Samuel Paolucci

List of Publications by Year
in descending order

92 papers	2,470 citations	201674 27 h-index	206112 48 g-index
93 all docs	93 docs citations	93 times ranked	1328 citing authors

#	Article	IF	Citations
1	Natural convection in an enclosed vertical air layer with large horizontal temperature differences. Journal of Fluid Mechanics, 1986, 169, 173.	3.4	249
2	Transition to chaos in a differentially heated vertical cavity. Journal of Fluid Mechanics, 1989, 201, 379.	3.4	244
3	A Dynamically Adaptive Multilevel Wavelet Collocation Method for Solving Partial Differential Equations in a Finite Domain. Journal of Computational Physics, 1996, 125, 498-512.	3.8	164
4	Direct numerical simulation of two-dimensional turbulent natural convection in an enclosed cavity. Journal of Fluid Mechanics, 1990, 215, 229.	3.4	123
5	A Fast Adaptive Wavelet Collocation Algorithm for Multidimensional PDEs. Journal of Computational Physics, 1997, 138, 16-56.	3.8	88
6	A Multilevel Wavelet Collocation Method for Solving Partial Differential Equations in a Finite Domain. Journal of Computational Physics, 1995, 120, 33-47.	3.8	87
7	Accurate Spatial Resolution Estimates for Reactive Supersonic Flow with Detailed Chemistry. AIAA Journal, 2005, 43, 1088-1099.	2.6	84
8	Numerical simulation of filling and solidification of permanent mold castings. Applied Thermal Engineering, 2002, 22, 229-248.	6.0	66
9	Model-Based Predictive Control for building energy management. I: Energy modeling and optimal control. Energy and Buildings, 2016, 133, 345-358.	6.7	66
10	On slow manifolds of chemically reactive systems. Journal of Chemical Physics, 2002, 117, 1482-1496.	3.0	63
11	Nanofluids and Their Properties. Applied Mechanics Reviews, 2011, 64, .	10.1	60
12	The instability of the ocean to Langmuir circulations. Journal of Fluid Mechanics, 1981, 102, 141-167.	3.4	54
13	The G-Scheme: A framework for multi-scale adaptive model reduction. Journal of Computational Physics, 2009, 228, 4665-4701.	3.8	54
14	Stability of natural convection flow in a tall vertical enclosure under non-Boussinesq conditions. International Journal of Heat and Mass Transfer, 1995, 38, 2143-2157.	4.8	53
15	Viscous detonation in H2â€'O2â€'Ar using intrinsic low-dimensional manifolds and wavelet adaptive multilevel representation. Combustion Theory and Modelling, 2001, 5, 163-184.	1.9	46
16	One-dimensional slow invariant manifolds for spatially homogenous reactive systems. Journal of Chemical Physics, 2009, 131, 024118.	3.0	43
17	Stability of mixed-convection flow in a tall vertical channel under non-boussinesq conditions. Journal of Fluid Mechanics, 1995, 302, 91-115.	3.4	41
18	Dynamical system analysis of ignition phenomena using the Tangential Stretching Rate concept. Combustion and Flame, 2015, 162, 2963-2990.	5.2	39

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19	Real-Time On-Line Performance Diagnostics of Heavy-Duty Industrial Gas Turbines. Journal of Engineering for Gas Turbines and Power, 2002, 124, 910-921.	1.1	37
20	Balancing energy efficiency and structural performance through multi-objective shape optimization: Case study of a rapidly deployable origami-inspired shelter. Energy and Buildings, 2014, 82, 733-745.	6.7	37
21	Gas flow in vertical slots with large horizontal temperature differences. Physics of Fluids, 1985, 28, 2365.	1.4	36
22	Solving PDEs Using Wavelets. Computers in Physics, 1997, 11, 429.	0.5	36
23	Nonlinear analysis of convection flow in a tall vertical enclosure under non-Boussinesq conditions. Journal of Fluid Mechanics, 1997, 344, 1-41.	3.4	36
24	The Langmuir Circulation Instability as a Mixing Mechanism in the Upper Ocean. Journal of Physical Oceanography, 1980, 10, 186-207.	1.7	32
25	WAMR: An adaptive wavelet method for the simulation of compressible reacting flow. Part I. Accuracy and efficiency of algorithm. Journal of Computational Physics, 2014, 272, 814-841.	3.8	31
26	The origin of CEMA and its relation to CSP. Combustion and Flame, 2021, 227, 396-401.	5.2	31
27	The thermoconvective instability of plane poiseuille flow heated from below: A proposed benchmark solution for open boundary flows. International Journal for Numerical Methods in Fluids, 1990, 11, 1001-1013.	1.6	28
28	WAMR: An adaptive wavelet method for the simulation of compressible reacting flow. Part II. The parallel algorithm. Journal of Computational Physics, 2014, 272, 842-864.	3.8	25
29	Enhancements of the G-Scheme Framework. Flow, Turbulence and Combustion, 2018, 101, 1023-1033.	2.6	25
30	Stability of non-Boussinesq convection via the complex Ginzburg–Landau model. Fluid Dynamics Research, 2004, 35, 159-203.	1.3	24
31	Nonlinear stability of mixed convection flow under non-Boussinesq conditions. Part 1. Analysis and bifurcations. Journal of Fluid Mechanics, 1999, 398, 61-85.	3.4	20
32	Wavelet-based adaptive multiresolution computation of viscous reactive flows. International Journal for Numerical Methods in Fluids, 2006, 52, 749-784.	1.6	20
33	Automated chemical kinetic mechanism simplification with minimal user expertise. Combustion and Flame, 2018, 197, 439-448.	5.2	20
34	Dynamic Simulation of an Ammonia–water Absorption Refrigeration System. Industrial & Engineering Chemistry Research, 2012, 51, 2070-2076.	3.7	18
35	Stability of the explicit finite differenced transport equation. Journal of Computational Physics, 1982, 47, 489-496.	3.8	17
36	Approximation of transient temperatures in complex geometries using fractional derivatives. Heat and Mass Transfer, 2008, 44, 771-777.	2.1	17

