

IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS

A PUBLICATION OF THE IEEE COMMUNICATIONS SOCIETY AND THE IEEE SIGNAL PROCESSING SOCIETY



MAY 2018

VOLUME 17

NUMBER 5

ITWCAX

(ISSN 1536-1276)

REGULAR PAPERS

Content Placement in Cache-Enabled Sub-6 GHz and Millimeter-Wave Multi-Antenna Dense Small Cell Networks	<i>Yongxu Zhu, Gan Zheng, Lifeng Wang, Kai-Kit Wong, and Liqiang Zhao</i>	2843
Distributed Linear Convolutional Space-Time Coding for Two-Hop Full-Duplex Relay $2 \times 2 \times 2$ Cooperative Communication Networks	<i>Fuli Zhong, Xiang-Gen Xia, Hui Li, and Yan Chen</i>	2857
Joint Beamformer Design for Wireless Fronthaul and Access Links in C-RANs	<i>Bin Hu, Cunqing Hua, Cailian Chen, and Xinpeng Guan</i>	2869
Long-Term Power Procurement Scheduling Method for Smart-Grid Powered Communication Systems	<i>Mahdi Ben Ghorbel, Bechir Hamdaoui, Mohsen Guizani, and Amr Mohamed</i>	2882
Novel 3-D Non-Stationary Wideband Models for Massive MIMO Channels	<i>Carlos F. López and Cheng-Xiang Wang</i>	2893
Achievable Throughput of Energy Harvesting Fading Multiple-Access Channels Under Statistical QoS Constraints	<i>Deli Qiao and Jingwen Han</i>	2906
Securing Visible Light Communication Systems by Beamforming in the Presence of Randomly Distributed Eavesdroppers	<i>Sunghwan Cho, Gaojie Chen, and Justin P. Coon</i>	2918
Sector and Site Switch-Off Regular Patterns for Energy Saving in Cellular Networks	<i>Tamer Beitelmal, Sebastian S. Szyszkowicz, David González G., and Halim Yanikomeroglu</i>	2932
Frequency-Domain Compressive Channel Estimation for Frequency-Selective Hybrid Millimeter Wave MIMO Systems	<i>Javier Rodríguez-Fernández, Nuria González-Prelcic, Kiran Venugopal, and Robert W. Heath, Jr.</i>	2946
Joint Power Allocation and Beamforming for Non-Orthogonal Multiple Access (NOMA) in 5G Millimeter Wave Communications	<i>Zhenyu Xiao, Lipeng Zhu, Jinho Choi, Pengfei Xia, and Xiang-Gen Xia</i>	2961
Online Fixed Fraction Policies in Energy Harvesting Communication Systems	<i>Ahmed Arafa, Abdulrahman Baknina, and Sennur Ulukus</i>	2975
Robust Unambiguous Estimation of Angle-of-Arrival in Hybrid Array With Localized Analog Subarrays	<i>Kai Wu, Wei Ni, Tao Su, Ren Ping Liu, and Y. Jay Guo</i>	2987
Capacity Bounds and High-SNR Capacity of MIMO Intensity-Modulation Optical Channels	<i>Anas Chaaban, Zouheir Rezki, and Mohamed-Slim Alouini</i>	3003
Multiband Spectrum Sensing in Cognitive Radio Networks With Secondary User Hardware Limitation: Random and Adaptive Spectrum Sensing Strategies	<i>Tianyi Xiong, Yu-Dong Yao, Yujue Ren, and Zan Li</i>	3018

(Contents Continued on Page 2841)



