

Ben Adcock

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

89
papers

1,627
citations

25
h-index

39
g-index

100
ext. papers

2,137
ext. citations

2.5
avg, IF

6.08
L-index

#	Paper	IF	Citations
89	On instabilities of deep learning in image reconstruction and the potential costs of AI. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 30088-30095	11.5	174
88	BREAKING THE COHERENCE BARRIER: A NEW THEORY FOR COMPRESSED SENSING. <i>Forum of Mathematics, Sigma</i> , 2017 , 5,	1.4	113
87	Generalized Sampling and Infinite-Dimensional Compressed Sensing. <i>Foundations of Computational Mathematics</i> , 2016 , 16, 1263-1323	2.7	96
86	Beyond Consistent Reconstructions: Optimality and Sharp Bounds for Generalized Sampling, and Application to the Uniform Resampling Problem. <i>SIAM Journal on Mathematical Analysis</i> , 2013 , 45, 3132-3167	1.7	74
85	A Generalized Sampling Theorem for Stable Reconstructions in Arbitrary Bases. <i>Journal of Fourier Analysis and Applications</i> , 2012 , 18, 685-716	1.1	72
84	Stable reconstructions in Hilbert spaces and the resolution of the Gibbs phenomenon. <i>Applied and Computational Harmonic Analysis</i> , 2012 , 32, 357-388	3.1	70
83	Efficient Compressed Sensing SENSE pMRI Reconstruction With Joint Sparsity Promotion. <i>IEEE Transactions on Medical Imaging</i> , 2016 , 35, 354-68	11.7	60
82	Infinite-Dimensional Compressed Sensing and Function Interpolation. <i>Foundations of Computational Mathematics</i> , 2018 , 18, 661-701	2.7	50
81	On Stable Reconstructions from Nonuniform Fourier Measurements. <i>SIAM Journal on Imaging Sciences</i> , 2014 , 7, 1690-1723	1.9	48
80	Compressed Sensing and Parallel Acquisition. <i>IEEE Transactions on Information Theory</i> , 2017 , 63, 4860-4888	11.7	47
79	A Stability Barrier for Reconstructions from Fourier Samples. <i>SIAM Journal on Numerical Analysis</i> , 2014 , 52, 125-139	2.4	46
78	Compressed sensing with local structure: Uniform recovery guarantees for the sparsity in levels class. <i>Applied and Computational Harmonic Analysis</i> , 2019 , 46, 453-477	3.1	44
77	A Note on Compressed Sensing of Structured Sparse Wavelet Coefficients From Subsampled Fourier Measurements. <i>IEEE Signal Processing Letters</i> , 2016 , 23, 732-736	3.2	43
76	Correcting for unknown errors in sparse high-dimensional function approximation. <i>Numerische Mathematik</i> , 2019 , 142, 667-711	2.2	40
75	. <i>IEEE Transactions on Information Theory</i> , 2018 , 64, 6638-6661	2.8	40
74	The Quest for Optimal Sampling: Computationally Efficient, Structure-Exploiting Measurements for Compressed Sensing. <i>Applied and Numerical Harmonic Analysis</i> , 2015 , 143-167	0.6	40
73	Compressed Sensing Approaches for Polynomial Approximation of High-Dimensional Functions. <i>Applied and Numerical Harmonic Analysis</i> , 2017 , 93-124	0.6	40

