Michael B Wakin

List of Publications by Year
in descending order

120 papers	17,988 citations	249298 26 h-index	145109 60 g-index
121 all docs	121 docs citations	121 times ranked	13494 citing authors

#	Article	IF	Citations
1	Gridless DOA Estimation Under the Multi-Frequency Model. , 2022, , .		3
2	Landscape Correspondence of Empirical and Population Risks in the Eigendecomposition Problem. IEEE Transactions on Signal Processing, 2022, 70, 2985-2999.	3.2	0
3	The Global Optimization Geometry of Low-Rank Matrix Optimization. IEEE Transactions on Information Theory, 2021, 67, 1308-1331.	1.5	15
4	Missing trace reconstruction for 2D land seismic data with randomized sparse sampling. Geophysics, 2021, 86, P25-P36.	1.4	5
5	Data-driven Parameter Estimation Of Contaminated Damped Exponentials. , 2021, , .		1
6	Data-driven Support Recovery for Sparse Signals with Non-stationary Modulation. , 2021, , .		0
7	The Global Optimization Geometry of Shallow Linear Neural Networks. Journal of Mathematical Imaging and Vision, 2020, 62, 279-292.	0.8	8
8	Atomic Norm Denoising for Complex Exponentials With Unknown Waveform Modulations. IEEE Transactions on Information Theory, 2020, 66, 3893-3913.	1.5	22
9	Adaptive Interference Cancellation Using Atomic Norm Minimization. , 2020, , .		0
10	Adaptive Interference Cancellation Using Atomic Norm Minimization and Denoising. IEEE Antennas and Wireless Propagation Letters, 2020, 19, 2349-2353.	2.4	7
11	The Global Geometry of Centralized and Distributed Low-rank Matrix Recovery Without Regularization. IEEE Signal Processing Letters, 2020, 27, 1400-1404.	2.1	8
12	Recovery analysis of damped spectrally sparse signals and its relation to MUSIC. Information and Inference, 2020, , .	0.9	3
13	Support Recovery for Sparse Signals With Unknown Non-Stationary Modulation. IEEE Transactions on Signal Processing, 2020, 68, 1884-1896.	3.2	6
14	Nuclear Norm Based Spectrum Estimation for Molecular Dynamic Simulations. , 2020, , .		0
15	The Geometry of Equality-constrained Global Consensus Problems. , 2019, , .		4
16	Simultaneous Sparse Recovery and Blind Demodulation. IEEE Transactions on Signal Processing, 2019, 67, 5184-5199.	3.2	12
17	Simultaneous Blind Deconvolution and Phase Retrieval with Tensor Iterative Hard Thresholding. , 2019, , .		3
18	Sparse Recovery and Non-stationary Blind Demodulation. , 2019, , .		8

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19	A Super-Resolution Algorithm for Extended Target Localization. , 2019, , .		0
20	The Geometric Effects of Distributing Constrained Nonconvex Optimization Problems. , 2019, , .		1
21	Support Recovery for Sparse Recovery and Non-stationary Blind Demodulation. , 2019, , .		3
22	The Local Geometry of Orthogonal Dictionary Learning using L1 Minimization. , 2019, , .		0
23	The fast Slepian transform. Applied and Computational Harmonic Analysis, 2019, 46, 624-652.	1.1	24
24	Randomized learning of the second-moment matrix of a smooth function. , 2019, 1, 329-387.		2
25	Atomic Norm Minimization for Modal Analysis From Random and Compressed Samples. IEEE Transactions on Signal Processing, 2018, 66, 1817-1831.	3.2	45
26	Stabilizing embedology: Geometry-preserving delay-coordinate maps. Physical Review E, 2018, 97, 022222.	0.8	11
27	Weighted Matrix Completion and Recovery With Prior Subspace Information. IEEE Transactions on Information Theory, 2018, 64, 4044-4071.	1.5	34
28	The Eigenvalue Distribution of Discrete Periodic Time-Frequency Limiting Operators. IEEE Signal Processing Letters, 2018, 25, 95-99.	2.1	13
29	MC2: a two-phase algorithm for leveraged matrix completion. Information and Inference, 2018, 7, 581-604.	0.9	5
30	ROAST: Rapid Orthogonal Approximate Slepian Transform. IEEE Transactions on Signal Processing, 2018, 66, 5887-5901.	3.2	3
31	Global Optimality in Low-Rank Matrix Optimization. IEEE Transactions on Signal Processing, 2018, 66, 3614-3628.	3.2	62
32	A random demodulation architecture for sub-sampling acoustic emission signals in structural health monitoring. Journal of Sound and Vibration, 2018, 431, 390-404.	2.1	19
33	Compressive Video Sensing: Algorithms, architectures, and applications. IEEE Signal Processing Magazine, 2017, 34, 52-66.	4.6	122
34	What Happens to a Manifold Under a Bi-Lipschitz Map?. Discrete and Computational Geometry, 2017, 57, 641-673.	0.4	4
35	What to Expect When You Are Expecting on the Grassmannian. IEEE Signal Processing Letters, 2017, 24, 872-876.	2.1	2
36	On the Asymptotic Equivalence of Circulant and Toeplitz Matrices. IEEE Transactions on Information Theory, 2017, , 1-1.	1.5	20

