Ben Adcock

List of Publications by Year
in descending order

79	2,352	201658 27	206102 48
papers	citations	h-index	g-index

100	100	100	1030
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	On instabilities of deep learning in image reconstruction and the potential costs of AI. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 30088-30095.	7.1	384
2	BREAKING THE COHERENCE BARRIER: A NEW THEORY FOR COMPRESSED SENSING. Forum of Mathematics, Sigma, 2017, 5, .	0.7	160
3	Generalized Sampling and Infinite-Dimensional Compressed Sensing. Foundations of Computational Mathematics, 2016, 16, 1263-1323.	2.5	123
4	Stable reconstructions in Hilbert spaces and the resolution of the Gibbs phenomenon. Applied and Computational Harmonic Analysis, 2012, 32, 357-388.	2.2	90
5	A Generalized Sampling Theorem for Stable Reconstructions in Arbitrary Bases. Journal of Fourier Analysis and Applications, 2012, 18, 685-716.	1.0	89
6	Beyond Consistent Reconstructions: Optimality and Sharp Bounds for Generalized Sampling, and Application to the Uniform Resampling Problem. SIAM Journal on Mathematical Analysis, 2013, 45, 3132-3167.	1.9	87
7	Efficient Compressed Sensing SENSE pMRI Reconstruction With Joint Sparsity Promotion. IEEE Transactions on Medical Imaging, 2016, 35, 354-368.	8.9	75
8	The Gap between Theory and Practice in Function Approximation with Deep Neural Networks. SIAM Journal on Mathematics of Data Science, 2021, 3, 624-655.	1.8	68
9	Infinite-Dimensional Compressed Sensing and Function Interpolation. Foundations of Computational Mathematics, 2018, 18, 661-701.	2.5	67
10	Compressed Sensing and Parallel Acquisition. IEEE Transactions on Information Theory, 2017, 63, 4860-4882.	2.4	64
11	A Stability Barrier for Reconstructions from Fourier Samples. SIAM Journal on Numerical Analysis, 2014, 52, 125-139.	2.3	63
12	On Stable Reconstructions from Nonuniform Fourier Measurements. SIAM Journal on Imaging Sciences, 2014, 7, 1690-1723.	2.2	60
13	A Note on Compressed Sensing of Structured Sparse Wavelet Coefficients From Subsampled Fourier Measurements. IEEE Signal Processing Letters, 2016, 23, 732-736.	3.6	58
14	Compressed sensing with local structure: Uniform recovery guarantees for the sparsity in levels class. Applied and Computational Harmonic Analysis, 2019, 46, 453-477.	2.2	58
15	Correcting for unknown errors in sparse high-dimensional function approximation. Numerische Mathematik, 2019, 142, 667-711.	1.9	57
16	Robustness to Unknown Error in Sparse Regularization. IEEE Transactions on Information Theory, 2018, 64, 6638-6661.	2.4	56
17	The Quest for Optimal Sampling: Computationally Efficient, Structure-Exploiting Measurements for Compressed Sensing. Applied and Numerical Harmonic Analysis, 2015, , 143-167.	0.3	56
18	Compressed Sensing Approaches for Polynomial Approximation of High-Dimensional Functions. Applied and Numerical Harmonic Analysis, 2017, , 93-124.	0.3	56

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19	Weighted frames of exponentials and stable recovery of multidimensional functions from nonuniform Fourier samples. Applied and Computational Harmonic Analysis, 2017, 42, 508-535.	2.2	49
20	Compressed Sensing with Sparse Corruptions: Fault-Tolerant Sparse Collocation Approximations. SIAM-ASA Journal on Uncertainty Quantification, 2018, 6, 1424-1453.	2.0	47
21	Compressive Hermite Interpolation: Sparse, High-Dimensional Approximation from Gradient-Augmented Measurements. Constructive Approximation, 2019, 50, 167-207.	3.0	45
22	Do Log Factors Matter? On Optimal Wavelet Approximation and the Foundations of Compressed Sensing. Foundations of Computational Mathematics, 2022, 22, 99-159.	2.5	44
23	The Benefits of Acting Locally: Reconstruction Algorithms for Sparse in Levels Signals With Stable and Robust Recovery Guarantees. IEEE Transactions on Signal Processing, 2021, 69, 3160-3175.	5.3	43
24	On the Numerical Stability of Fourier Extensions. Foundations of Computational Mathematics, 2014, 14, 635-687.	2.5	41
25	On oracle-type local recovery guarantees in compressed sensing. Information and Inference, 2021, 10, 1-49.	1.6	41
26	Frames and Numerical Approximation. SIAM Review, 2019, 61, 443-473.	8.4	32
27	On the resolution power of Fourier extensions for oscillatory functions. Journal of Computational and Applied Mathematics, 2014, 260, 312-336.	2.0	30
28	Convergence acceleration of modified Fourier series in one or more dimensions. Mathematics of Computation, 2010, 80, 225-261.	2.1	27
29	Generalized Sampling. Advances in Imaging and Electron Physics, 2014, 182, 187-279.	0.2	21
30	Linear Stable Sampling Rate: Optimality of 2D Wavelet Reconstructions from Fourier Measurements. SIAM Journal on Mathematical Analysis, 2015, 47, 1196-1233.	1.9	21
31	A Mapped Polynomial Method for High-Accuracy Approximations on Arbitrary Grids. SIAM Journal on Numerical Analysis, 2016, 54, 2256-2281.	2.3	19
32	Univariate modified Fourier methods for second order boundary value problems. BIT Numerical Mathematics, 2009, 49, 249-280.	2.0	18
33	Infinite-Dimensional $$ell ^1$$ â„“ 1 Minimization and Function Approximation from Pointwise Data. Constructive Approximation, 2017, 45, 345-390.	3.0	18
34	Multivariate modified Fourier series and application to boundary value problems. Numerische Mathematik, 2010, 115, 511-552.	1.9	16
35	Generalized sampling: extension to frames and inverse and ill-posed problems. Inverse Problems, 2013, 29, 015008.	2.0	15
36	Convolutional Analysis Operator Learning: Dependence on Training Data. IEEE Signal Processing Letters, 2019, 26, 1137-1141.	3.6	12

