Massimiliano Ferronato

List of Publications by Year
in descending order

100	1,828	279798	330143
papers	citations	23 h-index	37 g-index

104	104	104	976
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Enhanced relaxed physical factorization preconditioner for coupled poromechanics. Computers and Mathematics With Applications, 2022, 106, 27-39.	2.7	4
2	A reverse augmented constraint preconditioner for Lagrange multiplier methods in contact mechanics. Computer Methods in Applied Mechanics and Engineering, 2022, 392, 114632.	6.6	4
3	Linear Solvers for Reservoir Simulation Problems: An Overview and Recent Developments. Archives of Computational Methods in Engineering, 2022, 29, 4341-4378.	10.2	4
4	On the Development of Efficient Solvers for Real-World Coupled Hydromechanical Simulations. Frontiers in Mechanical Engineering, 2022, 8, .	1.8	0
5	A scalable preconditioning framework for stabilized contact mechanics with hydraulically active fractures. Journal of Computational Physics, 2022, 463, 111276.	3.8	2
6	Approximate inverse-based block preconditioners in poroelasticity. Computational Geosciences, 2021, 25, 701-714.	2.4	8
7	Efficient solvers for hybridized three-field mixed finite element coupled poromechanics. Computers and Mathematics With Applications, 2021, 91, 36-52.	2.7	15
8	A Surrogate Model for Fast Land Subsidence Prediction and Uncertainty Quantification. Lecture Notes in Civil Engineering, 2021, , 943-950.	0.4	0
9	Integration of Data Assimilation Techniques in Geomechanical Modelling: Ensemble Smoother with Multiple Data Assimilation Analysis. Lecture Notes in Civil Engineering, 2021, , 862-869.	0.4	0
10	A novel methodological approach for land subsidence prediction through data assimilation techniques. Computational Geosciences, 2021, 25, 1731-1750.	2.4	9
11	A novel block non-symmetric preconditioner for mixed-hybrid finite-element-based Darcy flow simulations. Journal of Computational Physics, 2021, 442, 110513.	3.8	12
12	A block preconditioner for twoâ€phase flow in porous media by mixed hybrid finite elements. Computational and Mathematical Methods, 2021, 3, e1207.	0.8	3
13	Generalized Polynomial Chaos Expansion for Fast and Accurate Uncertainty Quantification in Geomechanical Modelling. Algorithms, 2020, 13, 156.	2.1	7
14	The 3â€Ð Facies and Geomechanical Modeling of Land Subsidence in the Chaobai Plain, Beijing. Water Resources Research, 2020, 56, e2019WR027026.	4.2	28
15	Virtual element method for the numerical simulation of long-term dynamics of transitional environments. Journal of Computational Physics, 2020, 407, 109235.	3.8	4
16	A general preconditioning framework for coupled multiphysics problems with application to contact- and poro-mechanics. Journal of Computational Physics, 2019, 398, 108887.	3.8	22
17	A Relaxed Physical Factorization Preconditioner for Mixed Finite Element Coupled Poromechanics. SIAM Journal of Scientific Computing, 2019, 41, B694-B720.	2.8	12
18	Robust numerical implementation of a 3D rateâ€dependent model for reservoir geomechanical simulations. International Journal for Numerical and Analytical Methods in Geomechanics, 2019, 43, 2752-2771.	3.3	13

