IEEE

SIGNAL PROCESSING LETTERS

A PUBLICATION OF THE IEEE SIGNAL PROCESSING SOCIETY

IEEE Signal Processing Society

www.ieee.org/sp/index.html

OCTOBER 2016 VOLUME 23 NUMBER 10 ISPLEM (ISSN 1070-9908)

LETTERS

A Low-Complexity Transceiver Design in Sparse Multipath Massive MIMO Channels ..... *Y. Yu, P. Wang, H. Chen, Y. Li, and B. Vucetic* 1301
A Construction of Codebooks Nearly Achieving the Levenstein Bound ..... *P. Tan, Z. Zhou, and D. Zhang* 1306
Deep CNNs Along the Time Axis With Intermap Pooling for Robustness to Spectral Variations ..... *H. Lee, G. Kim, H.-G. Kim, S.-H. Oh, and S.-Y. Lee* 1310
Secure Transmissions via Compressive Sensing in Multicarrier Systems ..... *J. Choi* 1315
Robust Localization Using Time Difference of Arrivals ..... *X. Shi, B. D. O. Anderson, G. Mao, Z. Yang, J. Chen, and Z. Lin* 1320
Exploiting Attribute Dependency for Attribute Assignment in Crowded Scenes ..... *C. Deng, Z. Cao, Y. Xiao, H. Lu, K. Xian, and Y. Chen* 1325
Visual Indoor Localization in Known Environments ..... *Claudio Piciarelli* 1330
Dual Microphone Voice Activity Detection Exploiting Interchannel Time and Level Differences ..... *J. Park, Y. G. Jin, S. Hwang, and J. W. Shin* 1335
A Note on Alternating Minimization Algorithm for the Matrix Completion Problem ..... *D. Gamarnik and S. Misra* 1340
Microphone Array Processing Strategies for Distant-Based Automatic Speech Recognition ..... *S. A. Khoubrouy and J. H. L. Hansen* 1344
A BP–MF–EP Based Iterative Receiver for Joint Phase Noise Estimation, Equalization, and Decoding ..... *W. Wang, Z. Wang, C. Zhang, Q. Guo, P. Sun, and X. Wang* 1349
Impact Analysis of Baseband Quantizer on Coding Efficiency for HDR Video ..... *C.-W. Wong, G.-M. Su, and M. Wu* 1354
High-Resolution Radar Detection in Interference and Nonhomogeneous Noise ..... *Y. Gao, G. Liao, and W. Liu* 1359
Optimal Energy Harvesting-Ratio and Beamwidth Selection in Millimeter Wave Communications ..... *Y. Wu, Q. Yang, Q. He, and K. S. Kwak* 1364
Modeling and Classifying Tip Dynamics of Growing Cells in Video ..... *A. L. Tambo and B. Bhanu* 1369
Discriminative Action States Discovery for Online Action Recognition ..... *B. Hu, J. Yuan, and Y. Wu* 1374

(Contents Continued on Page 1298)

IEEE SIGNAL PROCESSING LETTERS (ISSN 1070–9908) is published quarterly in print and monthly online by the Institute of Electrical and Electronics Engineers, Inc. Responsibility for the contents rests upon the authors and not upon the IEEE, the Society/Council, or its members. **IEEE Corporate Office:** 3 Park Avenue, 17th Floor, New York, NY 10016-5997. **IEEE Operations Center:** 445 Hoes Lane, Piscataway, NJ 08854-4141. NJ Telephone: +1 732 981 0060. **Price/Publication Information:** Individual copies: IEEE Members $20.00 (first copy only), nonmembers $340.00 per copy. (Note: Postage and handling charge not included.) Member and nonmember subscription prices available upon request. Available in microfiche and microfilm. **Copyright and Reprint Permissions:** Abstracting is permitted with credit to the source. Libraries are permitted to photocopy for private use of patrons, provided the per-copy fee indicated in the code at the bottom of the first page is paid through the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923. For all other copying, reprint, or republication permission, write to Copyrights and Permissions Department, IEEE Publications Administration, 445 Hoes Lane, Piscataway, NJ 08854-4141. Copyright © 2016 by the Institute of Electrical and Electronics Engineers, Inc. All rights reserved. **Postmaster:** Send address changes to IEEE SIGNAL PROCESSING LETTERS, IEEE, 445 Hoes Lane, Piscataway, NJ 08854-4141. GST Registration No. 125634188. CPC Sales Agreement #40013087. Return undeliverable Canada addresses to: Pitney Bowes IMEX, P.O. Box 4332, Stanton Rd., Toronto, ON M5W 3J4, Canada. IEEE prohibits discrimination, harassment and bullying. For more information visit http://www.ieee.org/nondiscrimination. Printed in U.S.A.