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37	Jazz: A companion to music for frequency estimation with missing data. , 2017, , .		4
38	Joint elastic side-scattering LIDAR and Raman LIDAR measurements of aerosol optical properties in south east Colorado. Journal of Instrumentation, 2017, 12, P03008-P03008.	0.5	3
39	Atomic norm minimization for modal analysis with random spatial compression. , 2017, , .		3
40	Fast orthogonal approximations of sampled sinusoids and bandlimited signals. , 2017, , .		1
41	Approximating Sampled Sinusoids and Multiband Signals Using Multiband Modulated DPSS Dictionaries. Journal of Fourier Analysis and Applications, 2017, 23, 1263-1310.	0.5	35
42	Radar signal demixing via convex optimization. , 2017, , .		13
43	A super-resolution algorithm for multiband signal identification. , 2017, , .		2
44	Global optimality in low-rank matrix optimization. , 2017, , .		7
45	Super-Resolution of complex exponentials from modulations with known waveforms. , 2017, , .		0
46	Super-resolution in SAR imaging: Analysis with the atomic norm. , 2016, , .		10
47	Atomic norm minimization for modal analysis. , 2016, , .		0
48	Non-stationary blind super-resolution. , 2016, , .		1
49	Super-Resolution of Complex Exponentials From Modulations With Unknown Waveforms. IEEE Transactions on Information Theory, 2016, 62, 5809-5830.	1.5	57
50	On the dimensionality of wall and target return subspaces in through-the-wall radar imaging. , 2016, , .		13
51	Fast computations for approximation and compression in Slepian spaces. , 2016, , .		6
52	Smart-Grid Topology Identification Using Sparse Recovery. IEEE Transactions on Industry Applications, 2016, 52, 4375-4384.	3.3	25
53	Compressive Sensing-Based Topology Identification for Smart Grids. IEEE Transactions on Industrial Informatics, 2016, 12, 532-543.	7.2	78
54	Lossy Compression for Wireless Seismic Data Acquisition. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2016, 9, 236-252.	2.3	11

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55	Wall clutter mitigation and target detection using Discrete Prolate Spheroidal Sequences. , 2015, , .		14
56	Computing active subspaces efficiently with gradient sketching. , 2015, , .		6
57	Modeling and recovering non-transitive pairwise comparison matrices. , 2015, , .		0
58	Sampling considerations for modal analysis with damping. Proceedings of SPIE, 2015, , .	0.8	2
59	Smart grid topology identification using sparse recovery. , 2015, , .		4
60	New analysis of manifold embeddings and signal recovery from compressive measurements. Applied and Computational Harmonic Analysis, 2015, 39, 67-109.	1.1	32
61	Compressive Temporal Higher Order Cyclostationary Statistics. IEEE Transactions on Signal Processing, 2015, 63, 2942-2956.	3.2	20
62	The restricted isometry property for random block diagonal matrices. Applied and Computational Harmonic Analysis, 2015, 38, 1-31.	1.1	42
63	Recovery of Periodic Clustered Sparse signals from compressive measurements. , 2014, , .		4
64	Observability With Random Observations. IEEE Transactions on Automatic Control, 2014, 59, 3002-3007.	3.6	9
65	A Comparison of On-Mote Lossy Compression Algorithms for Wireless Seismic Data Acquisition. , 2014, , .		3
66	Modal Analysis With Compressive Measurements. IEEE Transactions on Signal Processing, 2014, 62, 1655-1670.	3.2	49
67	A first analysis of the stability of Takens' embedding. , 2014, , .		1
68	Signal Space CoSaMP for Sparse Recovery With Redundant Dictionaries. IEEE Transactions on Information Theory, 2013, 59, 6820-6829.	1.5	89
69	Stable Manifold Embeddings With Structured Random Matrices. IEEE Journal on Selected Topics in Signal Processing, 2013, 7, 720-730.	7.3	20
70	Concentration of Measure Inequalities for Toeplitz Matrices With Applications. IEEE Transactions on Signal Processing, 2013, 61, 109-117.	3.2	9
71	Measurement Bounds for Sparse Signal Ensembles via Graphical Models. IEEE Transactions on Information Theory, 2013, 59, 4280-4289.	1.5	38
72	Matched Filtering From Limited Frequency Samples. IEEE Transactions on Information Theory, 2013, 59, 3475-3496.	1.5	72

