Joel A Tropp

List of Publications by Year
in descending order

68	21,939	101496	128225
papers	citations	36 h-index	60 g-index

72	72	72	11427
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Signal Recovery From Random Measurements Via Orthogonal Matching Pursuit. IEEE Transactions on Information Theory, 2007, 53, 4655-4666.	1.5	7,390
2	CoSaMP: Iterative signal recovery from incomplete and inaccurate samples. Applied and Computational Harmonic Analysis, 2009, 26, 301-321.	1.1	3,260
3	Greed is Good: Algorithmic Results for Sparse Approximation. IEEE Transactions on Information Theory, 2004, 50, 2231-2242.	1.5	2,566
4	Algorithms for simultaneous sparse approximation. Part I: Greedy pursuit. Signal Processing, 2006, 86, 572-588.	2.1	1,091
5	Just relax: convex programming methods for identifying sparse signals in noise. IEEE Transactions on Information Theory, 2006, 52, 1030-1051.	1.5	955
6	Beyond Nyquist: Efficient Sampling of Sparse Bandlimited Signals. IEEE Transactions on Information Theory, 2010, 56, 520-544.	1.5	933
7	Computational Methods for Sparse Solution of Linear Inverse Problems. Proceedings of the IEEE, 2010, 98, 948-958.	16.4	786
8	User-Friendly Tail Bounds for Sums of Random Matrices. Foundations of Computational Mathematics, 2012, 12, 389-434.	1.5	596
9	Algorithms for simultaneous sparse approximation. Part II: Convex relaxation. Signal Processing, 2006, 86, 589-602.	2.1	500
10	Designing structured tight frames via an alternating projection method. IEEE Transactions on Information Theory, 2005, 51, 188-209.	1.5	362
11	CoSaMP. Communications of the ACM, 2010, 53, 93-100.	3.3	348
12	An Introduction to Matrix Concentration Inequalities. Foundations and Trends in Machine Learning, 2015, 8, 1-230.	46.6	280
13	On the existence of equiangular tight frames. Linear Algebra and Its Applications, 2007, 426, 619-635.	0.4	216
14	Restricted isometries for partial random circulant matrices. Applied and Computational Harmonic Analysis, 2012, 32, 242-254.	1.1	168
15	Paved with good intentions: Analysis of a randomized block Kaczmarz method. Linear Algebra and Its Applications, 2014, 441, 199-221.	0.4	156
16	On the conditioning of random subdictionaries. Applied and Computational Harmonic Analysis, 2008, 25, 1-24.	1.1	149
17	IMPROVED ANALYSIS OF THE SUBSAMPLED RANDOMIZED HADAMARD TRANSFORM. Advances in Adaptive Data Analysis, 2011, 03, 115-126.	0.6	136
18	Constructing Packings in Grassmannian Manifolds via Alternating Projection. Experimental Mathematics, 2008, 17, 9-35.	0.5	125

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19	Model-based scaling of the streamwise energy density in high-Reynolds-number turbulent channels. Journal of Fluid Mechanics, 2013, 734, 275-316.	1.4	117
20	Matrix Nearness Problems with Bregman Divergences. SIAM Journal on Matrix Analysis and Applications, 2008, 29, 1120-1146.	0.7	115
21	Recovery of Short, Complex Linear Combinations Via<tex>$ell _1$</tex>Minimization. IEEE Transactions on Information Theory, 2005, 51, 1568-1570.	1.5	106
22	Two proposals for robust PCA using semidefinite programming. Electronic Journal of Statistics, 2011, 5, .	0.4	96
23	A Tutorial on Fast Fourier Sampling. IEEE Signal Processing Magazine, 2008, 25, 57-66.	4.6	95
24	Practical Sketching Algorithms for Low-Rank Matrix Approximation. SIAM Journal on Matrix Analysis and Applications, 2017, 38, 1454-1485.	0.7	95
25	Robust Computation of Linear Models by Convex Relaxation. Foundations of Computational Mathematics, 2015, 15, 363-410.	1.5	81
26	Randomized numerical linear algebra: Foundations and algorithms. Acta Numerica, 2020, 29, 403-572.	6.3	76
27	Solving ptychography with a convex relaxation. New Journal of Physics, 2015, 17, 053044.	1.2	73
28	Matrix concentration inequalities via the method of exchangeable pairs. Annals of Probability, 2014, 42, .	0.8	71
29	Sharp Recovery Bounds for Convex Demixing, with Applications. Foundations of Computational Mathematics, 2014, 14, 503-567.	1.5	68
30	Finite-Step Algorithms for Constructing Optimal CDMA Signature Sequences. IEEE Transactions on Information Theory, 2004, 50, 2916-2921.	1.5	63
31	Freedman's inequality for matrix martingales. Electronic Communications in Probability, 2011, 16, .	0.1	59
32	Greedy signal recovery review. , 2008, , .		58
33	Convex Recovery of a Structured Signal from Independent Random Linear Measurements. Applied and Numerical Harmonic Analysis, 2015, , 67-101.	0.1	58
34	Streaming Low-Rank Matrix Approximation with an Application to Scientific Simulation. SIAM Journal of Scientific Computing, 2019, 41, A2430-A2463.	1.3	43
35	Scalable Semidefinite Programming. SIAM Journal on Mathematics of Data Science, 2021, 3, 171-200.	1.0	43
36	Norms of random submatrices and sparse approximation. Comptes Rendus Mathematique, 2008, 346, 1271-1274.	0.1	40

