Daniele Antonio Di Pietro

List of Publications by Year
in descending order

95 papers	3,110 citations	185998 28 h-index	168136 53 g-index
105 all docs	105 docs citations	105 times ranked	955 citing authors

#	Article	IF	Citations
1	Mathematical Aspects of Discontinuous Galerkin Methods. MathÃ©matiques Et Applications, 2012, , .	0.6	429
2	A hybrid high-order locking-free method for linear elasticity on general meshes. Computer Methods in Applied Mechanics and Engineering, 2015, 283, 1-21.	3.4	248
3	On the flexibility of agglomeration based physical space discontinuous Galerkin discretizations. Journal of Computational Physics, 2012, 231, 45-65.	1.9	193
4	An Arbitrary-Order and Compact-Stencil Discretization of Diffusion on General Meshes Based on Local Reconstruction Operators. Computational Methods in Applied Mathematics, 2014, 14, 461-472.	0.4	181
5	Bridging the hybrid high-order and hybridizable discontinuous Galerkin methods. ESAIM: Mathematical Modelling and Numerical Analysis, 2016, 50, 635-650.	0.8	141
6	An artificial compressibility flux for the discontinuous Galerkin solution of the incompressible Navierâ€“Stokes equations. Journal of Computational Physics, 2006, 218, 794-815.	1.9	130
7	Discrete functional analysis tools for Discontinuous Galerkin methods with application to the incompressible Navierâ€“Stokes equations. Mathematics of Computation, 2010, 79, 1303-1330.	1.1	119
8	An implicit high-order discontinuous Galerkin method for steady and unsteady incompressible flows. Computers and Fluids, 2007, 36, 1529-1546.	1.3	94
9	Hybrid high-order methods for variable-diffusion problems on general meshes. Comptes Rendus Mathematique, 2015, 353, 31-34.	0.1	79
10	A Hybrid High-Order method for Lerayâ€“Lions elliptic equations on general meshes. Mathematics of Computation, 2016, 86, 2159-2191.	1.1	76
11	The Hybrid High-Order Method for Polytopal Meshes. Modeling, Simulation and Applications, 2020, , .	1.3	66
12	A discontinuous skeletal method for the viscosity-dependent Stokes problem. Computer Methods in Applied Mechanics and Engineering, 2016, 306, 175-195.	3.4	61
13	Discontinuous Galerkin Methods for Anisotropic Semidefinite Diffusion with Advection. SIAM Journal on Numerical Analysis, 2008, 46, 805-831.	1.1	58
14	A Discontinuous-Skeletal Method for Advection-Diffusion-Reaction on General Meshes. SIAM Journal on Numerical Analysis, 2015, 53, 2135-2157.	1.1	58
15	A Hybrid High-Order Method for Darcy Flows in Fractured Porous Media. SIAM Journal of Scientific Computing, 2018, 40, A1063-A1094.	1.3	54
16	A pressure-correction scheme for convection-dominated incompressible flows with discontinuous velocity and continuous pressure. Journal of Computational Physics, 2011, 230, 572-585.	1.9	50
17	Mass preserving finite element implementations of the level set method. Applied Numerical Mathematics, 2006, 56, 1179-1195.	1.2	48
18	An extension of the Crouzeixâ€“Raviart space to general meshes with application to quasi-incompressible linear elasticity and Stokes flow. Mathematics of Computation, 2015, 84, 1-31.	1.1	46

