

Jacques Delettrez

List of Publications by Year in descending order

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79
papers

4,018
citations

109321

35
h-index

118850

62
g-index

80
all docs

80
docs citations

80
times ranked

1568
citing authors

#	ARTICLE	IF	CITATIONS
1	Direct-drive inertial confinement fusion: A review. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	521
2	Effect of laser illumination nonuniformity on the analysis of time-resolved x-ray measurements in uv spherical transport experiments. <i>Physical Review A</i> , 1987, 36, 3926-3934.	2.5	242
3	Crossed-beam energy transfer in implosion experiments on OMEGA. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	142
4	Polar direct drive on the National Ignition Facility. <i>Physics of Plasmas</i> , 2004, 11, 2763-2770.	1.9	139
5	Improving the hot-spot pressure and demonstrating ignition hydrodynamic equivalence in cryogenic deuterium-tritium implosions on OMEGA. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	139
6	Two-dimensional simulations of plastic-shell, direct-drive implosions on OMEGA. <i>Physics of Plasmas</i> , 2005, 12, 032702.	1.9	126
7	Tripled yield in direct-drive laser fusion through statistical modelling. <i>Nature</i> , 2019, 565, 581-586.	27.8	103
8	Gigabar Spherical Shock Generation on the OMEGA Laser. <i>Physical Review Letters</i> , 2015, 114, 045001.	7.8	100
9	Multidimensional analysis of direct-drive, plastic-shell implosions on OMEGA. <i>Physics of Plasmas</i> , 2005, 12, 056307.	1.9	95
10	Performance of direct-drive cryogenic targets on OMEGA. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	92
11	Initial experiments on the shock-ignition inertial confinement fusion concept. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	86
12	Core performance and mix in direct-drive spherical implosions with high uniformity. <i>Physics of Plasmas</i> , 2001, 8, 2251-2256.	1.9	84
13	Development of Compton radiography of inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	82
14	Initial cone-in-shell fast-ignition experiments on OMEGA. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	82
15	Spherical shock-ignition experiments with the 40 + 20-beam configuration on OMEGA. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	78
16	Thermal electron transport in direct-drive laser fusion. <i>Canadian Journal of Physics</i> , 1986, 64, 932-943.	1.1	73
17	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
18	A polar-drive-ignition design for the National Ignition Facility. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	70

#	ARTICLE	IF	CITATIONS
19	Plasma-Density Determination from X-Ray Radiography of Laser-Driven Spherical Implosions. Physical Review Letters, 2009, 102, 185004.	7.8	68
20	Time-resolved absorption in cryogenic and room-temperature direct-drive implosions. Physics of Plasmas, 2008, 15, .	1.9	64
21	Tests of the hydrodynamic equivalence of direct-drive implosions with different D2 and He3 mixtures. Physics of Plasmas, 2006, 13, 052702.	1.9	60
22	Direct-drive-implosion experiments with enhanced fluence balance on OMEGA. Physics of Plasmas, 2004, 11, 251-259.	1.9	56
23	Improved non-local electron thermal transport model for two-dimensional radiation hydrodynamics simulations. Physics of Plasmas, 2015, 22, 082308.	1.9	54
24		1.9	52
25	National direct-drive program on OMEGA and the National Ignition Facility. Plasma Physics and Controlled Fusion, 2017, 59, 014008.	2.1	50
26	First results from cryogenic target implosions on OMEGA. Physics of Plasmas, 2002, 9, 2195-2201.	1.9	49
27	Visualizing fast electron energy transport into laser-compressed high-density fast-ignition targets. Nature Physics, 2016, 12, 499-504.	16.7	49
28	Improving cryogenic deuterium-tritium implosion performance on OMEGA. Physics of Plasmas, 2013, 20, .	1.9	48
29	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
30	Shock ignition of thermonuclear fuel with high areal densities. Journal of Physics: Conference Series, 2008, 112, 022024.	0.4	45
31	Plasma characterization using ultraviolet Thomson scattering from ion-acoustic and electron plasma waves (invited). Review of Scientific Instruments, 2016, 87, 11E401.	1.3	41
32	A polar-drive shock-ignition design for the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	37
33	Measurement of Body-Centered-Cubic Aluminum at 475 GPa. Physical Review Letters, 2017, 119, 175702.	7.8	37
34	Measurements of core and pusher conditions in surrogate capsule implosions on the OMEGA laser system. Physics of Plasmas, 1998, 5, 1870-1879.	1.9	36
35	Direct drive: Simulations and results from the National Ignition Facility. Physics of Plasmas, 2016, 23, 056305.	1.9	36
36	Shock-tuned cryogenic-deuterium-tritium implosion performance on Omega. Physics of Plasmas, 2010, 17, 056312.	1.9	33

