Pravesh Patel

List of Publications by Year
in descending order

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Version: 2024-02-01

75 papers	5,333 citations	71102 41 h-index	79698 73 g-index
78 all docs	78 docs citations	78 times ranked	1730 citing authors

#	Article	IF	Citations
1	Fuel gain exceeding unity in an inertially confined fusion implosion. Nature, 2014, 506, 343-348.	27.8	742
2	Progress towards ignition on the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	259
3	Burning plasma achieved in inertial fusion. Nature, 2022, 601, 542-548.	27.8	233
4	Onset of Hydrodynamic Mix in High-Velocity, Highly Compressed Inertial Confinement Fusion Implosions. Physical Review Letters, 2013, 111, 085004.	7.8	215
5	Fusion Energy Output Greater than the Kinetic Energy of an Imploding Shell at the National Ignition Facility. Physical Review Letters, 2018, 120, 245003.	7.8	205
6	High-Adiabat High-Foot Inertial Confinement Fusion Implosion Experiments on the National Ignition Facility. Physical Review Letters, 2014, 112, 055001.	7.8	199
7	Design of a High-Foot High-Adiabat ICF Capsule for the National Ignition Facility. Physical Review Letters, 2014, 112, 055002.	7.8	173
8	Three-dimensional simulations of low foot and high foot implosion experiments on the National Ignition Facility. Physics of Plasmas, 2016, 23, .	1.9	162
9	The high-foot implosion campaign on the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	149
10	Inertially confined fusion plasmas dominated by alpha-particle self-heating. Nature Physics, 2016, 12, 800-806.	16.7	144
11	Radiation hydrodynamics modeling of the highest compression inertial confinement fusion ignition experiment from the National Ignition Campaign. Physics of Plasmas, 2015, 22, .	1.9	120
12	First High-Convergence Cryogenic Implosion in a Near-Vacuum Hohlraum. Physical Review Letters, 2015, 114, 175001.	7.8	117
13	High-density carbon ablator experiments on the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	116
14	Demonstration of High Performance in Layered Deuterium-Tritium Capsule Implosions in Uranium Hohlraums at the National Ignition Facility. Physical Review Letters, 2015, 115, 055001.	7.8	101
15	Cryogenic thermonuclear fuel implosions on the National Ignition Facility. Physics of Plasmas, 2012, 19, .	1.9	95
16	The high velocity, high adiabat, â€œBigfootâ€•campaign and tests of indirect-drive implosion scaling. Physics of Plasmas, 2018, 25, .	1.9	90
17	Design of inertial fusion implosions reaching the burning plasma regime. Nature Physics, 2022, 18, 251-258.	16.7	87
18	High-Performance Indirect-Drive Cryogenic Implosions at High Adiabat on the National Ignition Facility. Physical Review Letters, 2018, 121, 135001.	7.8	86

