TomÃ¡s ChacÃ³n Rebollo

List of Publications by Year
in descending order

103 papers	967 citations	566801 15 h-index	525886 27 g-index
109 all docs	109 docs citations	109 times ranked	580 citing authors

#	Article	IF	Citations
1	A Review of Variational Multiscale Methods for the Simulation of Turbulent Incompressible Flows. Archives of Computational Methods in Engineering, 2017, 24, 115-164.	6.0	66
2	A family of stable numerical solvers for the shallow water equations with source terms. Computer Methods in Applied Mechanics and Engineering, 2003, 192, 203-225.	3.4	62
3	Mathematical and Numerical Foundations of Turbulence Models and Applications. Modeling and Simulation in Science, Engineering and Technology, 2014, , .	0.4	56
4	Mortar finite element discretization of a model coupling Darcy and Stokes equations. ESAIM: Mathematical Modelling and Numerical Analysis, 2008, 42, 375-410.	0.8	51
5	A term by term stabilization algorithm for finite element solution of incompressible flow problems. Numerische Mathematik, 1998, 79, 283-319.	0.9	45
6	On Wellâ€Balanced Finite Volume Methods for Nonconservative Nonhomogeneous Hyperbolic Systems. SIAM Journal of Scientific Computing, 2007, 29, 1093-1126.	1.3	41
7	On a Certified Smagorinsky Reduced Basis Turbulence Model. SIAM Journal on Numerical Analysis, 2017, 55, 3047-3067.	1.1	37
8	Finite elements approximation of second order linear elliptic equations in divergence form with right-hand side in L 1. Numerische Mathematik, 2006, 105, 337-374.	0.9	36
9	Computational Modeling of Gurney Flaps and Microtabs by POD Method. Energies, 2018, 11, 2091.	1.6	33
10	A high order term-by-term stabilization solver for incompressible flow problems. IMA Journal of Numerical Analysis, 2013, 33, 974-1007.	1.5	32
11	A Multilayer Method for the Hydrostatic Navier-Stokes Equations: A Particular Weak Solution. Journal of Scientific Computing, 2014, 60, 408-437.	1.1	28
12	Asymptotically balanced schemes for non-homogeneous hyperbolic systems â€“ application to the Shallow Water equations. Comptes Rendus Mathematique, 2004, 338, 85-90.	0.1	26
13	A Model for Two Coupled Turbulent Fluids Part II: Numerical Analysis of a Spectral Discretization. SIAM Journal on Numerical Analysis, 2002, 40, 2368-2394.	1.1	21
14	An intrinsic analysis of existence of solutions for the hydrostatic approximation of Navierâ€“Stokes equations. Comptes Rendus Mathematique, 2000, 330, 841-846.	0.5	19
15	Numerical analysis of a finite element projection-based VMS turbulence model with wall laws. Computer Methods in Applied Mechanics and Engineering, 2015, 285, 379-405.	3.4	17
16	A flux-splitting solver for shallow water equations with source terms. International Journal for Numerical Methods in Fluids, 2003, 42, 23-55.	0.9	15
17	Well-balanced finite volume schemes for 2D non-homogeneous hyperbolic systems. Application to the dam break of AznalcÃ³llar. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 3932-3950.	3.4	15
18	An entropy-correction free solver for non-homogeneous shallow water equations. ESAIM: Mathematical Modelling and Numerical Analysis, 2003, 37, 755-772.	0.8	14

