

Pierre A Michel

List of Publications by Year in descending order

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121
papers

5,964
citations

46984

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123
docs citations

123
times ranked

2096
citing authors

#	ARTICLE	IF	CITATIONS
1	Application of cross-beam energy transfer to control drive symmetry in ICF implosions in low gas fill <i>Hohlraums</i> at the National Ignition Facility. <i>Physics of Plasmas</i> , 2020, 27, .	0.7	18
2	Hot-electron generation at direct-drive ignition-relevant plasma conditions at the National Ignition Facility. <i>Physics of Plasmas</i> , 2020, 27, .	0.7	27
3	Stimulated Raman scattering mechanisms and scaling behavior in planar direct-drive experiments at the National Ignition Facility. <i>Physics of Plasmas</i> , 2020, 27, .	0.7	38
4	Polarization-Dependent Theory of Two-Wave Mixing in Nonlinear Media, and Application to Dynamical Polarization Control. <i>Physical Review X</i> , 2020, 10, .	2.8	12
5	Toward a burning plasma state using diamond ablator inertially confined fusion (ICF) implosions on the National Ignition Facility (NIF). <i>Plasma Physics and Controlled Fusion</i> , 2019, 61, 014023.	0.9	53
6	Study of self-diffraction from laser generated plasma gratings in the nanosecond regime. <i>Physics of Plasmas</i> , 2019, 26, 073108.	0.7	4
7	X-ray sources using a picosecond laser driven plasma accelerator. <i>Physics of Plasmas</i> , 2019, 26, .	0.7	22
8	Excitation and control of large amplitude standing ion acoustic waves. <i>Physics of Plasmas</i> , 2019, 26, .	0.7	14
9	Investigation and modeling of optics damage in high-power laser systems caused by light backscattered in plasma at the target. <i>Journal of Applied Physics</i> , 2019, 125, .	1.1	18
10	An analytical study of non-resonant transient cross-beam power transfer relevant to recent progress in plasma photonics. <i>Physics of Plasmas</i> , 2019, 26, .	0.7	4
11	First demonstration of ARC-accelerated proton beams at the National Ignition Facility. <i>Physics of Plasmas</i> , 2019, 26, .	0.7	34
12	X-ray analysis methods for sources from self-modulated laser wakefield acceleration driven by picosecond lasers. <i>Review of Scientific Instruments</i> , 2019, 90, 033503.	0.6	8
13	Theory and measurements of convective Raman side scatter in inertial confinement fusion experiments. <i>Physical Review E</i> , 2019, 99, 033203.	0.8	34
14	Optimization of high energy x ray production through laser plasma interaction. <i>High Energy Density Physics</i> , 2019, 31, 13-18.	0.4	8
15	Single shot high bandwidth laser plasma probe. <i>Physics of Plasmas</i> , 2019, 26, .	0.7	3
16	The National Direct-Drive Inertial Confinement Fusion Program. <i>Nuclear Fusion</i> , 2019, 59, 032007.	1.6	10
17	Origins and Scaling of Hot-Electron Preheat in Ignition-Scale Direct-Drive Inertial Confinement Fusion Experiments. <i>Physical Review Letters</i> , 2018, 120, 055001.	2.9	104
18	A tessellation-based model for intensity estimation and laser plasma interactions calculations in three dimensions. <i>Physics of Plasmas</i> , 2018, 25, 033114.	0.7	9