#	Article	IF	Citations
19	Discontinuous Skeletal Gradient Discretisation methods on polytopal meshes. Journal of Computational Physics, 2018, 355, 397-425.	1.9	46
20	A Nonconforming High-Order Method for the Biot Problem on General Meshes. SIAM Journal of Scientific Computing, 2016, 38, A1508-A1537.	1.3	43
21	The G method for heterogeneous anisotropic diffusion on general meshes. ESAIM: Mathematical Modelling and Numerical Analysis, 2010, 44, 597-625.	0.8	41
22	A Hybrid High-Order Method for Nonlinear Elasticity. SIAM Journal on Numerical Analysis, 2017, 55, 2687-2717.	1.1	41
23	A Hybrid High-Order Method for the Steady Incompressible Navierâ€“Stokes Problem. Journal of Scientific Computing, 2018, 74, 1677-1705.	1.1	41
24	Hybridization of Mixed High-Order Methods on General Meshes and Application to the Stokes Equations. Computational Methods in Applied Mathematics, 2015, 15, 111-134.	0.4	35
25	Ws,p-approximation properties of elliptic projectors on polynomial spaces, with application to the error analysis of a Hybrid High-Order discretisation of Lerayâ€“Lions problems. Mathematical Models and Methods in Applied Sciences, 2017, 27, 879-908.	1.7	33
26	Assessment of Hybrid High-Order methods on curved meshes and comparison with discontinuous Galerkin methods. Journal of Computational Physics, 2018, 370, 58-84.	1.9	33
27	Arbitrary-order mixed methods for heterogeneous anisotropic diffusion on general meshes. IMA Journal of Numerical Analysis, 2017, 37, 40-63.	1.5	30
28	Implementation of Discontinuous Skeletal methods on arbitrary-dimensional, polytopal meshes using generic programming. Journal of Computational and Applied Mathematics, 2018, 344, 852-874.	1.1	30
29	A Hybrid High-Order discretisation of the Brinkman problem robust in the Darcy and Stokes limits. Computer Methods in Applied Mechanics and Engineering, 2018, 341, 278-310.	3.4	29
30	Low-order reconstruction operators on polyhedral meshes: application to compatible discrete operator schemes. Computer Aided Geometric Design, 2015, 35-36, 27-41.	0.5	28
31	A Hybrid High-Order Method for the Cahn–Hilliard problem in Mixed Form. SIAM Journal on Numerical Analysis, 2016, 54, 1873-1898.	1.1	26
32	Cell centered Galerkin methods for diffusive problems. ESAIM: Mathematical Modelling and Numerical Analysis, 2012, 46, 111-144.	0.8	24
33	A posteriori error estimates, stopping criteria, and adaptivity for multiphase compositional Darcy flows in porous media. Journal of Computational Physics, 2014, 276, 163-187.	1.9	24
34	A Hybrid High-Order method for the incompressible Navierâ€“Stokes equations based on Temam's device. Journal of Computational Physics, 2019, 376, 786-816.	1.9	24
35	An a posteriori-driven adaptive Mixed High-Order method with application to electrostatics. Journal of Computational Physics, 2016, 326, 35-55.	1.9	23
36	A locking-free discontinuous Galerkin method for linear elasticity in locally nearly incompressible heterogeneous media. Applied Numerical Mathematics, 2013, 63, 105-116.	1.2	22

