Stefano Berrone

List of Publications by Year
in descending order

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68 papers	1,381 citations	361413 20 h-index	361022 35 g-index
68 all docs	68 docs citations	68 times ranked	582 citing authors

#	Article	IF	Citations
1	The virtual element method for discrete fracture network simulations. Computer Methods in Applied Mechanics and Engineering, 2014, 280, 135-156.	6.6	163
2	A hybrid mortar virtual element method for discrete fracture network simulations. Journal of Computational Physics, 2016, 306, 148-166.	3.8	91
3	Order preserving SUPG stabilization for the virtual element formulation of advectionâ€“diffusion problems. Computer Methods in Applied Mechanics and Engineering, 2016, 311, 18-40.	6.6	83
4	A PDE-Constrained Optimization Formulation for Discrete Fracture Network Flows. SIAM Journal of Scientific Computing, 2013, 35, B487-B510.	2.8	78
5	A globally conforming method for solving flow in discrete fracture networks using the Virtual Element Method. Finite Elements in Analysis and Design, 2016, 109, 23-36.	3.2	69
6	An optimization approach for large scale simulations of discrete fracture network flows. Journal of Computational Physics, 2014, 256, 838-853.	3.8	63
7	On Simulations of Discrete Fracture Network Flows with an Optimization-Based Extended Finite Element Method. SIAM Journal of Scientific Computing, 2013, 35, A908-A935.	2.8	57
8	A Parallel Solver for Large Scale DFN Flow Simulations. SIAM Journal of Scientific Computing, 2015, 37, C285-C306.	2.8	54
9	Orthogonal polynomials in badly shaped polygonal elements for the Virtual Element Method. Finite Elements in Analysis and Design, 2017, 129, 14-31.	3.2	52
10	Adaptive discretization of stationary and incompressible Navierâ€“Stokes equations by stabilized finite element methods. Computer Methods in Applied Mechanics and Engineering, 2001, 190, 4435-4455.	6.6	43
11	SUPG stabilization for the nonconforming virtual element method for advectionâ€“diffusionâ€“reaction equations. Computer Methods in Applied Mechanics and Engineering, 2018, 340, 500-529.	6.6	42
12	A residual a posteriori error estimate for the Virtual Element Method. Mathematical Models and Methods in Applied Sciences, 2017, 27, 1423-1458.	3.3	37
13	Spaceâ€“time adaptive simulations for unsteady Navierâ€“Stokes problems. Computers and Fluids, 2009, 38, 1132-1144.	2.5	32
14	Numerical simulation of low-Reynolds number flows past rectangular cylinders based on adaptive finite element and finite volume methods. Computers and Fluids, 2011, 40, 92-112.	2.5	32
15	Towards effective flow simulations in realistic discrete fracture networks. Journal of Computational Physics, 2016, 310, 181-201.	3.8	31
16	Uncertainty Quantification in Discrete Fracture Network Models: Stochastic Geometry. Water Resources Research, 2018, 54, 1338-1352.	4.2	26
17	Uncertainty quantification in Discrete Fracture Network models: Stochastic fracture transmissivity. Computers and Mathematics With Applications, 2015, 70, 603-623.	2.7	25
18	A Posteriori Error Estimate for a PDE-Constrained Optimization Formulation for the Flow in DFNs. SIAM Journal on Numerical Analysis, 2016, 54, 242-261.	2.3	25

