

Gianmarco Manzini

List of Publications by Year in descending order

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109
papers

4,688
citations

117453

34
h-index

106150

65
g-index

125
all docs

125
docs citations

125
times ranked

1443
citing authors

#	ARTICLE	IF	CITATIONS
1	Virtual elements for Maxwell's equations. <i>Computers and Mathematics With Applications</i> , 2022, 116, 82-99.	1.4	20
2	Virtual element approximation of two-dimensional parabolic variational inequalities. <i>Computers and Mathematics With Applications</i> , 2022, 116, 48-70.	1.4	6
3	Stabilization of the nonconforming virtual element method. <i>Computers and Mathematics With Applications</i> , 2022, 116, 25-47.	1.4	9
4	Extended virtual element method for two-dimensional linear elastic fracture. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 390, 114352.	3.4	11
5	A virtual element generalization on polygonal meshes of the Scott-Vogelius finite element method for the 2-D Stokes problem. <i>Journal of Computational Dynamics</i> , 2022, 9, 207.	0.4	5
6	Polyhedral mesh quality indicator for the Virtual Element Method. <i>Computers and Mathematics With Applications</i> , 2022, 114, 151-160.	1.4	9
7	The role of mesh quality and mesh quality indicators in the virtual element method. <i>Advances in Computational Mathematics</i> , 2022, 48, 1.	0.8	19
8	Nonnegative canonical tensor decomposition with linear constraints: nnCANDELINC. <i>Numerical Linear Algebra With Applications</i> , 2022, 29, .	0.9	1
9	A fourth-order phase-field fracture model: Formulation and numerical solution using a continuous/discontinuous Galerkin method. <i>Journal of the Mechanics and Physics of Solids</i> , 2022, 165, 104910.	2.3	13
10	A Decision-Making Machine Learning Approach in Hermite Spectral Approximations of Partial Differential Equations. <i>Journal of Scientific Computing</i> , 2022, 92, .	1.1	1
11	Conforming virtual element approximations of the two-dimensional Stokes problem. <i>Applied Numerical Mathematics</i> , 2022, 181, 176-203.	1.2	2
12	The arbitrary-order virtual element method for linear elastodynamics models: convergence, stability and dispersion-dissipation analysis. <i>International Journal for Numerical Methods in Engineering</i> , 2021, 122, 934-971.	1.5	20
13	Stability and Conservation Properties of Hermite-Based Approximations of the Vlasov-Poisson System. <i>Journal of Scientific Computing</i> , 2021, 88, 1.	1.1	2
14	Arbitrary-order intrinsic virtual element method for elliptic equations on surfaces. <i>Calcolo</i> , 2021, 58, 30.	0.6	2
15	The multi-dimensional Hermite-discontinuous Galerkin method for the Vlasov-Maxwell equations. <i>Computer Physics Communications</i> , 2021, 264, 107866.	3.0	10
16	The virtual element method for resistive magnetohydrodynamics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2021, 381, 113815.	3.4	9
17	The Mixed Virtual Element Method for the Richards Equation. <i>SEMA SIMAI Springer Series</i> , 2021, , 259-297.	0.4	0
18	A review on arbitrarily regular conforming virtual element methods for second- and higher-order elliptic partial differential equations. <i>Mathematical Models and Methods in Applied Sciences</i> , 2021, 31, 2825-2853.	1.7	15

