Lourenco Beirao Da Veiga

List of Publications by Year
in descending order

137 papers	9,252 citations	47006 47 h-index	40979 93 g-index
146 all docs	146 docs citations	146 times ranked	1894 citing authors

#	Article	IF	Citations
1	Interpolation and stability properties of low-order face and edge virtual element spaces. IMA Journal of Numerical Analysis, 2023, 43, 828-851.	2.9	7
2	Virtual elements for Maxwell's equations. Computers and Mathematics With Applications, 2022, 116, 82-99.	2.7	20
3	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.	6.6	12
4	A virtual element method for the miscible displacement of incompressible fluids in porous media. Computer Methods in Applied Mechanics and Engineering, 2021, 375, 113649.	6.6	16
5	Equilibrium analysis of an immersed rigid leaflet by the virtual element method. Mathematical Models and Methods in Applied Sciences, 2021, 31, 1323-1372.	3.3	9
6	SUPG-stabilized virtual elements for diffusion-convection problems: a robustness analysis. ESAIM: Mathematical Modelling and Numerical Analysis, 2021, 55, 2233-2258.	1.9	4
7	Vorticity-stabilized virtual elements for the Oseen equation. Mathematical Models and Methods in Applied Sciences, 2021, 31, 3009-3052.	3.3	12
8	Recent results and perspectives for virtual element methods. Mathematical Models and Methods in Applied Sciences, 2021, 31, 2819-2824.	3.3	2
9	A C^1 Virtual Element Method on polyhedral meshes. Computers and Mathematics With Applications, 2020, 79, 1936-1955.	2.7	24
10	Curvilinear Virtual Elements for 2D solid mechanics applications. Computer Methods in Applied Mechanics and Engineering, 2020, 359, 112667.	6.6	34
11	An adaptive curved virtual element method for the statistical homogenization of random fibre-reinforced composites. Finite Elements in Analysis and Design, 2020, 177, 103418.	3.2	14
12	Curvilinear virtual elements for contact mechanics. Computer Methods in Applied Mechanics and Engineering, 2020, 372, 113394.	6.6	31
13	Polynomial preserving virtual elements with curved edges. Mathematical Models and Methods in Applied Sciences, 2020, 30, 1555-1590.	3.3	23
14	The Stokes complex for Virtual Elements in three dimensions. Mathematical Models and Methods in Applied Sciences, 2020, 30, 477-512.	3.3	42
15	A posteriori error estimation and adaptivity in hp virtual elements. Numerische Mathematik, 2019, 143, 139-175.	1.9	30
16	The Stokes Complex for Virtual Elements with Application to Navier–Stokes Flows. Journal of Scientific Computing, 2019, 81, 990-1018.	2.3	47
17	The Virtual Element Method with curved edges. ESAIM: Mathematical Modelling and Numerical Analysis, 2019, 53, 375-404.	1.9	76
18	A simple and effective gradient recovery scheme and a posteriori error estimator for the Virtual Element Method (VEM). Computer Methods in Applied Mechanics and Engineering, 2019, 347, 21-58.	6.6	35

