

Joaquim Peiro

List of Publications by Year in descending order

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100
papers

4,499
citations

136950

32
h-index

110387

64
g-index

104
all docs

104
docs citations

104
times ranked

2594
citing authors

#	ARTICLE	IF	CITATIONS
1	Reducing errors caused by geometrical inaccuracy to solve partial differential equations with moving frames on curvilinear domain. Computer Methods in Applied Mechanics and Engineering, 2022, 398, 115261.	6.6	1
2	Nektar++: Design and implementation of an implicit, spectral/ h - p element, compressible flow solver using a Jacobian-free Newton Krylov approach. Computers and Mathematics With Applications, 2021, 81, 351-372.	2.7	15
3	Smooth particle hydrodynamics simulations of long-duration violent three-dimensional sloshing in tanks. Ocean Engineering, 2021, 229, 108925.	4.3	20
4	Industry-Relevant Implicit Large-Eddy Simulation of a High-Performance Road Car via Spectral/ hp -Element Methods. SIAM Review, 2021, 63, 723-755.	9.5	18
5	Spatial eigenanalysis of spectral/ hp continuous Galerkin schemes and their stabilisation via DG-mimicking spectral vanishing viscosity for high Reynolds number flows. Journal of Computational Physics, 2020, 406, 109112.	3.8	22
6	Nektar++: Enhancing the capability and application of high-fidelity spectral/ h - p element methods. Computer Physics Communications, 2020, 249, 107110.	7.5	82
7	hp -adaptation for compressible flows. International Journal for Numerical Methods in Engineering, 2020, 121, 5405-5425.	2.8	6
8	A comparison of the shared-memory parallel programming models OpenMP, OpenACC and Kokkos in the context of implicit solvers for high-order FEM. Computer Physics Communications, 2020, 255, 107245.	7.5	14
9	Unexpected Oscillations in Fire Modelling Inside a Long Tunnel. Fire Technology, 2020, 56, 1937-1941.	3.0	2
10	A high resolution PDE approach to quadrilateral mesh generation. Journal of Computational Physics, 2019, 399, 108918.	3.8	4
11	A smoothed particle hydrodynamics numerical scheme with a consistent diffusion term for the continuity equation. Computers and Fluids, 2019, 179, 632-644.	2.5	30
12	Towards a performance-portable high-order implicit flow solver. , 2019, , .		0
13	A semi-structured approach to curvilinear mesh generation around streamlined bodies. , 2019, , .		2
14	Accelerating high-order mesh optimisation with an architecture-independent programming model. Computer Physics Communications, 2018, 229, 36-53.	7.5	9
15	High-order curvilinear hybrid mesh generation for CFD simulations. , 2018, , .		2
16	Spatial eigensolution analysis of discontinuous Galerkin schemes with practical insights for under-resolved computations and implicit LES. Computers and Fluids, 2018, 169, 349-364.	2.5	39
17	Curvilinear mesh generation using a variational framework. CAD Computer Aided Design, 2018, 103, 73-91.	2.7	38
18	A comparative study on polynomial dealiasing and split form discontinuous Galerkin schemes for under-resolved turbulence computations. Journal of Computational Physics, 2018, 372, 1-21.	3.8	69