#	Article	IF	Citations
37	Adaptive regularization, linearization, and discretization and a posteriori error control for the two-phase Stefan problem. Mathematics of Computation, 2015, 84, 153-186.	1.1	22
38	A third Strang lemma and an Aubinâ€“Nitsche trick for schemes in fully discrete formulation. Calcolo, 2018, 55, 1.	0.6	20
39	A low-order nonconforming method for linear elasticity on general meshes. Computer Methods in Applied Mechanics and Engineering, 2019, 354, 96-118.	3.4	20
40	Fully discrete polynomial de Rham sequences of arbitrary degree on polygons and polyhedra. Mathematical Models and Methods in Applied Sciences, 2020, 30, 1809-1855.	1.7	17
41	Unified formulation and analysis of mixed and primal discontinuous skeletal methods on polytopal meshes. ESAIM: Mathematical Modelling and Numerical Analysis, 2018, 52, 1-28.	0.8	16
42	A Hybrid High-Order method for the incompressible Navierâ€“Stokes problem robust for large irrotational body forces. Computers and Mathematics With Applications, 2020, 79, 2655-2677.	1.4	16
43	A Hybrid High-Order method for Kirchhoffâ€“Love plate bending problems. ESAIM: Mathematical Modelling and Numerical Analysis, 2018, 52, 393-421.	0.8	15
44	A Review of Hybrid High-Order Methods: Formulations, Computational Aspects, Comparison with Other Methods. Lecture Notes in Computational Science and Engineering, 2016, , 205-236.	0.1	14
45	A Review of Recent Advances in Discretization Methods,a PosterioriError Analysis, and Adaptive Algorithms for Numerical Modeling in Geosciences. Oil and Gas Science and Technology, 2014, 69, 701-729.	1.4	13
46	Stress and flux reconstruction in Biotâ€™s poro-elasticity problem with application to a posteriori error analysis. Computers and Mathematics With Applications, 2017, 73, 1593-1610.	1.4	13
47	A Hybrid High-Order method for passive transport in fractured porous media. GEM - International Journal on Geomathematics, 2019, 10, 1.	0.7	13
48	A Hybrid High-Order Discretization Method for Nonlinear Poroelasticity. Computational Methods in Applied Mathematics, 2020, 20, 227-249.	0.4	12
49	An Arbitrary-Order Discrete de Rham Complex on Polyhedral Meshes: Exactness, PoincarÃ© Inequalities, and Consistency. Foundations of Computational Mathematics, 2023, 23, 85-164.	1.5	12
50	Arbitrary-order pressure-robust DDR and VEM methods for the Stokes problem on polyhedral meshes. Computer Methods in Applied Mechanics and Engineering, 2022, 397, 115061.	3.4	12
51	An a posteriori-based, fully adaptive algorithm with adaptive stopping criteria and mesh refinement for thermal multiphase compositional flows in porous media. Computers and Mathematics With Applications, 2014, 68, 2331-2347.	1.4	11
52	A hybrid high-order method for creeping flows of non-Newtonian fluids. ESAIM: Mathematical Modelling and Numerical Analysis, 2021, 55, 2045-2073.	0.8	11
53	Analysis of a discontinuous Galerkin approximation of the Stokes problem based on an artificial compressibility flux. International Journal for Numerical Methods in Fluids, 2007, 55, 793-813.	0.9	10
54	An hp-Hybrid High-Order Method for Variable Diffusion on General Meshes. Computational Methods in Applied Mathematics, 2017, 17, 359-376.	0.4	10

#	Article	IF	Citations
55	Cell centered Galerkin methods. Comptes Rendus Mathematique, 2010, 348, 31-34.	0.1	9
56	Analysis of a discontinuous galerkin method for heterogeneous diffusion problems with lowâ€regularity solutions. Numerical Methods for Partial Differential Equations, 2012, 28, 1161-1177.	2.0	9
57	An arbitrary-order method for magnetostatics on polyhedral meshes based on a discrete de Rham sequence. Journal of Computational Physics, 2021, 429, 109991.	1.9	9
58	An abstract analysis framework for monolithic discretisations of poroelasticity with application to Hybrid High-Order methods. Computers and Mathematics With Applications, 2021, 91, 150-175.	1.4	8
59	An Advection-Robust Hybrid High-Order Method for the Oseen Problem. Journal of Scientific Computing, 2018, 77, 1310-1338.	1.1	7
60	An H-Multigrid Method for Hybrid High-Order Discretizations. SIAM Journal of Scientific Computing, 2021, 43, S839-S861.	1.3	7
61	p-Multilevel Preconditioners for HHO Discretizations of the Stokes Equations with Static Condensation. Communications on Applied Mathematics and Computation, 2022, 4, 783-822.	0.7	7
62	A domain-specific embedded language in C++ for lowest-order discretizations of diffusive problems on general meshes. BIT Numerical Mathematics, 2013, 53, 111-152.	1.0	6
63	Equilibrated tractions for the Hybrid High-Order method. Comptes Rendus Mathematique, 2015, 353, 279-282.	0.1	6
64	Weighted interior penalty discretization of fully nonlinear and weakly dispersive free surface shallow water flows. Journal of Computational Physics, 2018, 355, 285-309.	1.9	6
65	An Introduction to Hybrid High-Order Methods. SEMA SIMAI Springer Series, 2018, , 75-128.	0.4	6
66	A discrete Weber inequality on three-dimensional hybrid spaces with application to the HHO approximation of magnetostatics. Mathematical Models and Methods in Applied Sciences, 2022, 32, 175-207.	1.7	6
67	Expression templates implementation of continuous and discontinuous Galerkin methods. Computing and Visualization in Science, 2009, 12, 421-436.	1.2	5
68	A compact cell-centered Galerkin method with subgrid stabilization. Comptes Rendus Mathematique, 2011, 349, 93-98.	0.1	5
69	Improved error estimates for Hybrid High-Order discretizations of Lerayâ€“Lions problems. Calcolo, 2021, 58, 1.	0.6	5
70	Numerical approximation of poroelasticity with random coefficients using Polynomial Chaos and Hybrid High-Order methods. Computer Methods in Applied Mechanics and Engineering, 2020, 361, 112736.	3.4	4
71	Towards robust, fast solutions of elliptic equations on complex domains through hybrid highâ€order discretizations and nonâ€nested multigrid methods. International Journal for Numerical Methods in Engineering, 2021, 122, 6576-6595.	1.5	4
72	A Hybrid High-Order Method for Multiple-Network Poroelasticity. SEMA SIMAI Springer Series, 2021, , 227-258.	0.4	4