#	Article	IF	Citations
19	Serendipity Virtual Elements for General Elliptic Equations in Three Dimensions. Chinese Annals of Mathematics Series B, 2018, 39, 315-334.	0.4	28
20	Lowest order Virtual Element approximation of magnetostatic problems. Computer Methods in Applied Mechanics and Engineering, 2018, 332, 343-362.	6.6	40
21	Exponential convergence of the hp virtual element method in presence of corner singularities. Numerische Mathematik, 2018, 138, 581-613.	1.9	35
22	Mixed isogeometric analysis of strongly coupled diffusion in porous materials. International Journal for Numerical Methods in Engineering, 2018, 114, 28-46.	2.8	20
23	Virtual elements for a shear-deflection formulation of Reissner–Mindlin plates. Mathematics of Computation, 2018, 88, 149-178.	2.1	36
24	A Family of Three-Dimensional Virtual Elements with Applications to Magnetostatics. SIAM Journal on Numerical Analysis, 2018, 56, 2940-2962.	2.3	42
25	Virtual Elements for the Navier--Stokes Problem on Polygonal Meshes. SIAM Journal on Numerical Analysis, 2018, 56, 1210-1242.	2.3	160
26	Some basic formulations of the virtual element method (VEM) for finite deformations. Computer Methods in Applied Mechanics and Engineering, 2017, 318, 148-192.	6.6	132
27	Divergence free virtual elements for the stokes problem on polygonal meshes. ESAIM: Mathematical Modelling and Numerical Analysis, 2017, 51, 509-535.	1.9	221
28	A virtual element method for the acoustic vibration problem. Numerische Mathematik, 2017, 136, 725-763.	1.9	51
29	High-order Virtual Element Method on polyhedral meshes. Computers and Mathematics With Applications, 2017, 74, 1110-1122.	2.7	118
30	Arbitrary order 2D virtual elements for polygonal meshes: part II, inelastic problem. Computational Mechanics, 2017, 60, 643-657.	4.0	73
31	Parallel Sum Primal Spaces for Isogeometric Deluxe BDDC Preconditioners. Lecture Notes in Computational Science and Engineering, 2017, , 17-29.	0.3	2
32	Virtual Element approximation of 2D magnetostatic problems. Computer Methods in Applied Mechanics and Engineering, 2017, 327, 173-195.	6.6	38
33	Adaptive Selection of Primal Constraints for Isogeometric BDDC Deluxe Preconditioners. SIAM Journal of Scientific Computing, 2017, 39, A281-A302.	2.8	35
34	Arbitrary order 2D virtual elements for polygonal meshes: part I, elastic problem. Computational Mechanics, 2017, 60, 355-377.	4.0	111
35	Stability analysis for the virtual element method. Mathematical Models and Methods in Applied Sciences, 2017, 27, 2557-2594.	3.3	205
36	Serendipity face and edge VEM spaces. Atti Della Accademia Nazionale Dei Lincei, Classe Di Scienze Fisiche, Matematiche E Naturali, Rendiconti Lincei Matematica E Applicazioni, 2017, 28, 143-180.	0.6	8

#	Article	IF	Citations
37	Mimetic finite difference methods for Hamiltonian wave equations in 2D. Computers and Mathematics With Applications, 2017, 74, 1123-1141.	2.7	23
38	An Introduction to the Numerical Analysis of Isogeometric Methods. SEMA SIMAI Springer Series, 2016, , 3-69.	0.7	2
39	Mixed virtual element methods for general second order elliptic problems on polygonal meshes. ESAIM: Mathematical Modelling and Numerical Analysis, 2016, 50, 727-747.	1.9	144
40	Serendipity Nodal VEM spaces. Computers and Fluids, 2016, 141, 2-12.	2.5	69
41	Virtual Element Implementation for General Elliptic Equations. Lecture Notes in Computational Science and Engineering, 2016, , 39-71.	0.3	16
42	A C^1 Virtual Element Method for the Cahn--Hilliard Equation with Polygonal Meshes. SIAM Journal on Numerical Analysis, 2016, 54, 34-56.	2.3	171
43	$$H(\text{div})$$ H (div) and $$H(\mathbf{curl})$$ H (curl) -conforming virtual element methods. Numerische Mathematik, 2016, 133, 303-332.	1.9	106
44	Virtual Element Method for general second-order elliptic problems on polygonal meshes. Mathematical Models and Methods in Applied Sciences, 2016, 26, 729-750.	3.3	260
45	Isogeometric collocation mixed methods for rods. Discrete and Continuous Dynamical Systems - Series S, 2016, 9, 33-42.	1.1	4
46	BDDC Deluxe for Isogeometric Analysis. Lecture Notes in Computational Science and Engineering, 2016, , 15-28.	0.3	0
47	An Introduction to the Numerical Analysis of Isogeometric Methods. Lecture Notes in Mathematics, 2016, , 87-154.	0.2	0
48	Residual<i>a posteriori</i>error estimation for the Virtual Element Method for elliptic problems. ESAIM: Mathematical Modelling and Numerical Analysis, 2015, 49, 577-599.	1.9	84
49	Post processing of solution and flux for the nodal mimetic finite difference method. Numerical Methods for Partial Differential Equations, 2015, 31, 336-363.	3.6	16
50	Virtual element methods for parabolic problems on polygonal meshes. Numerical Methods for Partial Differential Equations, 2015, 31, 2110-2134.	3.6	132
51	Approximation estimates for isogeometric spaces in multipatch geometries. Numerical Methods for Partial Differential Equations, 2015, 31, 422-438.	3.6	19
52	A Virtual Element Method for elastic and inelastic problems on polytope meshes. Computer Methods in Applied Mechanics and Engineering, 2015, 295, 327-346.	6.6	198
53	A locking-free model for Reissnerâ€"Mindlin plates: Analysis and isogeometric implementation via NURBS and triangular NURPS. Mathematical Models and Methods in Applied Sciences, 2015, 25, 1519-1551.	3.3	64
54	Isogeometric collocation methods for the Reissnerâ€"Mindlin plate problem. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 489-507.	6.6	68