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37	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
38	High-gain direct-drive inertial confinement fusion for the Laser M ³ @gajoule: recent progress. <i>Plasma Physics and Controlled Fusion</i> , 2007, 49, B601-B610.	2.1	32
39	Triple-picket warm plastic-shell implosions on OMEGA. <i>Physics of Plasmas</i> , 2011, 18, 012705.	1.9	32
40	Laser absorption, mass ablation rate, and shock heating in direct-drive inertial confinement fusion. <i>Physics of Plasmas</i> , 2007, 14, 056305.	1.9	30
41	Measurements of the divergence of fast electrons in laser-irradiated spherical targets. <i>Physics of Plasmas</i> , 2013, 20, 092706.	1.9	30
42	Processing of multi-monochromatic x-ray images from indirect drive implosions at OMEGA. <i>Review of Scientific Instruments</i> , 2003, 74, 1951-1953.	1.3	29
43	Dependence of Shell Mix on Feedthrough in Direct Drive Inertial Confinement Fusion. <i>Physical Review Letters</i> , 2004, 92, 185002.	7.8	29
44	Spectroscopic determination of temperature and density spatial profiles and mix in indirect-drive implosion cores. <i>Physical Review E</i> , 2007, 76, 056403.	2.1	28
45	Measurements of IR asymmetries at burn time in inertial-confinement-fusion capsules. <i>Physics of Plasmas</i> , 2002, 9, 3558-3566.	1.9	27
46	Direct-drive, cryogenic target implosions on OMEGA. <i>Physics of Plasmas</i> , 2005, 12, 056302.	1.9	27
47	Progress in hydrodynamics theory and experiments for direct-drive and fast ignition inertial confinement fusion. <i>Plasma Physics and Controlled Fusion</i> , 2006, 48, B153-B163.	2.1	27
48	Rayleigh-Taylor growth measurements of three-dimensional modulations in a nonlinear regime. <i>Physics of Plasmas</i> , 2006, 13, 056312.	1.9	26
49	Investigation of a polychromatic tomography method for the extraction of the three-dimensional spatial structure of implosion core plasmas. <i>Physics of Plasmas</i> , 2012, 19, 082705.	1.9	25
50	Direct asymmetry measurement of temperature and density spatial distributions in inertial confinement fusion plasmas from pinhole space-resolved spectra. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	25
51	Measurement of areal density modulation of laser-imploded shells through K-edge imaging. <i>Physics of Plasmas</i> , 2000, 7, 3727-3735.	1.9	23
52	Direct-drive high-convergence-ratio implosion studies on the OMEGA laser system. <i>Physics of Plasmas</i> , 2000, 7, 2108-2113.	1.9	23
53	Observations of the collapse of asymmetrically driven convergent shocks. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	23
54	Simulations of electron transport and ignition for direct-drive fast-ignition targets. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	23

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55	Spherical Rayleigh-Taylor growth of three-dimensional broadband perturbations on OMEGA. <i>Physics of Plasmas</i> , 2009, 16, 112701.	1.9	22
56	Rayleigh-Taylor instability in the deceleration phase of spherical implosion experiments. <i>Physics of Plasmas</i> , 2002, 9, 2738-2744.	1.9	21
57	Processing of spectrally resolved x-ray images of inertial confinement fusion implosion cores recorded with multimonochromatic x-ray imagers. <i>Journal of Applied Physics</i> , 2011, 109, .	2.5	21
58	Monochromatic backlighting of direct-drive cryogenic DT implosions on OMEGA. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	21
59	Comparison of genetic-algorithm and emissivity-ratio analyses of image data from OMEGA implosion cores. <i>Review of Scientific Instruments</i> , 2008, 79, 10E921.	1.3	20
60	The control of hot-electron preheat in shock-ignition implosions. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	20
61	Direct Measurements of DT Fuel Preheat from Hot Electrons in Direct-Drive Inertial Confinement Fusion. <i>Physical Review Letters</i> , 2021, 127, 055001.	7.8	18
62	Multispectral x-ray imaging for core temperature and density maps retrieval in direct drive implosions. <i>Review of Scientific Instruments</i> , 2006, 77, 10E303.	1.3	17
63	X-ray diffraction of ramp-compressed aluminum to 475 GPa. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	17
64	Impact of asymmetries on fuel performance in inertial confinement fusion. <i>Physical Review E</i> , 2018, 98, .	2.1	16
65	Radial structure of shell modulations near peak compression of spherical implosions. <i>Physics of Plasmas</i> , 2003, 10, 830-834.	1.9	15
66	Impact of imposed mode 2 laser drive asymmetry on inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	15
67	Temporal evolution of temperature and density profiles of a laser compressed core (invited). <i>Review of Scientific Instruments</i> , 2003, 74, 1683-1687.	1.3	14
68	Direct-drive, hollow-shell implosion studies on the 60-beam, UV OMEGA laser system. <i>Physics of Plasmas</i> , 2000, 7, 1006-1013.	1.9	13
69	Compressed-shell integrity measurements in spherical implosion experiments. <i>Physics of Plasmas</i> , 2001, 8, 2872-2882.	1.9	13
70	Soft x-ray backlighting of direct-drive implosions using a spherical crystal imager on OMEGA. <i>Review of Scientific Instruments</i> , 2012, 83, 10E501.	1.3	13
71	Compressed shell conditions extracted from spectroscopic analysis of Ti K-shell absorption spectra with evaluation of line self-emission. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	13
72	The National Direct-Drive Program: OMEGA to the National Ignition Facility. <i>Fusion Science and Technology</i> , 2018, 73, 89-97.	1.1	12

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73	Polar-direct-drive experiments with contoured-shell targets on OMEGA. Physics of Plasmas, 2016, 23, 012711.	1.9	10
74	Shell stability and conditions analyzed using a new method of extracting shell areal density maps from spectrally resolved images of direct-drive inertial confinement fusion implosions. Physics of Plasmas, 2016, 23, .	1.9	9
75	Time history prediction of direct-drive implosions on the Omega facility. Physics of Plasmas, 2016, 23, .	1.9	6
76	Transport and spatial energy deposition of relativistic electrons in copper-doped fast ignition plasmas. Physics of Plasmas, 2017, 24, 102710.	1.9	6
77	Experimental studies of direct-drive, low-intensity, low-adiabat spherical implosions on OMEGA. Physics of Plasmas, 2007, 14, 022702.	1.9	5
78	Spectroscopic Determination of Gradients in Indirect-Drive OMEGA Implosion Cores. AIP Conference Proceedings, 2002, , .	0.4	1
79	Spectroscopic Determination of Core Gradients in Inertial Confinement Fusion Implosions. AIP Conference Proceedings, 2002, , .	0.4	1