John B Bell

List of Publications by Year
in descending order

229 papers	13,268 citations	25034 57 h-index	25787 108 g-index
231 all docs	231 docs citations	231 times ranked	7177 citing authors

#	Article	IF	Citations
1	Solutions of Ill-Posed Problems.. Mathematics of Computation, 1978, 32, 1320.	2.1	1,255
2	A second-order projection method for the incompressible navier-stokes equations. Journal of Computational Physics, 1989, 85, 257-283.	3.8	1,037
3	An Adaptive Level Set Approach for Incompressible Two-Phase Flows. Journal of Computational Physics, 1999, 148, 81-124.	3.8	560
4	A Conservative Adaptive Projection Method for the Variable Density Incompressible Navierâ€“Stokes Equations. Journal of Computational Physics, 1998, 142, 1-46.	3.8	430
5	A High-Order Projection Method for Tracking Fluid Interfaces in Variable Density Incompressible Flows. Journal of Computational Physics, 1997, 130, 269-282.	3.8	418
6	High-resolution simulation and characterization of density-driven flow in CO2 storage in saline aquifers. Advances in Water Resources, 2010, 33, 443-455.	3.8	279
7	An Adaptive Cartesian Grid Method for Unsteady Compressible Flow in Irregular Regions. Journal of Computational Physics, 1995, 120, 278-304.	3.8	256
8	Numerical simulation of laminar reacting flows with complex chemistry. Combustion Theory and Modelling, 2000, 4, 535-556.	1.9	254
9	A second-order projection method for variable-density flows. Journal of Computational Physics, 1992, 101, 334-348.	3.8	248
10	Three-Dimensional Adaptive Mesh Refinement for Hyperbolic Conservation Laws. SIAM Journal of Scientific Computing, 1994, 15, 127-138.	2.8	247
11	Multiphysics simulations. International Journal of High Performance Computing Applications, 2013, 27, 4-83.	3.7	244
12	Adaptive Mesh and Algorithm Refinement Using Direct Simulation Monte Carlo. Journal of Computational Physics, 1999, 154, 134-155.	3.8	237
13	AMReX: a framework for block-structured adaptive mesh refinement. Journal of Open Source Software, 2019, 4, 1370.	4.6	217
14	CASTRO: A NEW COMPRESSIBLE ASTROPHYSICAL SOLVER. I. HYDRODYNAMICS AND SELF-GRAVITY. Astrophysical Journal, 2010, 715, 1221-1238.	4.5	211
15	Nyx: A MASSIVELY PARALLEL AMR CODE FOR COMPUTATIONAL COSMOLOGY. Astrophysical Journal, 2013, 765, 39.	4.5	192
16	Turbulenceâ€“flame interactions in lean premixed hydrogen: transition to the distributed burning regime. Journal of Fluid Mechanics, 2011, 680, 287-320.	3.4	190
17	Mathematical Structure of the Black-Oil Model for Petroleum Reservoir Simulation. SIAM Journal on Applied Mathematics, 1989, 49, 749-783.	1.8	169
18	DIMENSION AS A KEY TO THE NEUTRINO MECHANISM OF CORE-COLLAPSE SUPERNOVA EXPLOSIONS. Astrophysical Journal, 2010, 720, 694-703.	4.5	163

