

Zdenek Strakos

List of Publications by Year in descending order

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55
papers

1,643
citations

331670

21
h-index

315739

38
g-index

59
all docs

59
docs citations

59
times ranked

689
citing authors

#	ARTICLE	IF	CITATIONS
1	Any Nonincreasing Convergence Curve is Possible for GMRES. SIAM Journal on Matrix Analysis and Applications, 1996, 17, 465-469.	1.4	184
2	Predicting the Behavior of Finite Precision Lanczos and Conjugate Gradient Computations. SIAM Journal on Matrix Analysis and Applications, 1992, 13, 121-137.	1.4	104
3	The Lanczos and conjugate gradient algorithms in finite precision arithmetic. Acta Numerica, 2006, 15, 471-542.	10.7	101
4	A Posteriori Error Estimates Including Algebraic Error and Stopping Criteria for Iterative Solvers. SIAM Journal of Scientific Computing, 2010, 32, 1567-1590.	2.8	75
5	Estimates in quadratic formulas. Numerical Algorithms, 1994, 8, 241-268.	1.9	74
6	Modified Gram-Schmidt (MGS), Least Squares, and Backward Stability of MGS-GMRES. SIAM Journal on Matrix Analysis and Applications, 2006, 28, 264-284.	1.4	74
7	<title>Enforcing nonnegativity in image reconstruction algorithms</title>. , 2000, , .		64
8	Numerical stability of GMRES. BIT Numerical Mathematics, 1995, 35, 309-330.	2.0	62
9	Stability of Conjugate Gradient and Lanczos Methods for Linear Least Squares Problems. SIAM Journal on Matrix Analysis and Applications, 1998, 19, 720-736.	1.4	57
10	On the real convergence rate of the conjugate gradient method. Linear Algebra and Its Applications, 1991, 154-156, 535-549.	0.9	51
11	Scaled total least squares fundamentals. Numerische Mathematik, 2002, 91, 117-146.	1.9	50
12	Accuracy of Two Three-term and Three Two-term Recurrences for Krylov Space Solvers. SIAM Journal on Matrix Analysis and Applications, 2000, 22, 213-229.	1.4	49
13	Numerical behaviour of the modified gram-schmidt GMRES implementation. BIT Numerical Mathematics, 1997, 37, 706-719.	2.0	48
14	Krylov sequences of maximal length and convergence of GMRES. BIT Numerical Mathematics, 1998, 38, 636-643.	2.0	47
15	Error Estimation in Preconditioned Conjugate Gradients. BIT Numerical Mathematics, 2005, 45, 789-817.	2.0	43
16	The regularizing effect of the Golub-Kahan iterative bidiagonalization and revealing the noise level in the data. BIT Numerical Mathematics, 2009, 49, 669-696.	2.0	36
17	Least Squares Residuals and Minimal Residual Methods. SIAM Journal of Scientific Computing, 2002, 23, 1503-1525.	2.8	34
18	Core Problems in Linear Algebraic Systems. SIAM Journal on Matrix Analysis and Applications, 2005, 27, 861-875.	1.4	34

