

Desmond J Higham

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.

54
papers

3,143
citations

22
h-index

56
g-index

57
ext. papers

3,694
ext. citations

2.6
avg, IF

5.94
L-index

#	Paper	IF	Citations
54	An Algorithmic Introduction to Numerical Simulation of Stochastic Differential Equations. <i>SIAM Review</i> , 2001 , 43, 525-546	7.4	1742
53	Numerical methods for nonlinear stochastic differential equations with jumps. <i>Numerische Mathematik</i> , 2005 , 101, 101-119	2.2	135
52	A weighted communicability measure applied to complex brain networks. <i>Journal of the Royal Society Interface</i> , 2009 , 6, 411-4	4.1	89
51	Exponential Mean-Square Stability of Numerical Solutions to Stochastic Differential Equations. <i>LMS Journal of Computation and Mathematics</i> , 2003 , 6, 297-313		88
50	Backward Error and Condition of Structured Linear Systems. <i>SIAM Journal on Matrix Analysis and Applications</i> , 1992 , 13, 162-175	1.5	85
49	Fitting a geometric graph to a protein-protein interaction network. <i>Bioinformatics</i> , 2008 , 24, 1093-9	7.2	84
48	Spectral clustering and its use in bioinformatics. <i>Journal of Computational and Applied Mathematics</i> , 2007 , 204, 25-37	2.4	79
47	Structured Backward Error and Condition of Generalized Eigenvalue Problems. <i>SIAM Journal on Matrix Analysis and Applications</i> , 1998 , 20, 493-512	1.5	77
46	Deep Learning: An Introduction for Applied Mathematicians. <i>SIAM Review</i> , 2019 , 61, 860-891	7.4	75
45	A-Stability and Stochastic Mean-Square Stability. <i>BIT Numerical Mathematics</i> , 2000 , 40, 404-409	1.7	56
44	Numerical simulation of a strongly nonlinear Ait-Sahalia-type interest rate model. <i>BIT Numerical Mathematics</i> , 2011 , 51, 405-425	1.7	53
43	Dynamic network centrality summarizes learning in the human brain. <i>Journal of Complex Networks</i> , 2013 , 1, 83-92	1.7	48
42	Analysing multi-level Monte Carlo for options with non-globally Lipschitz payoff. <i>Finance and Stochastics</i> , 2009 , 13, 403-413	1.9	48
41	Large Growth Factors in Gaussian Elimination with Pivoting. <i>SIAM Journal on Matrix Analysis and Applications</i> , 1989 , 10, 155-164	1.5	47
40	CONTEST. <i>ACM Transactions on Mathematical Software</i> , 2009 , 35, 1-17	2.3	46
39	Evolving graphs: dynamical models, inverse problems and propagation. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2010 , 466, 753-770	2.4	43
38	On the Boundedness of Asymptotic Stability Regions for the Stochastic Theta Method. <i>BIT Numerical Mathematics</i> , 2003 , 43, 1-6	1.7	38

