

# Daniel B Szyld

## List of Publications by Year in descending order

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104  
papers

3,023  
citations

186265

28  
h-index

182427

51  
g-index

109  
all docs

109  
docs citations

109  
times ranked

1211  
citing authors

#	ARTICLE	IF	CITATIONS
1	Recent computational developments in Krylov subspace methods for linear systems. <i>Numerical Linear Algebra With Applications</i> , 2007, 14, 1-59.	1.6	256
2	H-Splittings and two-stage iterative methods. <i>Numerische Mathematik</i> , 1992, 63, 345-356.	1.9	207
3	On asynchronous iterations. <i>Journal of Computational and Applied Mathematics</i> , 2000, 123, 201-216.	2.0	179
4	Theory of Inexact Krylov Subspace Methods and Applications to Scientific Computing. <i>SIAM Journal of Scientific Computing</i> , 2003, 25, 454-477.	2.8	158
5	Orderings for Incomplete Factorization Preconditioning of Nonsymmetric Problems. <i>SIAM Journal of Scientific Computing</i> , 1999, 20, 1652-1670.	2.8	98
6	The many proofs of an identity on the norm of oblique projections. <i>Numerical Algorithms</i> , 2006, 42, 309-323.	1.9	96
7	Flexible Inner-Outer Krylov Subspace Methods. <i>SIAM Journal on Numerical Analysis</i> , 2002, 40, 2219-2239.	2.3	95
8	Convergence of nested classical iterative methods for linear systems. <i>Numerische Mathematik</i> , 1990, 58, 685-702.	1.9	88
9	Weighted max norms, splittings, and overlapping additive Schwarz iterations. <i>Numerische Mathematik</i> , 1999, 83, 259-278.	1.9	86
10	Existence and uniqueness of splittings for stationary iterative methods with applications to alternating methods. <i>Numerische Mathematik</i> , 1997, 76, 309-321.	1.9	83
11	Comparison theorems for weak splittings of bounded operators. <i>Numerische Mathematik</i> , 1990, 58, 387-397.	1.9	77
12	Two-Stage and Multisplitting Methods for the Parallel Solution of Linear Systems. <i>SIAM Journal on Matrix Analysis and Applications</i> , 1992, 13, 671-679.	1.4	73
13	An Algebraic Convergence Theory for Restricted Additive Schwarz Methods Using Weighted Max Norms. <i>SIAM Journal on Numerical Analysis</i> , 2001, 39, 463-479.	2.3	68
14	Algebraic theory of multiplicative Schwarz methods. <i>Numerische Mathematik</i> , 2001, 89, 605-639.	1.9	67
15	Asynchronous two-stage iterative methods. <i>Numerische Mathematik</i> , 1994, 69, 141-153.	1.9	63
16	On the Occurrence of Superlinear Convergence of Exact and Inexact Krylov Subspace Methods. <i>SIAM Review</i> , 2005, 47, 247-272.	9.5	45
17	A Block Ordering Method for Sparse Matrices. <i>SIAM Journal on Scientific and Statistical Computing</i> , 1990, 11, 811-823.	1.5	43
18	Criteria for Combining Inverse and Rayleigh Quotient Iteration. <i>SIAM Journal on Numerical Analysis</i> , 1988, 25, 1369-1375.	2.3	41