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19	Crossed-beam energy transfer: polarization effects and evidence of saturation. Plasma Physics and Controlled Fusion, 2018, 60, 054017.	0.9	17
20	Energy transfer between lasers in low-gas-fill-density hohlraums. Physical Review E, 2018, 98, .	0.8	27
21	Time resolved detection of two-plasmon decay using three-halves harmonic emission on the National Ignition Facility. Review of Scientific Instruments, 2018, 89, 083504.	0.6	0
22	Hydrodynamic instabilities seeded by the X-ray shadow of ICF capsule fill-tubes. Physics of Plasmas, 2018, 25, .	0.7	25
23	Fusion Energy Output Greater than the Kinetic Energy of an Imploding Shell at the National Ignition Facility. Physical Review Letters, 2018, 120, 245003.	2.9	205
24	Refractive Index Seen by a Probe Beam Interacting with a Laser-Plasma System. Physical Review Letters, 2017, 118, 015001.	2.9	48
25	Interplay of Laser-Plasma Interactions and Inertial Fusion Hydrodynamics. Physical Review Letters, 2017, 118, 025002.	2.9	60
26	Symmetry control of an indirectly driven high-density-carbon implosion at high convergence and high velocity. Physics of Plasmas, 2017, 24, .	0.7	106
27	First results with the novel petawatt laser acceleration facility in Dresden. Journal of Physics: Conference Series, 2017, 874, 012028.	0.3	68
28	X-ray shadow imprint of hydrodynamic instabilities on the surface of inertial confinement fusion capsules by the fuel fill tube. Physical Review E, 2017, 95, 031204.	0.8	46
29	Semi-empirical "leaky-bucket" model of laser-driven x-ray cavities. Physics of Plasmas, 2017, 24, .	0.7	12
30	Early-time radiation flux symmetry optimization and its effect on gas-filled hohlraum ignition targets on the National Ignition Facility. Physics of Plasmas, 2016, 23, .	0.7	6
31	NIF Rugby High Foot Campaign from the design side. Journal of Physics: Conference Series, 2016, 717, 012035.	0.3	4
32	The near vacuum hohlraum campaign at the NIF: A new approach. Physics of Plasmas, 2016, 23, .	0.7	51
33	Experimental room temperature hohlraum performance study on the National Ignition Facility. Physics of Plasmas, 2016, 23, .	0.7	6
34	Inertially confined fusion plasmas dominated by alpha-particle self-heating. Nature Physics, 2016, 12, 800-806.	6.5	144
35	Generation and Beaming of Early Hot Electrons onto the Capsule in Laser-Driven Ignition Hohlraums. Physical Review Letters, 2016, 116, 075003.	2.9	45
36	High Power Dynamic Polarization Control Using Plasma Photonics. Physical Review Letters, 2016, 116, 205001.	2.9	55

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37	Laser absorption, power transfer, and radiation symmetry during the first shock of inertial confinement fusion gas-filled hohlraum experiments. <i>Physics of Plasmas</i> , 2015, 22, 122701.	0.7	9
38	The size and structure of the laser entrance hole in gas-filled hohlraums at the National Ignition Facility. <i>Physics of Plasmas</i> , 2015, 22, .	0.7	19
39	Multibeam Stimulated Raman Scattering in Inertial Confinement Fusion Conditions. <i>Physical Review Letters</i> , 2015, 115, 055003.	2.9	62
40	Multibeam Seeded Brillouin Sidescatter in Inertial Confinement Fusion Experiments. <i>Physical Review Letters</i> , 2015, 114, 125001.	2.9	32
41	Getting Beyond Unity Fusion Fuel Gain in an Inertially Confined Fusion Implosion. , 2015, , .		0
42	Low-adiabat rugby hohlraum experiments on the National Ignition Facility: Comparison with high-flux modeling and the potential for gas-wall interpenetration. <i>Physics of Plasmas</i> , 2014, 21, .	0.7	36
43	Polarimetry of uncoupled light on the NIF. <i>Review of Scientific Instruments</i> , 2014, 85, 11E603.	0.6	4
44	Progress in hohlraum physics for the National Ignition Facility. <i>Physics of Plasmas</i> , 2014, 21, .	0.7	62
45	The impact of laser plasma interactions on three-dimensional drive symmetry in inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2014, 21, 072712.	0.7	12
46	Demonstrated high performance of gas-filled rugby-shaped hohlraums on Omega. <i>Physics of Plasmas</i> , 2014, 21, 074504.	0.7	11
47	Multiple-beam laserâ€“plasma interactions in inertial confinement fusion. <i>Physics of Plasmas</i> , 2014, 21, .	0.7	79
48	Dynamic Control of the Polarization of Intense Laser Beams via Optical Wave Mixing in Plasmas. <i>Physical Review Letters</i> , 2014, 113, 205001.	2.9	85
49	The high-foot implosion campaign on the National Ignition Facility. <i>Physics of Plasmas</i> , 2014, 21, .	0.7	149
50	Progress towards ignition on the National Ignition Facility. <i>Physics of Plasmas</i> , 2013, 20, .	0.7	259
51	Raman Backscatter as a Remote Laser Power Sensor in High-Energy-Density Plasmas. <i>Physical Review Letters</i> , 2013, 111, 025001.	2.9	14
52	Hohlraum energetics scaling to 520 TW on the National Ignition Facility. <i>Physics of Plasmas</i> , 2013, 20, .	0.7	59
53	A review of laserâ€“plasma interaction physics of indirect-drive fusion. <i>Plasma Physics and Controlled Fusion</i> , 2013, 55, 103001.	0.9	86
54	Self-organized coherent bursts of stimulated Raman scattering and speckle interaction in multi-speckled laser beams. <i>Physics of Plasmas</i> , 2013, 20, 012702.	0.7	42