37	Subanesthetic ketamine treatment promotes abnormal interactions between neural subsystems and alters the properties of functional brain networks. <i>Neuropsychopharmacology</i> , 2014 , 39, 1786-98	8.7	29
36	A dynamical systems view of network centrality. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2014 , 470, 20130835	2.4	26
35	Discovering and validating influence in a dynamic online social network. <i>Social Network Analysis and Mining</i> , 2013 , 3, 1311-1323	2.2	24
34	Unravelling small world networks. <i>Journal of Computational and Applied Mathematics</i> , 2003 , 158, 61-74	2.4	24
33	Time-stepping and preserving orthonormality. <i>BIT Numerical Mathematics</i> , 1997 , 37, 24-36	1.7	22
32	Preserving exponential mean-square stability in the simulation of hybrid stochastic differential equations. <i>Numerische Mathematik</i> , 2007 , 108, 295-325	2.2	17
31	Matching exponential-based and resolvent-based centrality measures. <i>Journal of Complex Networks</i> , 2016 , 4, 157-176	1.7	15
30	A Nonlinear Spectral Method for Core-Periphery Detection in Networks. <i>SIAM Journal on Mathematics of Data Science</i> , 2019 , 1, 269-292	3.1	14
29	Non-backtracking walk centrality for directed networks. <i>Journal of Complex Networks</i> , 2018 , 6, 54-78	1.7	14
28	The Deformed Graph Laplacian and Its Applications to Network Centrality Analysis. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2018 , 39, 310-341	1.5	13
27	Accurately computing the log-sum-exp and softmax functions. <i>IMA Journal of Numerical Analysis</i> , 2020 ,	1.8	13
26	A model for dynamic communicators. <i>European Journal of Applied Mathematics</i> , 2012 , 23, 659-668	1	11
25	An overview of city analytics. <i>Royal Society Open Science</i> , 2017 , 4, 161063	3.3	10
24	Spectral analysis of two-signed microarray expression data. <i>Mathematical Medicine and Biology</i> , 2007 , 24, 131-48	1.3	9
23	An introduction to multilevel Monte Carlo for option valuation. <i>International Journal of Computer Mathematics</i> , 2015 , 92, 2347-2360	1.2	8
22	Periodic reordering. <i>IMA Journal of Numerical Analysis</i> , 2010 , 30, 195-207	1.8	7
21	First and second moment reversion for a discretized square root process with jumps. <i>Journal of Difference Equations and Applications</i> , 2010 , 16, 143-156	1	6
20	On Adversarial Examples and Stealth Attacks in Artificial Intelligence Systems 2020 ,		6

19	Multidimensional partitioning and bi-partitioning: analysis and application to gene expression data sets. <i>International Journal of Computer Mathematics</i> , 2008 , 85, 475-485	1.2	5
18	Asymmetry through time dependency. <i>European Physical Journal B</i> , 2016 , 89, 1	1.2	4
17	Discovering bipartite substructure in directed networks. <i>LMS Journal of Computation and Mathematics</i> , 2011 , 14, 72-86		4
16	Node and edge nonlinear eigenvector centrality for hypergraphs. <i>Communications Physics</i> , 2021 , 4,	5.4	4
15	Non-backtracking PageRank. <i>Journal of Scientific Computing</i> , 2019 , 80, 1419-1437	2.3	3
14	Hybrid simulation of autoregulation within transcription and translation. <i>BIT Numerical Mathematics</i> , 2011 , 51, 177-196	1.7	3
13	Theta Method Dynamics. <i>LMS Journal of Computation and Mathematics</i> , 2000 , 3, 27-43		3
12	Beyond non-backtracking: non-cycling network centrality measures. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2020 , 476, 20190653	2.4	3
11	High Modularity Creates Scaling Laws. <i>Scientific Reports</i> , 2018 , 8, 9737	4.9	2
10	Random Graph Models and Their Application to Protein-Protein Interaction Networks 2011 , 290-308		2
9	A framework for second-order eigenvector centralities and clustering coefficients. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2020 , 476, 20190724	2.4	2
8	Inverse network sampling to explore online brand allegiance. <i>European Journal of Applied Mathematics</i> , 2016 , 27, 958-970	1	2
7	Epidemics on hypergraphs: spectral thresholds for extinction.. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2021 , 477, 20210232	2.4	2
6	Directed network Laplacians and random graph models. <i>Royal Society Open Science</i> , 2021 , 8, 211144	3.3	1
5	Random Matrices Generating Large Growth in LU Factorization with Pivoting. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2021 , 42, 185-201	1.5	1
4	A network model for polarization of political opinion. <i>Chaos</i> , 2020 , 30, 043109	3.3	0
3	Modelling Burglary in Chicago using a self-exciting point process with isotropic triggering. <i>European Journal of Applied Mathematics</i> , 1-23	1	
2	Commentary on Dehmer and Mowshowitz. <i>Complexity</i> , 2016 , 21, 19-19	1.6	

- 1 Hierarchical dynamic walks. *Security Science and Technology*, **2016**, 171-180