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19	The conforming virtual element method for polyharmonic problems. <i>Computers and Mathematics With Applications</i> , 2020, 79, 2021-2034.	1.4	31
20	The p- and hp-versions of the virtual element method for elliptic eigenvalue problems. <i>Computers and Mathematics With Applications</i> , 2020, 79, 2035-2056.	1.4	30
21	Coupling surface flow and subsurface flow in complex soil structures using mimetic finite differences. <i>Advances in Water Resources</i> , 2020, 144, 103701.	1.7	19
22	On the Use of Hermite Functions for the Vlasov-Poisson System. <i>Lecture Notes in Computational Science and Engineering</i> , 2020, , 143-153.	0.1	3
23	Extended virtual element method for the Laplace problem with singularities and discontinuities. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 356, 571-597.	3.4	31
24	A posteriori error estimation and adaptivity in hp virtual elements. <i>Numerische Mathematik</i> , 2019, 143, 139-175.	0.9	30
25	The High-Order Mixed Mimetic Finite Difference Method for Time-Dependent Diffusion Problems. <i>Journal of Scientific Computing</i> , 2019, 80, 1805-1830.	1.1	1
26	The nonconforming Virtual Element Method for eigenvalue problems. <i>ESAIM: Mathematical Modelling and Numerical Analysis</i> , 2019, 53, 749-774.	0.8	42
27	A Semi-Lagrangian Spectral Method for the Vlasov-Poisson System Based on Fourier, Legendre and Hermite Polynomials. <i>Communications on Applied Mathematics and Computation</i> , 2019, 1, 333-360.	0.7	7
28	Arbitrary-order time-accurate semi-Lagrangian spectral approximations of the Vlasov-Poisson system. <i>Journal of Computational Physics</i> , 2019, 384, 349-375.	1.9	8
29	Discontinuous Skeletal Gradient Discretisation methods on polytopal meshes. <i>Journal of Computational Physics</i> , 2018, 355, 397-425.	1.9	46
30	The fully nonconforming virtual element method for biharmonic problems. <i>Mathematical Models and Methods in Applied Sciences</i> , 2018, 28, 387-407.	1.7	102
31	The virtual element method for eigenvalue problems with potential terms on polytopic meshes. , 2018, 63, 333-365.		36
32	Advantages of a multi-state approach in surgical research: how intermediate events and risk factor profile affect the prognosis of a patient with locally advanced rectal cancer. <i>BMC Medical Research Methodology</i> , 2018, 18, 23.	1.4	11
33	SUPG stabilization for the nonconforming virtual element method for advection-diffusion-reaction equations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2018, 340, 500-529.	3.4	42
34	Convergence of Spectral Discretizations of the Vlasov-Poisson System. <i>SIAM Journal on Numerical Analysis</i> , 2017, 55, 2312-2335.	1.1	12
35	Convergence Analysis of the mimetic Finite Difference Method for Elliptic Problems with Staggered Discretizations of Diffusion Coefficients. <i>SIAM Journal on Numerical Analysis</i> , 2017, 55, 2956-2981.	1.1	14
36	The NonConforming Virtual Element Method for the Stokes Equations. <i>SIAM Journal on Numerical Analysis</i> , 2016, 54, 3411-3435.	1.1	122