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19	Approaching a burning plasma on the NIF. Physics of Plasmas, 2019, 26, .	1.9	83
20	Mode 1 drive asymmetry in inertial confinement fusion implosions on the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	81
21	Record Energetics for an Inertial Fusion Implosion at NIF. Physical Review Letters, 2021, 126, 025001.	7.8	76
22	Three-dimensional modeling and hydrodynamic scaling of National Ignition Facility implosions. Physics of Plasmas, 2019, 26, .	1.9	70
23	Nuclear imaging of the fuel assembly in ignition experiments. Physics of Plasmas, 2013, 20, 056320.	1.9	65
24	Cryogenic tritium-hydrogen-deuterium and deuterium-tritium layer implosions with high density carbon ablators in near-vacuum hohlraums. Physics of Plasmas, 2015, 22, 062703.	1.9	62
25	Development of Improved Radiation Drive Environment for High Foot Implosions at the National Ignition Facility. Physical Review Letters, 2016, 117, 225002.	7.8	61
26	Beyond alpha-heating: driving inertially confined fusion implosions toward a burning-plasma state on the National Ignition Facility. Plasma Physics and Controlled Fusion, 2019, 61, 014033.	2.1	61
27	Integrated modeling of cryogenic layered highfoot experiments at the NIF. Physics of Plasmas, 2016, 23, .	1.9	59
28	Impact of Localized Radiative Loss on Inertial Confinement Fusion Implosions. Physical Review Letters, 2020, 124, 145001.	7.8	58
29	Imaging of high-energy x-ray emission from cryogenic thermonuclear fuel implosions on the NIF. Review of Scientific Instruments, 2012, 83, 10E115.	1.3	57
30	Thin Shell, High Velocity Inertial Confinement Fusion Implosions on the National Ignition Facility. Physical Review Letters, 2015, 114, 145004.	7.8	56
31	Achieving record hot spot energies with large HDC implosions on NIF in HYBRID-E. Physics of Plasmas, 2021, 28, .	1.9	55
32	Toward a burning plasma state using diamond ablator inertially confined fusion (ICF) implosions on the National Ignition Facility (NIF). Plasma Physics and Controlled Fusion, 2019, 61, 014023.	2.1	53
33	Hotspot conditions achieved in inertial confinement fusion experiments on the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	50
34	2015, 22, 056314.	1.9	49
35	Indications of flow near maximum compression in layered deuterium-tritium implosions at the National Ignition Facility. Physical Review E, 2016, 94, 021202.	2.1	49
36	The role of hot spot mix in the low-foot and high-foot implosions on the NIF. Physics of Plasmas, 2017, 24, .	1.9	49

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37	An analytic asymmetric-piston model for the impact of mode-1 shell asymmetry on ICF implosions. Physics of Plasmas, 2020, 27, .	1.9	49
38	On the importance of minimizing â€œcoast-timeâ€•in x-ray driven inertially confined fusion implosions. Physics of Plasmas, 2017, 24, .	1.9	47
39	Three-dimensional hydrodynamics of the deceleration stage in inertial confinement fusion. Physics of Plasmas, 2015, 22, 032702.	1.9	45
40	Azimuthal Drive Asymmetry in Inertial Confinement Fusion Implosions on the National Ignition Facility. Physical Review Letters, 2020, 124, 145002.	7.8	44
41	Mixing in ICF implosions on the National Ignition Facility caused by the fill-tube. Physics of Plasmas, 2020, 27, .	1.9	41
42	Comparison of plastic, high density carbon, and beryllium as indirect drive NIF ablators. Physics of Plasmas, 2018, 25, .	1.9	39
43	Progress in the indirect-drive National Ignition Campaign. Plasma Physics and Controlled Fusion, 2012, 54, 124026.	2.1	38
44	Resolving hot spot microstructure using x-ray penumbral imaging (invited). Review of Scientific Instruments, 2016, 87, 11E201.	1.3	38
45	Performance of indirectly driven capsule implosions on the National Ignition Facility using adiabat-shaping. Physics of Plasmas, 2016, 23, 056303.	1.9	38
46	First beryllium capsule implosions on the National Ignition Facility. Physics of Plasmas, 2016, 23, 056310.	1.9	37
47	First demonstration of ARC-accelerated proton beams at the National Ignition Facility. Physics of Plasmas, 2019, 26, .	1.9	34
48	Examining the radiation drive asymmetries present in the high foot series of implosion experiments at the National Ignition Facility. Physics of Plasmas, 2017, 24, .	1.9	31
49	Thermal Temperature Measurements of Inertial Fusion Implosions. Physical Review Letters, 2018, 121, 085001.	7.8	31
50	Review of hydrodynamic instability experiments in inertially confined fusion implosions on National Ignition Facility. Plasma Physics and Controlled Fusion, 2020, 62, 014007.	2.1	31
51	Experimental results of radiation-driven, layered deuterium-tritium implosions with adiabat-shaped drives at the National Ignition Facility. Physics of Plasmas, 2016, 23, .	1.9	27
52	Implosion performance of subscale beryllium capsules on the NIF. Physics of Plasmas, 2019, 26, 052707.	1.9	26
53	Hotspot parameter scaling with velocity and yield for high-adiabat layered implosions at the National Ignition Facility. Physical Review E, 2020, 102, 023210.	2.1	25
54	Localized mix-induced radiative cooling in a capsule implosion at the National Ignition Facility. Physical Review E, 2020, 101, 033205.	2.1	25

