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	Multigrid solvers for multipoint flux approximations of the Darcy problem on rough quadrilateral grids. Computational Geosciences, 2021, 25, 715-730.	2.4	2
2	A parametric acceleration of multilevel Monte Carlo convergence for nonlinear variably saturated flow. Computational Geosciences, 2020, 24, 311-331.	2.4	4
3	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
4	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
5	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
6	New Stabilized Discretizations for Poroelasticity Equations. Lecture Notes in Computer Science, 2019, , 3-14.	1.3	1
7	Monolithic multigrid method for the coupled Stokes flow and deformable porous medium system. Journal of Computational Physics, 2018, 353, 148-168.	3.8	9
8	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
9	Robust Block Preconditioners for Biotâ€™s Model. Lecture Notes in Computational Science and Engineering, 2018, , 3-16.	0.3	11
10	A multigrid multilevel Monte Carlo method for transport in the Darcyâ€“Stokes system. Journal of Computational Physics, 2018, 371, 382-408.	3.8	20
11	New stabilized discretizations for poroelasticity and the Stokesâ€™ equations. Computer Methods in Applied Mechanics and Engineering, 2018, 341, 467-484.	6.6	55
12	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
13	Monotone Difference Schemes for Weakly Coupled Elliptic and Parabolic Systems. Computational Methods in Applied Mathematics, 2017, 17, 287-298.	0.8	3
14	Performanceâ€influence models of multigrid methods: A case study on triangular grids. Concurrency Computation Practice and Experience, 2017, 29, e4057.	2.2	14
15	On an Uzawa smoother in multigrid for poroelasticity equations. Numerical Linear Algebra With Applications, 2017, 24, e2074.	1.6	23
16	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
17	Multigrid Waveform Relaxation for the Time-Fractional Heat Equation. SIAM Journal of Scientific Computing, 2017, 39, A1201-A1224.	2.8	20
18	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

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19	On a local Fourier analysis for overlapping block smoothers on triangular grids. Applied Numerical Mathematics, 2016, 105, 96-111.	2.1	22
20	On the robustness of ILU smoothers on triangular grids. Applied Numerical Mathematics, 2016, 106, 37-52.	2.1	4
21	Monotone Finite Difference Schemes for Quasilinear Parabolic Problems with Mixed Boundary Conditions. Computational Methods in Applied Mathematics, 2016, 16, 231-243.	0.8	4
22	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
23	Numerical methods for a one-dimensional non-linear Biotâ€™s model. Journal of Computational and Applied Mathematics, 2016, 293, 62-72.	2.0	3
24	Multigrid method for nonlinear poroelasticity equations. Computing and Visualization in Science, 2015, 17, 255-265.	1.2	12
25	Local Fourier Analysis for Edge-Based Discretizations on Triangular Grids. Numerical Mathematics, 2015, 8, 78-96.	1.3	6
26	A finite element framework for some mimetic finite difference discretizations. Computers and Mathematics With Applications, 2015, 70, 2661-2673.	2.7	9
27	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
28	Domain decomposition multigrid methods for nonlinear reactionâ€“diffusion problems. Communications in Nonlinear Science and Numerical Simulation, 2015, 20, 699-710.	3.3	6
29	Preface: Special Issue â€“ Weizmann Workshop 2013. Numerical Mathematics, 2015, 8, i-ii.	1.3	0
30	A Simple and Efficient Segregated Smoother for the Discrete Stokes Equations. SIAM Journal of Scientific Computing, 2014, 36, A1187-A1206.	2.8	31
31	Local Fourier analysis for cell-centered multigrid methods on triangular grids. Journal of Computational and Applied Mathematics, 2014, 259, 35-47.	2.0	7
32	STABILIZED FINITE DIFFERENCE METHODS FOR THE FULLY DYNAMIC BIOT'S PROBLEM. Mathematical Modelling and Analysis, 2013, 18, 463-479.	1.5	0
33	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
34	Multigrid methods for cellâ€centered discretizations on triangularâ€‰meshes. Numerical Linear Algebra With Applications, 2013, 20, 626-644.	1.6	4
35	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
36	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

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37	Multicolor Fourier analysis of the multigrid method for quadratic FEM discretizations. Applied Mathematics and Computation, 2012, 218, 11182-11195.	2.2	6
38	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
39	Multigrid Methods on Semi-Structured Grids. Archives of Computational Methods in Engineering, 2012, 19, 499-538.	10.2	13
40	Finite difference analysis of a doubleâ€porosity consolidation model. Numerical Methods for Partial Differential Equations, 2012, 28, 138-154.	3.6	5
41	Finite-difference analysis of fully dynamic problems for saturated porous media. Journal of Computational and Applied Mathematics, 2011, 236, 1090-1102.	2.0	9
42	Multigrid finite element methods on semiâ€structured triangular grids for planar elasticity. Numerical Linear Algebra With Applications, 2010, 17, 473-493.	1.6	10
43	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
44	Efficient geometric multigrid implementation for triangular grids. Journal of Computational and Applied Mathematics, 2010, 234, 1027-1035.	2.0	5
45	MULTIGRID FOURIER ANALYSIS ON SEMIâ€STRUCTURED ANISOTROPIC MESHES FOR VECTOR PROBLEMS. Mathematical Modelling and Analysis, 2010, 15, 39-54.	1.5	6
46	Accuracy Measures and Fourier Analysis for the Full Multigrid Algorithm. SIAM Journal of Scientific Computing, 2010, 32, 3108-3129.	2.8	7
47	On geometric multigrid methods for triangular grids using three-coarsening strategy. Applied Numerical Mathematics, 2009, 59, 1693-1708.	2.1	24
48	Fourier Analysis for Multigrid Methods on Triangular Grids. SIAM Journal of Scientific Computing, 2009, 31, 2081-2102.	2.8	32
49	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
50	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
51	Distributive smoothers in multigrid for problems with dominating gradâ€“div operators. Numerical Linear Algebra With Applications, 2008, 15, 661-683.	1.6	19
52	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
53	A stabilized method for a secondary consolidation Biot's model. Numerical Methods for Partial Differential Equations, 2008, 24, 60-78.	3.6	12
54	Multigrid relaxation methods for systems of saddle point type. Applied Numerical Mathematics, 2008, 58, 1933-1950.	2.1	23

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55	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
56	On The Parallel Multiblock Geometric Multigrid Algorithm. Computational Methods in Applied Mathematics, 2008, 8, 223-236.	0.8	1
57	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
58	Staggered grid discretizations for the quasi-static Biot's consolidation problem. Applied Numerical Mathematics, 2006, 56, 888-898.	2.1	36
59	Multigrid Methods for the Stokes System. Computing in Science and Engineering, 2006, 8, 34-43.	1.2	32
60	An Efficient Multigrid Solver based on Distributive Smoothing for Poroelasticity Equations. Computing (Vienna/New York), 2004, 73, 99-119.	4.8	18
61	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
62	A finite difference analysis of Biot's consolidation model. Applied Numerical Mathematics, 2003, 44, 487-506.	2.1	72
63	Finite Difference Scheme for Filtration and Consolidation Problems. Lecture Notes in Computer Science, 2003, , 454-462.	1.3	0
64	Some numerical experiments with multigrid methods on Shishkin meshes. Journal of Computational and Applied Mathematics, 2002, 138, 21-35.	2.0	15
65	Multigrid Line Smoothers for Higher Order Upwind Discretizations of Convection-Dominated Problems. Journal of Computational Physics, 1998, 139, 274-307.	3.8	49