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19	A model for two coupled turbulent fluids Part III: Numerical approximation by finite elements. Numerische Mathematik, 2004, 98, 33-66.	0.9	14
20	Analysis of a Coupled Fluid-Structure Model with Applications to Hemodynamics. SIAM Journal on Numerical Analysis, 2016, 54, 994-1019.	1.1	14
21	A High-Order Local Projection Stabilization Method for Natural Convection Problems. Journal of Scientific Computing, 2018, 74, 667-692.	1.1	14
22	An analysis technique for stabilized finite element solution of incompressible flows. ESAIM: Mathematical Modelling and Numerical Analysis, 2001, 35, 57-89.	0.8	13
23	Oscillations Due to the Transport of Microstructures. SIAM Journal on Applied Mathematics, 1988, 48, 1128-1146.	0.8	12
24	Study of a non-overlapping domain decomposition method: Poisson and Stokes problems. Applied Numerical Mathematics, 2004, 48, 169-194.	1.2	12
25	AUTOMATIC INSERTION OF A TURBULENCE MODEL IN THE FINITE ELEMENT DISCRETIZATION OF THE NAVIERâ€“STOKES EQUATIONS. Mathematical Models and Methods in Applied Sciences, 2009, 19, 1139-1183.	1.7	12
26	A posteriori error analysis for two non-overlapping domain decomposition techniques. Applied Numerical Mathematics, 2009, 59, 1214-1236.	1.2	11
27	Certified Reduced Basis VMS-Smagorinsky model for natural convection flow in a cavity with variable height. Computers and Mathematics With Applications, 2020, 80, 973-989.	1.4	11
28	Analysis of the hydrostatic approximation in oceanography with compression term. ESAIM: Mathematical Modelling and Numerical Analysis, 2000, 34, 525-537.	0.8	11
29	A model for two coupled turbulent fluids part I: Analysis of the system. Pakistan Journal of Medical Sciences, 2002, , 69-102.	0.4	10
30	Numerical approximation of the Smagorinsky turbulence model applied to the primitive equations of the ocean. Mathematics and Computers in Simulation, 2014, 99, 54-70.	2.4	10
31	Finite Element Discretization of the Stokes and Navier--Stokes Equations with Boundary Conditions on the Pressure. SIAM Journal on Numerical Analysis, 2015, 53, 1256-1279.	1.1	10
32	A numerical solver for the primitive equations of the ocean using term-by-term stabilization. Applied Numerical Mathematics, 2005, 55, 1-31.	1.2	9
33	A New Algorithm of Proper Generalized Decomposition for Parametric Symmetric Elliptic Problems. SIAM Journal on Mathematical Analysis, 2018, 50, 5426-5445.	0.9	9
34	A cure for instabilities due to advection-dominance in POD solution to advection-diffusion-reaction equations. Journal of Computational Physics, 2021, 425, 109916.	1.9	9
35	A lagrangian finite element method for the 2-D euler equations. Communications on Pure and Applied Mathematics, 1990, 43, 735-767.	1.2	8
36	A unified analysis of mixed and stabilized finite element solutions of Navierâ€“Stokes equations. Computer Methods in Applied Mechanics and Engineering, 2000, 182, 301-331.	3.4	8

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37	On cubic spline approximations for the vortex patch problem. Applied Numerical Mathematics, 2001, 36, 359-387.	1.2	8
38	Numerical Analysis of Penalty Stabilized Finite Element Discretizations of Evolution Navierâ€“Stokes Equations. Journal of Scientific Computing, 2015, 63, 885-912.	1.1	8
39	A stabilized space-time discretization for the primitive equations in oceanography. Numerische Mathematik, 2004, 98, 427-475.	0.9	7
40	A FETI method with a mesh independent condition number for the iteration matrix. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 1410-1429.	3.4	7
41	An iterative procedure to solve a coupled two-fluids turbulence model. ESAIM: Mathematical Modelling and Numerical Analysis, 2010, 44, 693-713.	0.8	7
42	Analysis of a Full Spaceâ€“Time Discretization of the Navierâ€“Stokes Equations by a Local Projection Stabilization Method. IMA Journal of Numerical Analysis, 2016, , drw048.	1.5	7
43	Numerical calculations of two-dimensional EHD plumes with finite element and particle methods. , 0, , .		6
44	NUMERICAL ANALYSIS OF THE PSI SOLUTION OF ADVECTIONâ€“DIFFUSION PROBLEMS THROUGH A PETROVâ€“GALERKIN FORMULATION. Mathematical Models and Methods in Applied Sciences, 2007, 17, 1905-1936.	1.7	6
45	Numerical solution of the Primitive Equations of the ocean by the Orthogonal Sub-Scales VMS method. Applied Numerical Mathematics, 2012, 62, 342-359.	1.2	6
46	A variational finite element model for large-eddy simulations of turbulent flows. Chinese Annals of Mathematics Series B, 2013, 34, 667-682.	0.2	6
47	A variational multi-scale method with spectral approximation of the sub-scales: Application to the 1D advectionâ€“diffusion equations. Computer Methods in Applied Mechanics and Engineering, 2015, 285, 406-426.	3.4	6
48	Finite element-particle method calculation of EHD plumes. , 0, , .		5
49	A non-overlapping domain decomposition method for the Stokes equations via a penalty term on the interface. Comptes Rendus Mathematique, 2002, 334, 221-226.	0.1	5
50	Study of a non-overlapping domain decomposition method: Steady Navierâ€“Stokes equations. Applied Numerical Mathematics, 2005, 55, 100-124.	1.2	5
51	Error bounds for POD expansions of parameterized transient temperatures. Computer Methods in Applied Mechanics and Engineering, 2016, 305, 501-511.	3.4	5
52	Finite Element Approximation of an Unsteady Projection-Based VMS Turbulence Model with Wall Laws. Lecture Notes in Computational Science and Engineering, 2015, , 47-73.	0.1	4
53	Recursive POD Expansion for the Advection-Diffusion-Reaction Equation. Communications in Computational Physics, 2018, 24, .	0.7	4
54	Existence d'une solution pour un modÃ¨le de deux fluides turbulents couplÃ©s. Comptes Rendus Mathematique, 1999, 328, 993-998.	0.5	3