#	Article	IF	Citations
73	Benchmark Session: The 2D Hybrid High-Order Method. Springer Proceedings in Mathematics and Statistics, 2017, , 91-106.	0.1	4
74	Lowest order methods for diffusive problems on general meshes: A unified approach to definition and implementation. Springer Proceedings in Mathematics, 2011, , 803-819.	0.5	4
75	Basic concepts to design a DSL for parallel finite volume applications. , 2009, , .		3
76	On the conservativity of cell-centered Galerkin methods. Comptes Rendus Mathematique, 2013, 351, 155-159.	0.1	3
77	An Arbitrary-Order Discontinuous Skeletal Method for Solving Electrostatics on General Polyhedral Meshes. IEEE Transactions on Magnetics, 2017, 53, 1-4.	1.2	3
78	Preface: Special Issue on Model Reduction. Journal of Scientific Computing, 2019, 81, 1-2.	1.1	3
79	A Nonconforming High-Order Method forÂNonlinear Poroelasticity. Springer Proceedings in Mathematics and Statistics, 2017, , 537-545.	0.1	2
80	Equilibrated Stress Reconstructions for Linear Elasticity Problems with Application to a Posteriori Error Analysis. Springer Proceedings in Mathematics and Statistics, 2017, , 293-301.	0.1	2
81	A Hybrid High-Order method for incompressible flows of non-Newtonian fluids with power-like convective behaviour. IMA Journal of Numerical Analysis, 2023, 43, 144-186.	1.5	2
82	A Hybrid High-Order Method forÂtheÂConvective Cahnâ€“Hilliard Problem inÂMixedÂForm. Springer Proceedings in Mathematics and Statistics, 2017, , 517-525.	0.1	1
83	A posteriori error estimates via equilibrated stress reconstructions for contact problems approximated by Nitsche's method. Computers and Mathematics With Applications, 2022, 111, 61-80.	1.4	1
84	Highâ€order multigrid strategies for hybrid highâ€order discretizations of elliptic equations. Numerical Linear Algebra With Applications, 2023, 30, .	0.9	1
85	An arbitrary-order discontinuous skeletal method for solving electrostatics on general polyhedral meshes. , 2016, , .		0
86	An Introduction to Recent Developments in Numerical Methods for Partial Differential Equations. SEMA SIMAI Springer Series, 2018, , 1-4.	0.4	0
87	Unsteady First-Order PDEs. MathÃ©matiques Et Applications, 2011, , 67-115.	0.6	0
88	Incompressible Flows. MathÃ©matiques Et Applications, 2011, , 241-291.	0.6	0
89	Linear Elasticity. Modeling, Simulation and Applications, 2020, , 325-379.	1.3	0
90	Navierâ€“Stokes. Modeling, Simulation and Applications, 2020, , 421-474.	1.3	0

#	Article	IF	Citations
91	Setting. Modeling, Simulation and Applications, 2020, , 3-44.	1.3	0
92	Basic Principles of Hybrid High-Order Methods: The Poisson Problem. Modeling, Simulation and Applications, 2020, , 45-81.	1.3	0
93	Stokes. Modeling, Simulation and Applications, 2020, , 381-420.	1.3	0
94	Complements on Pure Diffusion. Modeling, Simulation and Applications, 2020, , 147-184.	1.3	0
95	p-Laplacian and Lerayâ€“Lions. Modeling, Simulation and Applications, 2020, , 273-324.	1.3	0