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19	A Numerical Method for the Incompressible Navier-Stokes Equations Based on an Approximate Projection. SIAM Journal of Scientific Computing, 1996, 17, 358-369.	2.8	156
20	Higher order Godunov methods for general systems of hyperbolic conservation laws. Journal of Computational Physics, 1989, 82, 362-397.	3.8	152
21	An unsplit, higher order godunov method for scalar conservation laws in multiple dimensions. Journal of Computational Physics, 1988, 74, 1-24.	3.8	148
22	X-Ray--heated Coronae and Winds from Accretion Disks: Time-dependent Two-dimensional Hydrodynamics with Adaptive Mesh Refinement. Astrophysical Journal, 1996, 461, 767.	4.5	139
23	Low Mach Number Modeling of Type Ia Supernovae. I. Hydrodynamics. Astrophysical Journal, 2006, 637, 922-936.	4.5	116
24	Numerical simulation of a laboratory-scale turbulent slot flame. Proceedings of the Combustion Institute, 2007, 31, 1299-1307.	3.9	116
25	Interactive Exploration and Analysis of Large-Scale Simulations Using Topology-Based Data Segmentation. IEEE Transactions on Visualization and Computer Graphics, 2011, 17, 1307-1324.	4.4	114
26	THE NUCLEOSYNTHETIC IMPRINT OF 15â€“40<i>M</i>_{â˜‰}PRIMORDIAL SUPERNOVAE ON METAL-POOR STARS. Astrophysical Journal, 2010, 709, 11-26.	4.5	113
27	A survey of high level frameworks in block-structured adaptive mesh refinement packages. Journal of Parallel and Distributed Computing, 2014, 74, 3217-3227.	4.1	112
28	Conservation Laws of Mixed Type Describing Three-Phase Flow in Porous Media. SIAM Journal on Applied Mathematics, 1986, 46, 1000-1017.	1.8	110
29	Turbulence effects on cellular burning structures in lean premixed hydrogen flames. Combustion and Flame, 2009, 156, 1035-1045.	5.2	110
30	Threeâ€dimensional Numerical Simulations of Rayleighâ€Taylor Unstable Flames in Type Ia Supernovae. Astrophysical Journal, 2005, 632, 1021-1034.	4.5	108
31	Numerical simulation of Lewis number effects on lean premixed turbulent flames. Proceedings of the Combustion Institute, 2007, 31, 1309-1317.	3.9	107
32	On the accuracy of finite-volume schemes for fluctuating hydrodynamics. Communications in Applied Mathematics and Computational Science, 2010, 5, 149-197.	1.8	102
33	A Cartesian Grid Projection Method for the Incompressible Euler Equations in Complex Geometries. SIAM Journal of Scientific Computing, 1997, 18, 1289-1309.	2.8	97
34	Parallelization of structured, hierarchical adaptive mesh refinement algorithms. Computing and Visualization in Science, 2000, 3, 147-157.	1.2	97
35	An Adaptive Projection Method for Unsteady, Low-Mach Number Combustion. Combustion Science and Technology, 1998, 140, 123-168.	2.3	96
36	Staggered Schemes for Fluctuating Hydrodynamics. Multiscale Modeling and Simulation, 2012, 10, 1369-1408.	1.6	96

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37	Ammonia conversion and NOx formation in laminar coflowing nonpremixed methane-air flames. Combustion and Flame, 2002, 131, 285-298.	5.2	95
38	From The Cover: Numerical simulation of a laboratory-scale turbulent V-flame. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 10006-10011.	7.1	94
39	Three-dimensional direct numerical simulation of turbulent lean premixed methane combustion with detailed kinetics. Combustion and Flame, 2016, 166, 266-283.	5.2	93
40	A combined computational and experimental characterization of lean premixed turbulent low swirl laboratory flames. Combustion and Flame, 2012, 159, 275-290.	5.2	91
41	Numerical simulation of premixed turbulent methane combustion. Proceedings of the Combustion Institute, 2002, 29, 1987-1993.	3.9	89
42	Analyzing and Tracking Burning Structures in Lean Premixed Hydrogen Flames. IEEE Transactions on Visualization and Computer Graphics, 2010, 16, 248-260.	4.4	89
43	Approximate Projection Methods: Part I. Inviscid Analysis. SIAM Journal of Scientific Computing, 2000, 22, 1139-1159.	2.8	88
44	Analysis of implicit LES methods. Communications in Applied Mathematics and Computational Science, 2008, 3, 103-126.	1.8	88
45	An analysis of the grid orientation effect in numerical simulation of miscible displacement. Computer Methods in Applied Mechanics and Engineering, 1984, 47, 47-71.	6.6	75
46	CASTRO: A NEW COMPRESSIBLE ASTROPHYSICAL SOLVER. II. GRAY RADIATION HYDRODYNAMICS. Astrophysical Journal, Supplement Series, 2011, 196, 20.	7.7	71
47	Direct Numerical Simulations of Type Ia Supernovae Flames. II. The Rayleighâ€Taylor Instability. Astrophysical Journal, 2004, 608, 883-906.	4.5	70
48	Numerical methods for the stochastic Landau-Lifshitz Navier-Stokes equations. Physical Review E, 2007, 76, 016708.	2.1	68
49	Turbulenceâ€Flame Interactions in Type Ia Supernovae. Astrophysical Journal, 2008, 689, 1173-1185.	4.5	68
50	MAESTRO: AN ADAPTIVE LOW MACH NUMBER HYDRODYNAMICS ALGORITHM FOR STELLAR FLOWS. Astrophysical Journal, Supplement Series, 2010, 188, 358-383.	7.7	68
51	Warp-X: A new exascale computing platform for beamâ€“plasma simulations. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 909, 476-479.	1.6	68
52	HIGH-RESOLUTION SIMULATIONS OF CONVECTION PRECEDING IGNITION IN TYPE Ia SUPERNOVAE USING ADAPTIVE MESH REFINEMENT. Astrophysical Journal, 2012, 745, 73.	4.5	67
53	Towards the distributed burning regime in turbulent premixed flames. Journal of Fluid Mechanics, 2019, 871, 1-21.	3.4	67
54	Mathematical Structure of Compositional Reservoir Simulation. SIAM Journal on Scientific and Statistical Computing, 1989, 10, 817-845.	1.5	63