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55	Derivation of the kâ€“Îµ model for locally homogeneous turbulence by homogenization techniques. Comptes Rendus Mathematique, 2003, 337, 431-436.	0.1	3
56	Stability of some turbulent vertical models for the ocean mixing boundary layer. Applied Mathematics Letters, 2008, 21, 128-133.	1.5	3
57	Numerical modelling of algebraic closure models of oceanic turbulent mixing layers. ESAIM: Mathematical Modelling and Numerical Analysis, 2010, 44, 1255-1277.	0.8	3
58	Recursive POD expansion for reaction-diffusion equation. Advanced Modeling and Simulation in Engineering Sciences, 2016, 3, .	0.7	3
59	On the computation of the stabilized coefficients for the 1D spectral VMS method. SeMA Journal, 2018, 75, 573-590.	1.0	3
60	Low Rank Approximation of Multidimensional Data. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2019, , 187-250.	0.3	3
61	On the computation of Proper Generalized Decomposition modes of parametric elliptic problems. SeMA Journal, 2020, 77, 59-72.	1.0	3
62	On the existence and asymptotic stability of solutions for unsteady mixing-layer models. Discrete and Continuous Dynamical Systems, 2013, 34, 421-436.	0.5	3
63	Modelling of compressible flows with highly oscillating initial data by homogenization. Applied Numerical Mathematics, 1998, 26, 435-464.	1.2	2
64	Numerical investigation of algebraic oceanic turbulent mixing-layer models. Nonlinear Processes in Geophysics, 2013, 20, 945-954.	0.6	2
65	A reduced discrete inf-sup condition in<i>L</i>^pfor incompressible flows and application. ESAIM: Mathematical Modelling and Numerical Analysis, 2015, 49, 1219-1238.	0.8	2
66	Anisotropic VMS solution of advectionâ€“diffusion problems by spectral approximation of sub-grid scales. Journal of Computational and Applied Mathematics, 2020, 380, 112959.	1.1	2
67	Numerical Analysis of a Finite Element Approximation to a Level Set Model for Free-Surface Flows. Computational Methods in Applied Mathematics, 2022, 22, 155-179.	0.4	2
68	An Efficient Two-Dimensional Vortex Method with Long Time Accuracy. SIAM Journal on Numerical Analysis, 1996, 33, 1425-1450.	1.1	1
69	Numerical investigation of the regularity of the pressure for the primitive equations of the ocean. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 4457-4474.	3.4	1
70	Analysis of a singular limit of boundary conditions for convectionâ€“diffusion equations. Asymptotic Analysis, 2010, 70, 141-154.	0.2	1
71	Error Analysis of a Subgrid Eddy Viscosity Multi-Scale Discretization of the Navier-Stokes Equations. SeMA Journal, 2012, 60, 51-74.	1.0	1
72	A Posteriori Analysis of a Positive Streamwise Invariant Discretization of a Convection-Diffusion Equation. Journal of Scientific Computing, 2012, 51, 349-374.	1.1	1