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55	Extensions of a classical mechanics â€œpiston-modelâ€•for understanding the impact of asymmetry on ICF implosions: The cases of mode 2, mode 2/1 coupling, time-dependent asymmetry, and the relationship to coast-time. Physics of Plasmas, 2022, 29, .	1.9	22
56	Hotspot electron temperature from x-ray continuum measurements on the NIF. Review of Scientific Instruments, 2016, 87, 11E534.	1.3	21
57	A near one-dimensional indirectly driven implosion at convergence ratio 30. Physics of Plasmas, 2018, 25, .	1.9	20
58	Achieving 280 Gbar hot spot pressure in DT-layered CH capsule implosions at the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	20
59	Observation of Hydrodynamic Flows in Imploding Fusion Plasmas on the National Ignition Facility. Physical Review Letters, 2021, 127, 125001.	7.8	20
60	Simulations of fill tube effects on the implosion of high-foot NIF ignition capsules. Journal of Physics: Conference Series, 2016, 717, 012013.	0.4	17
61	Update 2015 on Target Fabrication Requirements for NIF Layered Implosions, with Emphasis on Capsule Support and Oxygen Modulations in GDP. Fusion Science and Technology, 2016, 70, 121-126.	1.1	16
62	Deficiencies in compression and yield in x-ray-driven implosions. Physics of Plasmas, 2020, 27, .	1.9	12
63	Fill tube dynamics in inertial confinement fusion implosions with high density carbon ablators. Physics of Plasmas, 2020, 27, .	1.9	11
64	Fuel convergence sensitivity in indirect drive implosions. Physics of Plasmas, 2021, 28, 042705.	1.9	11
65	Experiments to explore the influence of pulse shaping at the National Ignition Facility. Physics of Plasmas, 2020, 27, 112708.	1.9	11
66	View factor estimation of hot spot velocities in inertial confinement fusion implosions at the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	9
67	Model validation for inferred hot-spot conditions in National Ignition Facility experiments. Physics of Plasmas, 2021, 28, .	1.9	9
68	Spatially resolved X-ray emission measurements of the residual velocity during the stagnation phase of inertial confinement fusion implosion experiments. Physics of Plasmas, 2016, 23, 072701.	1.9	8
69	A simulation-based model for understanding the time dependent x-ray drive asymmetries and error bars in indirectly driven implosions on the National Ignition Facility. Physics of Plasmas, 2019, 26, 062703.	1.9	8
70	Principal factors in performance of indirect-drive laser fusion experiments. Physics of Plasmas, 2020, 27, .	1.9	7
71	Measurements of enhanced performance in an indirect drive inertial confinement fusion experiment when reducing the contact area of the capsule support. Physics of Plasmas, 2020, 27, .	1.9	7
72	Implementing time resolved electron temperature capability at the NIF using a streak camera. Review of Scientific Instruments, 2018, 89, 10K117.	1.3	5

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73	Modeling the 3-D structure of ignition experiments at the NIF. Physics of Plasmas, 2020, 27, 032706.	1.9	4
74	Hydroscaling indirect-drive implosions on the National Ignition Facility. Physics of Plasmas, 2022, 29, .	1.9	4
75	Progress in detailed modelling of low foot and high foot implosion experiments on the National Ignition Facility. Journal of Physics: Conference Series, 2016, 717, 012011.	0.4	2