#	Article	IF	Citations
55	The Hitchhiker's Guide to the Virtual Element Method. Mathematical Models and Methods in Applied Sciences, 2014, 24, 1541-1573.	3.3	502
56	Mimetic finite differences for nonlinear and control problems. Mathematical Models and Methods in Applied Sciences, 2014, 24, 1457-1493.	3.3	19
57	Mathematical analysis of variational isogeometric methods. Acta Numerica, 2014, 23, 157-287.	10.7	210
58	Isogeometric BDDC Preconditioners with Deluxe Scaling. SIAM Journal of Scientific Computing, 2014, 36, A1118-A1139.	2.8	66
59	A Stream Virtual Element Formulation of the Stokes Problem on Polygonal Meshes. SIAM Journal on Numerical Analysis, 2014, 52, 386-404.	2.3	195
60	A virtual element method with arbitrary regularity. IMA Journal of Numerical Analysis, 2014, 34, 759-781.	2.9	105
61	Overlapping Schwarz preconditioners for isogeometric collocation methods. Computer Methods in Applied Mechanics and Engineering, 2014, 278, 239-253.	6.6	16
62	The Mimetic Finite Difference Method for Elliptic Problems. , 2014, , .		91
63	Diffusion problem on generalized polyhedral meshes. , 2014, , 339-370.		0
64	The diffusion problem in primal form. , 2014, , 155-195.		0
65	Mimetic inner products and reconstruction operators. , 2014, , 67-89.		0
66	The diffusion problem in mixed form. , 2014, , 117-154.		0
67	Dual Compatible Splines on Nontensor Product Meshes. Springer Proceedings in Mathematics and Statistics, 2014, , 15-26.	0.2	0
68	Mimetic discretization of bilinear forms. , 2014, , 91-113.		0
69	Elasticity and plates. , 2014, , 263-287.		0
70	The Stokes problem. , 2014, , 221-260.		0
71	Foundations of mimetic finite difference method. , 2014, , 41-65.		0
72	Numerical analysis of a locking–free mixed finite element method for a bending moment formulation of Reissner–Mindlin plate model. Numerical Methods for Partial Differential Equations, 2013, 29, 40-63.	3.6	12

#	Article	IF	Citations
73	Locking-free isogeometric collocation methods for spatial Timoshenko rods. Computer Methods in Applied Mechanics and Engineering, 2013, 263, 113-126.	6.6	114
74	ANALYSIS-SUITABLE T-SPLINES OF ARBITRARY DEGREE: DEFINITION, LINEAR INDEPENDENCE AND APPROXIMATION PROPERTIES. Mathematical Models and Methods in Applied Sciences, 2013, 23, 1979-2003.	3.3	87
75	Approximation of incompressible large deformation elastic problems: some unresolved issues. Computational Mechanics, 2013, 52, 1153-1167.	4.0	55
76	Hierarchical A Posteriori Error Estimators for the Mimetic Discretization of Elliptic Problems. SIAM Journal on Numerical Analysis, 2013, 51, 654-675.	2.3	29
77	A Posteriori Error Analysis for the Postprocessed MITC Plate Elements. SIAM Journal on Numerical Analysis, 2013, 51, 1-23.	2.3	10
78	Virtual Elements for Linear Elasticity Problems. SIAM Journal on Numerical Analysis, 2013, 51, 794-812.	2.3	405
79	Isogeometric Schwarz preconditioners for linear elasticity systems. Computer Methods in Applied Mechanics and Engineering, 2013, 253, 439-454.	6.6	40
80	Numerical results for mimetic discretization of Reissner–Mindlin plate problems. Calcolo, 2013, 50, 209-237.	1.1	7
81	BDDC PRECONDITIONERS FOR ISOGEOMETRIC ANALYSIS. Mathematical Models and Methods in Applied Sciences, 2013, 23, 1099-1142.	3.3	74
82	BASIC PRINCIPLES OF VIRTUAL ELEMENT METHODS. Mathematical Models and Methods in Applied Sciences, 2013, 23, 199-214.	3.3	936
83	A mimetic discretization of elliptic obstacle problems. Mathematics of Computation, 2013, 82, 1379-1400.	2.1	27
84	Quasi-optimality of BDDC Methods for MITC Reissner-Mindlin Problems. Lecture Notes in Computational Science and Engineering, 2013, , 639-646.	0.3	0
85	Isogeometric collocation for elastostatics and explicit dynamics. Computer Methods in Applied Mechanics and Engineering, 2012, 249-252, 2-14.	6.6	171
86	Overlapping Schwarz Methods for Isogeometric Analysis. SIAM Journal on Numerical Analysis, 2012, 50, 1394-1416.	2.3	76
87	Analysis-Suitable T-splines are Dual-Compatible. Computer Methods in Applied Mechanics and Engineering, 2012, 249-252, 42-51.	6.6	74
88	Avoiding shear locking for the Timoshenko beam problem via isogeometric collocation methods. Computer Methods in Applied Mechanics and Engineering, 2012, 241-244, 38-51.	6.6	120
89	An isogeometric method for the Reissner–Mindlin plate bending problem. Computer Methods in Applied Mechanics and Engineering, 2012, 209-212, 45-53.	6.6	86
90	Anisotropic NURBS approximation in isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2012, 209-212, 1-11.	6.6	53

