

IEEE TRANSACTIONS ON SIGNAL PROCESSING

A PUBLICATION OF THE IEEE SIGNAL PROCESSING SOCIETY



www.signalprocessingsociety.org

Indexed in PubMed® and MEDLINE®, products of the United States National Library of Medicine



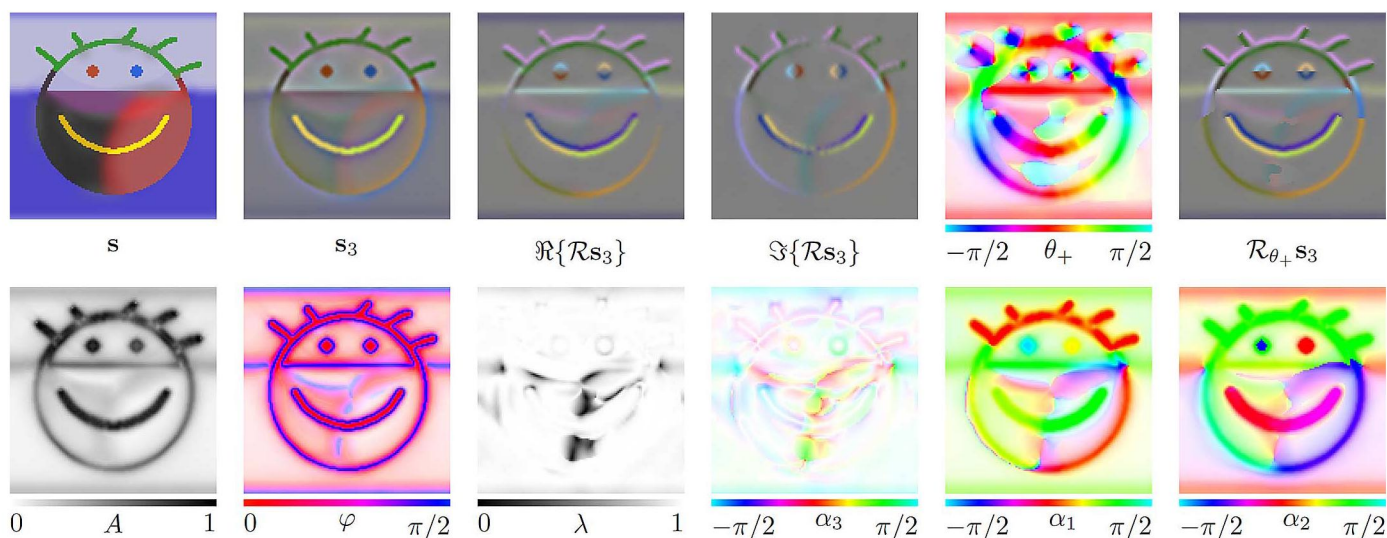
MARCH 1, 2016
MARCH 15, 2016
APRIL 1, 2016
APRIL 15, 2016

VOLUME 64
VOLUME 64
VOLUME 64
VOLUME 64

NUMBER 5
NUMBER 6
NUMBER 7
NUMBER 8

ITPRED

(ISSN 1053-587X)



For the March 1, 2016 issue, see p. 1097 for Table of Contents
 For the March 15, 2016 issue, see p. 1365 for Table of Contents
 For the April 1, 2016 issue, see p. 1634 for Table of Contents
 For the April 15, 2016 issue, see p. 1905 for Table of Contents

IEEE TRANSACTIONS ON SIGNAL PROCESSING

A PUBLICATION OF THE IEEE SIGNAL PROCESSING SOCIETY



www.signalprocessingsociety.org

Indexed in PubMed® and MEDLINE®, products of the United States National Library of Medicine



APRIL 15, 2016

VOLUME 64

NUMBER 8

ITPRED

(ISSN 1053-587X)

REGULAR PAPERS

Löwner-Based Blind Signal Separation of Rational Functions With Applications	<i>O. Debals, M. Van Barel, and L. De Lathauwer</i>	1909
.....		
On the Achievable Rate of OFDM With Index Modulation	<i>M. Wen, X. Cheng, M. Ma, B. Jiao, and H. V. Poor</i>	1919
The Role of Principal Angles in Subspace Classification	<i>J. Huang, Q. Qiu, and R. Calderbank</i>	1933
A Fast Hyperplane-Based Minimum-Volume Enclosing Simplex Algorithm for Blind Hyperspectral Unmixing	<i>C.-H. Lin, C.-Y. Chi, Y.-H. Wang, and T.-H. Chan</i>	1946
.....		
Distributed Bayesian Estimation of Linear Models With Unknown Observation Covariances	<i>Y. Wang and P. M. Djurić</i>	1962
.....		
Consensus Algorithms With State-Dependent Weights	<i>O. Slučiak and M. Rupp</i>	1972
Low-Complexity Algorithms for Low Rank Clutter Parameters Estimation in Radar Systems	<i>Y. Sun, A. Breloy, P. Babu, D. P. Palomar, F. Pascal, and G. Ginolhac</i>	1986
.....		

