

IEEE TRANSACTIONS ON COMMUNICATIONS

A PUBLICATION OF THE IEEE COMMUNICATIONS SOCIETY



NOVEMBER 2021

VOLUME 69

NUMBER 11

IECMBT

(ISSN 0090-6778)

<i>Coding</i>	
Hybrid-ARQ Protocols Based on Tornado Codes for the Packet Erasure Channel	7139
..... S. Puducheri-Sundaravaradhan and T. E. Fuja	
Construction of Multi-Rate Quasi-Cyclic LDPC Codes for Satellite Communications	7154
..... C. Zhang, X. Mu, J. Yuan, H. Li, and B. Bai	
<i>Communication Theory</i>	
Further Results on Detection and Channel Estimation for Hardware Impaired Signals	7167
..... Y. Chen, Z. Yang, J. Zhang, and M.-S. Alouini	
On the Success Probability of Three Detectors for the Box-Constrained Integer Linear Model	7180
..... J. Wen and X.-W. Chang	
Quantumized Microwave Detection Based on Λ -Type Three-Level Superconducting System: HMM Modeling and Performance Prediction	7192
..... J. Zhang, C. Gong, S. Li, S. Wu, R. Ni, C. Zuo, J. Zhu, M. Zhao, and Z. Xu	
On Minimizing Symbol Error Rate Over Fading Channels With Low-Resolution Quantization	7205
..... N. I. Bernardo, J. Zhu, and J. Evans	
Asymmetric Adaptive Modulation for Uplink NOMA Systems	7222
..... K. Wang, T. Zhou, T. Xu, H. Hu, and X. Tao	
Information Age-Delay Correlation and Optimization With Finite Block Length	7236
..... J. Cao, X. Zhu, Y. Jiang, Z. Wei, and S. Sun	
A Unified MIMO Optimization Framework Relying on the KKT Conditions	7251
..... S. Gong, C. Xing, Y. Jing, S. Wang, J. Wang, S. Chen, and L. Hanzo	
A New Class of Structured Beamforming for Content-Centric Fog Radio Access Networks	7269
..... W. Zhu, H. D. Tuan, E. Dutkiewicz, Y. Fang, and L. Hanzo	
Sum-Rate Maximization for Multi-Reconfigurable Intelligent Surface-Assisted Device-to-Device Communications ...	7283
..... Y. Cao, T. Lv, W. Ni, and Z. Lin	
The Multi-Source Probabilistically Preemptive M/PH/1/1 Queue With Packet Errors	7297
..... O. Doğan and N. Akar	
<i>Data Compression</i>	
On the Minimum of the Expansion Factor for Universal Coding of Integers	7309
..... W. Yan and S.-J. Lin	
<i>Information Theory</i>	
Adaptive Coding and Channel Shaping Through Reconfigurable Intelligent Surfaces: An Information-Theoretic Analysis	7320
..... R. Karasik, O. Simeone, M. Di Renzo, and S. Shamai	

(Contents Continued on Page 7137)