#	Article	IF	Citations
91	BDDC preconditioners for Naghdi shell problems and MITC9 elements. Computers and Structures, 2012, 102-103, 28-41.	4.4	3
92	A posteriori boundary control for FEM approximation of elliptic eigenvalue problems. Numerical Methods for Partial Differential Equations, 2012, 28, 369-388.	3.6	2
93	A New Integration Algorithm for the von-Mises Elasto-Plastic Model. Lecture Notes in Applied and Computational Mechanics, 2012, , 233-258.	2.2	0
94	Arbitrary-Order Nodal Mimetic Discretizations of Elliptic Problems on Polygonal Meshes. SIAM Journal on Numerical Analysis, 2011, 49, 1737-1760.	2.3	95
95	Some estimates for h–p–k-refinement in Isogeometric Analysis. Numerische Mathematik, 2011, 118, 271-305.	1.9	159
96	A mimetic discretization of the Reissner–Mindlin plate bending problem. Numerische Mathematik, 2011, 117, 425-462.	1.9	22
97	IsoGeometric analysis using T-splines on two-patch geometries. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 1787-1803.	6.6	54
98	<i>A posteriori</i> error analysis for the Morley plate element with general boundary conditions. International Journal for Numerical Methods in Engineering, 2010, 83, 1-26.	2.8	22
99	The importance of the exact satisfaction of the incompressibility constraint in nonlinear elasticity: mixed FEMs versus NURBS-based approximations. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 314-323.	6.6	89
100	ISOGEOMETRIC COLLOCATION METHODS. Mathematical Models and Methods in Applied Sciences, 2010, 20, 2075-2107.	3.3	308
101	A mimetic discretization method for linear elasticity. ESAIM: Mathematical Modelling and Numerical Analysis, 2010, 44, 231-250.	1.9	49
102	Error Analysis for a Mimetic Discretization of the Steady Stokes Problem on Polyhedral Meshes. SIAM Journal on Numerical Analysis, 2010, 48, 1419-1443.	2.3	41
103	Robust BDDC Preconditioners for Reissner–Mindlin Plate Bending Problems and MITC Elements. SIAM Journal on Numerical Analysis, 2010, 47, 4214-4238.	2.3	25
104	A Mimetic Discretization of the Stokes Problem with Selected Edge Bubbles. SIAM Journal of Scientific Computing, 2010, 32, 875-893.	2.8	47
105	On the asymptotic behaviour of shells of revolution in free vibration. Computational Mechanics, 2009, 44, 45-60.	4.0	17
106	Convergence analysis of the high-order mimetic finite difference method. Numerische Mathematik, 2009, 113, 325-356.	1.9	54
107	Mimetic finite difference method for the Stokes problem on polygonal meshes. Journal of Computational Physics, 2009, 228, 7215-7232.	3.8	77
108	Stability of Some Finite Element Methods for Finite Elasticity Problems. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2009, , 179-206.	0.6	1

