Thomas A Manteuffel

List of Publications by Year
in descending order

48 papers	2,082 citations	257357 24 h-index	233338 45 g-index
48 all docs	48 docs citations	48 times ranked	753 citing authors

#	Article	IF	Citations
1	A least‐squares finite element method based on the Helmholtz decomposition for hyperbolic balance laws. Numerical Methods for Partial Differential Equations, 2020, 36, 1418-1445.	2.0	2
2	Nonsymmetric Reduction-Based Algebraic Multigrid. SIAM Journal of Scientific Computing, 2019, 41, S242-S268.	1.3	23
3	Mixed and least‐squares finite element methods with application to linear hyperbolic problems. Numerical Linear Algebra With Applications, 2018, 25, e2150.	0.9	4
4	Nonsymmetric Algebraic Multigrid Based on Local Approximate Ideal Restriction (ellAIR). SIAM Journal of Scientific Computing, 2018, 40, A4105-A4130.	1.3	28
5	A Root-Node--Based Algebraic Multigrid Method. SIAM Journal of Scientific Computing, 2017, 39, S723-S756.	1.3	17
6	A Comparison of Finite Element Spaces for H(div) Conforming First-Order System Least Squares. SIAM Journal of Scientific Computing, 2017, 39, S920-S944.	1.3	0
7	FOSLL* for Nonlinear Partial Differential Equations. SIAM Journal of Scientific Computing, 2015, 37, S503-S525.	1.3	6
8	Enhancing Least-Squares Finite Element Methods Through a Quantity-of-Interest. SIAM Journal on Numerical Analysis, 2014, 52, 3085-3105.	1.1	10
9	Semi-automatic sparse preconditioners for high-order finite element methods on non-uniform meshes. Journal of Computational Physics, 2012, 231, 4694-4708.	1.9	7
10	Automatic Construction of Sparse Preconditioners for High-Order Finite Element Methods. , 2011, , 84-102.		1
11	Multilevel Adaptive Aggregation for Markov Chains, with Application to Web Ranking. SIAM Journal of Scientific Computing, 2008, 30, 2235-2262.	1.3	45
12	FOSLL* Method for the Eddy Current Problem with Three‐Dimensional Edge Singularities. SIAM Journal on Numerical Analysis, 2007, 45, 787-809.	1.1	26
13	A Least-Squares Finite Element Method for the Linear Boltzmann Equation with Anisotropic Scattering. SIAM Journal on Numerical Analysis, 2006, 44, 540-560.	1.1	4
14	First-order system least squares for the Oseen equations. Numerical Linear Algebra With Applications, 2006, 13, 523-542.	0.9	9
15	Projection Multilevel Methods for Quasilinear Elliptic Partial Differential Equations: Theoretical Results. SIAM Journal on Numerical Analysis, 2006, 44, 139-152.	1.1	2
16	Projection Multilevel Methods for Quasilinear Elliptic Partial Differential Equations: Numerical Results. SIAM Journal on Numerical Analysis, 2006, 44, 120-138.	1.1	5
17	Numerical Conservation Properties of H(div)-Conforming Least-Squares Finite Element Methods for the Burgers Equation. SIAM Journal of Scientific Computing, 2005, 26, 1573-1597.	1.3	21
18	Analysis of First-Order System Least Squares (FOSLS) for Elliptic Problems with Discontinuous Coefficients: Part I. SIAM Journal on Numerical Analysis, 2005, 43, 386-408.	1.1	37