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55	Adaptive low Mach number simulations of nuclear flame microphysics. Journal of Computational Physics, 2004, 195, 677-694.	3.8	63
56	LOW MACH NUMBER MODELING OF TYPE IA SUPERNOVAE. IV. WHITE DWARF CONVECTION. Astrophysical Journal, 2009, 704, 196-210.	4.5	63
57	A Hybrid Particle-Continuum Method for Hydrodynamics of Complex Fluids. Multiscale Modeling and Simulation, 2010, 8, 871-911.	1.6	63
58	The Soret effect in naturally propagating, premixed, lean, hydrogenâ€“air flames. Proceedings of the Combustion Institute, 2009, 32, 1173-1180.	3.9	60
59	Exascale applications: skin in the game. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190056.	3.4	53
60	An Adaptive Mesh Projection Method for Viscous Incompressible Flow. SIAM Journal of Scientific Computing, 1997, 18, 996-1013.	2.8	52
61	Diffusive Transport by Thermal Velocity Fluctuations. Physical Review Letters, 2011, 106, 204501.	7.8	48
62	CASTRO: A NEW COMPRESSIBLE ASTROPHYSICAL SOLVER. III. MULTIGROUP RADIATION HYDRODYNAMICS. Astrophysical Journal, Supplement Series, 2013, 204, 7.	7.7	48
63	A combined computational and experimental characterization of lean premixed turbulent low swirl laboratory flames II. Hydrogen flames. Combustion and Flame, 2015, 162, 2148-2165.	5.2	48
64	Vorticity intensification and transition to turbulence in three-dimensional euler equations. Communications in Mathematical Physics, 1992, 147, 371-394.	2.2	47
65	Low Mach Number Modeling of Type Ia Supernovae. II. Energy Evolution. Astrophysical Journal, 2006, 649, 927-938.	4.5	47
66	DISTRIBUTED FLAMES IN TYPE Ia SUPERNOVAE. Astrophysical Journal, 2010, 710, 1654-1663.	4.5	45
67	A finite difference galerkin formulation for the incompressible Navier-Stokes equations. Journal of Computational Physics, 1984, 53, 152-172.	3.8	44
68	An efficient second-order projection method for viscous incompressible flow. , 1991, , .		44
69	Properties of lean turbulent methane-air flames with significant hydrogen addition. Proceedings of the Combustion Institute, 2011, 33, 1601-1608.	3.9	44
70	A deferred correction coupling strategy for low Mach number flow with complex chemistry. Combustion Theory and Modelling, 2012, 16, 1053-1088.	1.9	44
71	THE CONVECTIVE PHASE PRECEDING TYPE Ia SUPERNOVAE. Astrophysical Journal, 2011, 740, 8.	4.5	43
72	AMReX: Block-structured adaptive mesh refinement for multiphysics applications. International Journal of High Performance Computing Applications, 2021, 35, 508-526.	3.7	43