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37	The arbitrary order mixed mimetic finite difference method for the diffusion equation. ESAIM: Mathematical Modelling and Numerical Analysis, 2016, 50, 851-877.	0.8	13
38	A Legendre-Fourier spectral method with exact conservation laws for the Vlasov-Poisson system. Journal of Computational Physics, 2016, 317, 82-107.	1.9	30
39	Discretization of Mixed Formulations of Elliptic Problems on Polyhedral Meshes. Lecture Notes in Computational Science and Engineering, 2016, , 311-342.	0.1	2
40	The nonconforming virtual element method. ESAIM: Mathematical Modelling and Numerical Analysis, 2016, 50, 879-904.	0.8	192
41	SpectralPlasmaSolver: a Spectral Code for Multiscale Simulations of Collisionless, Magnetized Plasmas. Journal of Physics: Conference Series, 2016, 719, 012022.	0.3	19
42	The mimetic finite difference method for elliptic and parabolic problems with a staggered discretization of diffusion coefficient. Journal of Computational Physics, 2016, 305, 111-126.	1.9	25
43	Residual a posteriori error estimation for the Virtual Element Method for elliptic problems. ESAIM: Mathematical Modelling and Numerical Analysis, 2015, 49, 577-599.	0.8	84
44	Post processing of solution and flux for the nodal mimetic finite difference method. Numerical Methods for Partial Differential Equations, 2015, 31, 336-363.	2.0	16
45	Hourglass stabilization and the virtual element method. International Journal for Numerical Methods in Engineering, 2015, 102, 404-436.	1.5	74
46	Recent techniques for PDE discretizations on polyhedral meshes. Mathematical Models and Methods in Applied Sciences, 2014, 24, 1453-1455.	1.7	13
47	M-Adaptation in the mimetic finite difference method. Mathematical Models and Methods in Applied Sciences, 2014, 24, 1621-1663.	1.7	19
48	New perspectives on polygonal and polyhedral finite element methods. Mathematical Models and Methods in Applied Sciences, 2014, 24, 1665-1699.	1.7	132
49	A high-order mimetic method on unstructured polyhedral meshes for the diffusion equation. Journal of Computational Physics, 2014, 272, 360-385.	1.9	40
50	Mimetic finite difference method. Journal of Computational Physics, 2014, 257, 1163-1227.	1.9	332
51	Mimetic scalar products of discrete differential forms. Journal of Computational Physics, 2014, 257, 1228-1259.	1.9	29
52	A virtual element method with arbitrary regularity. IMA Journal of Numerical Analysis, 2014, 34, 759-781.	1.5	105
53	The Mimetic Finite Difference Method for Elliptic Problems. , 2014, , .		91
54	BASIC PRINCIPLES OF VIRTUAL ELEMENT METHODS. Mathematical Models and Methods in Applied Sciences, 2013, 23, 199-214.	1.7	936

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55	The Discrete Duality Finite Volume Method for Stokes Equations on Three-Dimensional Polyhedral Meshes. <i>SIAM Journal on Numerical Analysis</i> , 2012, 50, 808-837.	1.1	23
56	3D Benchmark on Discretization Schemes for Anisotropic Diffusion Problems on General Grids. <i>Springer Proceedings in Mathematics</i> , 2011, , 895-930.	0.5	44
57	Arbitrary-Order Nodal Mimetic Discretizations of Elliptic Problems on Polygonal Meshes. <i>SIAM Journal on Numerical Analysis</i> , 2011, 49, 1737-1760.	1.1	95
58	Bad behavior of Godunov mixed methods for strongly anisotropic advectionâ€“dispersion equations. <i>Journal of Computational Physics</i> , 2011, 230, 8410-8426.	1.9	9
59	Convergence of the mimetic finite difference method for eigenvalue problems in mixed form. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 1150-1160.	3.4	30
60	The mimetic finite difference method for the 3D magnetostatic field problems on polyhedral meshes. <i>Journal of Computational Physics</i> , 2011, 230, 305-328.	1.9	51
61	Analysis of the monotonicity conditions in the mimetic finite difference method for elliptic problems. <i>Journal of Computational Physics</i> , 2011, 230, 2620-2642.	1.9	58
62	A unified approach for handling convection terms in finite volumes and mimetic discretization methods for elliptic problems. <i>IMA Journal of Numerical Analysis</i> , 2011, 31, 1357-1401.	1.5	44
63	Benchmark 3D: Mimetic Finite Difference Method for Generalized Polyhedral Meshes. <i>Springer Proceedings in Mathematics</i> , 2011, , 1035-1042.	0.5	2
64	A CeVeFE DDFV scheme for discontinuous anisotropic permeability tensors. <i>Springer Proceedings in Mathematics</i> , 2011, , 283-291.	0.5	6
65	Monotonicity Conditions in the Mimetic Finite Difference Method. <i>Springer Proceedings in Mathematics</i> , 2011, , 653-661.	0.5	4
66	Benchmark 3D: CeVeFE-DDFV, a discrete duality scheme with cell/vertex/face+edge unknowns. <i>Springer Proceedings in Mathematics</i> , 2011, , 977-984.	0.5	5
67	Benchmark 3D: The Cell-Centered Finite Volume Method Using Least Squares Vertex Reconstruction (â€œDiamond Schemeâ€). <i>Springer Proceedings in Mathematics</i> , 2011, , 985-992.	0.5	1
68	Arbitrary order nodal mimetic discretizations of elliptic problems on polygonal meshes. <i>Springer Proceedings in Mathematics</i> , 2011, , 69-77.	0.5	0
69	Spanning traceroutes over modular networks and general scaling degree distributions. <i>Physical Review E</i> , 2010, 81, 036105.	0.8	1
70	Error Analysis for a Mimetic Discretization of the Steady Stokes Problem on Polyhedral Meshes. <i>SIAM Journal on Numerical Analysis</i> , 2010, 48, 1419-1443.	1.1	41
71	The Discrete Duality Finite Volume Method for Convection-diffusion Problems. <i>SIAM Journal on Numerical Analysis</i> , 2010, 47, 4163-4192.	1.1	52
72	An efficient and conservative hybrid method for solving multidimensional conservation laws. <i>Numerical Methods for Partial Differential Equations</i> , 2009, 25, 1029-1066.	2.0	3