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19	The Optimized Schwarz Method with a Coarse Grid Correction. SIAM Journal of Scientific Computing, 2012, 34, A421-A458.	2.8	40
20	On two numerical methods for the solution of large-scale algebraic Riccati equations. IMA Journal of Numerical Analysis, 2014, 34, 904-920.	2.9	40
21	Block Two-stage Methods for Singular Systems and Markov Chains. Numerical Linear Algebra With Applications, 1996, 3, 413-426.	1.6	37
22	FQMR: A Flexible Quasi-Minimal Residual Method with Inexact Preconditioning. SIAM Journal of Scientific Computing, 2001, 23, 363-380.	2.8	36
23	Krylov subspace recycling for sequences of shifted linear systems. Applied Numerical Mathematics, 2014, 81, 105-118.	2.1	36
24	On general matrices having the Perron-Frobenius Property. Electronic Journal of Linear Algebra, 0, 17, .	0.6	33
25	Additive Schwarz Iterations for Markov Chains. SIAM Journal on Matrix Analysis and Applications, 2005, 27, 445-458.	1.4	32
26	Efficient low-rank solution of generalized Lyapunov equations. Numerische Mathematik, 2016, 134, 327-342.	1.9	32
27	Asynchronous optimized Schwarz methods with and without overlap. Numerische Mathematik, 2017, 137, 199-227.	1.9	32
28	Subdirect sums of nonsingular M-matrices and of their inverses. Electronic Journal of Linear Algebra, 0, 13, .	0.6	32
29	Block and asynchronous two-stage methods for mildly nonlinear systems. Numerische Mathematik, 1999, 82, 1-20.	1.9	31
30	Conditions for the Existence of a Balance Growth Solution for the Leontief Dynamic Input-Output Model. Econometrica, 1985, 53, 1411.	4.2	30
31	Two-stage Multisplitting Methods with Overlapping Blocks. Numerical Linear Algebra With Applications, 1996, 3, 113-124.	1.6	29
32	Equivalence of conditions for convergence of iterative methods for singular equations. Numerical Linear Algebra With Applications, 1994, 1, 151-154.	1.6	27
33	Splittings of $M$ -operators: Irreducibility and the index of the iteration operator. Numerical Functional Analysis and Optimization, 1990, 11, 529-553.	1.4	26
34	Interpreting IDR as a Petrov-Galerkin Method. SIAM Journal of Scientific Computing, 2010, 32, 1898-1912.	2.8	26
35	Constraint Preconditioning for the Coupled Stokes-Darcy System. SIAM Journal of Scientific Computing, 2016, 38, A668-A690.	2.8	26
36	Timing Models and Local Stopping Criteria for Asynchronous Iterative Algorithms. Journal of Parallel and Distributed Computing, 1999, 58, 446-465.	4.1	25

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37	Nonstationary Multisplittings with General Weighting Matrices. SIAM Journal on Matrix Analysis and Applications, 2001, 22, 1089-1094.	1.4	24
38	Convergence Theory of Restricted Multiplicative Schwarz Methods. SIAM Journal on Numerical Analysis, 2002, 40, 2318-2336.	2.3	24
39	Nonstationary parallel relaxed multisplitting methods. Linear Algebra and Its Applications, 1996, 241-243, 733-747.	0.9	22
40	Local convergence analysis of several inexact Newton-type algorithms for general nonlinear eigenvalue problems. Numerische Mathematik, 2013, 123, 333-362.	1.9	22
41	Iterative and semi-iterative methods for computing stationary probability vectors of Markov operators. Mathematics of Computation, 1993, 61, 719-719.	2.1	21
42	Optimal left and right additive Schwarz preconditioning for minimal residual methods with Euclidean and energy norms. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 1612-1621.	6.6	21
43	Algebraic Schwarz methods for the numerical solution of Markov chains. Linear Algebra and Its Applications, 2004, 386, 67-81.	0.9	20
44	Subdirect sums of S-strictly diagonally dominant matrices. Electronic Journal of Linear Algebra, 0, 15, .	0.6	20
45	Generalizations of M-matrices which may not have a nonnegative inverse. Linear Algebra and Its Applications, 2008, 429, 2435-2450.	0.9	18
46	A new look at CMRH and its relation to GMRES. BIT Numerical Mathematics, 2012, 52, 485-501.	2.0	18
47	Preconditioned Multishift BiCG for $H_2$ -Optimal Model Reduction. SIAM Journal on Matrix Analysis and Applications, 2017, 38, 401-424.	1.4	18
48	New Approaches in Economic Analysis. Science, 1985, 228, 419-422.	12.6	16
49	Convergence of Stationary Iterative Methods for Hermitian Semidefinite Linear Systems and Applications to Schwarz Methods. SIAM Journal on Matrix Analysis and Applications, 2008, 30, 925-938.	1.4	16
50	On the geometric convergence of optimized Schwarz methods with applications to elliptic problems. Numerische Mathematik, 2010, 114, 697-728.	1.9	16
51	Efficient Preconditioned Inner Solves For Inexact Rayleigh Quotient Iteration And Their Connections To The Single-Vector Jacobi-Davidson Method. SIAM Journal on Matrix Analysis and Applications, 2011, 32, 993-1018.	1.4	16
52	Multipreconditioned Gmres for Shifted Systems. SIAM Journal of Scientific Computing, 2017, 39, S222-S247.	2.8	16
53	Comparison theorems for the convergence factor of iterative methods for singular matrices. Linear Algebra and Its Applications, 2000, 316, 67-87.	0.9	15
54	Schwarz Iterations for Symmetric Positive Semidefinite Problems. SIAM Journal on Matrix Analysis and Applications, 2007, 29, 98-116.	1.4	15

