Francisco J Gaspar

List of Publications by Year
in descending order

65	1,090	430874 18	454955 30
papers	citations	h-index	g-index

65	65	65	472
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Stability and monotonicity for some discretizations of the Biotâ€™s consolidation model. Computer Methods in Applied Mechanics and Engineering, 2016, 298, 183-204.	6.6	81
2	A finite difference analysis of Biot's consolidation model. Applied Numerical Mathematics, 2003, 44, 487-506.	2.1	72
3	A nonconforming finite element method for the Biotâ€™s consolidation model in poroelasticity. Journal of Computational and Applied Mathematics, 2017, 310, 143-154.	2.0	57
4	New stabilized discretizations for poroelasticity and the Stokesâ€™ equations. Computer Methods in Applied Mechanics and Engineering, 2018, 341, 467-484.	6.6	55
5	Numerical stabilization of Biot's consolidation model by a perturbation on the flow equation. International Journal for Numerical Methods in Engineering, 2008, 75, 1282-1300.	2.8	50
6	Multigrid Line Smoothers for Higher Order Upwind Discretizations of Convection-Dominated Problems. Journal of Computational Physics, 1998, 139, 274-307.	3.8	49
7	On the fixed-stress split scheme as smoother in multigrid methods for coupling flow and geomechanics. Computer Methods in Applied Mechanics and Engineering, 2017, 326, 526-540.	6.6	37
8	Staggered grid discretizations for the quasi-static Biot's consolidation problem. Applied Numerical Mathematics, 2006, 56, 888-898.	2.1	36
9	A systematic comparison of coupled and distributive smoothing in multigrid for the poroelasticity system. Numerical Linear Algebra With Applications, 2004, 11, 93-113.	1.6	32
10	Multigrid Methods for the Stokes System. Computing in Science and Engineering, 2006, 8, 34-43.	1.2	32
11	Fourier Analysis for Multigrid Methods on Triangular Grids. SIAM Journal of Scientific Computing, 2009, 31, 2081-2102.	2.8	32
12	A Simple and Efficient Segregated Smoother for the Discrete Stokes Equations. SIAM Journal of Scientific Computing, 2014, 36, A1187-A1206.	2.8	31
13	On geometric multigrid methods for triangular grids using three-coarsening strategy. Applied Numerical Mathematics, 2009, 59, 1693-1708.	2.1	24
14	Multigrid relaxation methods for systems of saddle point type. Applied Numerical Mathematics, 2008, 58, 1933-1950.	2.1	23
15	On an Uzawa smoother in multigrid for poroelasticity equations. Numerical Linear Algebra With Applications, 2017, 24, e2074.	1.6	23
16	A stabilized difference scheme for deformable porous media and its numerical resolution by multigrid methods. Computing and Visualization in Science, 2008, 11, 67-76.	1.2	22
17	On a local Fourier analysis for overlapping block smoothers on triangular grids. Applied Numerical Mathematics, 2016, 105, 96-111.	2.1	22
18	Multigrid Waveform Relaxation for the Time-Fractional Heat Equation. SIAM Journal of Scientific Computing, 2017, 39, A1201-A1224.	2.8	20

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19	A multigrid multilevel Monte Carlo method for transport in the Darcyâ€“Stokes system. Journal of Computational Physics, 2018, 371, 382-408.	3.8	20
20	An efficient multigrid solver for a reformulated version of the poroelasticity system. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 1447-1457.	6.6	19
21	Distributive smoothers in multigrid for problems with dominating gradâ€“div operators. Numerical Linear Algebra With Applications, 2008, 15, 661-683.	1.6	19
22	Optimization of the multigrid-convergence rate on semi-structured meshes by local Fourier analysis. Computers and Mathematics With Applications, 2013, 65, 694-711.	2.7	19
23	A partially parallel-in-time fixed-stress splitting method for Biotâ€™s consolidation model. Computers and Mathematics With Applications, 2019, 77, 1466-1478.	2.7	19
24	An Efficient Multigrid Solver based on Distributive Smoothing for Poroelasticity Equations. Computing (Vienna/New York), 2004, 73, 99-119.	4.8	18
25	Fourth-order compact schemes with adaptive time step for monodomain reactionâ€“diffusion equations. Journal of Computational and Applied Mathematics, 2008, 216, 39-55.	2.0	18
26	Some numerical experiments with multigrid methods on Shishkin meshes. Journal of Computational and Applied Mathematics, 2002, 138, 21-35.	2.0	15
27	Uzawa Smoother in Multigrid for the Coupled Porous Medium and Stokes Flow System. SIAM Journal of Scientific Computing, 2017, 39, S633-S661.	2.8	15
28	On Local Fourier Analysis of Multigrid Methods for PDEs with Jumping and Random Coefficients. SIAM Journal of Scientific Computing, 2019, 41, A1385-A1413.	2.8	15
29	Performanceâ€influence models of multigrid methods: A case study on triangular grids. Concurrency Computation Practice and Experience, 2017, 29, e4057.	2.2	14
30	Multigrid Methods on Semi-Structured Grids. Archives of Computational Methods in Engineering, 2012, 19, 499-538.	10.2	13
31	Multigrid method based on a space-time approach with standard coarsening for parabolic problems. Applied Mathematics and Computation, 2018, 317, 25-34.	2.2	13
32	A stabilized method for a secondary consolidation Biot's model. Numerical Methods for Partial Differential Equations, 2008, 24, 60-78.	3.6	12
33	Multigrid method for nonlinear poroelasticity equations. Computing and Visualization in Science, 2015, 17, 255-265.	1.2	12
34	Robust Block Preconditioners for Biotâ€™s Model. Lecture Notes in Computational Science and Engineering, 2018, , 3-16.	0.3	11
35	Multigrid finite element methods on semiâ€structured triangular grids for planar elasticity. Numerical Linear Algebra With Applications, 2010, 17, 473-493.	1.6	10
36	Finite-difference analysis of fully dynamic problems for saturated porous media. Journal of Computational and Applied Mathematics, 2011, 236, 1090-1102.	2.0	9

