卷 第 10 期

2012 年 10 月

目 次

论 文

OFDMA 毫微微小区网络中基于效用公平的功率控制策略	马文敏, 郑 伟, 张海君, 温向明, 路兆铭 (2287)
非理想信道信息下双向多中继选择系统性能分析	史寅科, 邱 玲 (2293)
一种基于最优观测矩阵的自适应贝叶斯压缩信道感知联合机制	肖小潮, 郑宝玉, 王臣昊 (2299)
直接序列扩频谐波载波偏移调制	董红飞, 张尔扬, 沈荣骏 (2306)
非对称协作分集通信中网络编码的应用	池新生, 郑宝玉, 姚 刚, 陈建白 (2314)
新型机会中继编码协作: 源自适应传输校验信息	邓 娜, 张四海, 周武旸 (2320)
一种码片内多径参数的最大似然估计算法	袁航剑, 洪一帆, 罗 武, 蒋 伟 (2326)
正交椭圆球面波函数脉冲调制方法	赵志勇, 王红星, 刘锡国, 钟佩琳, 陈昭男, 康家方 (2331)
基于三维递归搜索的多级运动估计视频帧率上转换算法	贾 茜, 肖进胜, 易本顺, 甘良才 (2336)
一种适用于丢包信道的小波编码图像传输方案	孙文珠, 王洪玉, 钱大兴, 王 洁 (2342)
分布式视频编码中拉普拉斯-柯西混合分布相关噪声模型研究	杨春玲, 谢小兰 (2348)
偏振旋转的量子私有信息检索方案	易运晖, 朱畅华, 裴昌幸, 权东晓 (2353)
构造具有良好密码学性质的旋转对称布尔函数	熊晓雯, 魏爱国, 张智军 (2358)
基于求解校验序列的 $(n,1,m)$ 卷积码盲识别	刘建成, 杨晓静 (2363)
一种基于移动用户行为的回路融合社区发现算法	肖 觅, 孟祥武, 史艳翠 (2369)
基于节点综合故障模型的无线传感器网络容错拓扑控制方法 ..	尹荣荣, 刘 彬, 刘浩然, 郝晓辰 (2375)
多层时空切片联合的快速人体跟踪算法	杨景景, 苏小红, 马培军 (2382)
四元数域彩色图像整体式水印算法	孙 菁, 杨静宇 (2389)
基于判别改进局部切空间排列特征融合的人脸识别方法	张 强, 戚 春, 蔡云泽 (2396)
基于改进高斯混合建模和短时稳定度的运动目标检测算法	张 超, 吴小培, 周建英, 戚培庆, 王营冠, 吕 钊 (2402)
基于相机标定的非对称裁剪检测算法	孟宪哲, 牛少彰, 吴小媚, 李叶舟 (2409)
基于 Karhunen-Loeve 变换的正交椭圆球面波脉冲波形设计 ...	王红星, 陈昭男, 刘传辉, 赵志勇 (2415)
基于压缩感知的单通道鲁棒自适应波束形成算法	李洪涛, 贺亚鹏, 肖 瑶, 朱晓华 (2421)
基于状态转移矩阵逼近的椭圆球面波函数求解方法 ...	钟佩琳, 王红星, 赵志勇, 刘锡国, 刘传辉 (2427)
自适应双极性红外舰船目标分割算法	赵 菲, 卢焕章, 张志勇 (2432)
一种复合伪随机码跟踪环路设计及误差分析	潘伟萍, 崔 嵬, 王 俊, 郭 韧 (2439)
基于频域扩展和 SPECAN 的全孔径 TOPSAR 成像算法	陈 祺, 黄海风, 何 峰, 梁甸农, 董 臻 (2445)
综合去取向和广义体散射的三分量极化目标分解模型	刘修国, 黄晓东, 陈启浩, 陈 奇 (2451)
基于照度的 SAR 图像均衡算法研究	梁福来, 宋 千, 张汉华, 周智敏 (2458)
基于半方差函数的海杂波波长相关特征分析	孙 康, 金 钢, 朱晓华 (2466)
一种功率修正的多频空时数据自适应处理方法	杜文韬, 廖桂生, 杨志伟 (2470)