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37	Universality laws for randomized dimension reduction, with applications. Information and Inference, 2018, 7, 337-446.	0.9	39
38	Low-Rank Tucker Approximation of a Tensor from Streaming Data. SIAM Journal on Mathematics of Data Science, 2020, 2, 1123-1150.	1.0	38
39	Efficient sampling of sparse wideband analog signals. , 2008, , .		36
40	Generalized Finite Algorithms for Constructing Hermitian Matrices with Prescribed Diagonal and Spectrum. SIAM Journal on Matrix Analysis and Applications, 2005, 27, 61-71.	0.7	32
41	The restricted isometry property for timeâ€“frequency structured random matrices. Probability Theory and Related Fields, 2013, 156, 707-737.	0.9	32
42	On the Linear Independence of Spikes and Sines. Journal of Fourier Analysis and Applications, 2008, 14, 838-858.	0.5	30
43	From joint convexity of quantum relative entropy to a concavity theorem of Lieb. Proceedings of the American Mathematical Society, 2012, 140, 1757-1760.	0.4	30
44	Concentration for Random Product Formulas. PRX Quantum, 2021, 2, .	3.5	29
45	From Steiner Formulas for Cones to Concentration of Intrinsic Volumes. Discrete and Computational Geometry, 2014, 51, 926-963.	0.4	25
46	The random paving property for uniformly bounded matrices. Studia Mathematica, 2008, 185, 67-82.	0.4	23
47	The Metric Nearness Problem. SIAM Journal on Matrix Analysis and Applications, 2008, 30, 375-396.	0.7	20
48	Complex equiangular tight frames. , 2005, , .		16
49	Efronâ€“Stein inequalities for random matrices. Annals of Probability, 2016, 44, .	0.8	13
50	The sparsity gap: Uncertainty principles proportional to dimension. , 2010, , .		12
51	The Expected Norm of a Sum of Independent Random Matrices: An Elementary Approach. Progress in Probability, 2016, , 173-202.	0.3	12
52	Designing Statistical Estimators That Balance Sample Size, Risk, and Computational Cost. IEEE Journal on Selected Topics in Signal Processing, 2015, 9, 612-624.	7.3	11
53	Corrigendum in â€œJust Relax: Convex Programming Methods for Identifying Sparse Signals in Noiseâ€• [Mar 06 1030-1051]. IEEE Transactions on Information Theory, 2009, 55, 917-918.	1.5	8
54	Subadditivity of matrix $varphi$-entropy and concentration of random matrices. Electronic Journal of Probability, 2014, 19, .	0.5	8

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55	Simplicial Faces of the Set of Correlation Matrices. Discrete and Computational Geometry, 2018, 60, 512-529.	0.4	8
56	Second-order matrix concentration inequalities. Applied and Computational Harmonic Analysis, 2018, 44, 700-736.	1.1	8
57	Random Filters for Compressive Sampling. , 2006, , .		6
58	Binary Component Decomposition Part I: The Positive-Semidefinite Case. SIAM Journal on Mathematics of Data Science, 2021, 3, 544-572.	1.0	6
59	Concentration of the Intrinsic Volumes of a Convex Body. Lecture Notes in Mathematics, 2020, , 139-167.	0.1	6
60	A comparison principle for functions of a uniformly random subspace. Probability Theory and Related Fields, 2012, 153, 759-769.	0.9	5
61	An Optimal-Storage Approach to Semidefinite Programming Using Approximate Complementarity. SIAM Journal on Optimization, 2021, 31, 2695-2725.	1.2	5
62	Integer Factorization of a Positive-Definite Matrix. SIAM Journal on Discrete Mathematics, 2015, 29, 1783-1791.	0.4	4
63	From PoincarÃ© inequalities to nonlinear matrix concentration. Bernoulli, 2021, 27, .	0.7	3
64	Sublinear approximation of signals. , 2006, , .		2
65	Nonlinear matrix concentration via semigroup methods. Electronic Journal of Probability, 2021, 26, .	0.5	2
66	Matrix Concentration for Products. Foundations of Computational Mathematics, 0, , 1.	1.5	2
67	Randomized block Krylov methods for approximating extreme eigenvalues. Numerische Mathematik, 2022, 150, 217-255.	0.9	1
68	Inference of Black Hole Fluid-Dynamics from Sparse Interferometric Measurements. , 2021, , .		1