Brian Haines

List of Publications by Year
in descending order

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55 papers	1,286 citations	361413 20 h-index	395702 33 g-index
62 all docs	62 docs citations	62 times ranked	788 citing authors

#	Article	IF	Citations
1	Viscosity of bacterial suspensions: Hydrodynamic interactions and self-induced noise. Physical Review E, 2011, 83, 050904.	2.1	102
2	Three-dimensional model for the effective viscosity of bacterial suspensions. Physical Review E, 2009, 80, 041922.	2.1	84
3	Estimating the effective Reynolds number in implicit large-eddy simulation. Physical Review E, 2014, 89, 013303.	2.1	68
4	High-resolution modeling of indirectly driven high-convergence layered inertial confinement fusion capsule implosions. Physics of Plasmas, 2017, 24, .	1.9	58
5	Effective viscosity of dilute bacterial suspensions: a two-dimensional model. Physical Biology, 2008, 5, 046003.	1.8	57
6	First Liquid Layer Inertial Confinement Fusion Implosions at the National Ignition Facility. Physical Review Letters, 2016, 117, 245001.	7.8	53
7	Detailed high-resolution three-dimensional simulations of OMEGA separated reactants inertial confinement fusion experiments. Physics of Plasmas, 2016, 23, .	1.9	47
8	Two laser-driven mix experiments to study reshock and shear. High Energy Density Physics, 2013, 9, 496-499.	1.5	43
9	Observation of persistent species temperature separation in inertial confinement fusion mixtures. Nature Communications, 2020, 11, 544.	12.8	41
10	Reynolds-averaged Navierâ€“Stokes initialization and benchmarking inÂshock-driven turbulent mixing. Journal of Turbulence, 2013, 14, 46-70.	1.4	40
11	Three-dimensional simulation strategy to determine the effects of turbulent mixing on inertial-confinement-fusion capsule performance. Physical Review E, 2014, 89, 053302.	2.1	40
12	Progress of indirect drive inertial confinement fusion in the United States. Nuclear Fusion, 2019, 59, 112018.	3.5	38
13	The effects of plasma diffusion and viscosity on turbulent instability growth. Physics of Plasmas, 2014, 21, .	1.9	37
14	Robustness to hydrodynamic instabilities in indirectly driven layered capsule implosions. Physics of Plasmas, 2019, 26, .	1.9	35
15	A Proof of Einstein's Effective Viscosity for a Dilute Suspension of Spheres. SIAM Journal on Mathematical Analysis, 2012, 44, 2120-2145.	1.9	33
16	The effects of convergence ratio on the implosion behavior of DT layered inertial confinement fusion capsules. Physics of Plasmas, 2017, 24, .	1.9	33
17	Plasma transport in an Eulerian AMR code. Physics of Plasmas, 2017, 24, .	1.9	27
18	Progress in the development of the MARBLE platform for studying thermonuclear burn in the presence of heterogeneous mix on OMEGA and the National Ignition Facility. Journal of Physics: Conference Series, 2016, 717, 012072.	0.4	24