#	Article	IF	Citations
19	Modeling fault activation due to fluid production: Bayesian update by seismic data. Computational Geosciences, 2019, 23, 705-722.	2.4	5
20	A Parametric Numerical Analysis of Factors Controlling Ground Ruptures Caused by Groundwater Pumping. Water Resources Research, 2019, 55, 9500-9518.	4.2	9
21	Block preconditioning for fault/fracture mechanics saddle-point problems. Computer Methods in Applied Mechanics and Engineering, 2019, 344, 376-401.	6.6	21
22	An Oscillation-Free Finite Volume Method for Poroelasticity. Lecture Notes in Computational Science and Engineering, 2019, , 779-787.	0.3	0
23	A stabilized element-based finite volume method for poroelastic problems. Journal of Computational Physics, 2018, 364, 49-72.	3.8	16
24	Formation compaction vs land subsidence to constrain rock compressibility of hydrocarbon reservoirs. Geomechanics for Energy and the Environment, 2018, 13, 14-24.	2.5	14
25	A Robust Multilevel Approximate Inverse Preconditioner for Symmetric Positive Definite Matrices. SIAM Journal on Matrix Analysis and Applications, 2018, 39, 123-147.	1.4	8
26	Multilevel approaches for FSAI preconditioning. Numerical Linear Algebra With Applications, 2018, 25, e2183.	1.6	6
27	A supernodal block factorized sparse approximate inverse for non-symmetric linear systems. Numerical Algorithms, 2018, 78, 333-354.	1.9	2
28	A reduced order modelâ€based preconditioner for the efficient solution of transient diffusion equations. International Journal for Numerical Methods in Engineering, 2017, 109, 1159-1179.	2.8	11
29	A Coupled Mixed Finite Element Biot Model for Land Subsidence Prediction in the Beijing Area. , 2017, , .		2
30	Enriching the finite element method with meshfree particles in structural mechanics. International Journal for Numerical Methods in Engineering, 2017, 110, 675-700.	2.8	2
31	Hydrogeological effects of dredging navigable canals through lagoon shallows. A case study in Venice. Hydrology and Earth System Sciences, 2017, 21, 5627-5646.	4.9	19
32	Parallel Jacobiâ€“Davidson with block FSAI preconditioning and controlled inner iterations. Numerical Linear Algebra With Applications, 2016, 23, 394-409.	1.6	1
33	A novel Lagrangian approach for the stable numerical simulation of fault and fracture mechanics. Journal of Computational Physics, 2016, 314, 503-521.	3.8	30
34	Scalable algorithms for three-field mixed finite element coupled poromechanics. Journal of Computational Physics, 2016, 327, 894-918.	3.8	55
35	On the importance of the heterogeneity assumption in the characterization of reservoir geomechanical properties. Geophysical Journal International, 2016, 207, 47-58.	2.4	8
36	Data assimilation of surface displacements to improve geomechanical parameters of gas storage reservoirs. Journal of Geophysical Research: Solid Earth, 2016, 121, 1441-1461.	3.4	27

#	Article	IF	Citations
37	Testing a data assimilation approach to reduce geomechanical uncertainties in modelling land subsidence. Environmental Geotechnics, 2016, 3, 386-396.	2.3	7
38	A Novel Factorized Sparse Approximate Inverse Preconditioner with Supernodes. Procedia Computer Science, 2015, 51, 266-275.	2.0	3
39	Enriching the Finite Element Method with meshfree techniques in structural mechanics. Proceedings in Applied Mathematics and Mechanics, 2015, 15, 691-692.	0.2	0
40	FSAIPACK. ACM Transactions on Mathematical Software, 2015, 41, 1-26.	2.9	36
41	Ensemble smoothing of land subsidence measurements for reservoir geomechanical characterization. International Journal for Numerical and Analytical Methods in Geomechanics, 2015, 39, 207-228.	3.3	24
42	The Use of Supernodes in Factored Sparse Approximate Inverse Preconditioning. SIAM Journal of Scientific Computing, 2015, 37, C72-C94.	2.8	13
43	The effect of graph partitioning techniques on parallel Block FSAI preconditioning: a computational study. Numerical Algorithms, 2015, 68, 813-836.	1.9	14
44	A generalized Block FSAI preconditioner for nonsymmetric linear systems. Journal of Computational and Applied Mathematics, 2014, 256, 230-241.	2.0	26
45	Enhanced Block FSAI Preconditioning Using Domain Decomposition Techniques. SIAM Journal of Scientific Computing, 2013, 35, S229-S249.	2.8	19
46	Can natural fluid pore pressure be safely exceeded in storing gas underground?. Engineering Geology, 2013, 153, 35-44.	6.3	12
47	II cycle compressibility from satellite measurements. Geotechnique, 2013, 63, 479-486.	4.0	22
48	On existence-uniqueness of the solution in a nonlinear Biotâ€™s model. Applied Mathematics and Information Sciences, 2013, 7, 333-341.	0.5	4
49	Preconditioning Techniques for Sparse Linear Systems. Journal of Applied Mathematics, 2012, 2012, 1-3.	0.9	0
50	Preconditioning for Sparse Linear Systems at the Dawn of the 21st Century: History, Current Developments, and Future Perspectives. ISRN Applied Mathematics, 2012, 2012, 1-49.	0.5	20
51	Generalizing block FSAI preconditioning to unsymmetric indefinite matrices. , 2012, , .		0
52	Efficient parallel solution to largeâ€size sparse eigenproblems with block FSAI preconditioning. Numerical Linear Algebra With Applications, 2012, 19, 797-815.	1.6	10
53	Parallel inexact constraint preconditioning for ill-conditioned consolidation problems. Computational Geosciences, 2012, 16, 661-675.	2.4	11
54	A geomechanical transversely isotropic model of the Po River basin using PSInSAR derived horizontal displacement. International Journal of Rock Mechanics and Minings Sciences, 2012, 51, 105-118.	5.8	30