综合孔径辐射计可见度函数预处理算法及时域仿真研究
..... 李慧玲, 刘 浩, 吴 季, 牛立杰, 张 成 (2475)
用于多普勒流速剖面仪测波浪的方向谱反演算法研究
..... 李 晨, 吴建波, 高 超, 王道龙, 李 俊, 邓 锴, 王长红 (2482)
空间电磁环境监测用双探针式星载电场探测仪 任 仁, 陈贤祥, 夏善红, 吕元生 (2489)
基于时空 π -演算的信息物理融合系统组件可替换性判定 王 鹏, 向 阳, 宗宇伟, 张 骐 (2494)
基于统计时分复用技术的三维片上网络 王佳文, 李 丽, 潘红兵, 李 伟, 张 荣 (2501)
基于伪布尔可满足性的纳米 CMOS 电路单元配置 王先建, 王伦耀, 储著飞, 夏银水 (2508)
三值绝热多米诺加法器开关级设计 汪鹏君, 杨乾坤, 郑雪松 (2514)
学术讨论
一种适于受限资源环境的远程用户认证方案的分析与改进 汪 定, 马春光, 翁 臣, 贾春福 (2520)
研究简报
认知无线网络基于信号博弈的分布式功率控制算法 桂 丽, 钟晓峰, 邹仕洪 (2527)
互耦效应下用单快拍数据实现相干信源完全解相干和解耦合 王 凌, 李国林, 谢 鑫 (2532)
一种扩展蘑菇型 EBG 结构阻带带宽的新方法 史凌峰, 王海鹏 (2537)

JOURNAL OF ELECTRONICS & INFORMATION TECHNOLOGY

Vol.34 No.10 Oct. 2012

CONTENTS

Papers

- Utility-based Fairness Power Control Scheme in OFDMA Femtocell Networks *Ma Wen-min, Zheng Wei, Zhang Hai-jun, Wen Xiang-ming, Lu Zhao-ming* (2287)
- Performance Analysis of Two-way Multiple Relay Selection Systems under Imperfect CSI ... *Shi Yin-ke, Qiu Ling* (2293)
- A Joint Mechanism of Adaptive Bayesian Compressed Channel Sensing Based on Optimized Measurement Matrix *Xiao Xiao-chao, Zheng Bao-yu, Wang Chen-hao* (2299)
- Harmonic Offset Carrier Modulations for DS-SS *Dong Hong-fei, Zhang Er-yang, Shen Rong-jun* (2306)
- The Application of Network Coding in Asymmetric Cooperative Diversity Communication *Chi Xin-sheng, Zheng Bao-yu, Yao Gang, Chen Jian-bai* (2314)
- A Novel Opportunistic Relaying Coded Cooperation: Source Adaptively Transmits the Parity *Deng Na, Zhang Si-hai, Zhou Wu-yang* (2320)
- A Maximum Likelihood Estimation of Subchip Multipath Parameters *Yuan Hang-jian, Hong Yi-fan, Luo Wu, Jiang Wei* (2326)
- Orthogonal Prolate Spheroidal Wave Functions Pulse Modulation Method *Zhao Zhi-yong, Wang Hong-xing, Liu Xi-guo, Zhong Pei-lin, Chen Zhao-nan, Kang Jia-fang* (2331)
- A Multi-stage Motion Estimation Algorithm Based on 3-D Recursive Search for Frame Rate up Conversion *Jia Qian, Xiao Jin-sheng, Yi Ben-shun, Gan Liang-cai* (2336)
- A Transmission Scheme for Wavelet Coding Images over Packet Erasure Channels *Sun Wen-zhu, Wang Hong-yu, Qian Da-xing, Wang Jie* (2342)
- A Laplacian-Cauchy Mixture Model for Improved Correlation Noise Modeling in Distributed Video Coding *Yang Chun-ling, Xie Xiao-lan* (2348)
- Quantum Private Information Retrieval Based on Polarization Rotation *Yi Yun-hui, Zhu Chang-hua, Pei Chang-xing, Quan Dong-xiao* (2353)
- Construction of Rotation Symmetric Boolean Functions with Good Cryptographic Properties *Xiong Xiao-wen, Wei Ai-guo, Zhang Zhi-jun* (2358)
- Blind Recognition of $(n, 1, m)$ Convolutional Code Based on Solving Check-sequence *Liu Jian-cheng, Yang Xiao-jing* (2363)
- A Circuits Merging Community Discovery Algorithm Based on Mobile User Behaviors *Xiao Mi, Meng Xiang-wu, Shi Yan-cui* (2369)
- The Fault-tolerant Topology Control Approach in Wireless Sensor Networks Based on Integrated Fault Model of Node *Yin Rong-rong, Liu Bin, Liu Hao-ran, Hao Xiao-chen* (2375)
- Combination of Multiple Spatial-temporal Slices for Fast Human Tracking *Yang Jing-jing, Su Xiao-hong, Ma Pei-jun* (2382)
- Quaternion Based Holistic Color Images Watermarking Algorithm *Sun Jing, Yang Jing-yu* (2389)
- Discriminant Improved Local Tangent Space Alignment Feature Fusion for Face Recognition *Zhang Qiang, Qi Chun, Cai Yun-ze* (2396)
- A Moving Object Detection Algorithm Based on Improved GMM and Short-term Stability Measure *Zhang Chao, Wu Xiao-pei, Zhou Jian-ying, Qi Pei-qing, Wang Ying-guan, Lü Zhao* (2402)
- Detecting Asymmetric Cropping Based on Camera Calibration *Meng Xian-zhe, Niu Shao-zhang, Wu Xiao-mei, Li Ye-zhou* (2409)
- The Design of Orthogonal Prolate Spheroidal Wave Function Pulse Waveform Based on Karhunen-Loeve Transform *Wang Hong-xing, Chen Zhao-nan, Liu Chuan-hui, Zhao Zhi-yong* (2415)
- (To be continued on inside back cover)