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37	A finite element framework for some mimetic finite difference discretizations. Computers and Mathematics With Applications, 2015, 70, 2661-2673.	2.7	9
38	Monolithic multigrid method for the coupled Stokes flow and deformable porous medium system. Journal of Computational Physics, 2018, 353, 148-168.	3.8	9
39	Mixed-Dimensional Geometric Multigrid Methods for Single-Phase Flow in Fractured Porous Media. SIAM Journal of Scientific Computing, 2019, 41, B1082-B1114.	2.8	8
40	Accuracy Measures and Fourier Analysis for the Full Multigrid Algorithm. SIAM Journal of Scientific Computing, 2010, 32, 3108-3129.	2.8	7
41	Box Relaxation Schemes in Staggered Discretizations for the Dual Formulation of Total Variation Minimization. IEEE Transactions on Image Processing, 2013, 22, 2030-2043.	9.8	7
42	Local Fourier analysis for cell-centered multigrid methods on triangular grids. Journal of Computational and Applied Mathematics, 2014, 259, 35-47.	2.0	7
43	On a multigrid solver for the three-dimensional Biot poroelasticity system in multilayered domains. Computing and Visualization in Science, 2008, 11, 77-87.	1.2	6
44	MULTIGRID FOURIER ANALYSIS ON SEMIâ€STRUCTURED ANISOTROPIC MESHES FOR VECTOR PROBLEMS. Mathematical Modelling and Analysis, 2010, 15, 39-54.	1.5	6
45	Multicolor Fourier analysis of the multigrid method for quadratic FEM discretizations. Applied Mathematics and Computation, 2012, 218, 11182-11195.	2.2	6
46	Local Fourier Analysis for Edge-Based Discretizations on Triangular Grids. Numerical Mathematics, 2015, 8, 78-96.	1.3	6
47	Domain decomposition multigrid methods for nonlinear reactionâ€“diffusion problems. Communications in Nonlinear Science and Numerical Simulation, 2015, 20, 699-710.	3.3	6
48	Efficient geometric multigrid implementation for triangular grids. Journal of Computational and Applied Mathematics, 2010, 234, 1027-1035.	2.0	5
49	Finite difference analysis of a doubleâ€porosity consolidation model. Numerical Methods for Partial Differential Equations, 2012, 28, 138-154.	3.6	5
50	Compact schemes for anisotropic reactionâ€“diffusion equations with adaptive time step. International Journal for Numerical Methods in Engineering, 2010, 82, 1022-1043.	2.8	4
51	FINITE-DIFFERENCE ANALYSIS FOR THE LINEAR THERMOPOROELASTICITY PROBLEM AND ITS NUMERICAL RESOLUTION BY MULTIGRID METHODS. Mathematical Modelling and Analysis, 2012, 17, 227-244.	1.5	4
52	Multigrid methods for cellâ€centered discretizations on triangularâ€‰meshes. Numerical Linear Algebra With Applications, 2013, 20, 626-644.	1.6	4
53	On the robustness of ILU smoothers on triangular grids. Applied Numerical Mathematics, 2016, 106, 37-52.	2.1	4
54	Monotone Finite Difference Schemes for Quasilinear Parabolic Problems with Mixed Boundary Conditions. Computational Methods in Applied Mathematics, 2016, 16, 231-243.	0.8	4

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55	A parametric acceleration of multilevel Monte Carlo convergence for nonlinear variably saturated flow. Computational Geosciences, 2020, 24, 311-331.	2.4	4
56	Numerical methods for a one-dimensional non-linear Biotâ€™s model. Journal of Computational and Applied Mathematics, 2016, 293, 62-72.	2.0	3
57	Monotone Difference Schemes for Weakly Coupled Elliptic and Parabolic Systems. Computational Methods in Applied Mathematics, 2017, 17, 287-298.	0.8	3
58	Multigrid solvers for multipoint flux approximations of the Darcy problem on rough quadrilateral grids. Computational Geosciences, 2021, 25, 715-730.	2.4	2
59	On The Parallel Multiblock Geometric Multigrid Algorithm. Computational Methods in Applied Mathematics, 2008, 8, 223-236.	0.8	1
60	New Stabilized Discretizations for Poroelasticity Equations. Lecture Notes in Computer Science, 2019, , 3-14.	1.3	1
61	STABILIZED FINITE DIFFERENCE METHODS FOR THE FULLY DYNAMIC BIOT'S PROBLEM. Mathematical Modelling and Analysis, 2013, 18, 463-479.	1.5	0
62	An efficient cell-centered multigrid method for problems with discontinuous coefficients on semi-structured triangular grids. Computers and Mathematics With Applications, 2013, 65, 1978-1989.	2.7	0
63	Reprint of Domain decomposition multigrid methods for nonlinear reactionâ€“diffusion problems. Communications in Nonlinear Science and Numerical Simulation, 2015, 21, 22-33.	3.3	0
64	Finite Difference Scheme for Filtration and Consolidation Problems. Lecture Notes in Computer Science, 2003, , 454-462.	1.3	0
65	Preface: Special Issue â€“ Weizmann Workshop 2013. Numerical Mathematics, 2015, 8, i-ii.	1.3	0