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73	Low Mach Number Modeling of Type Ia Supernovae. III. Reactions. Astrophysical Journal, 2008, 684, 449-470.	4.5	42
74	Efficient Variable-Coefficient Finite-Volume Stokes Solvers. Communications in Computational Physics, 2014, 16, 1263-1297.	1.7	41
75	Active control for statistically stationary turbulent premixed flame simulations. Communications in Applied Mathematics and Computational Science, 2006, 1, 29-51.	1.8	39
76	Heterogeneous Continuum Model of Aluminum Particle Combustion in Explosions. Combustion, Explosion and Shock Waves, 2010, 46, 433-448.	0.8	38
77	Direct Numerical Simulations of Type Ia Supernovae Flames. I. The Landauâ€Darrieus Instability. Astrophysical Journal, 2004, 606, 1029-1038.	4.5	36
78	THE DEFLAGRATION STAGE OF CHANDRASEKHAR MASS MODELS FOR TYPE Ia SUPERNOVAE. I. EARLY EVOLUTION. Astrophysical Journal, 2014, 782, 11.	4.5	36
79	Low Mach number fluctuating hydrodynamics of diffusively mixing fluids. Communications in Applied Mathematics and Computational Science, 2014, 9, 47-105.	1.8	36
80	The Noncharacteristic Cauchy Problem for a Class of Equations with Time Dependence. I. Problems in One Space Dimension. SIAM Journal on Mathematical Analysis, 1981, 12, 759-777.	1.9	35
81	MULTIDIMENSIONAL MODELING OF TYPE I X-RAY BURSTS. I. TWO-DIMENSIONAL CONVECTION PRIOR TO THE OUTBURST OF A PURE⁴He ACCRETOR. Astrophysical Journal, 2011, 728, 118.	4.5	35
82	Enhancement of diffusive transport by non-equilibrium thermal fluctuations. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P06014.	2.3	35
83	An adaptive mesh refinement algorithm for compressible two-phase flow in porous media. Computational Geosciences, 2012, 16, 577-592.	2.4	35
84	LOW MACH NUMBER MODELING OF CORE CONVECTION IN MASSIVE STARS. Astrophysical Journal, 2013, 773, 137.	4.5	35
85	Stochastic simulation of reaction-diffusion systems: A fluctuating-hydrodynamics approach. Journal of Chemical Physics, 2017, 146, 124110.	3.0	35
86	Cosmological fluid mechanics with adaptively refined large eddy simulations. Monthly Notices of the Royal Astronomical Society, 2014, 440, 3051-3077.	4.4	34
87	Scaling and efficiency of prism in adaptive simulations of turbulent premixed flames. Proceedings of the Combustion Institute, 2000, 28, 107-113.	3.9	33
88	Computational fluctuating fluid dynamics. ESAIM: Mathematical Modelling and Numerical Analysis, 2010, 44, 1085-1105.	1.9	33
89	Numerical simulation of nitrogen oxide formation in lean premixed turbulent H2/O2/N2 flames. Proceedings of the Combustion Institute, 2011, 33, 1591-1599.	3.9	33
90	Modeling multiphase flow using fluctuating hydrodynamics. Physical Review E, 2014, 90, 033014.	2.1	33

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91	Fluctuating hydrodynamics of multi-species reactive mixtures. Journal of Chemical Physics, 2015, 142, 224107.	3.0	32
92	High-order algorithms for compressible reacting flow with complex chemistry. Combustion Theory and Modelling, 2014, 18, 361-387.	1.9	31
93	CARBON DEFLAGRATION IN TYPE Ia SUPERNOVA. I. CENTRALLY IGNITED MODELS. Astrophysical Journal, 2013, 771, 58.	4.5	30
94	Direct numerical simulation of a spatially developing n-dodecane jet flame under Spray A thermochemical conditions: Flame structure and stabilisation mechanism. Combustion and Flame, 2020, 217, 57-76.	5.2	29
95	An adaptive grid finite difference method for conservation laws. Journal of Computational Physics, 1983, 52, 569-591.	3.8	28
96	Effects of mixing on ammonia oxidation in combustion environments at intermediate temperatures. Proceedings of the Combustion Institute, 2005, 30, 1193-1200.	3.9	28
97	ExaSAT: An exascale co-design tool for performance modeling. International Journal of High Performance Computing Applications, 2015, 29, 209-232.	3.7	28
98	Algorithm Refinement for Fluctuating Hydrodynamics. Multiscale Modeling and Simulation, 2008, 6, 1256-1280.	1.6	27
99	Low Mach number fluctuating hydrodynamics of multispecies liquid mixtures. Physics of Fluids, 2015, 27, .	4.0	27
100	Feature Tracking Using Reeb Graphs. Mathematics and Visualization, 2011, , 241-253.	0.6	27
101	Fluctuation-enhanced electric conductivity in electrolyte solutions. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 10829-10833.	7.1	26
102	A projection method for combustion in the zero Mach number limit. , 1993, , .		25
103	Detailed modeling and laser-induced fluorescence imaging of nitric oxide in a NH3-seeded non-premixed methane/air flame. Proceedings of the Combustion Institute, 2002, 29, 2195-2202.	3.9	25
104	Spherical combustion clouds in explosions. Shock Waves, 2013, 23, 233-249.	1.9	25
105	Porting WarpX to GPU-accelerated platforms. Parallel Computing, 2021, 108, 102833.	2.1	25
106	Performance and scaling of locally-structured grid methods for partial differential equations. Journal of Physics: Conference Series, 2007, 78, 012013.	0.4	24
107	A conservative, thermodynamically consistent numerical approach for low Mach number combustion. Part I: Single-level integration. Combustion Theory and Modelling, 2018, 22, 156-184.	1.9	24
108	Fluctuating hydrodynamics of multispecies nonreactive mixtures. Physical Review E, 2014, 89, 013017.	2.1	23

