Daniel Potts

List of Publications by Year
in descending order

96 papers	2,263 citations	236612 25 h-index	253896 43 g-index
98 all docs	98 docs citations	98 times ranked	1340 citing authors

#	Article	IF	Citations
1	Learning multivariate functions with low-dimensional structures using polynomial bases. Journal of Computational and Applied Mathematics, 2022, 403, 113821.	1.1	7
2	Interpretable Transformed ANOVA Approximation on the Example of the Prevention of Forest Fires. Frontiers in Applied Mathematics and Statistics, 2022, 8, .	0.7	1
3	Grouped Transformations and Regularization in High-Dimensional Explainable ANOVA Approximation. SIAM Journal of Scientific Computing, 2022, 44, A1606-A1631.	1.3	2
4	High-dimensional sparse FFT based on sampling along multiple rank-1 lattices. Applied and Computational Harmonic Analysis, 2021, 51, 225-257.	1.1	11
5	Efficient multivariate inversion of the NFFT. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000120.	0.2	2
6	Efficient multivariate approximation on the cube. Numerische Mathematik, 2021, 147, 393-429.	0.9	3
7	Continuous window functions for NFFT. Advances in Computational Mathematics, 2021, 47, 1.	0.8	4
8	Approximation of High-Dimensional Periodic Functions with Fourier-Based Methods. SIAM Journal on Numerical Analysis, 2021, 59, 2393-2429.	1.1	13
9	Uniform error estimates for nonequispaced fast Fourier transforms. Sampling Theory, Signal Processing, and Data Analysis, 2021, 19, 1.	0.8	9
10	Interpretable Approximation of High-Dimensional Data. SIAM Journal on Mathematics of Data Science, 2021, 3, 1301-1323.	1.0	5
11	Fast cross-validation in harmonic approximation. Applied and Computational Harmonic Analysis, 2020, 49, 415-437.	1.1	3
12	A sparse FFT approach for ODE with random coefficients. Advances in Computational Mathematics, 2020, 46, 1.	0.8	2
13	Accelerating the calculation of dipolar interactions in particle based simulations with open boundary conditions by means of the P2NFFT method. Journal of Computational Physics, 2019, 391, 243-258.	1.9	4
14	Direct inversion of the nonequispaced fast Fourier transform. Linear Algebra and Its Applications, 2019, 575, 106-140.	0.4	18
15	Fast Fourier Transforms for Nonequispaced Data. Applied and Numerical Harmonic Analysis, 2018, , 377-419.	0.1	3
16	Prony Method for Reconstruction of Structured Functions. Applied and Numerical Harmonic Analysis, 2018, , 523-573.	0.1	1
17	Discrete Fourier Transforms. Applied and Numerical Harmonic Analysis, 2018, , 107-157.	0.1	1
18	Fast Fourier Transforms. Applied and Numerical Harmonic Analysis, 2018, , 231-303.	0.1	0

#	Article	IF	Citations
19	Numerical Applications of DFT. Applied and Numerical Harmonic Analysis, 2018, , 449-521.	0.1	0
20	Chebyshev Methods and Fast DCT Algorithms. Applied and Numerical Harmonic Analysis, 2018, , 305-376.	0.1	0
21	Numerical Fourier Analysis. Applied and Numerical Harmonic Analysis, 2018, , .	0.1	64
22	NFFT Meets Krylov Methods: Fast Matrix-Vector Products for the Graph Laplacian of Fully Connected Networks. Frontiers in Applied Mathematics and Statistics, 2018, 4, .	0.7	8
23	An SVD in Spherical Surface Wave Tomography. Trends in Mathematics, 2018, , 121-144.	0.1	7
24	High-Dimensional FFT. Applied and Numerical Harmonic Analysis, 2018, , 421-448.	0.1	0
25	Multidimensional Fourier Methods. Applied and Numerical Harmonic Analysis, 2018, , 159-230.	0.1	0
26	Fourier extension and sampling on the sphere. , 2017, , .		3
27	Multivariate sparse FFT based on rank-1 Chebyshev lattice sampling. , 2017, , .		4
28	Error Estimates for the ESPRIT Algorithm. Operator Theory: Advances and Applications, 2017, , 621-648.	0.2	6
29	Efficient Spectral Estimation by MUSIC and ESPRIT with Application to Sparse FFT. Frontiers in Applied Mathematics and Statistics, 2016, 2, .	0.7	18
30	Reconstruction of sparse Legendre and Gegenbauer expansions. BIT Numerical Mathematics, 2016, 56, 1019-1043.	1.0	4
31	Sparse high-dimensional FFT based on rank-1 lattice sampling. Applied and Computational Harmonic Analysis, 2016, 41, 713-748.	1.1	28
32	Collocationâ€"quadrature methods and fast summation for Cauchy singular integral equations with fixed singularities. Linear Algebra and Its Applications, 2016, 491, 187-238.	0.4	9
33	Fast and exact reconstruction of arbitrary multivariate algebraic polynomials in Chebyshev form. , 2015, , .		8
34	Fast Ewald summation based on NFFT with mixed periodicity. Journal of Computational Physics, 2015, 285, 280-315.	1.9	25
35	Approximation of multivariate periodic functions by trigonometric polynomials based on sampling along rank-1 lattice with generating vector of Korobov form. Journal of Complexity, 2015, 31, 424-456.	0.7	10
36	Approximation of multivariate periodic functions by trigonometric polynomials based on rank-1 lattice sampling. Journal of Complexity, 2015, 31, 543-576.	0.7	34