72	Weighted frames of exponentials and stable recovery of multidimensional functions from nonuniform Fourier samples. <i>Applied and Computational Harmonic Analysis</i> , 2017 , 42, 508-535	3.1	37
71	The Gap between Theory and Practice in Function Approximation with Deep Neural Networks. <i>SIAM Journal on Mathematics of Data Science</i> , 2021 , 3, 624-655	3.1	37
70	Compressed Sensing with Sparse Corruptions: Fault-Tolerant Sparse Collocation Approximations. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , 2018 , 6, 1424-1453	1.8	34
69	On the Numerical Stability of Fourier Extensions. <i>Foundations of Computational Mathematics</i> , 2014 , 14, 635-687	2.7	32
68	The Benefits of Acting Locally: Reconstruction Algorithms for Sparse in Levels Signals With Stable and Robust Recovery Guarantees. <i>IEEE Transactions on Signal Processing</i> , 2021 , 69, 3160-3175	4.8	32
67	Compressive Hermite Interpolation: Sparse, High-Dimensional Approximation from Gradient-Augmented Measurements. <i>Constructive Approximation</i> , 2019 , 50, 167-207	1.6	31
66	Do Log Factors Matter? On Optimal Wavelet Approximation and the Foundations of Compressed Sensing. <i>Foundations of Computational Mathematics</i> , 1	2.7	31
65	On oracle-type local recovery guarantees in compressed sensing. <i>Information and Inference</i> , 2021 , 10, 1-49	2.4	30
64	On the resolution power of Fourier extensions for oscillatory functions. <i>Journal of Computational and Applied Mathematics</i> , 2014 , 260, 312-336	2.4	24
63	Linear Stable Sampling Rate: Optimality of 2D Wavelet Reconstructions from Fourier Measurements. <i>SIAM Journal on Mathematical Analysis</i> , 2015 , 47, 1196-1233	1.7	21
62	Convergence acceleration of modified Fourier series in one or more dimensions. <i>Mathematics of Computation</i> , 2010 , 80, 225-261	1.6	21
61	Generalized Sampling: Stable Reconstructions, Inverse Problems and Compressed Sensing over the Continuum. <i>Advances in Imaging and Electron Physics</i> , 2014 , 182, 187-279	0.2	20
60	Frames and Numerical Approximation. <i>SIAM Review</i> , 2019 , 61, 443-473	7.4	17
59	Univariate modified Fourier methods for second order boundary value problems. <i>BIT Numerical Mathematics</i> , 2009 , 49, 249-280	1.7	16
58	A Mapped Polynomial Method for High-Accuracy Approximations on Arbitrary Grids. <i>SIAM Journal on Numerical Analysis</i> , 2016 , 54, 2256-2281	2.4	13
57	Infinite-Dimensional (ℓ^1) Minimization and Function Approximation from Pointwise Data. <i>Constructive Approximation</i> , 2017 , 45, 345-390	1.6	13
56	Generalized sampling: extension to frames and inverse and ill-posed problems. <i>Inverse Problems</i> , 2013 , 29, 015008	2.3	13
55	Multivariate modified Fourier series and application to boundary value problems. <i>Numerische Mathematik</i> , 2010 , 115, 511-552	2.2	12

54	Convolutional Analysis Operator Learning: Dependence on Training Data. <i>IEEE Signal Processing Letters</i> , 2019 , 26, 1137-1141	3.2	10
53	Gibbs phenomenon and its removal for a class of orthogonal expansions. <i>BIT Numerical Mathematics</i> , 2011 , 51, 7-41	1.7	9
52	Parameter selection and numerical approximation properties of Fourier extensions from fixed data. <i>Journal of Computational Physics</i> , 2014 , 273, 453-471	4.1	8
51	Multivariate Modified Fourier Expansions. <i>Lecture Notes in Computational Science and Engineering</i> , 2011 , 85-92	0.3	6
50	Near-Optimal Sampling Strategies for Multivariate Function Approximation on General Domains. <i>SIAM Journal on Mathematics of Data Science</i> , 2020 , 2, 607-630	3.1	6
49	APPROXIMATING SMOOTH, MULTIVARIATE FUNCTIONS ON IRREGULAR DOMAINS. <i>Forum of Mathematics, Sigma</i> , 2020 , 8,	1.4	5
48	Generalized sampling and the stable and accurate reconstruction of piecewise analytic functions from their Fourier coefficients. <i>Mathematics of Computation</i> , 2014 , 84, 237-270	1.6	5
47	Compressive Imaging: Structure, Sampling, Learning 2021 ,		5
46	Density Theorems for Nonuniform Sampling of Bandlimited Functions Using Derivatives or Bunched Measurements. <i>Journal of Fourier Analysis and Applications</i> , 2017 , 23, 1311-1347	1.1	4
45	On Asymptotic Incoherence and Its Implications for Compressed Sensing of Inverse Problems. <i>IEEE Transactions on Information Theory</i> , 2016 , 62, 1020-1037	2.8	4
44	Optimal sampling rates for approximating analytic functions from pointwise samples. <i>IMA Journal of Numerical Analysis</i> , 2019 , 39, 1360-1390	1.8	4
43	New Exponential Variable Transform Methods for Functions with Endpoint Singularities. <i>SIAM Journal on Numerical Analysis</i> , 2014 , 52, 1887-1912	2.4	4
42	Recovering Piecewise Smooth Functions from Nonuniform Fourier Measurements. <i>Lecture Notes in Computational Science and Engineering</i> , 2015 , 117-125	0.3	4
41	Computing reconstructions from nonuniform Fourier samples: Universality of stability barriers and stable sampling rates. <i>Applied and Computational Harmonic Analysis</i> , 2019 , 46, 226-249	3.1	4
40	Frames and Numerical Approximation II: Generalized Sampling. <i>Journal of Fourier Analysis and Applications</i> , 2020 , 26, 1	1.1	3
39	Optimal sparse recovery for multi-sensor measurements 2016 ,		3
38	Joint Sparse Recovery Based on Variances. <i>SIAM Journal of Scientific Computing</i> , 2019 , 41, A246-A268	2.6	3
37	Recovery guarantees for Compressed Sensing with unknown errors 2017 ,		2

