

Radha Bahukutumbi

List of Publications by Year in descending order

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62
papers

2,937
citations

186265

28
h-index

161849

54
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62
all docs

62
docs citations

62
times ranked

1172
citing authors

#	ARTICLE	IF	CITATIONS
1	Causes of fuelâ€ablato mix inferred from modeling of monochromatic time-gated radiography of OMEGA cryogenic implosions. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	8
2	Analysis of limited coverage effects on areal density measurements in inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	1
3	Direct-drive laser fusion: status, plans and future. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021, 379, 20200011.	3.4	20
4	The Scattered Light Time-history Diagnostic suite at the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2021, 92, 033511.	1.3	5
5	Nonuniform Absorption and Scattered Light in Direct-Drive Implosions Driven by Polarization Smoothing. <i>Physical Review Letters</i> , 2021, 127, 075001.	7.8	11
6	Experimentally Inferred Fusion Yield Dependencies of OMEGA Inertial Confinement Fusion Implosions. <i>Physical Review Letters</i> , 2021, 127, 105001.	7.8	23
7	Density evolution after shock release from laser-driven polystyrene (CH) targets in inertial confinement fusion. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	2
8	Effect of cross-beam energy transfer on target-offset asymmetry in direct-drive inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2020, 27, 112713.	1.9	6
9	Hot-electron generation at direct-drive ignition-relevant plasma conditions at the National Ignition Facility. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	27
10	Inferring thermal ion temperature and residual kinetic energy from nuclear measurements in inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	15
11	Implementing a microphysics model in hydrodynamic simulations to study the initial plasma formation in dielectric ablator materials for direct-drive implosions. <i>Physical Review E</i> , 2020, 101, 063202.	2.1	4
12	Enhanced direct-drive implosion performance on NIF with wavelength separation. <i>Physics of Plasmas</i> , 2020, 27, 124501.	1.9	5
13	Self-radiography of imploded shells on OMEGA based on additive-free multi-monochromatic continuum spectral analysis. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	1
14	Fuel-shell interface instability growth effects on the performance of room temperature direct-drive implosions. <i>Physics of Plasmas</i> , 2019, 26, 082701.	1.9	0
15	Interpreting the electron temperature inferred from x-ray continuum emission for direct-drive inertial confinement fusion implosions on OMEGA. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	12
16	Tripled yield in direct-drive laser fusion through statistical modelling. <i>Nature</i> , 2019, 565, 581-586.	27.8	103
17	Simulated refraction-enhanced X-ray radiography of laser-driven shocks. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	8
18	First Observation of Cross-Beam Energy Transfer Mitigation for Direct-Drive Inertial Confinement Fusion Implosions Using Wavelength Detuning at the National Ignition Facility. <i>Physical Review Letters</i> , 2018, 120, 085001.	7.8	65

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19	A review on <i>ab initio</i> studies of static, transport, and optical properties of polystyrene under extreme conditions for inertial confinement fusion applications. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	27
20	Impact of three-dimensional hot-spot flow asymmetry on ion-temperature measurements in inertial confinement fusion experiments. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	22
21	Mitigating laser-imprint effects in direct-drive inertial confinement fusion implosions with an above-critical-density foam layer. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	16
22	Three-dimensional modeling of the neutron spectrum to infer plasma conditions in cryogenic inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	16
23	Theoretical quantification of shock-timing sensitivities for direct-drive inertial confinement fusion implosions on OMEGA. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	3
24	Analysis of trends in experimental observables: Reconstruction of the implosion dynamics and implications for fusion yield extrapolation for direct-drive cryogenic targets on OMEGA. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	18
25	Wavelength-detuning cross-beam energy transfer mitigation scheme for direct drive: Modeling and evidence from National Ignition Facility implosions. <i>Physics of Plasmas</i> , 2018, 25, 056314.	1.9	40
26	Effects of residual kinetic energy on yield degradation and ion temperature asymmetries in inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	33
27	10.1063/1.5022181.1., 2018, , .		0
28	First Measurements of Deuterium-Tritium and Deuterium-Deuterium Fusion Reaction Yields in Ignition-Scalable Direct-Drive Implosions. <i>Physical Review Letters</i> , 2017, 118, 095002.	7.8	9
29	Monochromatic backlighting of direct-drive cryogenic DT implosions on OMEGA. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	21
30	Continuous distributed phase-plate advances for high-energy laser systems. <i>Journal of Physics: Conference Series</i> , 2016, 717, 012107.	0.4	6
31	Direct-drive implosion physics: Results from OMEGA and the National Ignition Facility. <i>Journal of Physics: Conference Series</i> , 2016, 688, 012006.	0.4	4
32	Isolating and quantifying cross-beam energy transfer in direct-drive implosions on OMEGA and the National Ignition Facility. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	19
33	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. <i>Review of Scientific Instruments</i> , 2016, 87, 11D814.	1.3	10
34	Direct drive: Simulations and results from the National Ignition Facility. <i>Physics of Plasmas</i> , 2016, 23, 056305.	1.9	36
35	Understanding the effects of laser imprint on plastic-target implosions on OMEGA. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	38
36	Polar-direct-drive experiments with contoured-shell targets on OMEGA. <i>Physics of Plasmas</i> , 2016, 23, 012711.	1.9	10

