T J B Collins

List of Publications by Year in descending order

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Version: 2024-02-01

52 papers	2,473 citations	201674 27 h-index	189892 50 g-index
52 all docs	52 docs citations	52 times ranked	1175 citing authors

#	Article	IF	Citations
1	Direct-drive inertial confinement fusion: A review. Physics of Plasmas, 2015, 22, .	1.9	521
2	Polar direct drive on the National Ignition Facility. Physics of Plasmas, 2004, 11, 2763-2770.	1.9	139
3	Improving the hot-spot pressure and demonstrating ignition hydrodynamic equivalence in cryogenic deuteriumâ€“tritium implosions on OMEGA. Physics of Plasmas, 2014, 21, .	1.9	139
4	Two-dimensional simulations of plastic-shell, direct-drive implosions on OMEGA. Physics of Plasmas, 2005, 12, 032702.	1.9	126
5	Tripled yield in direct-drive laser fusion through statistical modelling. Nature, 2019, 565, 581-586.	27.8	103
6	Multidimensional analysis of direct-drive, plastic-shell implosions on OMEGA. Physics of Plasmas, 2005, 12, 056307.	1.9	95
7	Performance of direct-drive cryogenic targets on OMEGA. Physics of Plasmas, 2008, 15, .	1.9	92
8	Single-mode, Rayleigh-Taylor growth-rate measurements on the OMEGA laser system. Physics of Plasmas, 2000, 7, 338-345.	1.9	83
9	Demonstration of Fuel Hot-Spot Pressure in Excess of 50ÂGbar for Direct-Drive, Layered Deuterium-Tritium Implosions on OMEGA. Physical Review Letters, 2016, 117, 025001.	7.8	72
10	A polar-driveâ€“ignition design for the National Ignition Facility. Physics of Plasmas, 2012, 19, .	1.9	70
11	Theory of hydro-equivalent ignition for inertial fusion and its applications to OMEGA and the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	68
12	First Observation of Cross-Beam Energy Transfer Mitigation for Direct-Drive Inertial Confinement Fusion Implosions Using Wavelength Detuning at the National Ignition Facility. Physical Review Letters, 2018, 120, 085001.	7.8	65
13	Properties of fluid deuterium under double-shock compression to several Mbar. Physics of Plasmas, 2004, 11, L49-L52.	1.9	58
14	Polar-direct-drive simulations and experiments. Physics of Plasmas, 2006, 13, 056311.	1.9	58
15		1.9	52
16	Theory of laser-induced adiabat shaping in inertial fusion implosions: The relaxation method. Physics of Plasmas, 2005, 12, 042703.	1.9	48
17	Improving cryogenic deuteriumâ€“tritium implosion performance on OMEGA. Physics of Plasmas, 2013, 20, .	1.9	48
18	The effects of target mounts in direct-drive implosions on OMEGA. Physics of Plasmas, 2009, 16, .	1.9	45

