

Xiaozhe Hu

List of Publications by Year in descending order

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Version: 2024-02-01

60
papers

1,114
citations

516710

16
h-index

454955

30
g-index

60
all docs

60
docs citations

60
times ranked

946
citing authors

#	ARTICLE	IF	CITATIONS
1	Monolithic Multigrid for a Reduced-Quadrature Discretization of Poroelasticity. SIAM Journal of Scientific Computing, 2023, 45, S54-S81.	2.8	4
2	Enforcing exact physics in scientific machine learning: A data-driven exterior calculus on graphs. Journal of Computational Physics, 2022, 456, 110969.	3.8	12
3	Random-Walk Based Approximate k-Nearest Neighbors Algorithm for Diffusion State Distance. Lecture Notes in Computer Science, 2022, , 3-15.	1.3	0
4	An efficient high-order numerical solver for diffusion equations with strong anisotropy. Computer Physics Communications, 2022, 276, 108333.	7.5	3
5	A stabilized hybrid mixed finite element method for poroelasticity. Computational Geosciences, 2021, 25, 757-774.	2.4	13
6	Block preconditioners for mixed-dimensional discretization of flow in fractured porous media. Computational Geosciences, 2021, 25, 671-686.	2.4	10
7	A Finite-Element Framework for a Mimetic Finite-Difference Discretization of Maxwell's Equations. SIAM Journal of Scientific Computing, 2021, 43, A2638-A2659.	2.8	5
8	A Posteriori Error Estimates for Multilevel Methods for Graph Laplacians. SIAM Journal of Scientific Computing, 2021, 43, S727-S742.	2.8	2
9	Diffusion State Distances: Multitemporal Analysis, Fast Algorithms, and Applications to Biological Networks. SIAM Journal on Mathematics of Data Science, 2021, 3, 142-170.	1.8	5
10	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.	1.8	3
11	Auxiliary space preconditioning for mixed finite element discretizations of Richards's equation. Computers and Mathematics With Applications, 2020, 80, 405-416.	2.7	2
12	Mixed-Dimensional Auxiliary Space Preconditioners. SIAM Journal of Scientific Computing, 2020, 42, A3367-A3396.	2.8	7
13	Robust Preconditioners for a New Stabilized Discretization of the Poroelastic Equations. SIAM Journal of Scientific Computing, 2020, 42, B761-B791.	2.8	15
14	Using hierarchical matrices in the solution of the time-fractional heat equation by multigrid waveform relaxation. Journal of Computational Physics, 2020, 416, 109540.	3.8	6
15	Convergence analysis of the Fast Subspace Descent method for convex optimization problems. Mathematics of Computation, 2020, 89, 2249-2282.	2.1	9
16	Randomized and fault-tolerant method of subspace corrections. Research in Mathematical Sciences, 2019, 6, 1.	1.0	0
17	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.	1.4	2
18	Assessment of network module identification across complex diseases. Nature Methods, 2019, 16, 843-852.	19.0	213

#	ARTICLE	IF	CITATIONS
19	A spatially adaptive high-order meshless method for fluid–structure interactions. Computer Methods in Applied Mechanics and Engineering, 2019, 355, 67-93.	6.6	20
20	Common Randomized Shortest Paths (C-RSP): A Simple Yet Effective Framework for Multi-view Graph Embedding. , 2019, , .		5
21	An Adaptive Multigrid Method Based on Path Cover. SIAM Journal of Scientific Computing, 2019, 41, S220-S241.	2.8	10
22	A weak Galerkin finite element method for the Navier–Stokes equations. Journal of Computational and Applied Mathematics, 2019, 362, 614-625.	2.0	28
23	An a posteriori error estimator for the weak Galerkin least-squares finite-element method. Journal of Computational and Applied Mathematics, 2019, 362, 383-399.	2.0	7
24	Anti-myeloma activity and molecular logic operation by Natural Killer cells in microfluidic droplets. Sensors and Actuators B: Chemical, 2019, 282, 580-589.	7.8	14
25	A consistent spatially adaptive smoothed particle hydrodynamics method for fluid–structure interactions. Computer Methods in Applied Mechanics and Engineering, 2019, 347, 402-424.	6.6	29
26	Vector-potential finite-element formulations for two-dimensional resistive magnetohydrodynamics. Computers and Mathematics With Applications, 2019, 77, 476-493.	2.7	2
27	New Stabilized Discretizations for Poroelasticity Equations. Lecture Notes in Computer Science, 2019, , 3-14.	1.3	1
28	Computing the diffusion state distance on graphs via algebraic multigrid and random projections. Numerical Linear Algebra With Applications, 2018, 25, e2156.	1.6	7
29	A compatible high-order meshless method for the Stokes equations with applications to suspension flows. Journal of Computational Physics, 2018, 355, 310-326.	3.8	18
30	Weak Galerkin method for the Biot’s consolidation model. Computers and Mathematics With Applications, 2018, 75, 2017-2030.	2.7	27
31	Robust Block Preconditioners for Biot’s Model. Lecture Notes in Computational Science and Engineering, 2018, , 3-16.	0.3	11
32	Newton Solvers for Drift-Diffusion and Electrokinetic Equations. SIAM Journal of Scientific Computing, 2018, 40, B982-B1006.	2.8	14
33	Optimal Interpolation and Compatible Relaxation in Classical Algebraic Multigrid. SIAM Journal of Scientific Computing, 2018, 40, A1473-A1493.	2.8	17
34	New stabilized discretizations for poroelasticity and the Stokes’ equations. Computer Methods in Applied Mechanics and Engineering, 2018, 341, 467-484.	6.6	55
35	A nonconforming finite element method for the Biot’s consolidation model in poroelasticity. Journal of Computational and Applied Mathematics, 2017, 310, 143-154.	2.0	57
36	Multigrid algorithms for \mathbb{H}^p -version interior penalty discontinuous Galerkin methods on polygonal and polyhedral meshes. Calcolo, 2017, 54, 1169-1198.	1.1	24

