Radha Bahukutumbi

List of Publications by Year
in descending order

62 papers	2,937 citations	186265 28 h-index	161849 54 g-index
62 all docs	62 docs citations	62 times ranked	1172 citing authors

#	Article	IF	Citations
1	Direct-drive inertial confinement fusion: A review. Physics of Plasmas, 2015, 22, .	1.9	521
2	Early stage of implosion in inertial confinement fusion: Shock timing and perturbation evolution. Physics of Plasmas, 2006, 13, 012702.	1.9	155
3	Improved performance of direct-drive inertial confinement fusion target designs with adiabat shaping using an intensity picket. Physics of Plasmas, 2003, 10, 1906-1918.	1.9	146
4	Polar direct drive on the National Ignition Facility. Physics of Plasmas, 2004, 11, 2763-2770.	1.9	139
5	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
6	Two-dimensional simulations of plastic-shell, direct-drive implosions on OMEGA. Physics of Plasmas, 2005, 12, 032702.	1.9	126
7	Demonstration of the Highest Deuterium-Tritium Areal Density Using Multiple-Picket Cryogenic Designs on OMEGA. Physical Review Letters, 2010, 104, 165001.	7.8	111
8	Tripled yield in direct-drive laser fusion through statistical modelling. Nature, 2019, 565, 581-586.	27.8	103
9	Multidimensional analysis of direct-drive, plastic-shell implosions on OMEGA. Physics of Plasmas, 2005, 12, 056307.	1.9	95
10	Performance of direct-drive cryogenic targets on OMEGA. Physics of Plasmas, 2008, 15, .	1.9	92
11	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
12	A polar-driveâ€“ignition design for the National Ignition Facility. Physics of Plasmas, 2012, 19, .	1.9	70
13	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
14	Increasing Hydrodynamic Efficiency by Reducing Cross-Beam Energy Transfer in Direct-Drive-Implosion Experiments. Physical Review Letters, 2012, 108, 125003.	7.8	67
15	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
16	Polar-direct-drive simulations and experiments. Physics of Plasmas, 2006, 13, 056311.	1.9	58
17	High-resolution spectroscopy used to measure inertial confinement fusion neutron spectra on Omega (invited). Review of Scientific Instruments, 2012, 83, 10D919.	1.3	54
18		1.9	52

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19	Using secondary-proton spectra to study the compression and symmetry of deuterium-filled capsules at OMEGA. Physics of Plasmas, 2002, 9, 2725-2737.	1.9	48
20	Polar direct drive: Proof-of-principle experiments on OMEGA and prospects for ignition on the National Ignition Facility. Physics of Plasmas, 2005, 12, 056304.	1.9	46
21	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
22	Direct-drive cryogenic target implosion performance on OMEGA. Physics of Plasmas, 2004, 11, 2790-2797.	1.9	39
23	Understanding the effects of laser imprint on plastic-target implosions on OMEGA. Physics of Plasmas, 2016, 23, .	1.9	38
24	Effects of Nonuniform Illumination on Implosion Asymmetry in Direct-Drive Inertial Confinement Fusion. Physical Review Letters, 2004, 92, 205001.	7.8	37
25	Direct drive: Simulations and results from the National Ignition Facility. Physics of Plasmas, 2016, 23, 056305.	1.9	36
26	Effects of residual kinetic energy on yield degradation and ion temperature asymmetries in inertial confinement fusion implosions. Physics of Plasmas, 2018, 25, .	1.9	33
27	Laserâ€“plasma interactions in direct-drive ignition plasmas. Plasma Physics and Controlled Fusion, 2012, 54, 124016.	2.1	31
28	Studies of Plastic-Ablator Compressibility for Direct-Drive Inertial Confinement Fusion on Omega. Physical Review Letters, 2008, 100, 185003.	7.8	28
29	Polar-drive implosions on OMEGA and the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	28
30	Neutron yield study of direct-drive, low-adiabat cryogenic D2 implosions on OMEGA laser system. Physics of Plasmas, 2009, 16, 112706.	1.9	27
31	A review on ab initio studies of static, transport, and optical properties of polystyrene under extreme conditions for inertial confinement fusion applications. Physics of Plasmas, 2018, 25, .	1.9	27
32	Hot-electron generation at direct-drive ignition-relevant plasma conditions at the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	27
33	OMEGA polar-drive target designs. Physics of Plasmas, 2012, 19, .	1.9	25
34	Experimentally Inferred Fusion Yield Dependencies of OMEGA Inertial Confinement Fusion Implosions. Physical Review Letters, 2021, 127, 105001.	7.8	23
35	Impact of three-dimensional hot-spot flow asymmetry on ion-temperature measurements in inertial confinement fusion experiments. Physics of Plasmas, 2018, 25, .	1.9	22
36	Monochromatic backlighting of direct-drive cryogenic DT implosions on OMEGA. Physics of Plasmas, 2017, 24, .	1.9	21