(Contents Continued from Page 1297)

Perceptually Weighted Analysis-by-Synthesis Vector Quantization for Low Bit Rate MFCC Codec ..... *G. Min, X. Zhang, X. Zou, and J. Yang* 1379
Blind Deconvolution From Multiple Sparse Inputs ..... *L. Wang and Y. Chi* 1384
Adaptive Multiscale Decomposition of Graph Signals ..... *X. Zheng, Y. Y. Tang, J. Pan, and J. Zhou* 1389
Gradient Direction for Screen Content Image Quality Assessment ..... *Z. Ni, L. Ma, H. Zeng, C. Cai, and K.-K. Ma* 1394
Localized Low-Rank Promoting for Recovery of Block-Sparse Signals With Intrablock Correlation ..... *L. Yang, J. Fang, H. Li, and B. Zeng* 1399
NeRD: A Neural Response Divergence Approach to Visual Saliency Detection ..... *M. J. Shafiee, P. Siva, C. Scharfenberger, P. Fieguth, and A. Wong* 1404
A New Algorithm for Optimizing TV-Based PolSAR Despeckling Model ..... *X. Nie, B. Zhang, Y. Chen, and H. Qiao* 1409
UNIQUE: Unsupervised Image Quality Estimation ..... *D. Temel, M. Prabhushankar, and G. AlRegib* 1414
Robust Rank-Two Multicast Beamforming Under a Unified CSI Uncertainty Model ..... *B. Liu, L. Shi, and X.-G. Xia* 1419
Why Does a Hilbertian Metric Work Efficiently in Online Learning With Kernels? ..... *M. Yukawa and K.-R. Müller* 1424
Universal Share for Multisecret Image Sharing Scheme Based on Boolean Operation ..... *Y. K. Meghrajani and H. S. Mazumdar* 1429
Adaptive Gain Control for Enhanced Speech Intelligibility Under Reverberation ..... *P. N. Petkov and Y. Stylianou* 1434
Space-Frequency Coded Index Modulation With Linear-Complexity Maximum Likelihood Receiver in the MIMO-OFDM System ..... *L. Wang, Z. Chen, Z. Gong, and M. Wu* 1439
Time-Asynchronous Robust Cooperative Transmission for the Downlink of C-RAN ..... *S.-H. Park, O. Simeone, and S. Shamai* 1444
Flexible Pilot Contamination Mitigation With Doppler PSD Alignment ..... *X. Luo and X. Zhang* 1449
When Correlation Filters Meet Convolutional Neural Networks for Visual Tracking ..... *C. Ma, Y. Xu, B. Ni, and X. Yang* 1454
Sound Source and Microphone Localization From Acoustic Impulse Responses ..... *D. Salvati, C. Drioli, and G. L. Foresti* 1459
A Low-Complexity Multiuser Adaptive Modulation Scheme for Massive MIMO Systems ..... *Y. Zhou, C. Zhong, S. Jin, Y. Huang, and Z. Zhang* 1464
Multisnapshot Sparse Bayesian Learning for DOA ..... *P. Gerstoft, C. F. Mecklenbräuker, A. Xenaki, and S. Nannuru* 1469
Heretical Multiple Importance Sampling ..... *V. Elvira, L. Martino, D. Luengo, and M. F. Bugallo* 1474
Supervised Hashing Based on the Dimensions' Value Cardinalities of Image Descriptors ..... *D. Rafailidis* 1479
Universal Collaboration Strategies for Signal Detection: A Sparse Learning Approach ..... *P. Khanduri, B. Kailkhura, J. J. Thiagarajan, and P. K. Varshney* 1484
Knowledge-Based Adaptive Detection: Joint Exploitation of Clutter and System Symmetry Properties ..... *C. Hao, D. Orlando, G. Foglia, and G. Giunta* 1489
Unbiased Injection of Signal-Dependent Noise in Variance-Stabilized Range ..... *L. R. Borges, M. A. da Costa Vieira, and A. Foi* 1494
Joint Face Detection and Alignment Using Multitask Cascaded Convolutional Networks ..... *K. Zhang, Z. Zhang, Z. Li, and Y. Qiao* 1499