#	Article	IF	Citations
55	Parallel solution to illâ€conditioned FE geomechanical problems. International Journal for Numerical and Analytical Methods in Geomechanics, 2012, 36, 422-437.	3.3	21
56	Shifted FSAI preconditioners for the efficient parallel solution of nonâ€linear groundwater flow models. International Journal for Numerical Methods in Engineering, 2012, 89, 1707-1719.	2.8	8
57	A Parallel Adaptive Block FSAI Preconditioner for Finite Element Geomechanical Models. Advances in Intelligent and Soft Computing, 2012, , 331-338.	0.2	0
58	Adaptive Pattern Research for Block FSAI Preconditioning. SIAM Journal of Scientific Computing, 2011, 33, 3357-3380.	2.8	44
59	Land uplift due to subsurface fluid injection. Journal of Geodynamics, 2011, 51, 1-16.	1.6	80
60	Performance and robustness of block constraint preconditioners in finite element coupled consolidation problems. International Journal for Numerical Methods in Engineering, 2010, 81, 381-402.	2.8	7
61	Numerical Modeling of Rock/Casing Interaction in Radioactive-Marker Boreholes of the Northern Adriatic Basin, Italy. SPE Reservoir Evaluation and Engineering, 2010, 13, 906-913.	1.8	8
62	Geomechanical issues of anthropogenic CO2 sequestration in exploited gas fields. Energy Conversion and Management, 2010, 51, 1918-1928.	9.2	69
63	A fully coupled 3-D mixed finite element model of Biot consolidation. Journal of Computational Physics, 2010, 229, 4813-4830.	3.8	157
64	A Block FSAI-ILU Parallel Preconditioner for Symmetric Positive Definite Linear Systems. SIAM Journal of Scientific Computing, 2010, 32, 2468-2484.	2.8	48
65	The role of preconditioning in the solution to FE coupled consolidation equations by Krylov subspace methods. International Journal for Numerical and Analytical Methods in Geomechanics, 2009, 33, 405-423.	3.3	21
66	Multiâ€level incomplete factorizations for the iterative solution of nonâ€linear finite element problems. International Journal for Numerical Methods in Engineering, 2009, 80, 651-670.	2.8	12
67	On the uniformity of anthropogenic Venice uplift. Terra Nova, 2009, 21, 467-473.	2.1	9
68	Numerical modelling of regional faults in land subsidence prediction above gas/oil reservoirs. International Journal for Numerical and Analytical Methods in Geomechanics, 2008, 32, 633-657.	3.3	59
69	Mixed Constraint Preconditioners for the iterative solution of FE coupled consolidation equations. Journal of Computational Physics, 2008, 227, 9885-9897.	3.8	36
70	Mixed constraint preconditioning in computational contact mechanics. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 3922-3931.	6.6	35
71	Letter to the editor of Petroleum Science & Engineering: Comment on â€œCasing influence while measuring in situ reservoir compactionâ€by P. Macini, E. Mesini, V.A. Salomoni and B.A. Schrefler [J. Pet. Sci. Eng. 50 (2006), 40â€“54]. Journal of Petroleum Science and Engineering, 2008, 60, 67-70.	4.2	0
72	A Pilot Project Using Seawater to Uplift Venice Anthropogenically. Eos, 2008, 89, 152-152.	0.1	6