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109	MULTIDIMENSIONAL MODELING OF TYPE I X-RAY BURSTS. II. TWO-DIMENSIONAL CONVECTION IN A MIXED H/He ACCRETOR. Astrophysical Journal, 2014, 788, 115.	4.5	23
110	COMPARISONS OF TWO- AND THREE-DIMENSIONAL CONVECTION IN TYPE I X-RAY BURSTS. Astrophysical Journal, 2015, 807, 60.	4.5	23
111	A high-order spectral deferred correction strategy for low Mach number flow with complex chemistry. Combustion Theory and Modelling, 2016, 20, 521-547.	1.9	23
112	Modeling of a chain of three plasma accelerator stages with the WarpX electromagnetic PIC code on GPUs. Physics of Plasmas, 2021, 28, .	1.9	23
113	The dependence of chemistry on the inlet equivalence ratio in vortex-flame interactions. Proceedings of the Combustion Institute, 2000, 28, 1933-1939.	3.9	22
114	Low Mach number fluctuating hydrodynamics of binary liquid mixtures. Communications in Applied Mathematics and Computational Science, 2015, 10, 163-204.	1.8	22
115	Instabilities of the Skyrme Model. Journal of Computational Physics, 1994, 110, 234-241.	3.8	21
116	A parallel second-order adaptive mesh algorithm for incompressible flow in porous media. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 4633-4654.	3.4	21
117	Navierâ€"Stokes Characteristic Boundary Conditions Using Ghost Cells. AIAA Journal, 2017, 55, 3399-3408.	2.6	20
118	Low Mach number fluctuating hydrodynamics for electrolytes. Physical Review Fluids, 2016, 1, .	2.5	20
119	Inviscid Flowfield Calculations for Re-entry Vehicles with Control Surfaces. AIAA Journal, 1977, 15, 1742-1749.	2.6	19
120	The Noncharacteristic Cauchy Problem for a Class of Equations with Time Dependence. II. Multidimensional Problems. SIAM Journal on Mathematical Analysis, 1981, 12, 778-797.	1.9	19
121	A method for reducing numerical dispersion in two-phase black-oil reservoir simulation. Journal of Computational Physics, 1986, 65, 71-106.	3.8	18
122	A parallel adaptive projection method for low Mach number flows. International Journal for Numerical Methods in Fluids, 2002, 40, 209-216.	1.6	18
123	On the Use of Higher-Order Projection Methods for Incompressible Turbulent Flow. SIAM Journal of Scientific Computing, 2013, 35, B25-B42.	2.8	18
124	LOW MACH NUMBER MODELING OF CONVECTION IN HELIUM SHELLS ON SUB-CHANDRASEKHAR WHITE DWARFS. I. METHODOLOGY. Astrophysical Journal, 2013, 764, 97.	4.5	18
125	Topology and burning rates of turbulent, lean, H2/air flames. Combustion and Flame, 2015, 162, 4553-4565.	5.2	18
126	Fluctuating Hydrodynamics and Debye-HÃ¼ckel-Onsager Theory for Electrolytes. Current Opinion in Electrochemistry, 2019, 13, 1-10.	4.8	18