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19	Simulations of material mixing in laser-driven reshock experiments. Physics of Plasmas, 2013, 20, 022309.	1.9	22
20	Systematic Fuel Cavity Asymmetries in Directly Driven Inertial Confinement Fusion Implosions. Physical Review Letters, 2017, 118, 135001.	7.8	22
21	Coupling laser physics to radiation-hydrodynamics. Computers and Fluids, 2020, 201, 104478.	2.5	22
22	Modeling of direct-drive cylindrical implosion experiments with an Eulerian radiation-hydrodynamics code. Physics of Plasmas, 2019, 26, 042701.	1.9	18
23	A mechanism for reduced compression in indirectly driven layered capsule implosions. Physics of Plasmas, 2022, 29, .	1.9	18
24	A Kinetic Model for Semidilute Bacterial Suspensions. Multiscale Modeling and Simulation, 2013, 11, 1176-1196.	1.6	17
25	The rate of development of atomic mixing and temperature equilibration in inertial confinement fusion implosions. Physics of Plasmas, 2020, 27, .	1.9	17
26	Constraining computational modeling of indirect drive double shell capsule implosions using experiments. Physics of Plasmas, 2021, 28, .	1.9	17
27	Impact of asymmetries on fuel performance in inertial confinement fusion. Physical Review E, 2018, 98, .	2.1	16
28	Cross-code comparison of the impact of the fill tube on high yield implosions on the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	16
29	Variable convergence liquid layer implosions on the National Ignition Facility. Physics of Plasmas, 2018, 25, .	1.9	15
30	Impact of imposed mode 2 laser drive asymmetry on inertial confinement fusion implosions. Physics of Plasmas, 2019, 26, .	1.9	15
31	Impact of stalk on directly driven inertial confinement fusion implosions. Physics of Plasmas, 2020, 27, 032704.	1.9	15
32	Simulation ensemble for a laserâ€“driven shear experiment. Physics of Plasmas, 2013, 20, .	1.9	13
33	Effective viscosity of bacterial suspensions: a three-dimensional PDE model with stochastic torque. Communications on Pure and Applied Analysis, 2012, 11, 19-46.	0.8	13
34	Computational study of instability and fill tube mitigation strategies for double shell implosions. Physics of Plasmas, 2019, 26, .	1.9	12
35	Detrimental effects and mitigation of the joint feature in double shell implosion simulations. Physics of Plasmas, 2021, 28, .	1.9	12
36	A polar direct drive liquid deuteriumâ€“tritium wetted foam target concept for inertial confinement fusion. Physics of Plasmas, 2021, 28, .	1.9	12

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37	Development of the Marble experimental platform at the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	11
38	Magnetization around mix jets entering inertial confinement fusion fuel. Physics of Plasmas, 2020, 27, .	1.9	10
39	Results from single-shock Marble experiments studying thermonuclear burn in the presence of heterogeneous mix on the National Ignition Facility. High Energy Density Physics, 2021, 38, 100929.	1.5	10
40	One-dimensional hydrodynamic simulations of low convergence ratio direct-drive inertial confinement fusion implosions. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200224.	3.4	10
41	Coupling 1D xRAGE simulations with machine learning for graded inner shell design optimization in double shell capsules. Physics of Plasmas, 2021, 28, .	1.9	10
42	Analysis of the effects of energy deposition on shock-driven turbulent mixing. Physics of Plasmas, 2013, 20, .	1.9	8
43	Experimental measurement of two copropagating shocks interacting with an unstable interface. Physical Review E, 2020, 102, 043212.	2.1	8
44	3D xRAGE simulation of inertial confinement fusion implosion with imposed mode 2 laser drive asymmetry. High Energy Density Physics, 2020, 36, 100825.	1.5	8
45	Use of computer vision for analysis of image datasets from high temperature plasma experiments. Review of Scientific Instruments, 2021, 92, 033532.	1.3	8
46	Exponential yield sensitivity to long-wavelength asymmetries in three-dimensional simulations of inertial confinement fusion capsule implosions. Physics of Plasmas, 2015, 22, .	1.9	7
47	The modeling of delayed-onset Rayleigh-Taylor and transition to mixing in laser-driven HED experiments. Physics of Plasmas, 2019, 26, .	1.9	7
48	Effects of thermal conductivity of liquid layer in NIF wetted foam experiments. Physics of Plasmas, 2019, 26, .	1.9	7
49	Experimental quantification of the impact of heterogeneous mix on thermonuclear burn. Physics of Plasmas, 2022, 29, .	1.9	7
50	Mechanisms of shape transfer and preheating in indirect-drive double shell collisions. Physics of Plasmas, 2022, 29, .	1.9	7
51	Preparations for a European R&D roadmap for an inertial fusion demo reactor. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200005.	3.4	6
52	Experimental validation of shock propagation through a foam with engineered macro-pores. Physics of Plasmas, 2021, 28, 012702.	1.9	5
53	Pathways towards break even for low convergence ratio direct-drive inertial confinement fusion. Journal of Plasma Physics, 2022, 88, .	2.1	3
54	Laser Driven Turbulence in High Energy Density Physics and Inertial Confinement Fusion Experiments. , 0, , 232-281.		1

#	Article	IF	Citations
55	Mitigating the Joint Feature in Double Shell Implosion Simulations *. , 2021, , .		0