(Contents Continued on Page 1906)

IEEE TRANSACTIONS ON SIGNAL PROCESSING (ISSN 1053-587X) is published semimonthly 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 \$39.00 (first copy only), non-members \$663.00 per copy. (Note: Postage and handling charge not included.) Member and nonmember subscription prices available upon request. **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 of \$31.00 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 TRANSACTIONS ON SIGNAL PROCESSING, 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.



Phase Noise Estimation in OFDM: Utilizing Its Associated Spectral Geometry	1999
..... <i>P. Mathecken, T. Riihonen, S. Werner, and R. Wichman</i>	
Joint Community and Anomaly Tracking in Dynamic Networks	2013
..... <i>B. Baingana and G. B. Giannakis</i>	
Recursive Sparse Point Process Regression With Application to Spectrotemporal Receptive Field Plasticity Analysis ...	
..... <i>A. Sheikhattar, J. B. Fritz, S. A. Shamma, and B. Babadi</i>	2026
Statistical Analysis of Interference for Nanoscale Electromechanical Wireless Communication at VHF-Band	
..... <i>J. J. Lehtomäki, A. O. Bicen, and I. F. Akyildiz</i>	2040
Sequence Design to Minimize the Weighted Integrated and Peak Sidelobe Levels	
..... <i>J. Song, P. Babu, and D. P. Palomar</i>	2051
Improving Radio Energy Harvesting in Robots Using Mobility Diversity	
..... <i>D. Bonilla Licea, S. A. Raza Zaidi, D. McLernon, and M. Ghogho</i>	2065
Generalized Cramér–Rao Bound for Joint Estimation of Target Position and Velocity for Active and Passive Radar	
Networks	2078
..... <i>Q. He, J. Hu, R. S. Blum, and Y. Wu</i>	
Unitary Beamformer Designs for MIMO Interference Broadcast Channels	2090
..... <i>S. M. Razavi</i>	
Algebraic Phase Unwrapping Based on Two-Dimensional Spline Smoothing Over Triangles	
..... <i>D. Kitahara and I. Yamada</i>	2103
A Multiscale Pyramid Transform for Graph Signals	2119
..... <i>D. I Shuman, M. J. Faraji, and P. Vandergheynst</i>	
Average SINR Calculation of a Persymmetric Sample Matrix Inversion Beamformer	
..... <i>J. Liu, W. Liu, H. Liu, B. Chen, X.-G. Xia, and F. Dai</i>	2135
Closed-Loop Compressive CSIT Estimation in FDD Massive MIMO Systems With 1 Bit Feedback	
..... <i>V. K. N. Lau, S. Cai, and A. Liu</i>	2146
Adaptive Radar Detection of a Subspace Signal Embedded in Subspace Structured Plus Gaussian Interference Via	
Invariance	2156
..... <i>A. De Maio and D. Orlando</i>	
Dual-Function Radar-Communications: Information Embedding Using Sidelobe Control and Waveform Diversity	
..... <i>A. Hassanien, M. G. Amin, Y. D. Zhang, and F. Ahmad</i>	2168

EDICS—Editors’ Information Classification Scheme	2182
Information for Authors	2183

About the Cover: The figure on the cover depicts color monogenic wavelet transform at third scale (Subband \mathbf{s}_3) as provided in the paper titled “Elliptical Monogenic Wavelets for the Analysis and Processing of Color Images” by Soulard and Carré on page 1535. Oscillating color signals are centered and normalized in the RGB cube. Amplitude A and linearity λ are shown as normalized greyscale bitmaps. Angles θ_+ , φ , α_1 , α_2 and α_3 are displayed as *hue* in the HSV color space, while *saturation* is controlled by A so as to whiten irrelevant values (the linearity is also used for α_3). The angles φ and α_3 are wrapped. The smoothing kernel \mathbf{h} for calculus of θ_+ is a Gaussian filter with $\sigma = 2$.