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127	Projection method for viscous incompressible flow on quadrilateral grids. AIAA Journal, 1994, 32, 1961-1969.	2.6	17
128	Small-Scale Processes and Entrainment in a Stratocumulus Marine Boundary Layer. Journals of the Atmospheric Sciences, 2000, 57, 567-581.	1.7	17
129	Leading edge statistics of turbulent, lean, H2â€“air flames. Proceedings of the Combustion Institute, 2015, 35, 1313-1320.	3.9	17
130	Meeting the Challenges of Modeling Astrophysical Thermonuclear Explosions: Castro, Maestro, and the AMReX Astrophysics Suite. Journal of Physics: Conference Series, 2018, 1031, 012024.	0.4	17
131	MFIX-Exa: A path toward exascale CFD-DEM simulations. International Journal of High Performance Computing Applications, 2022, 36, 40-58.	3.7	17
132	Numerical simulation of a viscous vortex ring interaction with a density interface. Physics of Fluids, 1994, 6, 1505-1514.	4.0	16
133	The mathematical structure of multiphase thermal models of flow in porous media. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2009, 465, 523-549.	2.1	16
134	Software Design Space Exploration for Exascale Combustion Co-design. Lecture Notes in Computer Science, 2013, , 196-212.	1.3	16
135	Conservative front-tracking for inviscid compressible flow. , 1991, , .		15
136	An adaptive projection method for the incompressible Euler equations. , 1993, , .		15
137	The thermal explosion revisited. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 13384-13386.	7.1	15
138	The physics of flames in Type Ia supernovae. Journal of Physics: Conference Series, 2005, 16, 405-409.	0.4	15
139	A taxonomy of integral reaction path analysis. Combustion Theory and Modelling, 2006, 10, 559-579.	1.9	15
140	Algorithm refinement for the stochastic Burgersâ€™ equation. Journal of Computational Physics, 2007, 223, 451-468.	3.8	15
141	LOW MACH NUMBER MODELING OF CONVECTION IN HELIUM SHELLS ON SUB-CHANDRASEKHAR WHITE DWARFS. II. BULK PROPERTIES OF SIMPLE MODELS. Astrophysical Journal, 2016, 827, 84.	4.5	15
142	Fluctuating hydrodynamics of electrolytes at electroneutral scales. Physical Review Fluids, 2019, 4, .	2.5	15
143	CASTRO: A Massively Parallel Compressible Astrophysics Simulation Code. Journal of Open Source Software, 2020, 5, 2513.	4.6	15
144	Thermal fluctuations in the dissipation range of homogeneous isotropic turbulence. Journal of Fluid Mechanics, 2022, 939, .	3.4	15

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145	Fully implicit shock tracking. Journal of Computational Physics, 1982, 48, 223-245.	3.8	14
146	A second-order projection method for the incompressible Navier Stokes equations on quadrilateral grids. , 1989, , .		14
147	The regime diagram for premixed flame kernel-vortex interactionsâ€"Revisited. Physics of Fluids, 2010, 22, 043602.	4.0	14
148	BURNING THERMALS IN TYPE Ia SUPERNOVAE. Astrophysical Journal, 2011, 738, 94.	4.5	14
149	A Bayesian approach to calibrating hydrogen flame kinetics using many experiments and parameters. Combustion and Flame, 2019, 205, 305-315.	5.2	14
150	A segmentation approach to grid generation using biharmonics. Journal of Computational Physics, 1982, 47, 463-472.	3.8	13
151	Iterative Importance Sampling Algorithms for Parameter Estimation. SIAM Journal of Scientific Computing, 2018, 40, B329-B352.	2.8	13
152	Structure and propagation of two-dimensional, partially premixed, laminar flames in diesel engine conditions. Proceedings of the Combustion Institute, 2019, 37, 1961-1969.	3.9	13
153	A fourth-order adaptive mesh refinement algorithm for the multicomponent, reacting compressible Navierâ€"Stokes equations. Combustion Theory and Modelling, 2019, 23, 592-625.	1.9	13
154	An a priori evaluation of a principal component and artificial neural network based combustion model in diesel engine conditions. Proceedings of the Combustion Institute, 2021, 38, 2701-2709.	3.9	13
155	Adaptive mesh refinement on moving quadrilateral grids. , 1989, , .		12
156	A Topological Framework for the Interactive Exploration of Large Scale Turbulent Combustion. , 2009, , .		12
157	Particleâ€"Continuum Coupling and its Scaling Regimes: Theory and Applications. Advanced Theory and Simulations, 2020, 3, 1900232.	2.8	12
158	Discrete ion stochastic continuum overdamped solvent algorithm for modeling electrolytes. Physical Review Fluids, 2021, 6, .	2.5	12
159	Simulation of lean premixed turbulent combustion. Journal of Physics: Conference Series, 2006, 46, 1-15.	0.4	11
160	Cellular burning in lean premixed turbulent hydrogen-air flames: Coupling experimental and computational analysis at the laboratory scale. Journal of Physics: Conference Series, 2009, 180, 012031.	0.4	11
161	A Numerical Study of Methods for Moist Atmospheric Flows: Compressible Equations. Monthly Weather Review, 2014, 142, 4269-4283.	1.4	11
162	Fluctuating hydrodynamics of reactive liquid mixtures. Journal of Chemical Physics, 2018, 149, 084113.	3.0	11