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37	Frames and Numerical Approximation II: Generalized Sampling. Journal of Fourier Analysis and Applications, 2020, 26, 1.	1.0	11
38	Parameter selection and numerical approximation properties of Fourier extensions from fixed data. Journal of Computational Physics, 2014, 273, 453-471.	3.8	10
39	Near-Optimal Sampling Strategies for Multivariate Function Approximation on General Domains. SIAM Journal on Mathematics of Data Science, 2020, 2, 607-630.	1.8	10
40	Gibbs phenomenon and its removal for a class ofÂorthogonal expansions. BIT Numerical Mathematics, 2011, 51, 7-41.	2.0	9
41	Optimal sampling rates for approximating analytic functions from pointwise samples. IMA Journal of Numerical Analysis, 2019, 39, 1360-1390.	2.9	8
42	Joint Sparse Recovery Based on Variances. SIAM Journal of Scientific Computing, 2019, 41, A246-A268.	2.8	8
43	APPROXIMATING SMOOTH, MULTIVARIATE FUNCTIONS ON IRREGULAR DOMAINS. Forum of Mathematics, Sigma, 2020, 8, .	0.7	7
44	Generalized sampling and the stable and accurate reconstruction of piecewise analytic functions from their Fourier coefficients. Mathematics of Computation, 2015, 84, 237-270.	2.1	6
45	On Asymptotic Incoherence and Its Implications for Compressed Sensing of Inverse Problems. IEEE Transactions on Information Theory, 2016, 62, 1020-1037.	2.4	5
46	Improved Recovery Guarantees and Sampling Strategies for TV Minimization in Compressive Imaging. SIAM Journal on Imaging Sciences, 2021, 14, 1149-1183.	2.2	5
47	New Exponential Variable Transform Methods for Functions with Endpoint Singularities. SIAM Journal on Numerical Analysis, 2014, 52, 1887-1912.	2.3	4
48	Optimal sparse recovery for multi-sensor measurements. , 2016, , .		4
49	Density Theorems for Nonuniform Sampling of Bandlimited Functions Using Derivatives or Bunched Measurements. Journal of Fourier Analysis and Applications, 2017, 23, 1311-1347.	1.0	4
50	Recovery guarantees for Compressed Sensing with unknown errors. , 2017, , .		4
51	Computing reconstructions from nonuniform Fourier samples: Universality of stability barriers and stable sampling rates. Applied and Computational Harmonic Analysis, 2019, 46, 226-249.	2.2	4
52	Recovering Piecewise Smooth Functions from Nonuniform Fourier Measurements. Lecture Notes in Computational Science and Engineering, 2015, , 117-125.	0.3	4
53	Uniform recovery from subgaussian multi-sensor measurements. Applied and Computational Harmonic Analysis, 2020, 48, 731-765.	2.2	3
54	Uniform recovery in infinite-dimensional compressed sensing and applications to structured binary sampling. Applied and Computational Harmonic Analysis, 2021, 55, 1-40.	2.2	3

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55	Iterative and greedy algorithms for the sparsity in levels model in compressed sensing. , 2019, , .		3
56	On the convergence of expansions in polyharmonic eigenfunctions. Journal of Approximation Theory, 2011, 163, 1638-1674.	0.8	2
57	Stable nonuniform sampling with weighted Fourier frames and recovery in arbitrary spaces. , 2015, , .		1
58	The LASSO and its Cousins. , 2021, , 129-141.		1
59	Neural Networks and Deep Learning. , 2021, , 431-457.		1
60	Resolution-Optimal Exponential and Double-Exponential Transform Methods for Functions with Endpoint Singularities. SIAM Journal of Scientific Computing, 2017, 39, A164-A187.	2.8	0
61	Frame approximation with bounded coefficients. Advances in Computational Mathematics, 2021, 47, 1.	1.6	0
62	Deep Learning for Compressive Imaging. , 2021, , 458-469.		0
63	Wavelets. , 2021, , 188-221.		0
64	Analysis of Optimization Algorithms. , 2021, , 166-187.		0
65	A Short Guide to Compressive Imaging. , 2021, , 47-74.		0
66	Stable and Accurate Neural Networks for Compressive Imaging. , 2021, , 501-520.		0
67	Techniques for Enhancing Performance. , 2021, , 75-100.		0
68	A Taste of Wavelet Approximation Theory. , 2021, , 222-236.		0
69	Sampling Strategies for Compressive Imaging. , 2021, , 353-372.		0
70	Infinite-Dimensional Compressed Sensing. , 2021, , 334-348.		0
71	Images, Transforms and Sampling. , 2021, , 30-46.		0
72	Total Variation Minimization. , 2021, , 403-426.		0

#	Article	IF	Citations
73	From Global to Local. , 2021, , 241-266.		0
74	Recovery Guarantees for Wavelet-Based Compressive Imaging. , 2021, , 373-402.		0
75	Local Structure and Nonuniform Recovery. , 2021, , 267-304.		0
76	Optimization for Compressed Sensing. , 2021, , 142-165.		0
77	Local Structure and Uniform Recovery. , 2021, , 305-333.		0
78	Accuracy and Stability of Deep Learning for Compressive Imaging. , 2021, , 470-500.		0
79	An Introduction to Conventional Compressed Sensing. , 2021, , 105-128.		0