(Continued)

Compressive Sensing Based Single-channel Robust Adaptive Beamforming Algorithm	<i>Li Hong-tao, He Ya-peng, Xiao Yao, Zhu Xiao-hua</i>	(2421)
Algorithm for Prolate Spheroidal Wave Functions Based on State Transition Matrix Approximation	<i>Zhong Pei-lin, Wang Hong-xing, Zhao Zhi-yong, Liu Xi-guo, Liu Chuan-hui</i>	(2427)
Adaptive Bilateral Polarity Ship Segmentation in Infrared Images	<i>Zhao Fei, Lu Huan-zhang, Zhang Zhi-yong</i>	(2432)
Design and Error Analysis for Composite Pseudo-noise Code Tracking Loop	<i>Pan Wei-ping, Cui Wei, Wang Jun, Guo Ren</i>	(2439)
Full Aperture Imagining Algorithm of TOPSAR Based on Frequency Domain Extension and SPECAN	<i>Chen Qi, Huang Hai-feng, He Feng, Liang Dian-nong, Dong Zhen</i>	(2445)
Three-component Model-based Decomposition Integrating De-orientation and Generalized Volume Scattering Model	<i>Liu Xiu-guo, Huang Xiao-dong, Chen Qi-hao, Chen Qi</i>	(2451)
Research on SAR Image Equalization Algorithm Based on Illumination	<i>Liang Fu-lai, Song Qian, Zhang Han-hua, Zhou Zhi-min</i>	(2458)
The Long-range Dependence Characteristic Analysis of Sea Clutter Based on the Semivariogram Function	<i>Sun Kang, Jin Gang, Zhu Xiao-hua</i>	(2466)
Adaptive Processing with Power Rectified Multi-frequency Space-time Data	<i>Du Wen-tao, Liao Gui-sheng, Yang Zhi-wei</i>	(2470)
Research on the Preprocessing Method for the Visibility Functions in Synthetic Aperture Radiometer and the Time Domain Simulation	<i>Li Hui-ling, Liu Hao, Wu Ji, Niu Li-jie, Zhang Cheng</i>	(2475)
Research on Inversion Algorithms of Directional Spectrum Used in Wave Measurement of Acoustic Doppler Current Profiler .	<i>Li Chen, Wu Jian-bo, Gao Chao, Wang Dao-long, Li Jun, Deng Kai, Wang Chang-hong</i>	(2482)
Spaceborne Double-probe Electric Field Sensor for Space Electromagnetic Environment Monitoring	<i>Ren Ren, Chen Xian-xiang, Xia Shan-hong, Lü Yuan-sheng</i>	(2489)
Substitution Determination of Cyber-physical System Components via Time-space π -Calculus	<i>Wang Peng, Xiang Yang, Zong Yu-wei, Zhang Qi</i>	(2494)
3D NoC Based on Statistical Time Division Multiplex ..	<i>Wang Jia-wen, Li Li, Pan Hong-bing, Li Wei, Zhang Rong</i>	(2501)
Nano-meter CMOS Circuit Cell Assignment Based on Pseudo-Boolean Satisfiability	<i>Wang Xian-jian, Wang Lun-yao, Chu Zhu-fei, Xia Yin-shui</i>	(2508)
Design of Ternary Adiabatic Domino Adder on Switch-level	<i>Wang Peng-jun, Yang Qian-kun, Zheng Xue-song</i>	(2514)

Discussions

Cryptanalysis and Improvement of a Remote User Authentication Scheme for Resource-limited Environment	<i>Wang Ding, Ma Chun-guang, Weng Chen, Jia Chun-fu</i>	(2520)
---	---	--------

Research Notes

Decentralized Power Control Algorithm Based on Signaling Games in Cognitive Radio Networks	<i>Gui Li, Zhong Xiao-feng, Zou Shi-hong</i>	(2527)
Decorrelation and Decoupling of Coherent Signals in the Presence of Mutual Coupling Using Single Snapshot	<i>Wang Ling, Li Guo-lin, Xie Xin</i>	(2532)
Novel Method to Broaden the Stop-band Width of the Mushroom-like Electromagnetic Band Gap Structure	<i>Shi Ling-feng, Wang Hai-peng</i>	(2537)