R Stephen Craxton

List of Publications by Year
in descending order

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75 papers	4,491 citations	117625 34 h-index	98798 67 g-index
76 all docs	76 docs citations	76 times ranked	1518 citing authors

#	Article	IF	Citations
1	Improved laserâ€beam uniformity using the angular dispersion of frequencyâ€modulated light. Journal of Applied Physics, 1989, 66, 3456-3462.	2.5	729
2	Direct-drive inertial confinement fusion: A review. Physics of Plasmas, 2015, 22, .	1.9	521
3	Reduction of laser imprinting using polarization smoothing on a solid-state fusion laser. Journal of Applied Physics, 1999, 85, 3444-3447.	2.5	207
4	Directâ€drive laserâ€fusion experiments with the OMEGA, 60â€beam, >40 kJ, ultraviolet laser system. Physics of Plasmas, 1996, 3, 2108-2112.	1.9	182
5	Polar direct drive on the National Ignition Facility. Physics of Plasmas, 2004, 11, 2763-2770.	1.9	139
6	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
7	Crossed-beam energy transfer in direct-drive implosions. Physics of Plasmas, 2012, 19, .	1.9	133
8	Irradiation uniformity for high-compression laser-fusion experiments. Physics of Plasmas, 1999, 6, 2157-2163.	1.9	129
9	Laser-plasma interactions in long-scale-length plasmas under direct-drive National Ignition Facility conditions. Physics of Plasmas, 1999, 6, 2072-2080.	1.9	123
10	Progress in direct-drive inertial confinement fusion. Physics of Plasmas, 2008, 15, .	1.9	107
11	Multibeam Effects on Fast-Electron Generation from Two-Plasmon-Decay Instability. Physical Review Letters, 2003, 90, 235002.	7.8	95
12	Performance of direct-drive cryogenic targets on OMEGA. Physics of Plasmas, 2008, 15, .	1.9	92
13	Hydrodynamics of thermal selfâ€focusing in laser plasmas. Journal of Applied Physics, 1984, 56, 108-117.	2.5	85
14	Initial cone-in-shell fast-ignition experiments on OMEGA. Physics of Plasmas, 2011, 18, .	1.9	82
15	Performance of 1-THz-bandwidth, two-dimensional smoothing by spectral dispersion and polarization smoothing of high-power, solid-state laser beams. Journal of the Optical Society of America B: Optical Physics, 2005, 22, 998.	2.1	80
16	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
17	A polar-driveâ€“ignition design for the National Ignition Facility. Physics of Plasmas, 2012, 19, .	1.9	70
18	Time-resolved absorption in cryogenic and room-temperature direct-drive implosions. Physics of Plasmas, 2008, 15, .	1.9	64

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19	Multibeam Stimulated Brillouin Scattering from Hot, Solid-Target Plasmas. Physical Review Letters, 2002, 89, 175002.	7.8	59
20	Polar-direct-drive simulations and experiments. Physics of Plasmas, 2006, 13, 056311.	1.9	58
21	High-Power, Kilojoule Class Laser Channeling in Millimeter-Scale Underdense Plasma. Physical Review Letters, 2011, 106, 105002.	7.8	58
22	Saturation of the Two-Plasmon Decay Instability in Long-Scale-Length Plasmas Relevant to Direct-Drive Inertial Confinement Fusion. Physical Review Letters, 2012, 108, 165003.	7.8	58
23	Cryogenic DT and D2 targets for inertial confinement fusion. Physics of Plasmas, 2007, 14, 058101.	1.9	55
24		1.9	52
25	High-Areal-Density Fuel Assembly in Direct-Drive Cryogenic Implosions. Physical Review Letters, 2008, 100, 185006.	7.8	49
26	Improving cryogenic deuteriumâ€“tritium implosion performance on OMEGA. Physics of Plasmas, 2013, 20, .	1.9	48
27	Nonlinear laserâ€“matter interaction processes in longâ€scaleâ€length plasmas. Physics of Fluids B, 1992, 4, 2232-2240.	1.7	47
28	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
29	Fast-electron generation in long-scale-length plasmas. Physics of Plasmas, 2012, 19, .	1.9	46
30	Brillouin scattering, twoâ€plasmon decay, and selfâ€focusing in underdense ultraviolet laserâ€produced plasmas. Physics of Fluids, 1985, 28, 2910-2914.	1.4	39
31	Inertial Confinement Fusion with Tetrahedral Hohlraums at OMEGA. Physical Review Letters, 1999, 82, 3807-3810.	7.8	39
32	Direct-drive cryogenic target implosion performance on OMEGA. Physics of Plasmas, 2004, 11, 2790-2797.	1.9	39
33	A polar-drive shock-ignition design for the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	37
34	Direct drive: Simulations and results from the National Ignition Facility. Physics of Plasmas, 2016, 23, 056305.	1.9	36
35	Demonstration of the dual-tripler scheme for increased-bandwidth third-harmonic generation. Optics Letters, 1998, 23, 927.	3.3	33
36	Advanced-ignition-concept exploration on OMEGA. Plasma Physics and Controlled Fusion, 2009, 51, 124052.	2.1	33