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37	Direct-drive laser fusion: status, plans and future. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200011.	3.4	20
38	Polar-direct-drive experiments on OMEGA. European Physical Journal Special Topics, 2006, 133, 153-157.	0.2	19
39	Isolating and quantifying cross-beam energy transfer in direct-drive implosions on OMEGA and the National Ignition Facility. Physics of Plasmas, 2016, 23, .	1.9	19
40	Analysis of trends in experimental observables: Reconstruction of the implosion dynamics and implications for fusion yield extrapolation for direct-drive cryogenic targets on OMEGA. Physics of Plasmas, 2018, 25, .	1.9	18
41	Mitigating laser-imprint effects in direct-drive inertial confinement fusion implosions with an above-critical-density foam layer. Physics of Plasmas, 2018, 25, .	1.9	16
42	Three-dimensional modeling of the neutron spectrum to infer plasma conditions in cryogenic inertial confinement fusion implosions. Physics of Plasmas, 2018, 25, .	1.9	16
43	Inferring thermal ion temperature and residual kinetic energy from nuclear measurements in inertial confinement fusion implosions. Physics of Plasmas, 2020, 27, .	1.9	15
44	Interpreting the electron temperature inferred from x-ray continuum emission for direct-drive inertial confinement fusion implosions on OMEGA. Physics of Plasmas, 2019, 26, .	1.9	12
45	Nonuniform Absorption and Scattered Light in Direct-Drive Implosions Driven by Polarization Smoothing. Physical Review Letters, 2021, 127, 075001.	7.8	11
46	High-dynamic-range neutron time-of-flight detector used to infer the D(t,n)4He and D(d,n)3He reaction yield and ion temperature on OMEGA. Review of Scientific Instruments, 2016, 87, 11D814.	1.3	10
47	Polar-direct-drive experiments with contoured-shell targets on OMEGA. Physics of Plasmas, 2016, 23, 012711.	1.9	10
48	First Measurements of Deuterium-Tritium and Deuterium-Deuterium Fusion Reaction Yields in Ignition-Scalable Direct-Drive Implosions. Physical Review Letters, 2017, 118, 095002.	7.8	9
49	Simulated refraction-enhanced X-ray radiography of laser-driven shocks. Physics of Plasmas, 2019, 26, .	1.9	8
50	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
51	Continuous distributed phase-plate advances for high-energy laser systems. Journal of Physics: Conference Series, 2016, 717, 012107.	0.4	6
52	Effect of cross-beam energy transfer on target-offset asymmetry in direct-drive inertial confinement fusion implosions. Physics of Plasmas, 2020, 27, 112713.	1.9	6
53	The Scattered Light Time-history Diagnostic suite at the National Ignition Facility. Review of Scientific Instruments, 2021, 92, 033511.	1.3	5
54	Enhanced direct-drive implosion performance on NIF with wavelength separation. Physics of Plasmas, 2020, 27, 124501.	1.9	5

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55	Direct-drive implosion physics: Results from OMEGA and the National Ignition Facility. Journal of Physics: Conference Series, 2016, 688, 012006.	0.4	4
56	Implementing a microphysics model in hydrodynamic simulations to study the initial plasma formation in dielectric ablator materials for direct-drive implosions. Physical Review E, 2020, 101, 063202.	2.1	4
57	Theoretical quantification of shock-timing sensitivities for direct-drive inertial confinement fusion implosions on OMEGA. Physics of Plasmas, 2018, 25, .	1.9	3
58	Density evolution after shock release from laser-driven polystyrene (CH) targets in inertial confinement fusion. Physics of Plasmas, 2021, 28, .	1.9	2
59	Self-radiography of imploded shells on OMEGA based on additive-free multi-monochromatic continuum spectral analysis. Physics of Plasmas, 2020, 27, .	1.9	1
60	Analysis of limited coverage effects on areal density measurements in inertial confinement fusion implosions. Physics of Plasmas, 2022, 29, .	1.9	1
61	Fuel-shell interface instability growth effects on the performance of room temperature direct-drive implosions. Physics of Plasmas, 2019, 26, 082701.	1.9	0
62	10.1063/1.5022181.1. , 2018, , .		0