#	Article	IF	Citations
19	Parallel Meshing, Discretization, and Computation of Flow in Massive Discrete Fracture Networks. SIAM Journal of Scientific Computing, 2019, 41, C317-C338.	2.8	22
20	Flow simulations in porous media with immersed intersecting fractures. Journal of Computational Physics, 2017, 345, 768-791.	3.8	22
21	Non-stationary transport phenomena in networks of fractures: Effective simulations and stochastic analysis. Computer Methods in Applied Mechanics and Engineering, 2017, 315, 1098-1112.	6.6	20
22	Simulation of the Steady-State Flow in Discrete Fracture Networks with Non-Conforming Meshes and Extended Finite Elements. Rock Mechanics and Rock Engineering, 2014, 47, 2171-2182.	5.4	19
23	Robustness in a posteriori error analysis for FEM flow models. Numerische Mathematik, 2002, 91, 389-422.	1.9	18
24	Unsteady advection-diffusion simulations in complex Discrete Fracture Networks with an optimization approach. Journal of Hydrology, 2018, 566, 332-345.	5.4	18
25	Robusta posteriorierror estimates for finite element discretizations of the heat equation with discontinuous coefficients. ESAIM: Mathematical Modelling and Numerical Analysis, 2006, 40, 991-1021.	1.9	16
26	Advanced computation of steady-state fluid flow in Discrete Fracture-Matrix models: FEMâ€“BEM and VEMâ€“VEM fracture-block coupling. GEM - International Journal on Geomathematics, 2018, 9, 377-399.	1.6	14
27	Reliable a posteriori mesh adaptivity in Discrete Fracture Network flow simulations. Computer Methods in Applied Mechanics and Engineering, 2019, 354, 904-931.	6.6	12
28	Refinement strategies for polygonal meshes applied to adaptive VEM discretization. Finite Elements in Analysis and Design, 2021, 186, 103502.	3.2	12
29	An Adaptive WEM Algorithm for Solving Elliptic Boundary Value Problems in Fairly General Domains. SIAM Journal of Scientific Computing, 2006, 28, 2114-2138.	2.8	11
30	Globalization strategies for Newtonâ€“Krylov methods for stabilized FEM discretization of Navierâ€“Stokes equations. Journal of Computational Physics, 2007, 226, 2317-2340.	3.8	10
31	Multilevel Monte Carlo Predictions of First Passage Times in Threeâ€Dimensional Discrete Fracture Networks: A Graphâ€Based Approach. Water Resources Research, 2020, 56, e2019WR026493.	4.2	10
32	Two-sided a posteriori error bounds for incompressible quasi-Newtonian flows. IMA Journal of Numerical Analysis, 2007, 28, 382-421.	2.9	9
33	The Virtual Element Method for Underground Flow Simulations in Fractured Media. SEMA SIMAI Springer Series, 2016, , 167-186.	0.7	9
34	Anisotropic a posteriori error estimate for the virtual element method. IMA Journal of Numerical Analysis, 2022, 42, 1273-1312.	2.9	9
35	A Local-in-Space-Timestep Approach to a Finite Element Discretization of the Heat Equation with a Posteriori Estimates. SIAM Journal on Numerical Analysis, 2009, 47, 3109-3138.	2.3	8
36	Efficient combustion parameter prediction and performance optimization for a diesel engine with a low throughput combustion model. Energy Conversion and Management, 2015, 96, 105-114.	9.2	8