#	Article	IF	Citations
37	Fast ESPRIT algorithms based on partial singular value decompositions. Applied Numerical Mathematics, 2015, 88, 31-45.	1.2	21
38	Sparse polynomial interpolation in Chebyshev bases. Linear Algebra and Its Applications, 2014, 441, 61-87.	0.4	23
39	Computational Methods for the Fourier Analysis of Sparse High-Dimensional Functions. Lecture Notes in Computational Science and Engineering, 2014, , 347-363.	0.1	1
40	Comparison of scalable fast methods for long-range interactions. Physical Review E, 2013, 88, 063308.	0.8	72
41	Parameter estimation for nonincreasing exponential sums by Prony-like methods. Linear Algebra and Its Applications, 2013, 439, 1024-1039.	0.4	90
42	Parallel Three-Dimensional Nonequispaced Fast Fourier Transforms and Their Application to Particle Simulation. SIAM Journal of Scientific Computing, 2013, 35, C411-C437.	1.3	27
43	Quadrature Errors, Discrepancies, and Their Relations to Halftoning on the Torus and the Sphere. SIAM Journal of Scientific Computing, 2012, 34, A2760-A2791.	1.3	21
44	Interpolation lattices for hyperbolic cross trigonometric polynomials. Journal of Complexity, 2012, 28, 76-92.	0.7	22
45	Quadrature Nodes Meet Stippling Dots. Lecture Notes in Computer Science, 2012, , 568-579.	1.0	0
46	Nonlinear approximation by sums of nonincreasing exponentials. Applicable Analysis, 2011, 90, 609-626.	0.6	18
47	Nonlinear Approximation by Sums of Exponentials and Translates. SIAM Journal of Scientific Computing, 2011, 33, 1920-1947.	1.3	36
48	A Continuous Approach to Discrete Ordering on $\mathbb{S}^2$. Multiscale Modeling and Simulation, 2011, 9, 314-334.	0.6	20
49	On the computation of spherical designs by a new optimization approach based on fast spherical Fourier transforms. Numerische Mathematik, 2011, 119, 699-724.	0.9	47
50	Scattered Data Approximation on the Bisphere andÂApplication toÂTexture Analysis. Mathematical Geosciences, 2010, 42, 747-771.	1.4	4
51	Parameter estimation for exponential sums by approximate Prony method. Signal Processing, 2010, 90, 1631-1642.	2.1	98
52	Nonequispaced Hyperbolic Cross Fast Fourier Transform. SIAM Journal on Numerical Analysis, 2010, 47, 4415-4428.	1.1	26
53	On the computation of nonnegative quadrature weights on the sphere. Applied and Computational Harmonic Analysis, 2009, 27, 124-132.	1.1	33
54	Probabilistic spherical Marcinkiewiczâ€"Zygmund inequalities. Journal of Approximation Theory, 2009, 157, 113-126.	0.5	6

#	Article	IF	Citations
55	A fast algorithm for nonequispaced Fourier transforms on the rotation group. Numerical Algorithms, 2009, 52, 355-384.	1.1	37
56	Sampling Sets and Quadrature Formulae on the Rotation Group. Numerical Functional Analysis and Optimization, 2009, 30, 665-688.	0.6	27
57	Using NFFT 3---A Software Library for Various Nonequispaced Fast Fourier Transforms. ACM Transactions on Mathematical Software, 2009, 36, 1-30.	1.6	250
58	Numerical stability of nonequispaced fast Fourier transforms. Journal of Computational and Applied Mathematics, 2008, 222, 655-674.	1.1	13
59	The Radon transform on SO(3): a Fourier slice theorem and numerical inversion. Inverse Problems, 2008, 24, 025011.	1.0	24
60	Fast evaluation of quadrature formulae on the sphere. Mathematics of Computation, 2008, 77, 397-419.	1.1	34
61	Time and Memory Requirements of the Nonequispaced FFT. Sampling Theory in Signal and Information Processing, 2008, 7, 77-100.	0.2	24
62	A Note on the Iterative MRI Reconstruction from Nonuniform k-Space Data. International Journal of Biomedical Imaging, 2007, 2007, 1-9.	3.0	68
63	Field Inhomogeneity Correction Based on Gridding Reconstruction for Magnetic Resonance Imaging. IEEE Transactions on Medical Imaging, 2007, 26, 374-384.	5.4	37
64	Stability Results for Scattered Data Interpolation by Trigonometric Polynomials. SIAM Journal of Scientific Computing, 2007, 29, 1403-1419.	1.3	49
65	On the computation of the polar FFT. Applied and Computational Harmonic Analysis, 2007, 22, 257-263.	1.1	29
66	Orientation density function-controlled pole probability density function measurements: automated adaptive control of texture goniometers. Journal of Applied Crystallography, 2007, 40, 570-579.	1.9	23
67	Efficient reconstruction of functions on the sphere from scattered data. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1050405-1050406.	0.2	0
68	Efficient Reconstruction of Functions on the Sphere from Scattered Data. Journal of Fourier Analysis and Applications, 2007, 13, 435-458.	0.5	46
69	A probability argument in favor of ignoring small singular values. Operators and Matrices, 2007, , 31-43.	0.1	2
70	Fast evaluation of trigonometric polynomials from hyperbolic crosses. Numerical Algorithms, 2006, 41, 339-352.	1.1	8
71	Fast Summation of Radial Functions on the Sphere. Computing (Vienna/New York), 2006, 78, 1-15.	3.2	23
72	Fast Gauss transforms with complex parameters using NFFTs. Journal of Numerical Mathematics, 2006, 14, .	1.8	8