#	Article	IF	Citations
109	Free vibrations for some Koiter shells of revolution. Applied Mathematics Letters, 2008, 21, 1245-1248.	2.7	10
110	A-priori and a-posteriori error analysis for a family of Reissner–Mindlin plate elements. BIT Numerical Mathematics, 2008, 48, 189-213.	2.0	12
111	A residual based error estimator for the Mimetic Finite Difference method. Numerische Mathematik, 2008, 108, 387-406.	1.9	44
112	An <i>a posteriori</i> error estimator for the mimetic finite difference approximation of elliptic problems. International Journal for Numerical Methods in Engineering, 2008, 76, 1696-1723.	2.8	44
113	A family of C0 finite elements for Kirchhoff plates II: Numerical results. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 1850-1864.	6.6	20
114	A Higher-Order Formulation of the Mimetic Finite Difference Method. SIAM Journal of Scientific Computing, 2008, 31, 732-760.	2.8	49
115	ASYMPTOTIC AND NUMERICAL ANALYSIS OF THE EIGENVALUE PROBLEM FOR A CLAMPED CYLINDRICAL SHELL. Mathematical Models and Methods in Applied Sciences, 2008, 18, 1983-2002.	3.3	14
116	AN INTERPOLATION THEORY APPROACH TO SHELL EIGENVALUE PROBLEMS. Mathematical Models and Methods in Applied Sciences, 2008, 18, 2003-2018.	3.3	11
117	A Family of ${C}^0$ Finite Elements For Kirchhoff Plates I: Error Analysis. SIAM Journal on Numerical Analysis, 2007, 45, 2047-2071.	2.3	30
118	Generalized midpoint integration algorithms forJ2 plasticity with linear hardening. International Journal for Numerical Methods in Engineering, 2007, 72, 422-463.	2.8	16
119	Second-order accurate integration algorithms for von-Mises plasticity with a nonlinear kinematic hardening mechanism. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 1827-1846.	6.6	47
120	A fully "locking-free" isogeometric approach for plane linear elasticity problems: A stream function formulation. Computer Methods in Applied Mechanics and Engineering, 2007, 197, 160-172.	6.6	199
121	Towards improving the MITC6 triangular shell element. Computers and Structures, 2007, 85, 1589-1610.	4.4	23
122	A posteriori error estimates for the Morley plate bending element. Numerische Mathematik, 2007, 106, 165-179.	1.9	57
123	ISOGEOMETRIC ANALYSIS: APPROXIMATION, STABILITY AND ERROR ESTIMATES FOR h-REFINED MESHES. Mathematical Models and Methods in Applied Sciences, 2006, 16, 1031-1090.	3.3	556
124	Positive definite balancing Neumann–Neumann preconditioners for nearly incompressible elasticity. Numerische Mathematik, 2006, 104, 271-296.	1.9	17
125	A novel "optimal" exponential-based integration algorithm for von-Mises plasticity with linear hardening: Theoretical analysis on yield consistency, accuracy, convergence and numerical investigations. International Journal for Numerical Methods in Engineering, 2006, 67, 449-498.	2.8	40
126	Numerical Testing on Return Map Algorithms for von-Mises Plasticity with Nonlinear Hardening based on a Generalized Midpoint Integration Scheme. , 2006, , 55-55.		0

#	Article	IF	Citations
127	A stability study of some mixed finite elements for large deformation elasticity problems. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 1075-1092.	6.6	47
128	An analysis of some mixed-enhanced finite element for plane linear elasticity. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 2947-2968.	6.6	43
129	Integration schemes for von-Mises plasticity models based on exponential maps: numerical investigations and theoretical considerations. International Journal for Numerical Methods in Engineering, 2005, 64, 1133-1165.	2.8	24
130	Asymptotic study of the solution for pinched cylindrical shells. Computer Methods in Applied Mechanics and Engineering, 2005, 194, 1113-1139.	6.6	7
131	Optimal error bounds for the MITC4 plate bending element. Calcolo, 2004, 41, 227-245.	1.1	4
132	Uniform error estimates for a class of intermediate cylindrical shell problems. Numerische Mathematik, 2004, 96, 661-689.	1.9	6
133	Numerical evaluation of the asymptotic energy behavior of intermediate shells with application to two classical benchmark tests. Computers and Structures, 2004, 82, 525-534.	4.4	7
134	Finite Element Methods for a Modified Reissner--Mindlin Free Plate Model. SIAM Journal on Numerical Analysis, 2004, 42, 1572-1591.	2.3	20
135	On a new integration scheme for von-Mises plasticity with linear hardening. International Journal for Numerical Methods in Engineering, 2003, 56, 1375-1396.	2.8	49
136	Asymptotic Energy Behavior of Two Classical Intermediate Benchmark Shell Problems. Mathematical Models and Methods in Applied Sciences, 2003, 13, 1279-1302.	3.3	9
137	Remarks on the asymptotic behaviour of Koiter shells. Computers and Structures, 2002, 80, 735-745.	4.4	11