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19	Long duration SPH simulations of sloshing in tanks with a low fill ratio and high stretching. Computers and Fluids, 2018, 174, 179-199.	2.5	52
20	A p-adaptation method for compressible flow problems using a goal-based error indicator. Computers and Structures, 2017, 181, 55-69.	4.4	11
21	Poststall Airfoil Performance and Vertical-Axis Wind Turbines. Journal of Propulsion and Power, 2017, 33, 1053-1062.	2.2	4
22	Towards p-Adaptive Spectral/hp Element Methods for Modelling Industrial Flows. Lecture Notes in Computational Science and Engineering, 2017, , 63-79.	0.3	3
23	An LES Setting for DG-Based Implicit LES with Insights on Dissipation and Robustness. Lecture Notes in Computational Science and Engineering, 2017, , 161-173.	0.3	7
24	On the eddy-resolving capability of high-order discontinuous Galerkin approaches to implicit LES / under-resolved DNS of Euler turbulence. Journal of Computational Physics, 2017, 330, 615-623.	3.8	105
25	A framework for the generation of high-order curvilinear hybrid meshes for CFD simulations. Procedia Engineering, 2017, 203, 206-218.	1.2	8
26	A Variational Framework for High-order Mesh Generation. Procedia Engineering, 2016, 163, 340-352.	1.2	16
27	An Experimental and Numerical Assessment of Airfoil Polars for Use in Darrieus Wind Turbinesâ€”Part II: Post-stall Data Extrapolation Methods. Journal of Engineering for Gas Turbines and Power, 2016, 138, .	1.1	21
28	An Experimental and Numerical Assessment of Airfoil Polars for Use in Darrieus Wind Turbinesâ€”Part I: Flow Curvature Effects. Journal of Engineering for Gas Turbines and Power, 2016, 138, .	1.1	33
29	Eigensolution analysis of spectral/hp continuous Galerkin approximations to advectionâ€”diffusion problems: Insights into spectral vanishing viscosity. Journal of Computational Physics, 2016, 307, 401-422.	3.8	53
30	Simulating longitudinal ventilation flows in long tunnels: Comparison of full CFD and multi-scale modelling approaches in FDS6. Tunnelling and Underground Space Technology, 2016, 52, 119-126.	6.2	54
31	High-order curvilinear meshing using a thermo-elastic analogy. CAD Computer Aided Design, 2016, 72, 130-139.	2.7	49
32	AUTOMATIC GENERATION OF 3D UNSTRUCTURED HIGH-ORDER CURVILINEAR MESHE. , 2016, , .		5
33	An Experimental and Numerical Assessment of Airfoil Polars for Use in Darrieus Wind Turbines: Part 1 â€” Flow Curvature Effects. , 2015, , .		9
34	Curvilinear Mesh Generation for Boundary Layer Problems. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2015, , 41-64.	0.3	4
35	High-Order Visualization with ELVis. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2015, , 521-534.	0.3	4
36	Blockage-tolerant wind tunnel measurements for a NACA 0012 at high angles of attack. Journal of Wind Engineering and Industrial Aerodynamics, 2015, 145, 209-218.	3.9	16

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37	On the Generation of Curvilinear Meshes Through Subdivision of Isoparametric Elements. SEMA SIMAI Springer Series, 2015, , 203-215.	0.7	4
38	Linear dispersionâ€“diffusion analysis and its application to under-resolved turbulence simulations using discontinuous Galerkin spectral/hp methods. Journal of Computational Physics, 2015, 298, 695-710.	3.8	117
39	On the influence of virtual camber effect on airfoil polars for use in simulations of Darrieus wind turbines. Energy Conversion and Management, 2015, 106, 373-384.	9.2	86
40	Vertical-Axis Wind Turbine Start-Up Modelled with a High-Order Numerical Solver. Springer Tracts in Mechanical Engineering, 2015, , 37-48.	0.3	0
41	An isoparametric approach to high-order curvilinear boundary-layer meshing. Computer Methods in Applied Mechanics and Engineering, 2015, 283, 636-650.	6.6	56
42	Modified Equation Analysis for the Discontinuous Galerkin Formulation. Lecture Notes in Computational Science and Engineering, 2015, , 375-383.	0.3	4
43	A Level Set Method for the Construction of Boundary Conforming Voronoi Regions and Delaunay Triangulations Governed by a Spatial Distribution of Metrics. Journal of Computing and Information Science in Engineering, 2014, 14, .	2.7	0
44	A Thermo-elastic Analogy for High-order Curvilinear Meshing with Control of Mesh Validity and Quality. Procedia Engineering, 2014, 82, 127-135.	1.2	22
45	On the treatment of transient area variation in 1D discontinuous Galerkin simulations of trainâ€“induced pressure waves in tunnels. International Journal for Numerical Methods in Fluids, 2013, 71, 151-174.	1.6	4
46	Physical determining factors of the arterial pulse waveform: theoretical analysis and calculation using the 1-D formulation. Journal of Engineering Mathematics, 2012, 77, 19-37.	1.2	58
47	A Reparameterisation Based Approach to Geodesic Constrained Solvers for Curve Matching. International Journal of Computer Vision, 2012, 99, 103-121.	15.6	9
48	Impact of the Fibre Bed on Resin Viscosity in Liquid Composite Moulding Simulations. Applied Composite Materials, 2012, 19, 669-688.	2.5	2
49	Pulse wave propagation in a model human arterial network: Assessment of 1-D visco-elastic simulations against in vitro measurements. Journal of Biomechanics, 2011, 44, 2250-2258.	2.1	277
50	Assessment of added mass effects on flutter boundaries using the Leishmanâ€“Beddoes dynamic stall model. Journal of Fluids and Structures, 2010, 26, 814-840.	3.4	12
51	On the segmentation of vascular geometries from medical images. International Journal for Numerical Methods in Biomedical Engineering, 2010, 26, 3-34.	2.1	26
52	Camber effects in the dynamic aeroelasticity of compliant airfoils. Journal of Fluids and Structures, 2010, 26, 527-543.	3.4	33
53	Effect of differential compression on in-plane permeability tensor of heterogeneous multilayer carbon fibre preforms. Plastics, Rubber and Composites, 2009, 38, 1-9.	2.0	6
54	A free-surface and blockage correction for tidal turbines. Journal of Fluid Mechanics, 2009, 624, 281-291.	3.4	181

