J Blair Perot

List of Publications by Year
in descending order

54 papers	3,212 citations	279798 23 h-index	223800 46 g-index
55 all docs	55 docs citations	55 times ranked	2338 citing authors

#	Article	IF	Citations
1	Laminar drag reduction in microchannels using ultrahydrophobic surfaces. Physics of Fluids, 2004, 16, 4635-4643.	4.0	888
2	An Analysis of the Fractional Step Method. Journal of Computational Physics, 1993, 108, 51-58.	3.8	452
3	Conservation Properties of Unstructured Staggered Mesh Schemes. Journal of Computational Physics, 2000, 159, 58-89.	3.8	232
4	Shear-free turbulent boundary layers. Part 1. Physical insights into near-wall turbulence. Journal of Fluid Mechanics, 1995, 295, 199.	3.4	201
5	Direct numerical simulations of turbulent flows over superhydrophobic surfaces. Journal of Fluid Mechanics, 2009, 620, 31-41.	3.4	177
6	An analysis of superhydrophobic turbulent drag reduction mechanisms using direct numerical simulation. Physics of Fluids, 2010, 22, .	4.0	128
7	Acceleration of the Smithâ€"Waterman algorithm using single and multiple graphics processors. Journal of Computational Physics, 2010, 229, 4247-4258.	3.8	101
8	Analysis of an Exact Fractional Step Method. Journal of Computational Physics, 2002, 180, 183-199.	3.8	94
9	A moving unstructured staggered mesh method for the simulation of incompressible free-surface flows. Journal of Computational Physics, 2003, 184, 192-214.	3.8	87
10	Discrete Conservation Properties of Unstructured Mesh Schemes. Annual Review of Fluid Mechanics, 2011, 43, 299-318.	25.0	85
11	The role of the olfactory recess in olfactory airflow. Journal of Experimental Biology, 2014, 217, 1799-803.	1.7	68
12	Accuracy and Conservation Properties of a Three-Dimensional Unstructured Staggered Mesh Scheme for Fluid Dynamics. Journal of Computational Physics, 2002, 175, 764-791.	3.8	61
13	Direct numerical simulation of turbulence using GPU accelerated supercomputers. Journal of Computational Physics, 2013, 235, 241-257.	3.8	48
14	Discrete calculus methods for diffusion. Journal of Computational Physics, 2007, 224, 59-81.	3.8	47
15	A spectral element semi-Lagrangian (SESL) method for the spherical shallow water equations. Journal of Computational Physics, 2003, 190, 623-650.	3.8	46
16	A note on turbulent energy dissipation in the viscous wall region. Physics of Fluids A, Fluid Dynamics, 1993, 5, 3305-3306.	1.6	37
17	Turbulence modeling using body force potentials. Physics of Fluids, 1999, 11, 2645-2656.	4.0	32
18	Comments on the Fractional Step Method. Journal of Computational Physics, 1995, 121, 190-191.	3.8	30

