E Michael Campbell

List of Publications by Year
in descending order

69 papers	6,433 citations	236925 25 h-index	102487 66 g-index
70 all docs	70 docs citations	70 times ranked	2668 citing authors

#	Article	IF	Citations
1	Ignition and high gain with ultrapowerful lasers*. Physics of Plasmas, 1994, 1, 1626-1634.	1.9	2,777
2	Fast Ignition by Intense Laser-Accelerated Proton Beams. Physical Review Letters, 2001, 86, 436-439.	7.8	1,154
3	Progress toward Ignition and Burn Propagation in Inertial Confinement Fusion. Physics Today, 1992, 45, 32-40.	0.3	398
4	Nova experimental facility (invited). Review of Scientific Instruments, 1986, 57, 2101-2106.	1.3	157
5	Review of pulsed power-driven high energy density physics research on Z at Sandia. Physics of Plasmas, 2020, 27, .	1.9	140
6	Laser-direct-drive program: Promise, challenge, and path forward. Matter and Radiation at Extremes, 2017, 2, 37-54.	3.9	117
7	Conceptual designs of two petawatt-class pulsed-power accelerators for high-energy-density-physics experiments. Physical Review Special Topics: Accelerators and Beams, 2015, 18, .	1.8	116
8	The National Ignition Facility - applications for inertial fusion energy and high-energy-density science. Plasma Physics and Controlled Fusion, 1999, 41, B39-B56.	2.1	104
9	Origins and Scaling of Hot-Electron Preheat in Ignition-Scale Direct-Drive Inertial Confinement Fusion Experiments. Physical Review Letters, 2018, 120, 055001.	7.8	104
10	Tripled yield in direct-drive laser fusion through statistical modelling. Nature, 2019, 565, 581-586.	27.8	103
11	Efficient Raman Sidescatter and Hot-Electron Production in Laser-Plasma Interaction Experiments. Physical Review Letters, 1984, 53, 1739-1742.	7.8	87
12	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
13	Three-dimensional modeling of direct-drive cryogenic implosions on OMEGA. Physics of Plasmas, 2016, 23, .	1.9	69
14	Scaling magnetized liner inertial fusion on Z and future pulsed-power accelerators. Physics of Plasmas, 2016, 23, .	1.9	65
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	National direct-drive program on OMEGA and the National Ignition Facility. Plasma Physics and Controlled Fusion, 2017, 59, 014008.	2.1	50
17	Laser-driven magnetized liner inertial fusion. Physics of Plasmas, 2017, 24, .	1.9	49
18	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

#	Article	IF	Citations
19	Understanding the effects of laser imprint on plastic-target implosions on OMEGA. Physics of Plasmas, 2016, 23, .	1.9	38
20	Direct drive: Simulations and results from the National Ignition Facility. Physics of Plasmas, 2016, 23, 056305.	1.9	36
21	Laser-driven magnetized liner inertial fusion on OMEGA. Physics of Plasmas, 2017, 24, .	1.9	33
22	Core conditions for alpha heating attained in direct-drive inertial confinement fusion. Physical Review E, 2016, 94, 011201.	2.1	30
23	Experimental demonstration of low laser-plasma instabilities in gas-filled spherical hohlraums at laser injection angle designed for ignition target. Physical Review E, 2017, 95, 031202.	2.1	28
24	A comprehensive alpha-heating model for inertial confinement fusion. Physics of Plasmas, 2018, 25, .	1.9	27
25	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
26	Three-dimensional hydrodynamic simulations of OMEGA implosions. Physics of Plasmas, 2017, 24, .	1.9	26
27	The single-line-of-sight, time-resolved x-ray imager diagnostic on OMEGA. Review of Scientific Instruments, 2018, 89, 10G117.	1.3	26
28	Mitigation of mode-one asymmetry in laser-direct-drive inertial confinement fusion implosions. Physics of Plasmas, 2021, 28, .	1.9	26
29	Experimentally Inferred Fusion Yield Dependencies of OMEGA Inertial Confinement Fusion Implosions. Physical Review Letters, 2021, 127, 105001.	7.8	23
30	Exploring magnetized liner inertial fusion with a semi-analytic model. Physics of Plasmas, 2016, 23, .	1.9	22
31	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
32	Diagnosing laser-preheated magnetized plasmas relevant to magnetized liner inertial fusion. Physics of Plasmas, 2015, 22, .	1.9	21
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	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
35	Direct-drive double-shell implosion: A platform for burning-plasma physics studies. Physical Review E, 2019, 100, 063204.	2.1	18
36	Direct Measurements of DT Fuel Preheat from Hot Electrons in Direct-Drive Inertial Confinement Fusion. Physical Review Letters, 2021, 127, 055001.	7.8	18