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55	Analysing the pattern of pulse waves in arterial networks: a time-domain study. <i>Journal of Engineering Mathematics</i> , 2009, 64, 331-351.	1.2	88
56	Modelling pulse wave propagation in the rabbit systemic circulation to assess the effects of altered nitric oxide synthesis. <i>Journal of Biomechanics</i> , 2009, 42, 2116-2123.	2.1	23
57	Reduced models of the cardiovascular system. , 2009, , 347-394.		25
58	From image data to computational domains. , 2009, , 123-175.		2
59	Automatic reconstruction of a patient-specific high-order surface representation and its application to mesh generation for CFD calculations. <i>Medical and Biological Engineering and Computing</i> , 2008, 46, 1069-1083.	2.8	14
60	Reduced modelling of blood flow in the cerebral circulation: Coupling 1D, 0D and cerebral autoregulation models. <i>International Journal for Numerical Methods in Fluids</i> , 2008, 56, 1061-1067.	1.6	95
61	Reconstruction of shape and its effect on flow in arterial conduits. <i>International Journal for Numerical Methods in Fluids</i> , 2008, 57, 495-517.	1.6	20
62	An assessment of some effects of the nonsmoothness of the Leishman-Beddoes dynamic stall model on the nonlinear dynamics of a typical aerofoil section. <i>Journal of Fluids and Structures</i> , 2008, 24, 151-163.	3.4	25
63	Remarks on the nonlinear dynamics of a typical aerofoil section in dynamic stall. <i>Aeronautical Journal</i> , 2007, 111, 731-739.	1.6	5
64	Shape reconstruction from medical images and quality mesh generation via implicit surfaces. <i>International Journal for Numerical Methods in Fluids</i> , 2007, 53, 1339-1360.	1.6	18
65	Modelling the circle of Willis to assess the effects of anatomical variations and occlusions on cerebral flows. <i>Journal of Biomechanics</i> , 2007, 40, 1794-1805.	2.1	356
66	Pulse wave propagation in a model human arterial network: Assessment of 1-D numerical simulations against in vitro measurements. <i>Journal of Biomechanics</i> , 2007, 40, 3476-3486.	2.1	223
67	On 2D elliptic discontinuous Galerkin methods. <i>International Journal for Numerical Methods in Engineering</i> , 2006, 65, 752-784.	2.8	34
68	Can the modified Allen's test always detect sufficient collateral flow in the hand? A computational study. <i>Computer Methods in Biomechanics and Biomedical Engineering</i> , 2006, 9, 353-361.	1.6	23
69	Local and Global Geometric Influence on Steady Flow in Distal Anastomoses of Peripheral Bypass Grafts. <i>Journal of Biomechanical Engineering</i> , 2005, 127, 1087-1098.	1.3	43
70	Automated classification of peripheral distal by-pass geometries reconstructed from medical data. <i>Journal of Biomechanics</i> , 2005, 38, 47-62.	2.1	27
71	One-dimensional modelling of a vascular network in space-time variables. <i>Journal of Engineering Mathematics</i> , 2003, 47, 217-250.	1.2	348
72	Computational modelling of 1D blood flow with variable mechanical properties and its application to the simulation of wave propagation in the human arterial system. <i>International Journal for Numerical Methods in Fluids</i> , 2003, 43, 673-700.	1.6	246