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37	Model-based predictive control for building energy management: Part II â€" Experimental validations. Energy and Buildings, 2017, 146, 19-26.	6.7	17
38	Entropy production and timescales. Combustion Theory and Modelling, 2017, 21, 137-157.	1.9	17
39	Degrees of freedom of an optical image in coherent illumination, in the presence of aberrations. Journal of the Optical Society of America, 1975, 65, 495.	1.2	16
40	Departures from the Boussinesq approximation in laminar Beìnard convection. Physics of Fluids, 1987, 30, 1561.	1.4	16
41	Natural Convection in Shallow Enclosures With Differentially Heated Endwalls. Journal of Heat Transfer, 1988, 110, 625-634.	2.1	16
42	Thermodynamic properties of goldâ€"water nanolayer mixtures using molecular dynamics. Journal of Nanoparticle Research, 2011, 13, 4277-4293.	1.9	16
43	Solidification of a finite slab with convective cooling and shrinkage. Applied Mathematical Modelling, 2003, 27, 733-762.	4.2	14
44	Transient solution of chemical vapor infiltration/deposition in a reactor. Carbon, 2011, 49, 915-930.	10.3	14
45	Adaptive Wavelet Method for Incompressible Flows in Complex Domains. Journal of Fluids Engineering, Transactions of the ASME, 2005, 127, 656-665.	1.5	13
46	A second-order continuum theory of fluids. Journal of Fluid Mechanics, 2018, 846, 686-710.	3.4	13
47	On the Necessary Grid Resolution for Verified Calculation of Premixed Laminar Flames. Communications in Computational Physics, 2010, 8, 304-326.	1.7	13
48	Nonlinear stability of mixed convection flow under non-Boussinesq conditions. Part 2. Mean flow characteristics. Journal of Fluid Mechanics, 1999, 398, 87-108.	3.4	12
49	The differentially heated cavity. Sadhana - Academy Proceedings in Engineering Sciences, 1994, 19, 619-647.	1.3	11
50	Implementation of a Level Set Interface Tracking Method in the FIDAP and CFX-4 Codes. Journal of Fluids Engineering, Transactions of the ASME, 2005, 127, 674-686.	1.5	11
51	Uniqueness of chemical equilibria in ideal mixtures of ideal gases. American Journal of Physics, 2008, 76, 848-855.	0.7	11
52	Sensitivity analysis and mechanism simplification using the G-Scheme framework. Combustion and Flame, 2018, 189, 275-287.	5.2	11
53	Heat transfer during the early expansion of gas in pressurized vessels. International Journal of Heat and Mass Transfer, 1985, 28, 1525-1537.	4.8	10
54	Thermodynamic properties of goldâ€"water nanofluids using molecular dynamics. Journal of Nanoparticle Research, 2012, 14, 1.	1.9	8