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73	A second-order TVD implicit-explicit finite volume method for time-dependent convection-reaction equations. <i>Mathematics and Computers in Simulation</i> , 2009, 79, 2403-2428.	2.4	1
74	Convergence analysis of the high-order mimetic finite difference method. <i>Numerische Mathematik</i> , 2009, 113, 325-356.	0.9	54
75	Mimetic finite difference method for the Stokes problem on polygonal meshes. <i>Journal of Computational Physics</i> , 2009, 228, 7215-7232.	1.9	77
76	Convergence Analysis of the Mimetic Finite Difference Method for Elliptic Problems. <i>SIAM Journal on Numerical Analysis</i> , 2009, 47, 2612-2637.	1.1	52
77	An <i>a posteriori</i> error estimator for the mimetic finite difference approximation of elliptic problems. <i>International Journal for Numerical Methods in Engineering</i> , 2008, 76, 1696-1723.	1.5	44
78	Flux reconstruction and solution post-processing in mimetic finite difference methods. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 933-945.	3.4	55
79	A finite volume method for advection-diffusion problems in convection-dominated regimes. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2008, 197, 1242-1261.	3.4	65
80	A Higher-Order Formulation of the Mimetic Finite Difference Method. <i>SIAM Journal of Scientific Computing</i> , 2008, 31, 732-760.	1.3	49
81	EFFICIENT DESIGN OF RESIDUAL-BASED STABILIZATION TECHNIQUES FOR THE THREE FIELDS DOMAIN DECOMPOSITION METHOD. <i>Mathematical Models and Methods in Applied Sciences</i> , 2008, 18, 973-999.	1.7	3
82	ON VERTEX RECONSTRUCTIONS FOR CELL-CENTERED FINITE VOLUME APPROXIMATIONS OF 2D ANISOTROPIC DIFFUSION PROBLEMS. <i>Mathematical Models and Methods in Applied Sciences</i> , 2007, 17, 1-32.	1.7	66
83	DIMEX Runge-Kutta finite volume methods for multidimensional hyperbolic systems. <i>Mathematics and Computers in Simulation</i> , 2007, 75, 141-160.	2.4	3
84	Computer modeling of liquid-solid impacts. <i>Mathematical and Computer Modelling</i> , 2007, 45, 162-176.	2.0	0
85	Mesh locking effects in the finite volume solution of 2-D anisotropic diffusion equations. <i>Journal of Computational Physics</i> , 2007, 220, 751-771.	1.9	42
86	A unified treatment of boundary conditions in least-square based finite-volume methods. <i>Computers and Mathematics With Applications</i> , 2005, 49, 1755-1765.	1.4	14
87	A Second-Order Maximum Principle Preserving Finite Volume Method for Steady Convection-Diffusion Problems. <i>SIAM Journal on Numerical Analysis</i> , 2005, 43, 2172-2199.	1.1	86
88	Mass-conservative finite volume methods on 2-D unstructured grids for the Richards equation. <i>Advances in Water Resources</i> , 2004, 27, 1199-1215.	1.7	101
89	Limiting strategies for polynomial reconstructions in the finite volume approximation of the linear advection equation. <i>Applied Numerical Mathematics</i> , 2004, 49, 277-289.	1.2	11
90	A mixed finite element solver for liquid-liquid impacts. <i>Communications in Numerical Methods in Engineering</i> , 2004, 20, 595-606.	1.3	1

