Xiaozhe Hu

List of Publications by Year
in descending order

60	1,114	516561	454834
papers	citations	16	30
		h-index	g-index

60	60	60	946
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Assessment of network module identification across complex diseases. Nature Methods, 2019, 16, 843-852.	9.0	213
2	Stability and monotonicity for some discretizations of the Biot's consolidation model. Computer Methods in Applied Mechanics and Engineering, 2016, 298, 183-204.	3.4	81
3	A nonconforming finite element method for the Biot's consolidation model in poroelasticity. Journal of Computational and Applied Mathematics, 2017, 310, 143-154.	1.1	57
4	Acceleration of a two-grid method for eigenvalue problems. Mathematics of Computation, 2011, 80, 1287-1301.	1.1	56
5	New stabilized discretizations for poroelasticity and the Stokes' equations. Computer Methods in Applied Mechanics and Engineering, 2018, 341, 467-484.	3.4	55
6	Adaptive finite element method for fractional differential equations using hierarchical matrices. Computer Methods in Applied Mechanics and Engineering, 2017, 325, 56-76.	3.4	54
7	Robust preconditioners for incompressible MHD models. Journal of Computational Physics, 2016, 316, 721-746.	1.9	47
8	Two-Grid Methods for Maxwell Eigenvalue Problems. SIAM Journal on Numerical Analysis, 2014, 52, 2027-2047.	1.1	45
9	Development of A Fast Auxiliary Subspace Pre-conditioner for Numerical Reservoir Simulators. , 2011, , .		34
10	A consistent spatially adaptive smoothed particle hydrodynamics method for fluid–structure interactions. Computer Methods in Applied Mechanics and Engineering, 2019, 347, 402-424.	3.4	29
11	A weak Galerkin finite element method for the Navier–Stokes equations. Journal of Computational and Applied Mathematics, 2019, 362, 614-625.	1.1	28
12	Weak Galerkin method for the Biot's consolidation model. Computers and Mathematics With Applications, 2018, 75, 2017-2030.	1.4	27
13	Multigrid algorithms for $$\varvec{hp}$$ h p -version interior penalty discontinuous Galerkin methods on polygonal and polyhedral meshes. Calcolo, 2017, 54, 1169-1198.	0.6	24
14	Combined Preconditioning with Applications in Reservoir Simulation. Multiscale Modeling and Simulation, 2013, 11, 507-521.	0.6	23
15	A spatially adaptive high-order meshless method for fluid–structure interactions. Computer Methods in Applied Mechanics and Engineering, 2019, 355, 67-93.	3.4	20
16	A compatible high-order meshless method for the Stokes equations with applications to suspension flows. Journal of Computational Physics, 2018, 355, 310-326.	1.9	18
17	Optimal Interpolation and Compatible Relaxation in Classical Algebraic Multigrid. SIAM Journal of Scientific Computing, 2018, 40, A1473-A1493.	1.3	17
18	Compact moving least squares: An optimization framework for generating high-order compact meshless discretizations. Journal of Computational Physics, 2016, 326, 596-611.	1.9	16

#	Article	IF	Citations
19	Robust Preconditioners for a New Stabilized Discretization of the Poroelastic Equations. SIAM Journal of Scientific Computing, 2020, 42, B761-B791.	1.3	15
20	Newton Solvers for Drift-Diffusion and Electrokinetic Equations. SIAM Journal of Scientific Computing, 2018, 40, B982-B1006.	1.3	14
21	Anti-myeloma activity and molecular logic operation by Natural Killer cells in microfluidic droplets. Sensors and Actuators B: Chemical, 2019, 282, 580-589.	4.0	14
22	Application of auxiliary space preconditioning in field-scale reservoir simulation. Science China Mathematics, 2013, 56, 2737-2751.	0.8	13
23	A stabilized hybrid mixed finite element method for poroelasticity. Computational Geosciences, 2021, 25, 757-774.	1.2	13
24	Enforcing exact physics in scientific machine learning: A data-driven exterior calculus on graphs. Journal of Computational Physics, 2022, 456, 110969.	1.9	12
25	Comparative Convergence Analysis of Nonlinear AMLI-Cycle Multigrid. SIAM Journal on Numerical Analysis, 2013, 51, 1349-1369.	1.1	11
26	Robust Block Preconditioners for Biotâ€™s Model. Lecture Notes in Computational Science and Engineering, 2018, , 3-16.	0.1	11
27	A Parallel Auxiliary Grid Algebraic Multigrid Method for Graphic Processing Units. SIAM Journal of Scientific Computing, 2013, 35, C263-C283.	1.3	10
28	Robust Solvers for Maxwell's Equations with Dissipative Boundary Conditions. SIAM Journal of Scientific Computing, 2017, 39, S3-S23.	1.3	10
29	An Adaptive Multigrid Method Based on Path Cover. SIAM Journal of Scientific Computing, 2019, 41, S220-S241.	1.3	10
30	Block preconditioners for mixed-dimensional discretization of flow in fractured porous media. Computational Geosciences, 2021, 25, 671-686.	1.2	10
31	A Multigrid Solver based on Distributive Smoother and Residual Overweighting for Oseen Problems. Numerical Mathematics, 2015, 8, 237-252.	0.6	9
32	A finite element framework for some mimetic finite difference discretizations. Computers and Mathematics With Applications, 2015, 70, 2661-2673.	1.4	9
33	Convergence analysis of the Fast Subspace Descent method for convex optimization problems. Mathematics of Computation, 2020, 89, 2249-2282.	1.1	9
34	A twoâ€grid SAâ€AMG convergence bound that improves when increasing the polynomial degree. Numerical Linear Algebra With Applications, 2016, 23, 746-771.	0.9	8
35	Computing the diffusion state distance on graphs via algebraic multigrid and random projections. Numerical Linear Algebra With Applications, 2018, 25, e2156.	0.9	7
36	An a posteriori error estimator for the weak Galerkin least-squares finite-element method. Journal of Computational and Applied Mathematics, 2019, 362, 383-399.	1.1	7