#	ARTICLE	IF	CITATIONS
19	The Total Least Squares Problem in $AX \approx B$: A New Classification with the Relationship to the Classical Works. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2011, 32, 748-770.	1.4	27
20	Interplay between discretization and algebraic computation in adaptive numerical solution of elliptic PDE problems. <i>GAMM Mitteilungen</i> , 2013, 36, 102-129.	5.5	25
21	Convergence of GMRES for Tridiagonal Toeplitz Matrices. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2004, 26, 233-251.	1.4	22
22	Residual and Backward Error Bounds in Minimum Residual Krylov Subspace Methods. <i>SIAM Journal of Scientific Computing</i> , 2002, 23, 1898-1923.	2.8	21
23	GMRES Convergence Analysis for a Convection-Diffusion Model Problem. <i>SIAM Journal of Scientific Computing</i> , 2005, 26, 1989-2009.	2.8	21
24	On sensitivity of Gauss-Christoffel quadrature. <i>Numerische Mathematik</i> , 2007, 107, 147-174.	1.9	21
25	Composite convergence bounds based on Chebyshev polynomials and finite precision conjugate gradient computations. <i>Numerical Algorithms</i> , 2014, 65, 759-782.	1.9	21
26	Estimating and localizing the algebraic and total numerical errors using flux reconstructions. <i>Numerische Mathematik</i> , 2018, 138, 681-721.	1.9	21
27	Laplacian Preconditioning of Elliptic PDEs: Localization of the Eigenvalues of the Discretized Operator. <i>SIAM Journal on Numerical Analysis</i> , 2019, 57, 1369-1394.	2.3	21
28	Matrices that Generate the same Krylov Residual Spaces. <i>The IMA Volumes in Mathematics and Its Applications</i> , 1994, , 95-118.	0.5	19
29	On numerical stability in large scale linear algebraic computations. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2005, 85, 307-325.	1.6	14
30	On Efficient Numerical Approximation of the Bilinear Form $c^* A^{-1} b$. <i>SIAM Journal of Scientific Computing</i> , 2011, 33, 565-587.	2.8	14
31	The Core Problem within a Linear Approximation Problem $AX \approx B$ with Multiple Right-Hand Sides. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2013, 34, 917-931.	1.4	14
32	Lanczos tridiagonalization and core problems. <i>Linear Algebra and Its Applications</i> , 2007, 421, 243-251.	0.9	12
33	On Optimal Short Recurrences for Generating Orthogonal Krylov Subspace Bases. <i>SIAM Review</i> , 2008, 50, 485-503.	9.5	12
34	Distribution of the discretization and algebraic error in numerical solution of partial differential equations. <i>Linear Algebra and Its Applications</i> , 2014, 449, 89-114.	0.9	12
35	Band Generalization of the Golub-Kahan Bidiagonalization, Generalized Jacobi Matrices, and the Core Problem. <i>SIAM Journal on Matrix Analysis and Applications</i> , 2015, 36, 417-434.	1.4	12
36	The Numerical Stability Analysis of Pipelined Conjugate Gradient Methods: Historical Context and Methodology. <i>SIAM Journal of Scientific Computing</i> , 2018, 40, A3549-A3580.	2.8	12

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37	Model reduction using the Vorobyev moment problem. Numerical Algorithms, 2009, 51, 363-379.	1.9	11
38	Unifying Least Squares, Total Least Squares and Data Least Squares. , 2002, , 25-34.		10
39	On the cost of iterative computations. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190050.	3.4	9
40	Bounds for the least squares distance using scaled total least squares. Numerische Mathematik, 2002, 91, 93-115.	1.9	7
41	Generalized Spectrum of Second Order Differential Operators. SIAM Journal on Numerical Analysis, 2020, 58, 2193-2211.	2.3	7
42	On investigating GMRES convergence using unitary matrices. Linear Algebra and Its Applications, 2014, 450, 83-107.	0.9	6
43	Effectivity and optimizing of algorithms and programs on the host-computer/array-processor system. Parallel Computing, 1987, 4, 189-207.	2.1	4
44	On Estimation of the A-norm of the Error in CG and PCG. Proceedings in Applied Mathematics and Mechanics, 2003, 3, 553-554.	0.2	4
45	On solution of total least squares problems with multiple right-hand sides. Proceedings in Applied Mathematics and Mechanics, 2008, 8, 10815-10816.	0.2	3
46	On a residual-based a posteriori error estimator for the total error. IMA Journal of Numerical Analysis, 2018, 38, 1164-1184.	2.9	3
47	Bounds for the Least Squares Residual Using Scaled Total Least Squares. , 2002, , 35-44.		3
48	Decomposition into subspaces preconditioning: abstract framework. Numerical Algorithms, 2020, 83, 57-98.	1.9	2
49	Numerical approximation of the spectrum of self-adjoint operators in operator preconditioning. Numerical Algorithms, 2022, 91, 301-325.	1.9	2
50	Slow Initial Convergence of GMRES for SUPG Discretized Convection-Diffusion Problems. Proceedings in Applied Mathematics and Mechanics, 2003, 3, 551-552.	0.2	1
51	Gauss quadrature for quasi-definite linear functionals. IMA Journal of Numerical Analysis, 2016, , dnw032.	2.9	1
52	Algebraic description of the finite Stieltjes moment problem. Linear Algebra and Its Applications, 2019, 561, 207-227.	0.9	1
53	Review of iterative solution methods by O. Axelsson. Linear Algebra and Its Applications, 1996, 240, 231-233.	0.9	0
54	Gene H. Golub and G�rard Meurant: Matrices, Moments and Quadrature with Applications. Foundations of Computational Mathematics, 2011, 11, 241-255.	2.5	0

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55	Miroslav Fiedler, 1926–2015. Linear Algebra and Its Applications, 2016, 497, 162-166.	0.9	0