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37	High energy-density science on the National Ignition Facility. , 1998, , .		16
38	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
39	Experimental study of hot electron generation in shock ignition relevant high-intensity regime with large scale hot plasmas. Physics of Plasmas, 2020, 27, 023111.	1.9	16
40	Theory of alpha heating in inertial fusion: Alpha-heating metrics and the onset of the burning-plasma regime. Physics of Plasmas, 2018, 25, .	1.9	15
41	Direct-drive measurements of laser-imprint-induced shock velocity nonuniformities. Physical Review E, 2019, 99, 063208.	2.1	15
42	Neutron yield enhancement and suppression by magnetization in laser-driven cylindrical implosions. Physics of Plasmas, 2020, 27, .	1.9	15
43	Laser propagation measurements in long-scale-length underdense plasmas relevant to magnetized liner inertial fusion. Physical Review E, 2016, 94, 051201.	2.1	14
44	Measuring implosion velocities in experiments and simulations of laser-driven cylindrical implosions on the OMEGA laser. Plasma Physics and Controlled Fusion, 2018, 60, 054014.	2.1	14
45	Stable and confined burn in a Revolver ignition capsule. Physics of Plasmas, 2018, 25, .	1.9	13
46	The National Direct-Drive Program: OMEGA to the National Ignition Facility. Fusion Science and Technology, 2018, 73, 89-97.	1.1	12
47	Optimization of laser-driven cylindrical implosions on the OMEGA laser. Physics of Plasmas, 2018, 25, 122701.	1.9	12
48	Deficiencies in compression and yield in x-ray-driven implosions. Physics of Plasmas, 2020, 27, .	1.9	12
49	Subpercent-Scale Control of 3D Low Modes of Targets Imploded in Direct-Drive Configuration on OMEGA. Physical Review Letters, 2018, 120, 125001.	7.8	11
50	Inferring fuel areal density from secondary neutron yields in laser-driven magnetized liner inertial fusion. Physics of Plasmas, 2019, 26, .	1.9	11
51	Experiments to explore the influence of pulse shaping at the National Ignition Facility. Physics of Plasmas, 2020, 27, 112708.	1.9	11
52	Developing new ways of measuring the quality and impact of ambulance service care: the PhOEBE mixed-methods research programme. Programme Grants for Applied Research, 2019, 7, 1-90.	1.0	10
53	Laser entrance window transmission and reflection measurements for preheating in magnetized liner inertial fusion. Physics of Plasmas, 2018, 25, 062704.	1.9	9
54	Deuteron breakup induced by 14-MeV neutrons from inertial confinement fusion. Physical Review C, 2019, 100, .	2.9	9

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55	Enhanced laser-energy coupling with small-spot distributed phase plates (SG5-650) in OMEGA DT cryogenic target implosions. Physics of Plasmas, 2022, 29, .	1.9	9
56	The effect of laser entrance hole foil thickness on MagLIF-relevant laser preheat. Physics of Plasmas, 2020, 27, .	1.9	8
57	Effect of Strongly Magnetized Electrons and Ions on Heat Flow and Symmetry of Inertial Fusion Implosions. Physical Review Letters, 2022, 128, .	7.8	8
58	Principal factors in performance of indirect-drive laser fusion experiments. Physics of Plasmas, 2020, 27, .	1.9	7
59	High coupling efficiency of foam spherical hohlraum driven by 2Ï‰ laser light. Physics of Plasmas, 2018, 25, .	1.9	6
60	Characterization of an imploding cylindrical plasma for electron transport studies using x-ray emission spectroscopy. Physics of Plasmas, 2020, 27, .	1.9	4
61	Using statistical modeling to predict and understand fusion experiments. Physics of Plasmas, 2021, 28, .	1.9	4
62	Pathways towards break even for low convergence ratio direct-drive inertial confinement fusion. Journal of Plasma Physics, 2022, 88, .	2.1	3
63	Pump-depletion dynamics and saturation of stimulated Brillouin scattering in shock ignition relevant experiments. Physical Review E, 2021, 103, 063208.	2.1	2
64	Fast electron transport dynamics and energy deposition in magnetized, imploded cylindrical plasma. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200052.	3.4	2
65	Editorial for special issue on laser fusion. Matter and Radiation at Extremes, 2017, 2, 1-2.	3.9	1
66	Progress and prospect. Matter and Radiation at Extremes, 2019, 4, 013001.	3.9	1
67	Inertial Confinement Fusionâ€"Experimental Physics: Laser Drive. , 2021, , 713-723.		1
68	Overview of IFE Key Power Plant Technologies. , 2021, , 751-794.		0
69	10.1063/1.5022181.1. , 2018, , .		0