36	Uniform recovery in infinite-dimensional compressed sensing and applications to structured binary sampling. <i>Applied and Computational Harmonic Analysis</i> , 2021 , 55, 1-40	3.1	2
35	Stable nonuniform sampling with weighted Fourier frames and recovery in arbitrary spaces 2015 ,		1
34	On the convergence of expansions in polyharmonic eigenfunctions. <i>Journal of Approximation Theory</i> , 2011 , 163, 1638-1674	0.9	1
33	Iterative and greedy algorithms for the sparsity in levels model in compressed sensing 2019 ,		1
32	Uniform recovery from subgaussian multi-sensor measurements. <i>Applied and Computational Harmonic Analysis</i> , 2020 , 48, 731-765	3.1	1
31	The LASSO and its Cousins 2021 , 129-141		1
30	Neural Networks and Deep Learning 2021 , 431-457		0
29	Improved Recovery Guarantees and Sampling Strategies for TV Minimization in Compressive Imaging. <i>SIAM Journal on Imaging Sciences</i> , 2021 , 14, 1149-1183	1.9	0
28	Resolution-Optimal Exponential and Double-Exponential Transform Methods for Functions with Endpoint Singularities. <i>SIAM Journal of Scientific Computing</i> , 2017 , 39, A164-A187	2.6	
27	Frame approximation with bounded coefficients. <i>Advances in Computational Mathematics</i> , 2021 , 47, 1	1.6	
26	Deep Learning for Compressive Imaging 2021 , 458-469		
25	Wavelets 2021 , 188-221		
24	Analysis of Optimization Algorithms 2021 , 166-187		
23	A Short Guide to Compressive Imaging 2021 , 47-74		
22	Properties of Walsh Functions and the Walsh Transform 2021 , 556-562		
21	Stable and Accurate Neural Networks for Compressive Imaging 2021 , 501-520		
20	Compressed Sensing with Local Structure 2021 , 237-240		
19	From Compressed Sensing to Deep Learning 2021 , 427-430		

- 18 Compressed Sensing for Imaging **2021**, 349-352
- 17 Convex Analysis and Convex Optimization **2021**, 546-552
- 16 Compressed Sensing, Optimization and Wavelets **2021**, 101-104
- 15 Techniques for Enhancing Performance **2021**, 75-100
- 14 A Taste of Wavelet Approximation Theory **2021**, 222-236
- 13 The Essentials of Compressive Imaging **2021**, 27-29
- 12 Fourier Transforms and Series **2021**, 553-555
- 11 Sampling Strategies for Compressive Imaging **2021**, 353-372
- 10 Infinite-Dimensional Compressed Sensing **2021**, 334-348
- 9 Images, Transforms and Sampling **2021**, 30-46
- 8 Total Variation Minimization **2021**, 403-426
- 7 From Global to Local **2021**, 241-266
- 6 Recovery Guarantees for Wavelet-Based Compressive Imaging **2021**, 373-402
- 5 Local Structure and Nonuniform Recovery **2021**, 267-304
- 4 Optimization for Compressed Sensing **2021**, 142-165
- 3 Local Structure and Uniform Recovery **2021**, 305-333
- 2 Accuracy and Stability of Deep Learning for Compressive Imaging **2021**, 470-500
- 1 An Introduction to Conventional Compressed Sensing **2021**, 105-128