#	Article	IF	Citations
19	Wavelength-detuning cross-beam energy transfer mitigation scheme for direct drive: Modeling and evidence from National Ignition Facility implosions. Physics of Plasmas, 2018, 25, 056314.	1.9	40
20	A polar-drive shock-ignition design for the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	37
21	Direct drive: Simulations and results from the National Ignition Facility. Physics of Plasmas, 2016, 23, 056305.	1.9	36
22	Shock-tuned cryogenic-deuterium-tritium implosion performance on Omega. Physics of Plasmas, 2010, 17, 056312.	1.9	33
23	Test of Thermal Transport Models through Dynamic Overpressure Stabilization of Ablation-Front Perturbation Growth in Laser-Driven CH Foils. Physical Review Letters, 2006, 96, 115005.	7.8	32
24	Shock-timing experiments using double-pulse laser irradiation. Physics of Plasmas, 2006, 13, 056303.	1.9	31
25	Improved target stability using picket pulses to increase and shape the ablator adiabat. Physics of Plasmas, 2005, 12, 056306.	1.9	29
26	Polar-drive implosions on OMEGA and the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	28
27	Progress in hydrodynamics theory and experiments for direct-drive and fast ignition inertial confinement fusion. Plasma Physics and Controlled Fusion, 2006, 48, B153-B163.	2.1	27
28	Neutron yield study of direct-drive, low-adiabat cryogenic D2 implosions on OMEGA laser system. Physics of Plasmas, 2009, 16, 112706.	1.9	27
29	Shock propagation in deuterium-tritium-saturated foam. Physics of Plasmas, 2005, 12, 062705.	1.9	25
30	OMEGA polar-drive target designs. Physics of Plasmas, 2012, 19, .	1.9	25
31	Direct-driveâ€“ignition designs with mid-Z ablators. Physics of Plasmas, 2015, 22, .	1.9	25
32	Imprint reduction using an intensity spike in OMEGA cryogenic targets. Physics of Plasmas, 2002, 9, 275-281.	1.9	23
33	Direct-drive laser fusion: status, plans and future. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200011.	3.4	20
34	One-megajoule, wetted-foam target-design performance for the National Ignition Facility. Physics of Plasmas, 2007, 14, 056308.	1.9	18
35	Reduction of the ablative Rayleighâ€“Taylor growth rate with Gaussian picket pulses. Physics of Plasmas, 2004, 11, 1569-1576.	1.9	17
36	Determining acceptable limits of fast-electron preheat in direct-drive-ignitionâ€“scale target designs. Physics of Plasmas, 2019, 26, 062705.	1.9	13

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37	The National Direct-Drive Program: OMEGA to the National Ignition Facility. Fusion Science and Technology, 2018, 73, 89-97.	1.1	12
38	Mitigation of cross-beam energy transfer in ignition-scale polar-direct-drive target designs for the National Ignition Facility. Physics of Plasmas, 2018, 25, 072706.	1.9	11
39	Accretion Disk and Boundary Layer Models Incorporating Opal Opacities. Astrophysical Journal, 1998, 502, 730-736.	4.5	10
40	A Model for Quasi-periodic Oscillations in Cataclysmic VariablesBased on Boundary Layer Oscillations. Astrophysical Journal, 1998, 508, L159-L161.	4.5	10
41	Oscillations of Accretion Disks and Boundary Layers in Cataclysmic Variables. II. A Local, Linear Stability Analysis of Accretion Disk Boundary Layers. Astrophysical Journal, 2000, 534, 944-966.	4.5	9
42	Optical smoothing of laser imprinting in planar-target experiments on OMEGA EP using multi-FM 1-D smoothing by spectral dispersion. Physics of Plasmas, 2016, 23, .	1.9	9
43	Oscillations of Accretion Disks and Boundary Layers in Cataclysmic Variables. I. Unperturbed, Steadyâ€Flow Models. Astrophysical Journal, 2000, 534, 934-943.	4.5	8
44	Causes of fuelâ€“ablator mix inferred from modeling of monochromatic time-gated radiography of OMEGA cryogenic implosions. Physics of Plasmas, 2022, 29, .	1.9	8
45	The Effects of Radial Viscous Forces on the Structure of Accretion Disk Boundary Layers. Astrophysical Journal, 1997, 478, 417-422.	4.5	6
46	Study of Rayleighâ€“Taylor growth in laser irradiated planar SiO₂ targets at ignition-relevant conditions. Physics of Plasmas, 2013, 20, 072707.	1.9	6
47	The effect of laser spot shapes on polar-direct-drive implosions on the National Ignition Facility. Physics of Plasmas, 2015, 22, 032701.	1.9	6
48	Observations of modulated shock waves in solid targets driven by spatially modulated laser beams. Journal of Applied Physics, 2002, 92, 1212-1215.	2.5	5
49	Central Density and Low-Mode Perturbation Control of Inertial Confinement Fusion Dynamic-Shell Targets. Frontiers in Physics, 2021, 9, .	2.1	3
50	Polar-direct-drive experiments at the National Ignition Facility. Journal of Physics: Conference Series, 2016, 717, 012009.	0.4	1
51	Self-radiography of imploded shells on OMEGA based on additive-free multi-monochromatic continuum spectral analysis. Physics of Plasmas, 2020, 27, .	1.9	1
52	Design options for polar-direct-drive targets from alpha heating to ignition. Journal of Physics: Conference Series, 2016, 717, 012012.	0.4	0