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91	A finite volume method for transport of contaminants in porous media. Applied Numerical Mathematics, 2004, 49, 291-305.	1.2	7
92	Least square-based finite volumes for solving the advection-diffusion of contaminants in porous media. Applied Numerical Mathematics, 2004, 51, 451-461.	1.2	11
93	A CELL-CENTERED SECOND-ORDER ACCURATE FINITE VOLUME METHOD FOR CONVECTION-DIFFUSION PROBLEMS ON UNSTRUCTURED MESHES. Mathematical Models and Methods in Applied Sciences, 2004, 14, 1235-1260.	1.7	58
94	Null Space Algorithm and Spanning Trees in Solving Darcy's Equation. BIT Numerical Mathematics, 2003, 43, 839-848.	1.0	9
95	Finite volume/mixed finite element analysis of pollutant transport and bioremediation in heterogeneous saturated aquifers. International Journal for Numerical Methods in Fluids, 2003, 42, 1-21.	0.9	9
96	Algorithm 817: P2MESH. ACM Transactions on Mathematical Software, 2002, 28, 101-132.	1.6	24
97	A null space algorithm for mixed finite-element approximations of Darcy's equation. Communications in Numerical Methods in Engineering, 2002, 18, 645-657.	1.3	19
98	An object-oriented interface for the dynamic memory management of sparse discrete mathematical operators in numerical scientific applications. Software - Practice and Experience, 2002, 32, 621-644.	2.5	1
99	A Triangle-Based Unstructured Finite-Volume Method for Chemically Reactive Hypersonic Flows. Journal of Computational Physics, 2001, 166, 84-115.	1.9	8
100	A fully coupled numerical model for two-phase flow with contaminant transport and biodegradation kinetics. Communications in Numerical Methods in Engineering, 2001, 17, 325-336.	1.3	16
101	Discontinuous Galerkin approximations for elliptic problems. Numerical Methods for Partial Differential Equations, 2000, 16, 365-378.	2.0	277
102	Distributed Parallel Strategies for Industrial CFD Solvers: A Case Study and Analysis of Performances. Journal of Parallel and Distributed Computing, 1999, 57, 334-344.	2.7	1
103	2-D Numerical Modeling of Bioremediation in Heterogeneous Saturated Soils. Transport in Porous Media, 1998, 31, 67-88.	1.2	18
104	A mixed finite element/finite volume approach for solving biodegradation transport in groundwater. International Journal for Numerical Methods in Fluids, 1998, 26, 533-556.	0.9	17
105	Fast-secant algorithms for the non-linear Richards equation. Communications in Numerical Methods in Engineering, 1998, 14, 921-930.	1.3	19
106	A multiresolution approach for page segmentation. Pattern Recognition Letters, 1998, 19, 217-225.	2.6	23
107	A Mixed Finite Element-Finite Volume Formulation of the Black-Oil Model. SIAM Journal of Scientific Computing, 1998, 20, 970-997.	1.3	45
108	Parallel Implementations of 2D Explicit Euler Solvers. Journal of Computational Physics, 1996, 123, 111-118.	1.9	6

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109	Conforming and nonconforming virtual element methods for elliptic problems. IMA Journal of Numerical Analysis, 0, , drw036.	1.5	31