

# Samuel Paolucci

## List of Publications by Year in descending order

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92  
papers

2,470  
citations

201658

27  
h-index

206102

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

#	ARTICLE	IF	CITATIONS
19	Real-Time On-Line Performance Diagnostics of Heavy-Duty Industrial Gas Turbines. <i>Journal of Engineering for Gas Turbines and Power</i> , 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. <i>Energy and Buildings</i> , 2014, 82, 733-745.	6.7	37
21	Gas flow in vertical slots with large horizontal temperature differences. <i>Physics of Fluids</i> , 1985, 28, 2365.	1.4	36
22	Solving PDEs Using Wavelets. <i>Computers in Physics</i> , 1997, 11, 429.	0.5	36
23	Nonlinear analysis of convection flow in a tall vertical enclosure under non-Boussinesq conditions. <i>Journal of Fluid Mechanics</i> , 1997, 344, 1-41.	3.4	36
24	The Langmuir Circulation Instability as a Mixing Mechanism in the Upper Ocean. <i>Journal of Physical Oceanography</i> , 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. <i>Journal of Computational Physics</i> , 2014, 272, 814-841.	3.8	31
26	The origin of CEMA and its relation to CSP. <i>Combustion and Flame</i> , 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. <i>International Journal for Numerical Methods in Fluids</i> , 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. <i>Journal of Computational Physics</i> , 2014, 272, 842-864.	3.8	25
29	Enhancements of the G-Scheme Framework. <i>Flow, Turbulence and Combustion</i> , 2018, 101, 1023-1033.	2.6	25
30	Stability of non-Boussinesq convection via the complex Ginzburg-Landau model. <i>Fluid Dynamics Research</i> , 2004, 35, 159-203.	1.3	24
31	Nonlinear stability of mixed convection flow under non-Boussinesq conditions. Part 1. Analysis and bifurcations. <i>Journal of Fluid Mechanics</i> , 1999, 398, 61-85.	3.4	20
32	Wavelet-based adaptive multiresolution computation of viscous reactive flows. <i>International Journal for Numerical Methods in Fluids</i> , 2006, 52, 749-784.	1.6	20
33	Automated chemical kinetic mechanism simplification with minimal user expertise. <i>Combustion and Flame</i> , 2018, 197, 439-448.	5.2	20
34	Dynamic Simulation of an Ammonia-water Absorption Refrigeration System. <i>Industrial &amp; Engineering Chemistry Research</i> , 2012, 51, 2070-2076.	3.7	18
35	Stability of the explicit finite differenced transport equation. <i>Journal of Computational Physics</i> , 1982, 47, 489-496.	3.8	17
36	Approximation of transient temperatures in complex geometries using fractional derivatives. <i>Heat and Mass Transfer</i> , 2008, 44, 771-777.	2.1	17

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

#	ARTICLE	IF	CITATIONS
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 MULTIREOLUTION 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 vesselsâ€™I. International Journal of Multiphase Flow, 1990, 16, 1047-1069.	3.4	3
68	Compressible flow of a two-phase fluid between finite vesselsâ€™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

#	ARTICLE	IF	CITATIONS
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