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37	Mixed-Dimensional Auxiliary Space Preconditioners. SIAM Journal of Scientific Computing, 2020, 42, A3367-A3396.	1.3	7
38	Corrigendum to: â€œAcceleration of a two-grid method for eigenvalue problemsâ€. Mathematics of Computation, 2015, 84, 2701-2704.	1.1	6
39	Local Fourier Analysis of Multigrid Methods with Polynomial Smoothers and Aggressive Coarsening. Numerical Mathematics, 2015, 8, 1-21.	0.6	6
40	Using hierarchical matrices in the solution of the time-fractional heat equation by multigrid waveform relaxation. Journal of Computational Physics, 2020, 416, 109540.	1.9	6
41	On Adaptive Eulerianâ€"Lagrangian Method for Linear Convectionâ€"Diffusion Problems. Journal of Scientific Computing, 2014, 58, 90-114.	1.1	5
42	Common Randomized Shortest Paths (C-RSP): A Simple Yet Effective Framework for Multi-view Graph Embedding. , 2019, , .		5
43	A Finite-Element Framework for a Mimetic Finite-Difference Discretization of Maxwell's Equations. SIAM Journal of Scientific Computing, 2021, 43, A2638-A2659.	1.3	5
44	Diffusion State Distances: Multitemporal Analysis, Fast Algorithms, and Applications to Biological Networks. SIAM Journal on Mathematics of Data Science, 2021, 3, 142-170.	1.0	5
45	On the iterative algorithm for large sparse saddle point problems. Applied Mathematics and Computation, 2006, 178, 372-379.	1.4	4
46	Numerical studies of a class of linear solvers for fine-scale petroleum reservoir simulation. Computing and Visualization in Science, 2017, 18, 93-102.	1.2	4
47	Monolithic Multigrid for a Reduced-Quadrature Discretization of Poroelasticity. SIAM Journal of Scientific Computing, 2023, 45, S54-S81.	1.3	4
48	Well-Posedness and Discretization for a Class of Models for Mixed-Dimensional Problems with High-Dimensional Gap. SIAM Journal on Applied Mathematics, 2021, 81, 2218-2245.	0.8	3
49	An efficient high-order numerical solver for diffusion equations with strong anisotropy. Computer Physics Communications, 2022, 276, 108333.	3.0	3
50	Preconditioners for elliptic problems via non-uniform meshes. Applied Mathematics and Computation, 2006, 181, 1182-1198.	1.4	2
51	Fast Multilevel Solvers for a Class of Discrete Fourth Order Parabolic Problems. Journal of Scientific Computing, 2016, 69, 201-226.	1.1	2
52	Modifying AMG Coarse Spaces with Weak Approximation Property to Exhibit Approximation in Energy Norm. SIAM Journal on Matrix Analysis and Applications, 2019, 40, 1131-1152.	0.7	2
53	Vector-potential finite-element formulations for two-dimensional resistive magnetohydrodynamics. Computers and Mathematics With Applications, 2019, 77, 476-493.	1.4	2
54	Auxiliary space preconditioning for mixed finite element discretizations of Richardsâ€™ equation. Computers and Mathematics With Applications, 2020, 80, 405-416.	1.4	2

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55	A Posteriori Error Estimates for Multilevel Methods for Graph Laplacians. SIAM Journal of Scientific Computing, 2021, 43, S727-S742.	1.3	2
56	The boundary penalty method for the diffusion equation subject to the specification of mass. Applied Mathematics and Computation, 2007, 186, 735-748.	1.4	1
57	On the approximation of Laplacian eigenvalues in graph disaggregation. Linear and Multilinear Algebra, 2017, 65, 1805-1822.	0.5	1
58	New Stabilized Discretizations for Poroelasticity Equations. Lecture Notes in Computer Science, 2019, , 3-14.	1.0	1
59	Randomized and fault-tolerant method of subspace corrections. Research in Mathematical Sciences, 2019, 6, 1.	0.5	0
60	Random-Walk Based Approximate k-Nearest Neighbors Algorithm for Diffusion State Distance. Lecture Notes in Computer Science, 2022, , 3-15.	1.0	0