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55	Early-Time Symmetry Tuning in the Presence of Cross-Beam Energy Transfer in ICF Experiments on the National Ignition Facility. <i>Physical Review Letters</i> , 2013, 111, 235001.	2.9	44
56	Saturation of multi-laser beams laser-plasma instabilities from stochastic ion heating. <i>Physics of Plasmas</i> , 2013, 20, .	0.7	48
57	Nuclear imaging of the fuel assembly in ignition experiments. <i>Physics of Plasmas</i> , 2013, 20, 056320.	0.7	65
58	Betatron x-ray production in mixed gases. , 2013, , .		2
59	Progress toward ignition at the National Ignition Facility. <i>Plasma Physics and Controlled Fusion</i> , 2013, 55, 124015.	0.9	23
60	Symmetry tuning with megajoule laser pulses at the National Ignition Facility. <i>EPJ Web of Conferences</i> , 2013, 59, 02007.	0.1	1
61	Ignition tuning for the National Ignition Campaign. <i>EPJ Web of Conferences</i> , 2013, 59, 01003.	0.1	1
62	Hohlraum designs for high velocity implosions on NIF. <i>EPJ Web of Conferences</i> , 2013, 59, 02002.	0.1	2
63	Trapping induced nonlinear behavior of backward stimulated Raman scattering in multi-speckled laser beams. <i>Physics of Plasmas</i> , 2012, 19, .	0.7	50
64	Cryogenic thermonuclear fuel implosions on the National Ignition Facility. <i>Physics of Plasmas</i> , 2012, 19, .	0.7	95
65	Crossed-beam energy transfer in direct-drive implosions. <i>Physics of Plasmas</i> , 2012, 19, .	0.7	133
66	Assembly of High-Areal-Density Deuterium-Tritium Fuel from Indirectly Driven Cryogenic Implosions. <i>Physical Review Letters</i> , 2012, 108, 215005.	2.9	57
67	Stochastic Ion Heating from Many Overlapping Laser Beams in Fusion Plasmas. <i>Physical Review Letters</i> , 2012, 109, 195004.	2.9	35
68	Shock timing experiments on the National Ignition Facility: Initial results and comparison with simulation. <i>Physics of Plasmas</i> , 2012, 19, .	0.7	115
69	A high-resolution integrated model of the National Ignition Campaign cryogenic layered experiments. <i>Physics of Plasmas</i> , 2012, 19, .	0.7	108
70	Progress in the indirect-drive National Ignition Campaign. <i>Plasma Physics and Controlled Fusion</i> , 2012, 54, 124026.	0.9	38
71	The velocity campaign for ignition on NIF. <i>Physics of Plasmas</i> , 2012, 19, .	0.7	76
72	Multistep redirection by cross-beam power transfer of ultrahigh-power lasers in a plasma. <i>Nature Physics</i> , 2012, 8, 344-349.	6.5	104

