

IEEE JOURNAL OF SELECTED TOPICS IN SIGNAL PROCESSING



www.ieee.org/sp/index.html

JUNE 2016

VOLUME 10

NUMBER 4

IJSTGY

(ISSN 1932-4553)

ISSUE ON STRUCTURED MATRICES IN SIGNAL AND DATA PROCESSING

EDITORIAL

Introduction to the Issue on Structured Matrices in Signal and Data Processing
..... *M. B. Wakin, R. Gribonval, V. Koivunen, J. Romberg, and J. Wright* 605

OVERVIEW ARTICLE

An Overview of Low-Rank Matrix Recovery From Incomplete Observations *M. A. Davenport and J. Romberg* 608

PAPERS

A Characterization of Deterministic Sampling Patterns for Low-Rank Matrix Completion
..... *D. L. Pimentel-Alarcón, N. Boston, and R. D. Nowak* 623
Hankel Low-Rank Matrix Completion: Performance of the Nuclear Norm Relaxation *K. Usevich and P. Comon* 637
Structured Low-Rank Matrix Factorization for Haplotype Assembly *C. Cai, S. Sanghavi, and H. Vikalo* 647
Off-the-Grid Low-Rank Matrix Recovery and Seismic Data Reconstruction
..... *O. López, R. Kumar, Ö. Yılmaz, and F. J. Herrmann* 658
Beyond Low Rank + Sparse: Multiscale Low Rank Matrix Decomposition *F. Ong and M. Lustig* 672

(Contents Continued on Page 604)

IEEE JOURNAL OF SELECTED TOPICS IN SIGNAL PROCESSING (ISSN 1932-4553) is published eight times a year in February, March, April, June, August, September, October, and December 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 \$371.00 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 JOURNAL OF SELECTED TOPICS IN SIGNAL PROCESSING, IEEE, 445 Hoes Lane, Piscataway, NJ 08854-4141. GST Registration No. 125634188. CPC Sales Agreement #40013087. Return undeliverable Canada addresses to: PitneyBowes IMEX, P.O. Box 4332, Stanton Rd., Toronto, ONM5W3J4, 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 603)

Flexible Multilayer Sparse Approximations of Matrices and Applications	<i>L. L. Magoarou and R. Gribonval</i>	688
Generic Uniqueness of a Structured Matrix Factorization and Applications in Blind Source Separation	<i>I. Domanov and L. D. Lathauwer</i>	701
A Provably Efficient Algorithm for Separable Topic Discovery	<i>W. Ding, P. Ishwar, and V. Saligrama</i>	712
Linearized Kernel Dictionary Learning	<i>A. Golts and M. Elad</i>	726
Fast Robust PCA on Graphs	<i>N. Shahid, N. Perraudin, V. Kalofolias, G. Puy, and P. Vandergheynst</i>	740
Tensor CP Decomposition With Structured Factor Matrices: Algorithms and Performance	<i>J. H. de M. Goulart, M. Boizard, R. Boyer, G. Favier, and P. Comon</i>	757
STFT Phase Retrieval: Uniqueness Guarantees and Recovery Algorithms ...	<i>K. Jaganathan, Y. C. Eldar, and B. Hassibi</i>	770
Guaranteed Blind Sparse Spikes Deconvolution via Lifting and Convex Optimization	<i>Y. Chi</i>	782
Parametric Bilinear Generalized Approximate Message Passing	<i>J. T. Parker and P. Schniter</i>	795
Learning-Based Compressive Subsampling	<i>L. Baldassarre, Y.-H. Li, J. Scarlett, B. Gözcü, I. Bogunovic, and V. Cevher</i>	809

Information for Authors		823
-------------------------------	--	-----

IEEE JOURNAL OF SELECTED TOPICS IN SIGNAL PROCESSING



www.ieee.org/sp/index.html

JUNE 2016

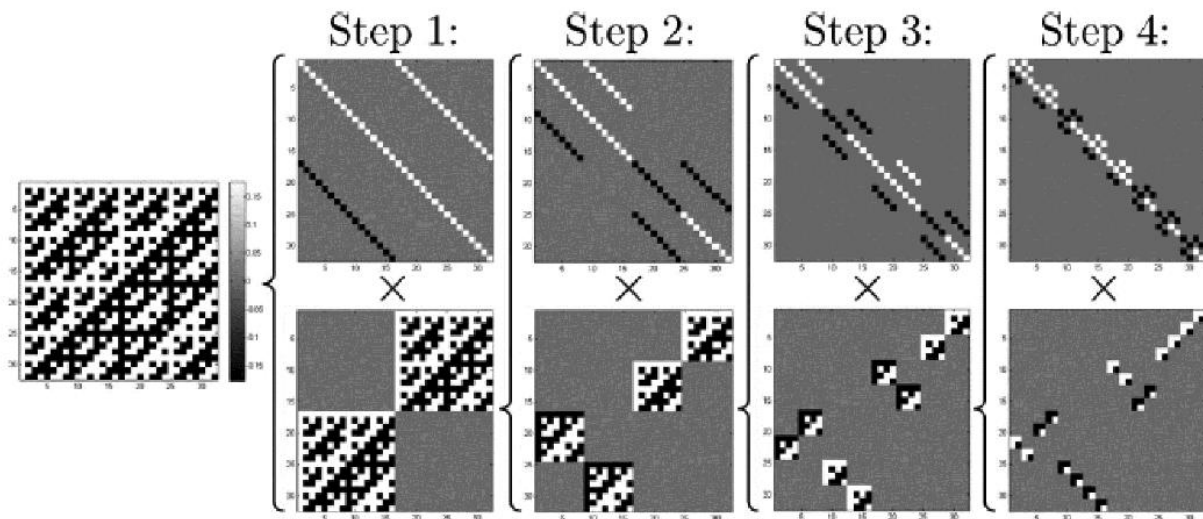
VOLUME 10

NUMBER 4

IJSTGY

(ISSN 1932-4553)

Issue on Structured Matrices in Signal and Data Processing



Hierarchical factorization of the Hadamard matrix of size 32×32 . The matrix is iteratively factorized in 2 factors, until we have $J = 5$ factors, each having $s = 64$ non-zero entries. For more see "Flexible Multilayer Sparse Approximations of Matrices and Applications" by L. Le Magoarou and R. Gribonval, p. 688.

For the April 2016 issue, see p. 431 for Table of Contents.

For the June 2016 issue, see p. 603 for Table of Contents.