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73	On discontinuous Galerkin methods. International Journal for Numerical Methods in Engineering, 2003, 58, 1119-1148.	2.8	76
74	Three-dimensional reconstruction of autologous vein bypass graft distal anastomoses imaged with magnetic resonance: clinical and research applications. Journal of Vascular Surgery, 2003, 38, 621-625.	1.1	13
75	Vortical Flow Structure Identification and Flow Transport in Arteries. Computer Methods in Biomechanics and Biomedical Engineering, 2002, 5, 261-273.	1.6	26
76	Mesh generation in curvilinear domains using high-order elements. International Journal for Numerical Methods in Engineering, 2002, 53, 207-223.	2.8	130
77	High-order algorithms for vascular flow modelling. International Journal for Numerical Methods in Fluids, 2002, 40, 137-151.	1.6	19
78	Unsteady near wall residence times and shear exposure in model distal arterial bypass grafts. Biorheology, 2002, 39, 365-71.	0.4	4
79	The geometry of unstented and stented pig common carotid artery bypass grafts. Biorheology, 2002, 39, 507-12.	0.4	11
80	Combined MR imaging and numerical simulation of flow in realistic arterial bypass graft models. Biorheology, 2002, 39, 525-31.	0.4	23
81	Nonlinear Particle Tracking for High-Order Elements. Journal of Computational Physics, 2001, 172, 356-386.	3.8	33
82	The Influence of Out-of-Plane Geometry on the Flow Within a Distal End-to-Side Anastomosis. Journal of Biomechanical Engineering, 2000, 122, 86-95.	1.3	79
83	Computational haemodynamics: geometry and non-newtonian modelling using spectral/hp element methods. Computing and Visualization in Science, 2000, 3, 77-83.	1.2	3
84	Supervised Evolutionary Methods in Aerodynamic Design Optimisation. Lecture Notes in Computer Science, 2000, , 360-369.	1.3	0
85	Design optimisation using distributed evolutionary methods. , 1999, , .		10
86	FINITE-ELEMENT MULTIGRID SCHEME FOR THE NAVIER-STOKES SOLUTIONS, PART I: NEW UNSTRUCTURED MESH GENERATION BASED ON CONTOURS REFINEMENT. Numerical Heat Transfer, Part B: Fundamentals, 1998, 34, 61-80.	0.9	3
87	FINITE-ELEMENT MULTIGRID SCHEME FOR THE NAVIER-STOKES SOLUTIONS, PART II: FORMULATION AND VALIDATION. Numerical Heat Transfer, Part B: Fundamentals, 1998, 34, 81-101.	0.9	1
88	Advancing Front Grid Generation. , 1998, , .		16
89	Surface Grid Generation. , 1998, , .		7
90	Distributed evolutionary computational methods for multiobjective and multidisciplinary optimization. , 1998, , .		3

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91	Optimisation of aerodynamic and coupled aerodynamic-structural design using parallel Genetic Algorithms. , 1996, , .		11
92	TVD algorithms for the solution of the compressible Euler equations on unstructured meshes. International Journal for Numerical Methods in Fluids, 1994, 19, 827-847.	1.6	39
93	Multigrid solution of the 3-D compressible euler equations on unstructured tetrahedral grids. International Journal for Numerical Methods in Engineering, 1993, 36, 1029-1044.	2.8	54
94	A 3D finite element multigrid solver for the Euler equations. , 1992, , .		69
95	Adaptive remeshing for three-dimensional compressible flow computations. Journal of Computational Physics, 1992, 103, 269-285.	3.8	154
96	Adaptive mesh refinement for faceted shells. Communications in Applied Numerical Methods, 1992, 8, 319-329.	0.5	7
97	The computation of three-dimensional flows using unstructured grids. Computer Methods in Applied Mechanics and Engineering, 1991, 87, 335-352.	6.6	68
98	The Computation of Aerodynamic Flows Using Unstructured Meshes. , 1991, , 452-464.		0
99	Applications of an adaptive unstructured solution algorithm to the analysis of high speed flows. , 1990, , .		11
100	Finite element Euler computations in three dimensions. International Journal for Numerical Methods in Engineering, 1988, 26, 2135-2159.	2.8	286