#	Article	IF	Citations
19	Analysis of First-Order System Least Squares (FOSLS) for Elliptic Problems with Discontinuous Coefficients: Part II. SIAM Journal on Numerical Analysis, 2005, 43, 409-436.	1.1	21
20	A robust multilevel approach for minimizing H(div)-dominated functionals in an H1-conforming finite element space. Numerical Linear Algebra With Applications, 2004, 11, 115-140.	0.9	18
21	Least-Squares Finite Element Methods and Algebraic Multigrid Solvers for Linear Hyperbolic PDEs. SIAM Journal of Scientific Computing, 2004, 26, 31-54.	1.3	44
22	Algebraic elimination of slide surface constraints in implicit structural analysis. International Journal for Numerical Methods in Engineering, 2003, 57, 1129-1144.	1.5	9
23	First-Order System Least Squares (FOSLS) for Spatial Linear Elasticity: Pure Traction. SIAM Journal on Numerical Analysis, 2000, 38, 1454-1482.	1.1	9
24	Robustness and Scalability of Algebraic Multigrid. SIAM Journal of Scientific Computing, 2000, 21, 1886-1908.	1.3	114
25	A Boundary Functional for the Least-Squares Finite- Element Solution of Neutron Transport Problems. SIAM Journal on Numerical Analysis, 1999, 37, 556-586.	1.1	38
26	Analysis of Velocity-Flux Least-Squares Principles for the Navier--Stokes Equations: Part II. SIAM Journal on Numerical Analysis, 1999, 36, 1125-1144.	1.1	54
27	Least-Squares Finite-Element Solution of the Neutron Transport Equation in Diffusive Regimes. SIAM Journal on Numerical Analysis, 1998, 35, 806-835.	1.1	45
28	First-Order System Least Squares (FOSLS) for Planar Linear Elasticity: Pure Traction Problem. SIAM Journal on Numerical Analysis, 1998, 35, 320-335.	1.1	50
29	First-Order System Least Squares for Second-Order Partial Differential Equations: Part II. SIAM Journal on Numerical Analysis, 1997, 34, 425-454.	1.1	167
30	On hybrid iterative methods for nonsymmetric systems of linear equations. Numerische Mathematik, 1996, 73, 489-506.	0.9	28
31	On the roots of the orthogonal polynomials and residual polynomials associated with a conjugate gradient method. Numerical Linear Algebra With Applications, 1994, 1, 449-475.	0.9	16
32	An Upper Bound on the Diameter of a Graph from Eigenvalues Associated with Its Laplacian. SIAM Journal on Discrete Mathematics, 1994, 7, 443-457.	0.4	62
33	Preconditioning and Boundary Conditions without H_2 Estimates: L_2 Condition Numbers and the Distribution of the Singular Values. SIAM Journal on Numerical Analysis, 1993, 30, 343-376.	1.1	23
34	A Comparison of Adaptive Chebyshev and Least Squares Polynomial Preconditioning for Hermitian Positive Definite Linear Systems. SIAM Journal on Scientific and Statistical Computing, 1992, 13, 1-29.	1.5	29
35	Preconditioning Second-Order Elliptic Operators: Experiment and Theory. SIAM Journal on Scientific and Statistical Computing, 1992, 13, 259-288.	1.5	8
36	A Calculus of Difference Schemes for the Solution of Boundary Value Problems on Irregular Meshes. SIAM Journal on Numerical Analysis, 1992, 29, 1321-1346.	1.1	7

#	Article	IF	Citations
37	On the theory of equivalent operators and application to the numerical solution of uniformly elliptic partial differential equations. Advances in Applied Mathematics, 1990, 11, 109-163.	0.4	61
38	Preconditioning and Boundary Conditions. SIAM Journal on Numerical Analysis, 1990, 27, 656-694.	1.1	87
39	A Taxonomy for Conjugate Gradient Methods. SIAM Journal on Numerical Analysis, 1990, 27, 1542-1568.	1.1	205
40	Iterative Methods for Nonsymmetric Linear Systems. , 1990, , 149-171.		14
41	Adaptive polynomial preconditioning for hermitian indefinite linear systems. BIT Numerical Mathematics, 1989, 29, 583-609.	1.0	39
42	An Analysis of Block Successive Overrelaxation for a Class of Matrices with Complex Spectra. SIAM Journal on Numerical Analysis, 1988, 25, 564-585.	1.1	32
43	Orthogonal Error Methods. SIAM Journal on Numerical Analysis, 1987, 24, 170-187.	1.1	47
44	On the Efficient Numerical Solution of Systems of Second Order Boundary Value Problems. SIAM Journal on Numerical Analysis, 1986, 23, 996-1006.	1.1	9
45	The numerical solution of second-order boundary value problems on nonuniform meshes. Mathematics of Computation, 1986, 47, 511-535.	1.1	139
46	ADI as a Preconditioning for Solving the Convection-Diffusion Equation. SIAM Journal on Scientific and Statistical Computing, 1984, 5, 281-299.	1.5	30
47	Adaptive procedure for estimating parameters for the nonsymmetric Tchebychev iteration. Numerische Mathematik, 1978, 31, 183-208.	0.9	140
48	The Tchebychev iteration for nonsymmetric linear systems. Numerische Mathematik, 1977, 28, 307-327.	0.9	290