#	ARTICLE	IF	CITATIONS
37	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
38	Robust Solvers for Maxwell's Equations with Dissipative Boundary Conditions. SIAM Journal of Scientific Computing, 2017, 39, S3-S23.	2.8	10
39	Adaptive finite element method for fractional differential equations using hierarchical matrices. Computer Methods in Applied Mechanics and Engineering, 2017, 325, 56-76.	6.6	54
40	On the approximation of Laplacian eigenvalues in graph disaggregation. Linear and Multilinear Algebra, 2017, 65, 1805-1822.	1.0	1
41	A two-grid SA-AMG convergence bound that improves when increasing the polynomial degree. Numerical Linear Algebra With Applications, 2016, 23, 746-771.	1.6	8
42	Compact moving least squares: An optimization framework for generating high-order compact meshless discretizations. Journal of Computational Physics, 2016, 326, 596-611.	3.8	16
43	Robust preconditioners for incompressible MHD models. Journal of Computational Physics, 2016, 316, 721-746.	3.8	47
44	Fast Multilevel Solvers for a Class of Discrete Fourth Order Parabolic Problems. Journal of Scientific Computing, 2016, 69, 201-226.	2.3	2
45	Stability and monotonicity for some discretizations of the Biot's consolidation model. Computer Methods in Applied Mechanics and Engineering, 2016, 298, 183-204.	6.6	81
46	Corrigendum to: "Acceleration of a two-grid method for eigenvalue problems". Mathematics of Computation, 2015, 84, 2701-2704.	2.1	6
47	A Multigrid Solver based on Distributive Smoother and Residual Overweighting for Oseen Problems. Numerical Mathematics, 2015, 8, 237-252.	1.3	9
48	Local Fourier Analysis of Multigrid Methods with Polynomial Smoothers and Aggressive Coarsening. Numerical Mathematics, 2015, 8, 1-21.	1.3	6
49	A finite element framework for some mimetic finite difference discretizations. Computers and Mathematics With Applications, 2015, 70, 2661-2673.	2.7	9
50	On Adaptive Eulerian-Lagrangian Method for Linear Convection-Diffusion Problems. Journal of Scientific Computing, 2014, 58, 90-114.	2.3	5
51	Two-Grid Methods for Maxwell Eigenvalue Problems. SIAM Journal on Numerical Analysis, 2014, 52, 2027-2047.	2.3	45
52	Application of auxiliary space preconditioning in field-scale reservoir simulation. Science China Mathematics, 2013, 56, 2737-2751.	1.7	13
53	Combined Preconditioning with Applications in Reservoir Simulation. Multiscale Modeling and Simulation, 2013, 11, 507-521.	1.6	23
54	Comparative Convergence Analysis of Nonlinear AMLI-Cycle Multigrid. SIAM Journal on Numerical Analysis, 2013, 51, 1349-1369.	2.3	11

#	ARTICLE	IF	CITATIONS
55	A Parallel Auxiliary Grid Algebraic Multigrid Method for Graphic Processing Units. SIAM Journal of Scientific Computing, 2013, 35, C263-C283.	2.8	10
56	Development of A Fast Auxiliary Subspace Pre-conditioner for Numerical Reservoir Simulators. , 2011, , .		34
57	Acceleration of a two-grid method for eigenvalue problems. Mathematics of Computation, 2011, 80, 1287-1301.	2.1	56
58	The boundary penalty method for the diffusion equation subject to the specification of mass. Applied Mathematics and Computation, 2007, 186, 735-748.	2.2	1
59	On the iterative algorithm for large sparse saddle point problems. Applied Mathematics and Computation, 2006, 178, 372-379.	2.2	4
60	Preconditioners for elliptic problems via non-uniform meshes. Applied Mathematics and Computation, 2006, 181, 1182-1198.	2.2	2