Hybrid Content Caching in 5G Wireless Networks: Cloud Versus Edge Caching	3030
..... Jeongho Kwak, Yeongjin Kim, Long Bao Le, and Song Chong	
Transmission Optimization for Hybrid Half/Full-Duplex Relay With Energy Harvesting	3046
..... Jie Gong, Xiang Chen, and Minghua Xia	
Transmit Signal Designs for Spatial Modulation With Analog Phase Shifters	3059
..... Wei Wang and Wei Zhang	
Market Mechanisms for Dynamic Spectrum Access (DSA)	3071
..... Shreemoy Mishra and Sumit Roy	
Cost-Optimal Caching for D2D Networks With User Mobility: Modeling, Analysis, and Computational Approaches	3082
..... Tao Deng, Ghafour Ahani, Pingzhi Fan, and Di Yuan	
Wireless Backhaul: Performance Modeling and Impact on User Association for 5G	3095
..... Mona Jaber, F. Javier Lopez-Martinez, Muhammad Ali Imran, Andy Sutton, Anvar Tukmanov, and Rahim Tafazolli	
Inference From Randomized Transmissions by Many Backscatter Sensors	3111
..... Guangxu Zhu, Seung-Woo Ko, and Kaibin Huang	
Content-Aware Proactive Caching for Backhaul Offloading in Cellular Network	3128
..... Khai Nguyen Doan, Thang Van Nguyen, Tony Q. S. Quek, and Hyundong Shin	
Joint Channel Identification and Estimation in Wireless Network: Sparsity and Optimization	3141
..... Thang Van Nguyen, Tony Q. S. Quek, and Hyundong Shin	
Coverage Analysis and Load Balancing in HetNets With Millimeter Wave Multi-RAT Small Cells	3154
..... Gourab Ghatak, Antonio De Domenico, and Marceau Coupechoux	
Stable Throughput and Delay Analysis of a Random Access Network With Queue-Aware Transmission	3170
..... Ioannis Dimitriou and Nikolaos Pappas	
Time Reusing in D2D-Enabled Cooperative Networks	3185
..... Zhaowei Zhu, Shengda Jin, Yang Yang, Honglin Hu, and Xiliang Luo	
Counting k -Hop Paths in the Random Connection Model	3201
..... Alexander P. Kartun-Giles and Sunwoo Kim	
Joint User Association and User Scheduling for Load Balancing in Heterogeneous Networks	3211
..... Xin Ge, Xiuhua Li, Hu Jin, Julian Cheng, and Victor C. M. Leung	
A Learning Approach for Low-Complexity Optimization of Energy Efficiency in Multicarrier Wireless Networks	3226
..... Salvatore D'Oro, Alessio Zappone, Sergio Palazzo, and Marco Lops	
Access Control for IoT Nodes With Energy and Fidelity Constraints	3242
..... Alessandro Biazon, Chiara Pielli, Andrea Zanella, and Michele Zorzi	
On the Ergodic Rate Lower Bounds With Applications to Massive MIMO	3258
..... Giuseppe Caire	
Multipair Two-Way Half-Duplex DF Relaying With Massive Arrays and Imperfect CSI	3269
..... Chuli Kong, Caijun Zhong, Michail Matthaiou, Emil Björnson, and Zhaoyang Zhang	
Limited Feedback in Single and Multi-User MIMO Systems With Finite-Bit ADCs	3284
..... Jianhua Mo and Robert W. Heath, Jr.	
Joint Transceiver Optimization for MISO SWIPT Systems With Time Switching	3298
..... Hoon Lee, Kyoung-Jae Lee, Hanjin Kim, and Inkyu Lee	
Decentralized Relay Selection in Multi-User Multihop Decode-and-Forward Relay Networks	3313
..... Rajitha Senanayake, Saman Atapattu, Jamie S. Evans, and Peter J. Smith	
Hybrid Precoding for Millimeter Wave MIMO Systems: A Matrix Factorization Approach	3327
..... Juening Jin, Yahong Rosa Zheng, Wen Chen, and Chengshan Xiao	
Dynamic Decode-and-Forward Based Cooperative NOMA With Spatially Random Users	3340
..... Yong Zhou, Vincent W.S. Wong, and Robert Schober	
The Connectivity of Millimeter Wave Networks in Urban Environments Modeled Using Random Lattices	3357
..... Kaifeng Han, Ying Cui, Yueping Wu, and Kaibin Huang	
Parallel Channel Over Wide Spectrum: Modeling-, Mining-, and Matching-Based Transmission Optimization	3373
..... Chen Gong, Zhengyuan Xu, and Jinkang Zhu	
Downlink Beamforming for Energy-Efficient Heterogeneous Networks With Massive MIMO and Small Cells	3386
..... Long D. Nguyen, Hoang Duong Tuan, Trung Q. Duong, Octavia A. Dobre, and H. Vincent Poor	
Chinese Remainder Theorem-Based Sequence Design for Resource Block Assignment in Relay-Assisted Internet-of-Things Communications	3401
..... Yaser M. M. Fouad, Ramy H. Gohary, and Halim Yanikomeroglu	
A Likelihood-Based Algorithm for Blind Identification of QAM and PSK Signals	3417
..... Daimei Zhu, V. John Mathews, and David H. Detienne	
Signal Detection Under Short-Interval Sampling of Continuous Waveforms for Optical Wireless Scattering Communication	3431
..... Difan Zou, Chen Gong, and Zhengyuan Xu	
Iterative Receivers for Downlink MIMO-SCMA: Message Passing and Distributed Cooperative Detection	3444
..... Weijie Yuan, Nan Wu, Qinghua Guo, Yonghui Li, Chengwen Xing, and Jingming Kuang	

Performance Analysis of OMP-Based Channel Estimations in Mobile OFDM Systems	<i>Guoping Tan, Bingyang Wu, and Thorsten Herfet</i>	3459
On User Pairing in Uplink NOMA	<i>Mohammad Ali Sedaghat and Ralf R. Müller</i>	3474
Maximum Secrecy Throughput of MIMOME FSO Communications With Outage Constraints	<i>Marcos Eduardo Pivaro Monteiro, João Luiz Rebelatto, Richard Demo Souza, and Glauber Brante</i>	3487
On MIMO Linear Physical-Layer Network Coding: Full-Rate Full-Diversity Design and Optimization	<i>Long Shi, Tao Yang, Kui Cai, Pingping Chen, and Tao Guo</i>	3498
Regret Minimization for Primary/Secondary Access to Satellite Resources With Cognitive Interference	<i>Yalin E. Sagduyu, Yi Shi, Allen B. MacKenzie, and Y. Thomas Hou</i>	3512
Heterogeneous Networks With Power-Domain NOMA: Coverage, Throughput, and Power Allocation Analysis	<i>Chun-Hung Liu and Di-Chun Liang</i>	3524