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163	Analysis of a New Method for Computing the Flow of Miscible Fluids in a Porous Medium. SIAM Journal on Numerical Analysis, 1985, 22, 1041-1050.	2.3	10
164	A second-order projection method for viscous, incompressible flow. , 1987, , .		10
165	Improved Coupling of Hydrodynamics and Nuclear Reactions via Spectral Deferred Corrections. Astrophysical Journal, 2019, 886, 105.	4.5	10
166	An adaptive multifluid interface-capturing method for compressible flow in complex geometries. , 1995, , .		9
167	Interaction of turblence and chemistry in a low-swirl burner. Journal of Physics: Conference Series, 2008, 125, 012027.	0.4	9
168	Adaptive Methods for Simulation of Turbulent Combustion. Fluid Mechanics and Its Applications, 2011, , 301-329.	0.2	8
169	An empirical model for the ignition of explosively dispersed aluminum particle clouds. Shock Waves, 2012, 22, 591-603.	1.9	8
170	A Low Mach Number Model for Moist Atmospheric Flows. Journals of the Atmospheric Sciences, 2015, 72, 1605-1620.	1.7	8
171	An adaptive semi-implicit scheme for simulations of unsteady viscous compressible flows. , 1995, , .		7
172	A cell-centered Cartesian grid projection method for the incompressible Euler equations in complex geometries. , 1995, , .		7
173	Type Ia supernovae. Journal of Physics: Conference Series, 2007, 78, 012081.	0.4	7
174	MAESTRO: A Low Mach Number Stellar Hydrodynamics Code. Journal of Physics: Conference Series, 2007, 78, 012085.	0.4	7
175	TURBULENT OXYGEN FLAMES IN TYPE Ia SUPERNOVAE. Astrophysical Journal, 2011, 730, 144.	4.5	7
176	A spectral deferred correction strategy for low Mach number reacting flows subject to electric fields. Combustion Theory and Modelling, 2020, 24, 194-220.	1.9	7
177	A coupled discontinuous Galerkin-Finite Volume framework for solving gas dynamics over embedded geometries. Journal of Computational Physics, 2022, 450, 110861.	3.8	7
178	AMR for low Mach number reacting flow. , 2005, , 203-221.		6
179	A Three-Dimensional, Unsplit Godunov Method for Scalar Conservation Laws. SIAM Journal of Scientific Computing, 2011, 33, 2039-2062.	2.8	6
180	Turbulent jets with off-source heating. Journal of Fluid Mechanics, 2017, 824, 766-784.	3.4	6

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181	Toward Resolved Simulations of Burning Fronts in Thermonuclear X-ray Bursts. Journal of Physics: Conference Series, 2019, 1225, 012005.	0.4	6
182	The structure and evolution of the vorticity and temperature fields in thermals. Theoretical and Computational Fluid Dynamics, 1992, 3, 327-344.	2.2	5
183	A deleted hobo element is involved in the unstable thermosensitive vgal mutation at the vestigial locus in Drosophila melanogaster. Genetical Research, 1993, 61, 171-176.	0.9	5
184	Topology-Aware Performance Optimization and Modeling of Adaptive Mesh Refinement Codes for Exascale. , 2016, , .		5
185	On the suppression and distortion of non-equilibrium fluctuations by transpiration. Physics of Fluids, 2019, 31, .	4.0	5
186	Simulation of Enhance-Explosive Devices in Chambers and Tunnels. , 2007, , .		4
187	A New Low Mach Number Approach in Astrophysics. Computing in Science and Engineering, 2009, 11, 24-33.	1.2	4
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