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73	First implosion experiments with cryogenic thermonuclear fuel on the National Ignition Facility. <i>Plasma Physics and Controlled Fusion</i> , 2012, 54, 045013.	0.9	41
74	Demonstration of Ignition Radiation Temperatures in Indirect-Drive Inertial Confinement Fusion Hohlraums. <i>Physical Review Letters</i> , 2011, 106, 085004.	2.9	96
75	Capsule implosion optimization during the indirect-drive National Ignition Campaign. <i>Physics of Plasmas</i> , 2011, 18, .	0.7	131
76	Observation of High Soft X-Ray Drive in Large-Scale Hohlraums at the National Ignition Facility. <i>Physical Review Letters</i> , 2011, 106, 085003.	2.9	55
77	Progress towards ignition on the National Ignition Facility. <i>Nuclear Fusion</i> , 2011, 51, 094024.	1.6	35
78	The role of a detailed configuration accounting (DCA) atomic physics package in explaining the energy balance in ignition-scale hohlraums. <i>High Energy Density Physics</i> , 2011, 7, 180-190.	0.4	152
79	Publisher's Note: Demonstration of Ignition Radiation Temperatures in Indirect-Drive Inertial Confinement Fusion Hohlraums [Phys. Rev. Lett.106, 085004 (2011)]. <i>Physical Review Letters</i> , 2011, 106, .	2.9	0
80	Amplification of light in a plasma by stimulated ion acoustic waves driven by multiple crossing pump beams. <i>Physical Review E</i> , 2011, 84, 026402.	0.8	8
81	Three-wavelength scheme to optimize hohlraum coupling on the National Ignition Facility. <i>Physical Review E</i> , 2011, 83, 046409.	0.8	54
82	Observation of amplification of light by Langmuir waves and its saturation on the electron kinetic timescale. <i>Journal of Plasma Physics</i> , 2011, 77, 521-528.	0.7	24
83	Multi-beam effects on backscatter and its saturation in experiments with conditions relevant to ignition. <i>Physics of Plasmas</i> , 2011, 18, .	0.7	38
84	Stimulated Raman scatter analyses of experiments conducted at the National Ignition Facility. <i>Physics of Plasmas</i> , 2011, 18, .	0.7	76
85	Analysis of the National Ignition Facility ignition hohlraum energetics experiments. <i>Physics of Plasmas</i> , 2011, 18, .	0.7	82
86	Symmetry tuning for ignition capsules via the symcap technique. <i>Physics of Plasmas</i> , 2011, 18, .	0.7	101
87	Lasnex simulations of NIF vacuum hohlraum commissioning experiments. <i>Journal of Physics: Conference Series</i> , 2010, 244, 032057.	0.3	9
88	Symmetry tuning via controlled crossed-beam energy transfer on the National Ignition Facility. <i>Physics of Plasmas</i> , 2010, 17, .	0.7	171
89	Multi-keV x-ray source development experiments on the National Ignition Facility. <i>Physics of Plasmas</i> , 2010, 17, .	0.7	48
90	Images of the laser entrance hole from the static x-ray imager at NIF. <i>Review of Scientific Instruments</i> , 2010, 81, 10E538.	0.6	42