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55	Comparison of Convergence of General Stationary Iterative Methods for Singular Matrices. SIAM Journal on Matrix Analysis and Applications, 2002, 24, 68-77.	1.4	14
56	Overlapping additive and multiplicative Schwarz iterations for H-matrices. Linear Algebra and Its Applications, 2004, 393, 91-105.	0.9	14
57	Local convergence of the (exact and inexact) iterative aggregation method for linear systems and Markov operators. Numerische Mathematik, 1994, 69, 61-82.	1.9	13
58	Conditions for strict inequality in comparisons of spectral radii of splittings of different matrices. Linear Algebra and Its Applications, 2003, 363, 65-80.	0.9	13
59	The effect of non-optimal bases on the convergence of Krylov subspace methods. Numerische Mathematik, 2005, 100, 711-733.	1.9	13
60	Dynamic jamming of dense suspensions under tilted impact. Physical Review Fluids, 2019, 4, .	2.5	12
61	Regions of convergence of the Rayleigh quotient iteration method. Numerical Linear Algebra With Applications, 1995, 2, 251-269.	1.6	11
62	An Optimal Block Iterative Method and Preconditioner for Banded Matrices with Applications to PDEs on Irregular Domains. SIAM Journal on Matrix Analysis and Applications, 2012, 33, 653-680.	1.4	11
63	New conditions for non-stagnation of minimal residual methods. Numerische Mathematik, 2008, 109, 477-487.	1.9	10
64	Application of sparse matrix techniques to inter-regional input-output analysis. Economic Change and Restructuring, 1979, 15, 142-167.	0.4	9
65	On Hybrid Multigrid-Schwarz Algorithms. Journal of Scientific Computing, 2008, 36, 165-175.	2.3	9
66	Nonlinear Schwarz iterations with reduced rank extrapolation. Applied Numerical Mathematics, 2015, 94, 209-221.	2.1	9
67	Preconditioned eigensolvers for large-scale nonlinear Hermitian eigenproblems with variational characterizations. I. Extreme eigenvalues. Mathematics of Computation, 2016, 85, 2887-2918.	2.1	9
68	GMRES with multiple preconditioners. SeMA Journal, 2017, 74, 213-231.	2.0	9
69	Block Krylov Subspace Methods for Functions of Matrices II: Modified Block FOM. SIAM Journal on Matrix Analysis and Applications, 2020, 41, 804-837.	1.4	9
70	Inexact GMRES for singular linear systems. BIT Numerical Mathematics, 2008, 48, 511-531.	2.0	8
71	Scalable Asynchronous Domain Decomposition Solvers. SIAM Journal of Scientific Computing, 2020, 42, C384-C409.	2.8	8
72	Preconditioned Eigensolvers for Large-Scale Nonlinear Hermitian Eigenproblems with Variational Characterizations. II. Interior Eigenvalues. SIAM Journal of Scientific Computing, 2015, 37, A2969-A2997.	2.8	7

