Jennifer A Scott

List of Publications by Year
in descending order

81 papers	1,541 citations	331259 21 h-index	344852 36 g-index
82 all docs	82 docs citations	82 times ranked	979 citing authors

#	Article	IF	Citations
1	A numerical evaluation of sparse direct solvers for the solution of large sparse symmetric linear systems of equations. ACM Transactions on Mathematical Software, 2007, 33, 10.	1.6	120
2	Algorithm 891. ACM Transactions on Mathematical Software, 2009, 36, 1-12.	1.6	99
3	The Factorization of Sparse Symmetric Indefinite Matrices. IMA Journal of Numerical Analysis, 1991, 11, 181-204.	1.5	83
4	Sparse Approximate-Inverse Preconditioners Using Norm-Minimization Techniques. SIAM Journal of Scientific Computing, 1998, 19, 605-625.	1.3	60
5	A Note on Performance Profiles for Benchmarking Software. ACM Transactions on Mathematical Software, 2017, 43, 1-5.	1.6	60
6	HSL_MI20: An efficient AMG preconditioner for finite element problems in 3D. International Journal for Numerical Methods in Engineering, 2010, 82, 64-98.	1.5	57
7	Maximising umami taste in meat using natural ingredients: effects on chemistry, sensory perception and hedonic liking in young and old consumers. Journal of the Science of Food and Agriculture, 2013, 93, 3312-3321.	1.7	55
8	Design of a Multicore Sparse Cholesky Factorization Using DAGs. SIAM Journal of Scientific Computing, 2010, 32, 3627-3649.	1.3	54
9	Level€set topology optimization with many linear buckling constraints using an efficient and robust eigensolver. International Journal for Numerical Methods in Engineering, 2016, 107, 1029-1053.	1.5	54
10	A Sparse Symmetric Indefinite Direct Solver for GPU Architectures. ACM Transactions on Mathematical Software, 2016, 42, 1-25.	1.6	53
11	The use of profile reduction algorithms with a frontal code. International Journal for Numerical Methods in Engineering, 1989, 28, 2555-2568.	1.5	48
12	An Arnoldi code for computing selected eigenvalues of sparse, real, unsymmetric matrices. ACM Transactions on Mathematical Software, 1995, 21, 432-475.	1.6	43
13	On the order of the error in discretization methods for weakly singular second kind non-smooth solutions. BIT Numerical Mathematics, 1985, 25, 623-634.	1.0	37
14	A Multilevel Algorithm for Wavefront Reduction. SIAM Journal of Scientific Computing, 2001, 23, 1352-1375.	1.3	36
15	A nonlinear weakly singular Volterra integro-differential equation arising from a reaction-diffusion study in a small cell. Journal of Computational and Applied Mathematics, 1987, 18, 289-305.	1.1	27
16	An out-of-core sparse Cholesky solver. ACM Transactions on Mathematical Software, 2009, 36, 1-33.	1.6	27
17	Using Jacobi iterations and blocking for solving sparse triangular systems in incomplete factorization preconditioning. Journal of Parallel and Distributed Computing, 2018, 119, 219-230.	2.7	27
18	A numerical evaluation of HSL packages for the direct solution of large sparse, symmetric linear systems of equations. ACM Transactions on Mathematical Software, 2004, 30, 300-325.	1.6	26