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37	Fast and robust flow simulations in discrete fracture networks with GPGPUs. GEM - International Journal on Geomathematics, 2019, 10, 1.	1.6	8
38	Multilevel a posteriori error analysis for reactionâ€“convectionâ€“diffusion problems. Applied Numerical Mathematics, 2004, 50, 371-394.	2.1	7
39	3D-1D coupling on non conforming meshes via a three-field optimization based domain decomposition. Journal of Computational Physics, 2022, 448, 110738.	3.8	7
40	A REALIZATION OF A WAVELET GALERKIN METHOD ON NONTRIVIAL DOMAINS. Mathematical Models and Methods in Applied Sciences, 2002, 12, 1525-1554.	3.3	6
41	Coupling traffic models on networks and urban dispersion models for simulating sustainable mobility strategies. Computers and Mathematics With Applications, 2012, 64, 1975-1991.	2.7	6
42	Macroscopic First Order Models of Multicomponent Human Crowds with Behavioral Dynamics. Modeling and Simulation in Science, Engineering and Technology, 2016, , 295-306.	0.6	6
43	An optimal adaptive Fictitious Domain Method. Mathematics of Computation, 2019, 88, 2101-2134.	2.1	6
44	An optimization approach for flow simulations in poro-fractured media with complex geometries. Computational Geosciences, 2021, 25, 897-910.	2.4	6
45	Skipping transition conditions ina posteriorierror estimates for finite element discretizations of parabolic equations. ESAIM: Mathematical Modelling and Numerical Analysis, 2010, 44, 455-484.	1.9	5
46	The Virtual Element Method for large scale Discrete Fracture Network simulations: fracture-independent mesh generation. Proceedings in Applied Mathematics and Mechanics, 2015, 15, 19-22.	0.2	5
47	The Virtual Element Method on Anisotropic Polygonal Discretizations. Lecture Notes in Computational Science and Engineering, 2019, , 725-733.	0.3	5
48	Geological surface reconstruction from 3D point clouds. MethodsX, 2021, 8, 101398.	1.6	5
49	A Three-field Based Optimization Formulation for Flow Simulations in Networks of Fractures on Nonconforming Meshes. SIAM Journal of Scientific Computing, 2021, 43, B381-B404.	2.8	5
50	Machine learning for flux regression in discrete fracture networks. GEM - International Journal on Geomathematics, 2021, 12, 1.	1.6	5
51	The Impact of the Urban Air Pollution on the Human Health: A Case-Study in Turin. NATO Science for Peace and Security Series C: Environmental Security, 2011, , 729-732.	0.2	5
52	A virtual element method for the two-phase flow of immiscible fluids in porous media. Computational Geosciences, 2022, 26, 195-216.	2.4	5
53	Graph-Informed Neural Networks for Regressions on Graph-Structured Data. Mathematics, 2022, 10, 786.	2.2	5
54	Efficient partitioning of conforming virtual element discretizations for large scale discrete fracture network flow parallel solvers. Engineering Geology, 2022, 306, 106747.	6.3	5

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55	Towards a Realization of a Wavelet Galerkin Method on Non-Trivial Domains. Journal of Scientific Computing, 2002, 17, 307-317.	2.3	4
56	Numerical investigation of effectivity indices of space-time error indicators for Navierâ€“Stokes equations. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 1764-1782.	6.6	4
57	A new quality preserving polygonal mesh refinement algorithm for Polygonal Element Methods. Finite Elements in Analysis and Design, 2022, 207, 103770.	3.2	4
58	A new marking strategy for the adaptive finite element approximation of optimal control constrained problems. Optimization Methods and Software, 2011, 26, 747-775.	2.4	3
59	A robust VEM-based approach for flow simulations in poro-fractured media. Mathematical Models and Methods in Applied Sciences, 2021, 31, 2855-2885.	3.3	3
60	An Adaptive Fictitious Domain Method for Elliptic Problems. SEMA SIMAI Springer Series, 2016, , 229-244.	0.7	2
61	Performance Analysis of Multi-Task Deep Learning Models for Flux Regression in Discrete Fracture Networks. Geosciences (Switzerland), 2021, 11, 131.	2.2	2
62	THE VIRTUAL ELEMENT METHOD FOR DISCRETE FRACTURE NETWORK FLOW AND TRANSPORT SIMULATIONS. , 2016, , .		2
63	Layer-wise relevance propagation for backbone identification in discrete fracture networks. Journal of Computational Science, 2021, 55, 101458.	2.9	2
64	A gradient based resolution strategy for a PDE-constrained optimization approach for 3D-1D coupled problems. GEM - International Journal on Geomathematics, 2022, 13, 1.	1.6	2
65	A Reduced Basis Method for a PDE-constrained optimization formulation in Discrete Fracture Network flow simulations. Computers and Mathematics With Applications, 2021, 99, 182-194.	2.7	1
66	The Virtual Element Method for the Transport of Passive Scalars in Discrete Fracture Networks. Lecture Notes in Computational Science and Engineering, 2019, , 501-508.	0.3	0
67	New Strategies for the Simulationof the Flow in Three Dimensional Poro-Fractured Media. Lecture Notes in Computational Science and Engineering, 2019, , 715-723.	0.3	0
68	Robustness in a posteriori error estimates for the Oseen equations with general boundary conditions. , 2003, , 657-668.		0