#	Article	IF	Citations
73	Fast summation based on fast trigonometric transforms at non-equispaced nodes. Numerical Linear Algebra With Applications, 2005, 12, 161-169.	0.9	11
74	Approximation of Scattered Data by Trigonometric Polynomials on the Torus and the 2-sphere. Advances in Computational Mathematics, 2004, 21, 21-36.	0.8	1
75	Fast convolution with radial kernels at nonequispaced knots. Numerische Mathematik, 2004, 98, 329-351.	0.9	43
76	Fast Computation of Mutual Information in a Variational Image Registration Approach. Informatik Aktuell, 2004, , 448-452.	0.4	5
77	Fast algorithms for discrete polynomial transforms on arbitrary grids. Linear Algebra and Its Applications, 2003, 366, 353-370.	0.4	20
78	Fast spherical Fourier algorithms. Journal of Computational and Applied Mathematics, 2003, 161, 75-98.	1.1	111
79	Fast Summation at Nonequispaced Knots by NFFT. SIAM Journal of Scientific Computing, 2003, 24, 2013-2037.	1.3	70
80	Fast Poisson solvers on nonequispaced grids: multigrid and Fourier methods compared. , 2003, , .		2
81	A fast algorithm for spherical filtering on arbitrary grids. , 2003, 5207, 445.		2
82	Fast Iterative Methods for Sinc Systems. SIAM Journal on Matrix Analysis and Applications, 2002, 24, 581-598.	0.7	11
83	Fourier Reconstruction of Functions from their Nonstandard Sampled Radon Transform. Journal of Fourier Analysis and Applications, 2002, 8, 513-534.	0.5	12
84	Preconditioners for Nondefinite Hermitian Toeplitz Systems. SIAM Journal on Matrix Analysis and Applications, 2001, 22, 647-665.	0.7	7
85	Preconditioners for Ill-Conditioned Toeplitz Systems Constructed from Positive Kernels. SIAM Journal of Scientific Computing, 2001, 22, 1741-1761.	1.3	21
86	Preconditioners for non-Hermitian Toeplitz systems. Numerical Linear Algebra With Applications, 2001, 8, 83-98.	0.9	17
87	Circulant Preconditioners for Indefinite Toeplitz Systems. BIT Numerical Mathematics, 2001, 41, 1079-1088.	1.0	2
88	Fast Fourier Transforms for Nonequispaced Data: A Tutorial. , 2001, , 247-270.		138
89	A new linogram algorithm for computerized tomography. IMA Journal of Numerical Analysis, 2001, 21, 769-782.	1.5	30
90	New Fourier reconstruction algorithms for computerized tomography. , 2000, 4119, 13.		17

#	Article	IF	Citations
91	Preconditioners for Ill-Conditioned Toeplitz Matrices. BIT Numerical Mathematics, 1999, 39, 513-533.	1.0	22
92	Fast and stable algorithms for discrete spherical Fourier transforms. Linear Algebra and Its Applications, 1998, 275-276, 433-450.	0.4	25
93	Optimal trigonometric preconditioners for nonsymmetric Toeplitz systems. Linear Algebra and Its Applications, 1998, 281, 265-292.	0.4	32
94	Fast algorithms for discrete polynomial transforms. Mathematics of Computation, 1998, 67, 1577-1591.	1.1	69
95	Fast Gauss transforms with complex parameters using NFFTs. , 0, .		1
96	Transformed rank-1 lattices for high-dimensional approximation. Electronic Transactions on Numerical Analysis, 0, 53, 239-282.	0.0	4