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37	Demonstration of Fuel Hot-Spot Pressure in Excess of 50ÅGbar for Direct-Drive, Layered Deuterium-Tritium Implosions on OMEGA. <i>Physical Review Letters</i> , 2016, 117, 025001.	7.8	72
38	Direct-drive inertial confinement fusion: A review. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	521
39		1.9	52
40	Theory of hydro-equivalent ignition for inertial fusion and its applications to OMEGA and the National Ignition Facility. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	68
41	Improving the hot-spot pressure and demonstrating ignition hydrodynamic equivalence in cryogenic deuteriumâ€“tritium implosions on OMEGA. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	139
42	Polar-drive implosions on OMEGA and the National Ignition Facility. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	28
43	OMEGA polar-drive target designs. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	25
44	High-resolution spectroscopy used to measure inertial confinement fusion neutron spectra on Omega (invited). <i>Review of Scientific Instruments</i> , 2012, 83, 10D919.	1.3	54
45	Laserâ€“plasma interactions in direct-drive ignition plasmas. <i>Plasma Physics and Controlled Fusion</i> , 2012, 54, 124016.	2.1	31
46	Increasing Hydrodynamic Efficiency by Reducing Cross-Beam Energy Transfer in Direct-Drive-Implosion Experiments. <i>Physical Review Letters</i> , 2012, 108, 125003.	7.8	67
47	A polar-driveâ€“ignition design for the National Ignition Facility. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	70
48	Demonstration of the Highest Deuterium-Tritium Areal Density Using Multiple-Picket Cryogenic Designs on OMEGA. <i>Physical Review Letters</i> , 2010, 104, 165001.	7.8	111
49	Neutron yield study of direct-drive, low-adiabat cryogenic D2 implosions on OMEGA laser system. <i>Physics of Plasmas</i> , 2009, 16, 112706.	1.9	27
50	Studies of Plastic-Ablator Compressibility for Direct-Drive Inertial Confinement Fusion on Omega. <i>Physical Review Letters</i> , 2008, 100, 185003.	7.8	28
51	Performance of direct-drive cryogenic targets on OMEGA. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	92
52	Polar-direct-drive experiments on OMEGA. <i>European Physical Journal Special Topics</i> , 2006, 133, 153-157.	0.2	19
53	Early stage of implosion in inertial confinement fusion: Shock timing and perturbation evolution. <i>Physics of Plasmas</i> , 2006, 13, 012702.	1.9	155
54	Polar-direct-drive simulations and experiments. <i>Physics of Plasmas</i> , 2006, 13, 056311.	1.9	58

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55	Polar direct drive: Proof-of-principle experiments on OMEGA and prospects for ignition on the National Ignition Facility. <i>Physics of Plasmas</i> , 2005, 12, 056304.	1.9	46
56	Two-dimensional simulations of plastic-shell, direct-drive implosions on OMEGA. <i>Physics of Plasmas</i> , 2005, 12, 032702.	1.9	126
57	Multidimensional analysis of direct-drive, plastic-shell implosions on OMEGA. <i>Physics of Plasmas</i> , 2005, 12, 056307.	1.9	95
58	Effects of Nonuniform Illumination on Implosion Asymmetry in Direct-Drive Inertial Confinement Fusion. <i>Physical Review Letters</i> , 2004, 92, 205001.	7.8	37
59	Direct-drive cryogenic target implosion performance on OMEGA. <i>Physics of Plasmas</i> , 2004, 11, 2790-2797.	1.9	39
60	Polar direct drive on the National Ignition Facility. <i>Physics of Plasmas</i> , 2004, 11, 2763-2770.	1.9	139
61	Improved performance of direct-drive inertial confinement fusion target designs with adiabat shaping using an intensity picket. <i>Physics of Plasmas</i> , 2003, 10, 1906-1918.	1.9	146
62	Using secondary-proton spectra to study the compression and symmetry of deuterium-filled capsules at OMEGA. <i>Physics of Plasmas</i> , 2002, 9, 2725-2737.	1.9	48