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91	Symmetric Inertial Confinement Fusion Implosions at Ultra-High Laser Energies. <i>Science</i> , 2010, 327, 1228-1231.	6.0	321
92	Backscatter measurements for NIF ignition targets (invited). <i>Review of Scientific Instruments</i> , 2010, 81, 10D921.	0.6	82
93	National Ignition Campaign Hohlraum energetics. <i>Physics of Plasmas</i> , 2010, 17, .	0.7	115
94	Capsule performance optimization in the National Ignition Campaign. <i>Physics of Plasmas</i> , 2010, 17, .	0.7	51
95	Study of x-ray radiation from a laser wakefield accelerator. , 2009, , .		1
96	Measurements of the Critical Power for Self-Injection of Electrons in a Laser Wakefield Accelerator. <i>Physical Review Letters</i> , 2009, 103, 215006.	2.9	128
97	Energy transfer between laser beams crossing in ignition hohlraums. <i>Physics of Plasmas</i> , 2009, 16, .	0.7	92
98	Tuning the Implosion Symmetry of ICF Targets via Controlled Crossed-Beam Energy Transfer. <i>Physical Review Letters</i> , 2009, 102, 025004.	2.9	247
99	Magnetically controlled plasma waveguide for laser wakefield acceleration. <i>Plasma Physics and Controlled Fusion</i> , 2009, 51, 024009.	0.9	17
100	Optimization of the NIF ignition point design hohlraum. <i>Journal of Physics: Conference Series</i> , 2008, 112, 022021.	0.3	18
101	Energetics of multiple-ion species hohlraum plasmas. <i>Physics of Plasmas</i> , 2008, 15, .	0.7	26
102	Three-dimensional modeling of laser-plasma interaction: Benchmarking our predictive modeling tools versus experiments. <i>Physics of Plasmas</i> , 2008, 15, 056313.	0.7	19
103	Pushing the Limits of Plasma Length in Inertial-Fusion Laser-Plasma Interaction Experiments. <i>Physical Review Letters</i> , 2008, 100, 015002.	2.9	13
104	Laser-plasma interaction in ignition relevant plasmas: benchmarking our 3d modelling capabilities versus recent experiments. <i>Journal of Physics: Conference Series</i> , 2008, 112, 022032.	0.3	1
105	Radiative damping and electron beam dynamics in plasma-based accelerators. <i>Physical Review E</i> , 2006, 74, 026501.	0.8	59
106	Efficient electron injection into plasma waves using higher-order laser modes. <i>Physics of Plasmas</i> , 2006, 13, 113112.	0.7	9
107	A transport simulation code for inertial confinement fusion relevant laser-plasma interaction. <i>Computer Physics Communications</i> , 2005, 168, 141-158.	3.0	8
108	Radiation from laser accelerated electron bunches: coherent terahertz and femtosecond X-rays. <i>IEEE Transactions on Plasma Science</i> , 2005, 33, 8-22.	0.6	37

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109	Thomson scattering from laser wakefield accelerators. AIP Conference Proceedings, 2004, , .	0.3	3
110	Laser-plasma interaction experiments in the context of inertial fusion. Plasma Physics and Controlled Fusion, 2004, 46, B301-B312.	0.9	13
111	Laser Triggered Injection of Electrons in a Laser Wakefield Accelerator with the Colliding Pulse Method. AIP Conference Proceedings, 2004, , .	0.3	2
112	Strong Reduction of the Degree of Spatial Coherence of a Laser Beam Propagating through a Preformed Plasma. Physical Review Letters, 2004, 92, 175001.	2.9	15
113	Modeling of laser-plasma interaction on hydrodynamic scales: Physics development and comparison with experiments. Laser and Particle Beams, 2004, 22, 189-195.	0.4	22
114	Generation of a single hot spot by use of a deformable mirror and study of its propagation in an underdense plasma. Journal of the Optical Society of America B: Optical Physics, 2003, 20, 1632.	0.9	26
115	Studies of the laser filament instability in a semicollisional plasma. Physics of Plasmas, 2003, 10, 3545-3553.	0.7	23
116	Observation of ion acoustic waves associated with plasma-induced incoherence of laser beams using Thomson scattering. Physical Review E, 2003, 68, 056405.	0.8	3
117	Reduction of the spatial coherence of a laser beam propagating in an underdense semicollisional plasma. , 2003, , .		0
118	Wavefront correction for near diffraction-limited focal spot on a 6Å–100 J/1-ns laser facility. , 2003, 5137, 181.		0
119	Experimental investigation on the origins of plasma-induced incoherence. , 2003, 5228, 549.		0
120	Modification of the coherence properties of a laser beam propagating through a plasma and its consequences for stimulated scattering instabilities. , 2003, , .		0
121	Reduction of the Coherence Time of an Intense Laser Pulse Propagating through a Plasma. Physical Review Letters, 2002, 88, 195003.	2.9	22