#	Article	IF	Citations
19	Higher-order mimetic methods for unstructured meshes. Journal of Computational Physics, 2006, 219, 68-85.	3.8	29
20	A self-adapting turbulence model for flow simulation at any mesh resolution. Physics of Fluids, 2007, 19, .	4.0	27
21	Shear-free turbulent boundary layers. Part 2. New concepts for Reynolds stress transport equation modelling of inhomogeneous flows. Journal of Fluid Mechanics, 1995, 295, 229.	3.4	26
22	Prediction of turbulent transition in boundary layers using the turbulent potential model. Journal of Turbulence, 2002, 3, N22.	1.4	25
23	Differential forms for scientists and engineers. Journal of Computational Physics, 2014, 257, 1373-1393.	3.8	24
24	Advances in turbulent mixing techniques to study microsecond protein folding reactions. Biopolymers, 2013, 99, 888-896.	2.4	22
25	Modeling turbulent dissipation at low and moderate Reynolds numbers. Journal of Turbulence, 2006, 7, N69.	1.4	20
26	Fluid Dynamics of the Open Port Interface for High-Speed Nanoliter Volume Sampling Mass Spectrometry. Analytical Chemistry, 2021, 93, 8559-8567.	6.5	19
27	How much does nasal cavity morphology matter? Patterns and rates of olfactory airflow in phyllostomid bats. Proceedings of the Royal Society B: Biological Sciences, 2015, 282, 20142161.	2.6	18
28	Computational Fluid Dynamics Simulations Using Many Graphics Processors. Computing in Science and Engineering, 2012, 14, 10-19.	1.2	17
29	A stress transport equation model for simulating turbulence at any mesh resolution. Theoretical and Computational Fluid Dynamics, 2009, 23, 271-286.	2.2	16
30	Determination of the decay exponent in mechanically stirred isotropic turbulence. AIP Advances, 2011, 1, .	1.3	16
31	DIRECT INTERFACE TRACKING OF DROPLET DEFORMATION. , 2002, 12, 721-736.		16
32	Mimetic Reconstruction of Vectors. , 2006, , 173-188.		14
33	A discrete calculus analysis of the Keller Box scheme and a generalization of the method to arbitrary meshes. Journal of Computational Physics, 2007, 226, 494-508.	3.8	11
34	A model for the dissipation rate tensor in inhomogeneous and anisotropic turbulence. Physics of Fluids, 2004, 16, 4053-4065.	4.0	10
35	A stopping criterion for the iterative solution of partial differential equations. Journal of Computational Physics, 2018, 352, 265-284.	3.8	9
36	Simulation and modeling of turbulence subjected to a period of uniform plane strain. Physics of Fluids, 2013, 25, 110819.	4.0	8

#	Article	IF	Citations
37	Heat Transfer Within Deforming Droplets. , 2002, , .		8
38	Simulation and modeling of turbulence subjected to a period of axisymmetric contraction or expansion. Physics of Fluids, 2014, 26, 115103.	4.0	7
39	Computer design of microfluidic mixers for protein/RNA folding studies. PLoS ONE, 2018, 13, e0198534.	2.5	7
40	Modeling return to isotropy using kinetic equations. Physics of Fluids, 2005, 17, 035101.	4.0	6
41	Improving the efficiency of wind farms via wake manipulation. Wind Energy, 2018, 21, 1239-1253.	4.2	6
42	Memristor-CMOS Analog Coprocessor for Acceleration of High-Performance Computing Applications. ACM Journal on Emerging Technologies in Computing Systems, 2018, 14, 1-30.	2.3	5
43	The Oriented-Eddy Collision Turbulence Model. Flow, Turbulence and Combustion, 2012, 89, 335-359.	2.6	3
44	A front-tracking method for two-phase flow simulation with no spurious currents. Journal of Computational Physics, 2022, 456, 111006.	3.8	3
45	Modeling three-dimensional boundary layers using the turbulent potential model. , 2000, , .		2
46	Modeling of the Internal Two-Phase Flow in a Gas-Centered Swirl Coaxial Fuel Injector. , 2010, , .		2
47	High-speed velocimetry in microfluidic protein mixers using confocal fluorescence decay microscopy. Experiments in Fluids, 2018, 59, 1.	2.4	2
48	A fractional-step method for steady-state flow. Journal of Computational Physics, 2020, 403, 109057.	3.8	2
49	A mimetic method for polygons. Journal of Computational Physics, 2021, 424, 109853.	3.8	2
50	APPLICATION OF THE TURBULENT POTENTIAL MODEL TO COMPLEX FLOWS. , 2002, , 117-126.		2
51	Application of the Turbulent Potential Model to Unsteady Flows and Three-Dimensional Boundary Layers. International Journal of Rotating Machinery, 2003, 9, 375-384.	0.8	1
52	A method for generating moving, orthogonal, area preserving polygonal meshes. Journal of Computational Physics, 2022, 454, 110940.	3.8	1
53	Memristor-CMOS Analog Co-Processor for Acceleration of High Performance Computing Applications. , 2018, , .		0
54	Eddy Collision Models for Turbulence. , 2005, , 107-116.		0