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37	Shock-tuned cryogenic-deuterium-tritium implosion performance on Omega. Physics of Plasmas, 2010, 17, 056312.	1.9	33
38	Modeling stimulated Brillouin scattering in the underdense corona of a direct drive inertial confinement fusion target. Physics of Plasmas, 2004, 11, 3394-3403.	1.9	32
39	Indirectâ€drive radiation uniformity in tetrahedral hohlraums. Physics of Plasmas, 1996, 3, 3786-3797.	1.9	31
40	Polar-drive implosions on OMEGA and the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	28
41	Direct-drive, cryogenic target implosions on OMEGA. Physics of Plasmas, 2005, 12, 056302.	1.9	27
42	Polar-drive designs for optimizing neutron yields on the National Ignition Facility. Physics of Plasmas, 2008, 15, 082705.	1.9	26
43	Absorption Physics at 351 nm in Spherical Geometry. Physical Review Letters, 1985, 54, 1656-1659.	7.8	23
44	Three-Dimensional Characterization of Cryogenic Target Ice Layers Using Multiple Shadowgraph Views. Fusion Science and Technology, 2006, 49, 616-625.	1.1	23
45	Note: A monoenergetic proton backlighter for the National Ignition Facility. Review of Scientific Instruments, 2015, 86, 116104.	1.3	23
46	Conceptual design of initial opacity experiments on the national ignition facility. Journal of Plasma Physics, 2017, 83, .	2.1	23
47	X-ray source development for EXAFS measurements on the National Ignition Facility. Review of Scientific Instruments, 2017, 88, 083907.	1.3	22
48	Development and modeling of a polar-direct-drive exploding pusher platform at the National Ignition Facility. Physics of Plasmas, 2018, 25, 072710.	1.9	22
49	Signatures of target performance and mixing in titanium-doped, laser-driven target implosions. Physics of Plasmas, 1997, 4, 3021-3030.	1.9	21
50	Development of a polar direct-drive platform for studying inertial confinement fusion implosion mix on the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	21
51	Moderate-convergence inertial confinement fusion implosions in tetrahedral hohlraums at Omega. Physics of Plasmas, 2000, 7, 2594-2603.	1.9	20
52	Development of an inertial confinement fusion platform to study charged-particle-producing nuclear reactions relevant to nuclear astrophysics. Physics of Plasmas, 2017, 24, .	1.9	20
53	Developing a high-flux, high-energy continuum backlighter for extended x-ray absorption fine structure measurements at the National Ignition Facility. Review of Scientific Instruments, 2018, 89, 10F114.	1.3	20
54	Polar-direct-drive experiments on OMEGA. European Physical Journal Special Topics, 2006, 133, 153-157.	0.2	19

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55	The Saturn Target for Polar Direct Drive on the National Ignition Facility. Physical Review Letters, 2005, 94, 095002.	7.8	18
56	Modeling of stimulated Brillouin scattering near the critical-density surface in the plasmas of direct-drive inertial confinement fusion targets. Physics of Plasmas, 2004, 11, 2994-3000.	1.9	17
57	Measurements of the effects of the intensity pickets on laser imprinting for direct-drive, adiabat-shaping designs on OMEGA. Physics of Plasmas, 2007, 14, 032702.	1.9	17
58	Capsule implosions for continuum x-ray backlighting of opacity samples at the National Ignition Facility. Physics of Plasmas, 2017, 24, 063301.	1.9	17
59	Three-dimensional modeling of capsule implosions in OMEGA tetrahedral hohlraums. Physics of Plasmas, 2000, 7, 2964-2977.	1.9	15
60	Cryogenic-target performance and implosion physics studies on OMEGA. Physics of Plasmas, 2009, 16, 056301.	1.9	13
61	The National Direct-Drive Program: OMEGA to the National Ignition Facility. Fusion Science and Technology, 2018, 73, 89-97.	1.1	12
62	Optimization of a high-yield, low-areal-density fusion product source at the National Ignition Facility with applications in nucleosynthesis experiments. Physics of Plasmas, 2018, 25, .	1.9	10
63	Progress in direct-drive inertial confinement fusion research at the laboratory for laser energetics. European Physical Journal D, 2007, 44, 233-238.	1.3	8
64	X-ray self-emission imaging used to diagnose 3-D nonuniformities in direct-drive ICF implosions. Review of Scientific Instruments, 2016, 87, 11E340.	1.3	7
65	Direct Measurements of the Ion Acoustic Decay Instability in a Laser-Produced, Large-Scale, Hot Plasma. Physical Review Letters, 1994, 73, 2704-2707.	7.8	6
66	Pentagonal prism spherical hohlraums for OMEGA. Physics of Plasmas, 2021, 28, 062703.	1.9	6
67	The Scattered Light Time-history Diagnostic suite at the National Ignition Facility. Review of Scientific Instruments, 2021, 92, 033511.	1.3	5
68	Enhanced direct-drive implosion performance on NIF with wavelength separation. Physics of Plasmas, 2020, 27, 124501.	1.9	5
69	Emission phases of implosion sources for x-ray absorption fine structure spectroscopy. Physics of Plasmas, 2022, 29, .	1.9	5
70	Polar direct drive â€“ Ignition at 1 MJ. European Physical Journal Special Topics, 2006, 133, 233-235.	0.2	4
71	An empirical model of collective electrostatic effects for laser-beam channeling in long-scale-length relativistic plasmas. Physics of Plasmas, 2011, 18, .	1.9	2
72	Saturn-ring proton backlighters for the National Ignition Facility. Review of Scientific Instruments, 2020, 91, 093505.	1.3	2

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73	Comparison of ablators for the polar direct drive exploding pusher platform. High Energy Density Physics, 2021, 38, 100928.	1.5	2
74	Polar-direct-drive experiments at the National Ignition Facility. Journal of Physics: Conference Series, 2016, 717, 012009.	0.4	1
75	Laser-Plasma Interaction Diagnostics for ICF Fusion Research. , 2002, , 27-30.		1