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73	Multiscale algorithm for reconstructing videos from streaming compressive measurements. Journal of Electronic Imaging, 2013, 22, 021001.	0.5	12
74	Greed is super: A new iterative method for super-resolution. , 2013, , .		3
75	Recovering a Clipped Signal in Sparseland. Sampling Theory in Signal and Information Processing, 2013, 12, 55-69.	0.2	12
76	A tutorial on recovery conditions for compressive system identification of sparse channels. , 2012, , .		8
77	Online search Orthogonal Matching Pursuit. , 2012, , .		0
78	A Review of Sufficient Conditions for Structure Identification in Interconnected Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 1623-1628.	0.4	7
79	A Nonuniform Sampler for Wideband Spectrally-Sparse Environments. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2012, 2, 516-529.	2.7	108
80	A Compressed Sensing Parameter Extraction Platform for Radar Pulse Signal Acquisition. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2012, 2, 626-638.	2.7	84
81	Compressive sensing of analog signals using Discrete Prolate Spheroidal Sequences. Applied and Computational Harmonic Analysis, 2012, 33, 438-472.	1.1	97
82	A geometric approach to multi-view compressive imaging. Eurasip Journal on Advances in Signal Processing, 2012, 2012, .	1.0	18
83	Automatic modulation recognition for spectrum sensing using nonuniform compressive samples. , 2012, , .		25
84	CHOCS: a framework for estimating compressive higher order cyclostationary statistics. Proceedings of SPIE, 2012, , .	0.8	4
85	CoSaMP with redundant dictionaries. , 2012, , .		2
86	Stable manifold embeddings with operators satisfying the Restricted Isometry Property. , 2011, , .		3
87	Concentration of Measure for Block Diagonal Matrices With Applications to Compressive Signal Processing. IEEE Transactions on Signal Processing, 2011, 59, 5859-5875.	3.2	35
88	Learning Low-Dimensional Signal Models. IEEE Signal Processing Magazine, 2011, 28, 39-51.	4.6	22
89	Compressive System Identification of LTI and LTV ARX models. , 2011, , .		33
90	The Restricted Isometry Property for block diagonal matrices. , 2011, , .		22

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91	Compressive topology identification of interconnected dynamic systems via Clustered Orthogonal Matching Pursuit. , 2011, , .		22
92	Exact topology identification of large-scale interconnected dynamical systems from compressive observations. , 2011, , .		64
93	Analysis of Orthogonal Matching Pursuit Using the Restricted Isometry Property. IEEE Transactions on Information Theory, 2010, 56, 4395-4401.	1.5	383
94	Low-Dimensional Models for Dimensionality Reduction and Signal Recovery: A Geometric Perspective. Proceedings of the IEEE, 2010, 98, 959-971.	16.4	123
95	Signal Processing With Compressive Measurements. IEEE Journal on Selected Topics in Signal Processing, 2010, 4, 445-460.	7.3	510
96	On the observability of linear systems from random, compressive measurements. , 2010, , .		23
97	Concentration of measure inequalities for compressive toeplitz matrices with applications to detection and system identification. , 2010, , .		14
98	Concentration of measure for block diagonal matrices with repeated blocks. , 2010, , .		3
99	Concentration of measure for block diagonal measurement matrices. , 2010, , .		9
100	TOWARD RECONSTRUCTION OF CORONAL MASS EJECTION DENSITY FROM ONLY THREE POINTS OF VIEW. Astrophysical Journal, 2009, 695, 636-641.	1.6	23
101	Representation and Compression of Multidimensional Piecewise Functions Using <i>Surflets</i>. IEEE Transactions on Information Theory, 2009, 55, 374-400.	1.5	26
102	Random Projections of Smooth Manifolds. Foundations of Computational Mathematics, 2009, 9, 51-77.	1.5	263
103	A multiscale framework for Compressive Sensing of video. , 2009, , .		81
104	A manifold lifting algorithm for multi-view compressive imaging. , 2009, , .		17
105	Enhancing Sparsity by Reweighted â„" 1 Minimization. Journal of Fourier Analysis and Applications, 2008, 14, 877-905.	0.5	3,783
106	A Simple Proof of the Restricted Isometry Property for Random Matrices. Constructive Approximation, 2008, 28, 253-263.	1.8	1,707
107	Wavelet-domain compressive signal reconstruction using a Hidden Markov Tree model. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	69
108	An Introduction To Compressive Sampling. IEEE Signal Processing Magazine, 2008, 25, 21-30.	4.6	7,855

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109	The smashed filter for compressive classification and target recognition. , 2007, 6498, 142.		137
110	SPARSE SIGNAL AND IMAGE RECOVERY FROM COMPRESSIVE SAMPLES. , 2007, , .		44
111	Multiscale Random Projections for Compressive Classification. , 2007, , .		21
112	<title>A new compressive imaging camera architecture using optical-domain compression</title>. , 2006, 6065, 43.		302
113	Universal distributed sensing via random projections. , 2006, , .		41
114	Wavelet-domain approximation and compression of piecewise smooth images. IEEE Transactions on Image Processing, 2006, 15, 1071-1087.	6.0	64
115	Analog-to-Information Conversion via Random Demodulation. , 2006, , .		269
116	An Architecture for Compressive Imaging. , 2006, , .		194
117	The multiscale structure of non-differentiable image manifolds. , 2005, 5914, 413.		24
118	Geometric methods for wavelet-based image compression. , 2003, , .		11
119	<title>Multiscale geometric image processing</title>. , 2003, 5150, 1265.		24
120	A geometric hidden Markov tree wavelet model. , 2003, 5207, 80.		16