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73	Local convergence of Newton-like methods for degenerate eigenvalues of nonlinear eigenproblems. I. Classical algorithms. <i>Numerische Mathematik</i> , 2015, 129, 353-381.	1.9	7
74	Convergence of some asynchronous nonlinear multisplitting methods. <i>Numerical Algorithms</i> , 2000, 25, 347-361.	1.9	6
75	The Radau-Lanczos Method for Matrix Functions. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2017, 38, 710-732.	1.4	6
76	Extensions of Certain Graph-based Algorithms for Preconditioning. <i>SIAM Journal of Scientific Computing</i> , 2007, 29, 2144-2161.	2.8	5
77	Additive Schwarz with Variable Weights. <i>Lecture Notes in Computational Science and Engineering</i> , 2014, , 779-787.	0.3	5
78	Nearly positive matrices. <i>Linear Algebra and Its Applications</i> , 2014, 449, 520-544.	0.9	5
79	Domain Overlap for Iterative Sparse Triangular Solves on GPUs. <i>Lecture Notes in Computational Science and Engineering</i> , 2016, , 527-545.	0.3	5
80	Two characterizations of matrices with the Perron-Frobenius property. <i>Numerical Linear Algebra With Applications</i> , 2009, 16, 863-869.	1.6	4
81	Short-Term Recurrence Krylov Subspace Methods for Nearly Hermitian Matrices. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2012, 33, 480-500.	1.4	4
82	Local convergence of Newton-like methods for degenerate eigenvalues of nonlinear eigenproblems: II. Accelerated algorithms. <i>Numerische Mathematik</i> , 2015, 129, 383-403.	1.9	4
83	Asynchronous Richardson iterations: theory and practice. <i>Numerical Algorithms</i> , 2021, 87, 1635-1651.	1.9	4
84	Two-stage Multisplitting Methods with Overlapping Blocks. <i>Numerical Linear Algebra With Applications</i> , 1996, 3, 113-124.	1.6	4
85	Local Convergence of (Exact and Inexact) Iterative Aggregation. <i>The IMA Volumes in Mathematics and Its Applications</i> , 1993, , 137-143.	0.5	4
86	Pseudoirreducible and pseudoprimitive bounded operators. <i>Linear Algebra and Its Applications</i> , 1991, 154-156, 779-791.	0.9	3
87	A sequence of lower bounds for the spectral radius of nonnegative matrices. <i>Linear Algebra and Its Applications</i> , 1992, 174, 239-242.	0.9	3
88	Synchronous and asynchronous optimized Schwarz methods for one-way subdivision of bounded domains. <i>Numerical Linear Algebra With Applications</i> , 2020, 27, e2279.	1.6	3
89	Convergence of Asynchronous Optimized Schwarz Methods in the Plane. <i>Lecture Notes in Computational Science and Engineering</i> , 2018, , 333-341.	0.3	3
90	Perspectives on asynchronous computations for fluid flow problems. , 2001, , 977-980.		3

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91	Overlapping Blocks by Growing a Partition with Applications to Preconditioning. SIAM Journal of Scientific Computing, 2013, 35, A453-A473.	2.8	2
92	On necessary conditions for convergence of stationary iterative methods for Hermitian semidefinite linear systems. Linear Algebra and Its Applications, 2014, 453, 192-201.	0.9	2
93	On the Convergence of Optimized Schwarz Methods by way of Matrix Analysis. Lecture Notes in Computational Science and Engineering, 2009, , 363-370.	0.3	2
94	Paths of matrices with the strong Perron-Frobenius property converging to a given matrix with the Perron-Frobenius property. Electronic Journal of Linear Algebra, 0, 19, .	0.6	2
95	Matrix functions preserving sets of generalized nonnegative matrices. Electronic Journal of Linear Algebra, 0, 20, .	0.6	2
96	Bilateral representation of trade for inter- regional models. Applied Mathematical Modelling, 1984, 8, 50-52.	4.2	1
97	Algebraic Analysis of Schwarz Methods for Singular Systems. , 2005, , 647-652.		1
98	A note on the mesh independence of convergence bounds for additive Schwarz preconditioned GMRES. Numerical Linear Algebra With Applications, 2008, 15, 547-557.	1.6	1
99	On the field of values of oblique projections. Linear Algebra and Its Applications, 2010, 433, 810-818.	0.9	1
100	Numerical solution of singular Lyapunov equations. Numerical Linear Algebra With Applications, 2021, 28, e2381.	1.6	1
101	A projection cutting plane algorithm for convex programming problems. Applied Mathematics and Computation, 1996, 74, 261-271.	2.2	0
102	Diffusion on a Tensor Product Graph for Semi-Supervised Learning and Interactive Image Segmentation. Advances in Imaging and Electron Physics, 2011, 169, 147-172.	0.2	0
103	On the performance of the algebraic optimized Schwarz methods with applications. Numerical Algorithms, 2014, 67, 889-916.	1.9	0
104	A Proposal for a Dynamically Adapted Inexact Additive Schwarz Preconditioner. , 2007, , 341-345.		0