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73	A Bochevâ€"Dohrmannâ€"Gunzburger stabilization method for the primitive equations of the ocean. Applied Mathematics Letters, 2013, 26, 413-417.	1.5	1
74	Analysis of numerical stability of algebraic oceanic turbulent mixing layer models. Applied Mathematical Modelling, 2014, 38, 5836-5857.	2.2	1
75	Error bounds in high-order Sobolev norms for POD expansions of parameterized transient temperatures. Comptes Rendus Mathematique, 2017, 355, 432-438.	0.1	1
76	Assessment of self-adapting local projection-based solvers for laminar and turbulent industrial flows. Journal of Mathematics in Industry, 2018, 8, .	0.7	1
77	A three-dimensional model for two coupled turbulent fluids: numerical analysis of a finite element approximation. IMA Journal of Numerical Analysis, 2018, 38, 1927-1958.	1.5	1
78	Data-driven reduced order modeling based on tensor decompositions and its application to air-wall heat transfer in buildings. SeMA Journal, 2021, 78, 213-232.	1.0	1
79	A Self-adapting LPS Solver for Laminar and Turbulent Fluids in Industry and Hydrodynamic Flows. Mathematics in Industry, 2017, , 561-568.	0.1	1
80	Low-Rank Approximations for Parametric Non-Symmetric Elliptic Problems. Frontiers in Physics, 2022, 10, .	1.0	1
81	Homogeneization of Slightly Compressible Inviscid Flows. North-Holland Mathematics Studies, 1987, , 387-395.	0.2	0
82	A FULLY CONSERVATIVE NUMERICAL SCHEME FOR A KIND OF GENERALIZED 3D PERIODIC EULER EQUATIONS. International Journal of Numerical Methods for Heat and Fluid Flow, 1993, 3, 319-340.	1.6	0
83	Numerical Approximation of Convection-Diffusion Problems Through the PSI Method and Characteristics Method. Lecture Notes in Computational Science and Engineering, 2011, , 21-28.	0.1	0
84	Stabilization of a non standard FETI-DP mortar method for the Stokes problem. ESAIM: Mathematical Modelling and Numerical Analysis, 2014, 48, 285-304.	0.8	0
85	Evolutionary NS-TKE Model. Modeling and Simulation in Science, Engineering and Technology, 2014, , 247-316.	0.4	0
86	Tool Box. , 2015, , 43-117.		0
87	The VMS workshop series. SeMA Journal, 2018, 75, 569-571.	1.0	0
88	A Petrovâ€"Galerkin multilayer discretization to second order elliptic boundary value problems. Computers and Mathematics With Applications, 2019, 77, 3068-3086.	1.4	0
89	Numerical Schemes for 2D Shallow Water Equations with Variable Depth and Friction Effects. , 2003, , 506-511.		0
90	On multilayer shallow water systems. , 2012, , 259-264.		0

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91	A Projection-Based Variational Multiscale Model. Modeling and Simulation in Science, Engineering and Technology, 2014, , 393-416.	0.4	0
92	Numerical Experiments. Modeling and Simulation in Science, Engineering and Technology, 2014, , 445-480.	0.4	0
93	Finite Element Approximation of Evolution Smagorinsky Model. Modeling and Simulation in Science, Engineering and Technology, 2014, , 355-391.	0.4	0
94	Laws of the Turbulence by Similarity Principles. Modeling and Simulation in Science, Engineering and Technology, 2014, , 115-153.	0.4	0
95	Finite Element Approximation of the Steady Smagorinsky Model. Modeling and Simulation in Science, Engineering and Technology, 2014, , 317-353.	0.4	0
96	Numerical Approximation of NS-TKE Model. Modeling and Simulation in Science, Engineering and Technology, 2014, , 417-444.	0.4	0
97	The $$k-varepsilon$$ Model. Modeling and Simulation in Science, Engineering and Technology, 2014, , 83-114.	0.4	0
98	Analysis of the Continuous Steady NS-TKE Model. Modeling and Simulation in Science, Engineering and Technology, 2014, , 203-246.	0.4	0
99	Incompressible Navierâ€“Stokes Equations. Modeling and Simulation in Science, Engineering and Technology, 2014, , 7-44.	0.4	0
100	Some Remarks on a Model for the Atmospheric Pressure in Ocean Dynamics. , 2006, , 279-287.		0
101	PSI Solution of Convection-Diffusion Equations with Data in L1. , 2008, , 233-240.		0
102	A Domain Decomposition Method Derived from the Primal Hybrid Formulation for 2nd Order Elliptic Problems. , 2008, , 365-372.		0
103	A Posteriori Error Analysis of Penalty Domain Decomposition Methods for Linear Elliptic Problems. , 2008, , 373-380.		0