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55	Free convective flow from a heated vertical wall immersed in a thermally stratified environment. International Journal of Heat and Mass Transfer, 2013, 67, 1062-1071.	4.8	8
56	Gas flow in open vertical slots with large horizontal temperature differences and arbitrary external temperature. Physics of Fluids, 1986, 29, 3187.	1.4	6
57	Stability of unstably stratified shear flow in a channel under non-Boussinesq conditions. Acta Mechanica, 1995, 112, 37-58.	2.1	6
58	WAVELET ADAPTIVE MULTIRESOLUTION REPRESENTATION: APPLICATIONS TO VISCOUS MULTISCALE FLOW SIMULATIONS. International Journal of Wavelets, Multiresolution and Information Processing, 2006, 04, 333-343.	1.3	6
59	Dynamic Modeling of an Absorption Refrigeration System Using Ionic Liquids. , 2007, , 227.		6
60	The modeling of realistic chemical vapor infiltration/deposition reactors. International Journal for Numerical Methods in Fluids, 2010, 64, 473-516.	1.6	6
61	Computational Singular Perturbation Method and Tangential Stretching Rate Analysis of Large Scale Simulations of Reactive Flows: Feature Tracking, Time Scale Characterization, and Cause/Effect Identification. Part 1, Basic Concepts. , 2020, , 43-64.		6
62	Analysis of the spatio-temporal scales of laminar premixed flames near equilibrium. Combustion Theory and Modelling, 2013, 17, 76-108.	1.9	5
63	Energy stability of the Eulerian-mean motion in the upper ocean to three-dimensional perturbations. Physics of Fluids, 1980, 23, 1286.	1.4	4
64	Heat Transfer and Fluid Flow in a Furnace Using the Non-Boussinesq Approximation. , 2004, , 933.		4
65	Three-Dimensional Flow in the Differentially Heated Cavity Using an Adaptive Wavelet Method. , 2006, , .		4
66	The Use of Ionic Liquids in Refrigeration. , 2006, , 131.		4
67	Compressible flow of a two-phase fluid between finite vessels—I. International Journal of Multiphase Flow, 1990, 16, 1047-1069.	3.4	3
68	Compressible flow of a two-phase fluid between finite vessels—II. Abel-noble carrier gas. International Journal of Multiphase Flow, 1992, 18, 669-689.	3.4	3
69	A Petrov-Galerkin method for flows in cavities: enclosure of aspect ratio 8. International Journal for Numerical Methods in Fluids, 2002, 40, 999-1007.	1.6	3
70	Effect of Heat Transfer and Fluid Flow in a CVD Reactor on the Densification Rate of Carbon Brakes. , 2005, , 187.		3
71	Verified Computations of Laminar Premixed Flames. , 2007, , .		3
72	Numerical simulation of edge flames initiation and propagation using an adaptive wavelet collocation method. Proceedings of the Combustion Institute, 2013, 34, 1077-1084.	3.9	3

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73	On pressure change occurring during gas mixing. American Journal of Physics, 1989, 57, 463-465.	0.7	2
74	Application of an Adaptive Wavelet Method to Natural-Convection Flow in a Differentially Heated Cavity. , 2005, , 499.		2
75	Accurate Estimates of Fine Scale Reaction Zone Thicknesses in Gas Phase Detonations. , 2005, , .		2
76	Accurate Estimates of Fine Scale Reaction Zone Thicknesses in Hydrocarbon Detonations. , 2006, , .		2
77	Numerical Simulation of a Chemical Vapor Deposition/Infiltration Reactor. , 2006, , 713.		2
78	On Numerical Resolution Requirements in Combustion Modeling. , 2007, , 775.		2
79	Relativistic Hydrodynamics with Wavelets. Astrophysical Journal, 2018, 867, 112.	4.5	2
80	Computational Singular Perturbation Method and Tangential Stretching Rate Analysis of Large Scale Simulations of Reactive Flows: Feature Tracking, Time Scale Characterization, and Cause/Effect Identification. Part 2, Analyses of Ignition Systems, Laminar and Turbulent Flames. , 2020, , 65-88.		2
81	Analysis of the Performance of Ionic Liquids in Cooling Loops. , 2007, , 655.		1
82	Calculation of Slow Invariant Manifolds for Reactive Systems. , 2009, , .		1
83	Slow attractive canonical invariant manifolds for reactive systems. Journal of Mathematical Chemistry, 2015, 53, 737-766.	1.5	1
84	FINITE ELEMENT LEVEL SET FORMULATIONS FOR MODELLING MULTIPHASE FLOWS. , 2003, , .		1
85	Properties of Nanofluid. , 2015, , 1-44.		1
86	"Generalized Coordinate Forms of Governing Fluid Equations and Associated Geometrically Induced Errors". AIAA Journal, 1984, 22, 731-732.	2.6	0
87	Marginal and weakly nonlinear stability in spatially developing flows. Applied Mathematics Letters, 2003, 16, 329-335.	2.7	0
88	The Application of an Adaptive Wavelet Method to the 3-D Natural-Convection Flow in a Differentially Heated Cavity. , 2006, , 581.		0
89	On the Numerical Scheme to Solve a Realistic Chemical Vapor Infiltration Reactor Model. , 2007, , 1199.		0
90	Second-order constitutive theory of fluids. Continuum Mechanics and Thermodynamics, 0, , 1.	2.2	0

#	ARTICLE	IF	CITATIONS
91	Novel modeling of hydrogen/oxygen detonation. , 2000, , .		0
92	A Two-Phase Model of Bubbly Fluids. , 2007, , .		0