#	Article	IF	Citations
73	Symmetric and Unsymmetric Block Preconditioning for the Iterative Solution to FE Coupled Consolidation. AIP Conference Proceedings, 2007, , .	0.4	1
74	Block Preconditioning for the FE Solution to Contact Problems. AIP Conference Proceedings, 2007, , .	0.4	0
75	Casing Influence in Reservoir Compaction Measurement by Radioactive Markers in the Northern Adriatic, Italy. International Journal of Geomechanics, 2007, 7, 444-447.	2.7	3
76	A meshless method for axi-symmetric poroelastic simulations: numerical study. International Journal for Numerical Methods in Engineering, 2007, 70, 1346-1365.	2.8	21
77	Novel preconditioners for the iterative solution to FE-discretized coupled consolidation equations. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 2647-2656.	6.6	41
78	A comparison of numerical integration rules for the meshless local Petrovâ€“Galerkin method. Numerical Algorithms, 2007, 45, 61-74.	1.9	27
79	Reservoir compaction and land subsidence. Revue EuropÃ©enne De GÃ©nie Civil, 2006, 10, 731-762.	0.0	2
80	Stochastic poromechanical modeling of anthropogenic land subsidence. International Journal of Solids and Structures, 2006, 43, 3324-3336.	2.7	31
81	Fluid-Dynamic and Geomechanical Effects of CO2 Sequestration below the Venice Lagoon. Environmental and Engineering Geoscience, 2006, 12, 211-226.	0.9	18
82	Reservoir compaction and land subsidence. Revue EuropÃ©enne De GÃ©nie Civil, 2006, 10, 731-762.	0.0	2
83	Radioactive Marker Measurements in Heterogeneous Reservoirs: Numerical Study. International Journal of Geomechanics, 2004, 4, 79-92.	2.7	18
84	Surface Flow Boundary Conditions in Modeling Land Subsidence Due to Fluid Withdrawal. Ground Water, 2004, 42, 516-525.	1.3	17
85	On the role of reservoir geometry in waterdrive hydrodynamics. Journal of Petroleum Science and Engineering, 2004, 44, 205-221.	4.2	8
86	Saving Venice by seawater. Journal of Geophysical Research, 2004, 109, .	3.3	31
87	Scaling improves stability of preconditioned CG-like solvers for FE consolidation equations. International Journal for Numerical and Analytical Methods in Geomechanics, 2003, 27, 1043-1056.	3.3	14
88	Can CO2help save Venice from the Sea?. Eos, 2003, 84, 546.	0.1	13
89	Interpretation of Radioactive Marker Measurements To Evaluate Compaction in the Northern Adriatic Gas Fields. SPE Reservoir Evaluation and Engineering, 2003, 6, 401-411.	1.8	35
90	Efficient scaling algorithms for projection solvers in the FE solution to coupled consolidation. Developments in Water Science, 2002, 47, 437-444.	0.1	1

#	Article	IF	Citations
91	Direct, partitioned and projected solution to finite element consolidation models. International Journal for Numerical and Analytical Methods in Geomechanics, 2002, 26, 1371-1383.	3.3	13
92	Finite Element Solution Coupled Consolidation Equations. , 2002, , 101-106.		2
93	Finite element analysis of land subsidence above depleted reservoirs with pore pressure gradient and total stress formulations. International Journal for Numerical and Analytical Methods in Geomechanics, 2001, 25, 307-327.	3.3	52
94	Numerical performance of projection methods in finite element consolidation models. International Journal for Numerical and Analytical Methods in Geomechanics, 2001, 25, 1429-1447.	3.3	25
95	Ill-conditioning of finite element poroelasticity equations. International Journal of Solids and Structures, 2001, 38, 5995-6014.	2.7	51
96	Land surface uplift above compacting overconsolidated reservoirs. International Journal of Solids and Structures, 2001, 38, 8155-8169.	2.7	16
97	Land Subsidence Spreading Factor of the Northern Adriatic Gas Fields, Italy. International Journal of Geomechanics, 2001, 1, 459-475.	2.7	18
98	Importance of poroelastic coupling in dynamically active aquifers of the Po River Basin, Italy. Water Resources Research, 2000, 36, 2443-2459.	4.2	91
99	Numerical simulation of land subsidence above an off-shore Adriatic hydrocarbon reservoir, Italy, by Data Assimilation techniques. Proceedings of the International Association of Hydrological Sciences, 0, 382, 449-455.	1.0	0
100	A New Software to Model Earth Fissure Caused by Extensive Aquifer Exploitation and its Application to the Guangming Village Case, China. Proceedings of the International Association of Hydrological Sciences, 0, 382, 511-514.	1.0	0