#	ARTICLE	IF	CITATIONS
19	Reducing the Total Bandwidth of a Sparse Unsymmetric Matrix. SIAM Journal on Matrix Analysis and Applications, 2006, 28, 805-821.	0.7	25
20	A mathematical model of a biosensor. Journal of Engineering Mathematics, 1996, 30, 321-337.	0.6	23
21	New Parallel Sparse Direct Solvers for Multicore Architectures. Algorithms, 2013, 6, 702-725.	1.2	23
22	On Positive Semidefinite Modification Schemes for Incomplete Cholesky Factorization. SIAM Journal of Scientific Computing, 2014, 36, A609-A633.	1.3	22
23	HSL_MI28. ACM Transactions on Mathematical Software, 2014, 40, 1-19.	1.6	21
24	The State-of-the-Art of Preconditioners for Sparse Linear Least-Squares Problems. ACM Transactions on Mathematical Software, 2017, 43, 1-35.	1.6	21
25	A parallel frontal solver for finite element applications. International Journal for Numerical Methods in Engineering, 2001, 50, 1131-1144.	1.5	19
26	A fast method for binary programming using firstâ€order derivatives, with application to topology optimization with buckling constraints. International Journal for Numerical Methods in Engineering, 2012, 92, 1026-1043.	1.5	19
27	Pivoting strategies for tough sparse indefinite systems. ACM Transactions on Mathematical Software, 2013, 40, 1-19.	1.6	19
28	Stabilized bordered block diagonal forms for parallel sparse solvers. Parallel Computing, 2005, 31, 275-289.	1.3	18
29	On Signed Incomplete Cholesky Factorization Preconditioners for Saddle-Point Systems. SIAM Journal of Scientific Computing, 2014, 36, A2984-A3010.	1.3	18
30	On ordering elements for a frontal solver. Communications in Numerical Methods in Engineering, 1999, 15, 309-324.	1.3	17
31	Parallel frontal solvers for large sparse linear systems. ACM Transactions on Mathematical Software, 2003, 29, 395-417.	1.6	17
32	A frontal code for the solution of sparse positive-definite symmetric systems arising from finite-element applications. ACM Transactions on Mathematical Software, 1999, 25, 404-424.	1.6	16
33	A parallel direct solver for large sparse highly unsymmetric linear systems. ACM Transactions on Mathematical Software, 2004, 30, 95-117.	1.6	14
34	Chebyshev acceleration of iterative refinement. Numerical Algorithms, 2014, 66, 591-608.	1.1	14
35	Strengths and Limitations of Stretching for Least-squares Problems with Some Dense Rows. ACM Transactions on Mathematical Software, 2021, 47, 1-25.	1.6	14
36	Implementing Hager's exchange methods for matrix profile reduction. ACM Transactions on Mathematical Software, 2002, 28, 377-391.	1.6	13

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37	ELEMENT RESEQUENCING FOR USE WITH A MULTIPLE FRONT ALGORITHM. International Journal for Numerical Methods in Engineering, 1996, 39, 3999-4020.	1.5	11
38	Ordering techniques for singly bordered block diagonal forms for unsymmetric parallel sparse direct solvers. Numerical Linear Algebra With Applications, 2005, 12, 877-894.	0.9	10
39	Solving Mixed Sparse-Dense Linear Least-Squares Problems by Preconditioned Iterative Methods. SIAM Journal of Scientific Computing, 2017, 39, A2422-A2437.	1.3	10
40	A comparative study of nullâ€space factorizations for sparse symmetric saddle point systems. Numerical Linear Algebra With Applications, 2018, 25, e2103.	0.9	10
41	Sparse Stretching for Solving Sparse-Dense Linear Least-Squares Problems. SIAM Journal of Scientific Computing, 2019, 41, A1604-A1625.	1.3	10
42	A new row ordering strategy for frontal solvers. Numerical Linear Algebra With Applications, 1999, 6, 189-211.	0.9	9
43	The importance of structure in incomplete factorization preconditioners. BIT Numerical Mathematics, 2011, 51, 385-404.	1.0	9
44	Partial factorization of a dense symmetric indefinite matrix. ACM Transactions on Mathematical Software, 2011, 38, 1-19.	1.6	9
45	On the use of suboptimal matchings for scaling and ordering sparse symmetric matrices. Numerical Linear Algebra With Applications, 2015, 22, 648-663.	0.9	9
46	A Schur complement approach to preconditioning sparse linear least-squares problems with some dense rows. Numerical Algorithms, 2018, 79, 1147-1168.	1.1	9
47	Repeated Integral Inequalities. IMA Journal of Numerical Analysis, 1984, 4, 99-107.	1.5	8
48	A Unified Approach to Convergence Analysis of Discretization Methods for Volterra-typeEquations. IMA Journal of Numerical Analysis, 1985, 5, 41-57.	1.5	8
49	The design of a portable parallel frontal solver for chemical process engineering problems. Computers and Chemical Engineering, 2001, 25, 1699-1709.	2.0	8
50	Experiences of sparse direct symmetric solvers. ACM Transactions on Mathematical Software, 2007, 33, 18.	1.6	8
51	An efficient outâ€ofâ€core multifrontal solver for largeâ€scale unsymmetric element problems. International Journal for Numerical Methods in Engineering, 2009, 77, 901-921.	1.5	8
52	Scaling and pivoting in an out-of-core sparse direct solver. ACM Transactions on Mathematical Software, 2010, 37, 1-23.	1.6	8
53	Performance issues for frontal schemes on a cache-based high-performance computer. International Journal for Numerical Methods in Engineering, 1998, 42, 127-143.	1.5	7
54	Two-stage ordering for unsymmetric parallel row-by-row frontal solvers. Computers and Chemical Engineering, 2001, 25, 323-332.	2.0	6