On the Stability Region of Intermittent Interference Networks	<i>S. Nassirpour and A. Vahid</i>	7335
Multilevel Topological Interference Management: A TIM-TIN Perspective	<i>C. Geng, H. Sun, and S. A. Jafar</i>	7350
Erasure Broadcast Channels With Intermittent Feedback	<i>A. Vahid, S.-C. Lin, and I.-H. Wang</i>	7363
A Novel Transformation Approach of Shared-Link Coded Caching Schemes for Multiaccess Networks		
.....	<i>M. Cheng, K. Wan, D. Liang, M. Zhang, and G. Caire</i>	7376
On the Tradeoff Between Computation and Communication Costs for Distributed Linearly Separable Computation	<i>K. Wan, H. Sun, M. Ji, and G. Caire</i>	7390
Optimal Quantizer Structure for Maximizing Mutual Information Under Constraints	<i>T. Nguyen and T. Nguyen</i>	7406
<i>Machine Learning and Communications</i>		
Machine Learning for User Partitioning and Phase Shifters Design in RIS-Aided NOMA Networks		
.....	<i>Z. Yang, Y. Liu, Y. Chen, and N. Al-Dhahir</i>	7414
Deep Learning-Based Robust Precoding for Massive MIMO	<i>J. Shi, W. Wang, X. Yi, X. Gao, and G. Y. Li</i>	7429
Ultra-Reliable Indoor Millimeter Wave Communications Using Multiple Artificial Intelligence-Powered Intelligent Surfaces	<i>M. Naderi Soorki, W. Saad, M. Bennis, and C. S. Hong</i>	7444
Deep Learning-Based Beam Tracking for Millimeter-Wave Communications Under Mobility		
.....	<i>S. H. Lim, S. Kim, B. Shim, and J. W. Choi</i>	7458
<i>Multi-User Communications</i>		
Exploiting Underlay Spectrum Sharing in Cell-Free Massive MIMO Systems		
.....	<i>D. L. Galappaththige and G. A. Aruma Baduge</i>	7470
A New QoS-Guarantee Strategy for NOMA Assisted Semi-Grant-Free Transmission		
.....	<i>Z. Ding, R. Schober, and H. V. Poor</i>	7489
Cooperative Rate-Splitting for Downlink Multiuser MISO Systems With Partial CSIT	<i>J. Zhang and J. Ge</i>	7504
Clustering-Based Activity Detection Algorithms for Grant-Free Random Access in Cell-Free Massive MIMO		
.....	<i>U. Kunnath Ganesan, E. Björnson, and E. G. Larsson</i>	7520
Multi-Sequence Spreading Random Access (MSRA) for Compressive Sensing-Based Grant-Free Communication ...		
.....	<i>A. T. Abebe and C. G. Kang</i>	7531
S-ALOHA Systems With Successive Transmission: Emulating CSMA System	<i>J.-B. Seo and H. Jin</i>	7544
Multi-Point Coordination in Massive MIMO Systems With Sectorized Antennas		
.....	<i>S. Shahsavari, M. Nosrati, P. Hassanzadeh, A. Ashikhmin, T. L. Marzetta, and E. Erkip</i>	7559
Co-Existing Preamble and Data Transmissions in Random Access for MTC With Massive MIMO		
.....	<i>J. Choi and J. Ding</i>	7576
Exploiting Impacts of Antenna Selection and Energy Harvesting for Massive Network Connectivity		
.....	<i>M.-S. Van Nguyen, D.-T. Do, S. Al-Rubaye, S. Mumtaz, A. Al-Dulaimi, and O. A. Dobre</i>	7587
Jointly Adaptive Distributed Beamforming and Resource Allocation for Buffer-Aided Multiple-Relay NOMA Networks	<i>J. Ren, X. Lei, and P. T. Mathiopoulos</i>	7603
<i>Networks</i>		
Data-Supported Caching Policy Optimization for Wireless D2D Caching Networks		
.....	<i>S. Han, F. Xue, C. Yang, J. Liu, and F. Lin</i>	7618
<i>Optical Communication</i>		
Optimal Power Allocation Between Beam Tracking and Symbol Detection Channels in a Free-Space Optical Communications Receiver	<i>M. S. Bashir and M.-S. Alouini</i>	7631
Evolution Properties and Spatial-Mode UWOC Performances of the Perfect Vortex Beam Subject to Oceanic Turbulence	<i>W. Wang, P. Wang, W. Pang, Y. Pan, Y. Nie, and L. Guo</i>	7647
<i>Security and Privacy</i>		
UAV-Relayed Covert Communication Towards a Flying Warden		
.....	<i>X. Chen, M. Sheng, N. Zhao, W. Xu, and D. Niyato</i>	7659
Improved Constructions for Secure Multi-Party Batch Matrix Multiplication	<i>J. Zhu, Q. Yan, and X. Tang</i>	7673
<i>Signal Processing</i>		
A Generic Complementary Sequence Construction and Associated Encoder/Decoder Design		
.....	<i>A. Şahin and R. Yang</i>	7691

Nonlinear Channel Estimation for Minimally Sampled Baseband OFDM Systems	<i>C.-H. Tseng and J.-H. Cheng</i>	7706
Nonconvex Regularized Gradient Projection Sparse Reconstruction for Massive MIMO Channel Estimation	<i>P. Wu and J. Cheng</i>	7722
<i>Wireless Communications</i>		
Two-Timescale Channel Estimation for Reconfigurable Intelligent Surface Aided Wireless Communications	<i>C. Hu, L. Dai, S. Han, and X. Wang</i>	7736
Dimension Reduced Channel Feedback for Reconfigurable Intelligent Surface Aided Wireless Communications	<i>D. Shen and L. Dai</i>	7748
Non-Linear Energy Harvesting in RIS-Assisted URLLC Networks for Industry Automation	<i>S. Dhok, P. Raut, P. K. Sharma, K. Singh, and C.-P. Li</i>	7761
MMSE-Optimal Sequential Processing for Cell-Free Massive MIMO With Radio Stripes	<i>Z. H. Shaik, E. Björnson, and E. G. Larsson</i>	7775
Reconfigurable Intelligent Surface Empowered Device-to-Device Communication Underlying Cellular Networks ...	<i>G. Yang, Y. Liao, Y.-C. Liang, O. Tirkkonen, G. Wang, and X. Zhu</i>	7790
Age of Information Minimization for Grant-Free Non-Orthogonal Massive Access Using Mean-Field Games	<i>H. Zhang, Y. Kang, L. Song, Z. Han, and H. V. Poor</i>	7806
Reconfigurable Intelligent Surface Aided Power Control for Physical-Layer Broadcasting	<i>H. Han, J. Zhao, W. Zhai, Z. Xiong, D. Niyato, M. Di Renzo, Q.-V. Pham, W. Lu, and K.-Y. Lam</i>	7821
Modeling RIS Empowered Outdoor-to-Indoor Communication in mmWave Cellular Networks	<i>M. Nemat, B. Maham, S. R. Pokhrel, and J. Choi</i>	7837
UAV-Assisted Time-Efficient Data Collection via Uplink NOMA	<i>W. Wang, N. Zhao, L. Chen, X. Liu, Y. Chen, and D. Niyato</i>	7851
On Beamforming Gain Models for Performance Evaluation and Analysis of Narrowband and Wideband Wireless Networks	<i>Y. Chen and C. Han</i>	7864
On the Joint Effects of HPA Nonlinearities and IQ Imbalance on Mixed RF/FSO Cooperative Systems	<i>E. Balti and B. K. Johnson</i>	7879
Power Beacon Placement for Maximizing Guaranteed Coverage in Bistatic Backscatter Networks	<i>X. Jia and X. Zhou</i>	7895