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55	Optimal Weighted Matchings for Rank-Deficient Sparse Matrices. SIAM Journal on Matrix Analysis and Applications, 2013, 34, 1431-1447.	0.7	6
56	Compressed Threshold Pivoting for Sparse Symmetric Indefinite Systems. SIAM Journal on Matrix Analysis and Applications, 2014, 35, 783-817.	0.7	6
57	Preconditioning of Linear Least Squares by Robust Incomplete Factorization for Implicitly Held Normal Equations. SIAM Journal of Scientific Computing, 2016, 38, C603-C623.	1.3	6
58	Convergence and evaluation-complexity analysis of a regularized tensor-Newton method for solving nonlinear least-squares problems. Computational Optimization and Applications, 2019, 73, 1-35.	0.9	6
59	Row ordering for frontal solvers in chemical process engineering. Computers and Chemical Engineering, 2000, 24, 1865-1880.	2.0	5
60	A frontal solver for the 21st century. Communications in Numerical Methods in Engineering, 2006, 22, 1015-1029.	1.3	5
61	A Robust Algebraic Domain Decomposition Preconditioner for Sparse Normal Equations. SIAM Journal of Scientific Computing, 2022, 44, A1047-A1068.	1.3	5
62	A note on fast approximate minimum degree orderings for symmetric matrices with some dense rows. Numerical Linear Algebra With Applications, 2010, 17, 43-55.	0.9	4
63	An efficient analyse phase for element problems. Numerical Linear Algebra With Applications, 2013, 20, 397-412.	0.9	4
64	On Using Cholesky-Based Factorizations and Regularization for Solving Rank-Deficient Sparse Linear Least-Squares Problems. SIAM Journal of Scientific Computing, 2017, 39, C319-C339.	1.3	4
65	A Max-Plus Approach to Incomplete Cholesky Factorization Preconditioners. SIAM Journal of Scientific Computing, 2018, 40, A1987-A2004.	1.3	4
66	Two-Level Nyström–Schur Preconditioner for Sparse Symmetric Positive Definite Matrices. SIAM Journal of Scientific Computing, 2021, 43, A3837-A3861.	1.3	4
67	A null-space approach for large-scale symmetric saddle point systems with a small and non zero (2, 2) block. Numerical Algorithms, 2022, 90, 1639-1667.	1.1	4
68	On the Exact Order of Convergence of Discrete Methods for Volterra-type Equations. IMA Journal of Numerical Analysis, 1988, 8, 511-515.	1.5	3
69	Improving the stability and robustness of incomplete symmetric indefinite factorization preconditioners. Numerical Linear Algebra With Applications, 2017, 24, e2099.	0.9	3
70	A Computational Study of Using Black-box QR Solvers for Large-scale Sparse-dense Linear Least Squares Problems. ACM Transactions on Mathematical Software, 2022, 48, 1-24.	1.6	3
71	Level-based heuristics and hill climbing for the antibandwidth maximization problem. Numerical Linear Algebra With Applications, 2014, 21, 51-67.	0.9	2
72	Spectral estimates for saddle point matrices arising in weak constraint four-dimensional variational data assimilation. Numerical Linear Algebra With Applications, 2020, 27, e2313.	0.9	2

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73	On time‐parallel preconditioning for the state formulation of incremental weak constraint 4D‐Var. Quarterly Journal of the Royal Meteorological Society, 0, , .	1.0	2
74	An Evaluation of Sparse Direct Symmetric Solvers: An Introduction and Preliminary Findings. Lecture Notes in Computer Science, 2006, , 818-827.	1.0	2
75	Multilevel hybrid spectral element ordering algorithms. Communications in Numerical Methods in Engineering, 2005, 21, 233-245.	1.3	1
76	Preordering saddle‐point systems for sparse LDL^T factorization without pivoting. Numerical Linear Algebra With Applications, 2018, 25, e2173.	0.9	1
77	Randomised preconditioning for the forcing formulation of weak‐constraint 4D‐Var. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 3719-3734.	1.0	1
78	Solving large linear least squares problems with linear equality constraints. BIT Numerical Mathematics, 2022, 62, 1765-1787.	1.0	1
79	Numerically Aware Orderings for Sparse Symmetric Indefinite Linear Systems. ACM Transactions on Mathematical Software, 2017, 44, 1-22.	1.6	0
80	Frontal software for the solution of sparse linear equations. Lecture Notes in Computer Science, 1996, , 227-238.	1.0	0
81	The Design of a New Out-of-Core Multifrontal Solver. , 2007, , 598-607.		0