

# Matthias Hohenberger

## List of Publications by Year in descending order

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108  
papers

3,798  
citations

87888

38  
h-index

144013

57  
g-index

110  
all docs

110  
docs citations

110  
times ranked

1672  
citing authors

#	ARTICLE	IF	CITATIONS
1	Design of inertial fusion implosions reaching the burning plasma regime. Nature Physics, 2022, 18, 251-258.	16.7	87
2	Burning plasma achieved in inertial fusion. Nature, 2022, 601, 542-548.	27.8	233
3	Hydroscaling indirect-drive implosions on the National Ignition Facility. Physics of Plasmas, 2022, 29, .	1.9	4
4	Low mode implosion symmetry sensitivity in low gas-fill NIF cylindrical hohlraums. Physics of Plasmas, 2021, 28, .	1.9	15
5	Developing "inverted-corona" fusion targets as high-fluence neutron sources. Review of Scientific Instruments, 2021, 92, 033544.	1.3	4
6	Achieving record hot spot energies with large HDC implosions on NIF in HYBRID-E. Physics of Plasmas, 2021, 28, .	1.9	55
7	Trending low mode asymmetries in NIF capsule drive using a simple viewfactor metric *. High Energy Density Physics, 2021, 40, 100944.	1.5	19
8	Evidence of Three-Dimensional Asymmetries Seeded by High-Density Carbon-Ablator Nonuniformity in Experiments at the National Ignition Facility. Physical Review Letters, 2021, 126, 025002.	7.8	40
9	Record Energetics for an Inertial Fusion Implosion at NIF. Physical Review Letters, 2021, 126, 025001.	7.8	76
10	Kinetic mix at gas-shell interface in inverted corona fusion targets. Physics of Plasmas, 2021, 28, 122702.	1.9	1
11	Application of cross-beam energy transfer to control drive symmetry in ICF implosions in low gas fill "Hohlraums" at the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	18
12	Integrated performance of large HDC-capsule implosions on the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	22
13	Hot-spot mix in large-scale HDC implosions at NIF. Physics of Plasmas, 2020, 27, .	1.9	46
14	Principal factors in performance of indirect-drive laser fusion experiments. Physics of Plasmas, 2020, 27, .	1.9	7
15	Deficiencies in compression and yield in x-ray-driven implosions. Physics of Plasmas, 2020, 27, .	1.9	12
16	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
17	Hot-electron generation at direct-drive ignition-relevant plasma conditions at the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	27
18	Symmetric fielding of the largest diamond capsule implosions on the NIF. Physics of Plasmas, 2020, 27, .	1.9	28

#	ARTICLE	IF	CITATIONS
19	Hotspot conditions achieved in inertial confinement fusion experiments on the National Ignition Facility. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	50
20	Achieving 280 Gbar hot spot pressure in DT-layered CH capsule implosions at the National Ignition Facility. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	20
21	Impact of Localized Radiative Loss on Inertial Confinement Fusion Implosions. <i>Physical Review Letters</i> , 2020, 124, 145001.	7.8	58
22	X-ray diffraction at the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2020, 91, 043902.	1.3	42
23	Stimulated Raman scattering mechanisms and scaling behavior in planar direct-drive experiments at the National Ignition Facility. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	38
24	Yield and compression trends and reproducibility at NIF*. <i>High Energy Density Physics</i> , 2020, 36, 100755.	1.5	25
25	Interpenetration and kinetic effects in converging, high-energy plasma jets. <i>High Energy Density Physics</i> , 2020, 37, 100861.	1.5	4
26	Enhanced direct-drive implosion performance on NIF with wavelength separation. <i>Physics of Plasmas</i> , 2020, 27, 124501.	1.9	5
27	Experiments to explore the influence of pulse shaping at the National Ignition Facility. <i>Physics of Plasmas</i> , 2020, 27, 112708.	1.9	11
28	Approaching a burning plasma on the NIF. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	83
29	Progress of indirect drive inertial confinement fusion in the United States. <i>Nuclear Fusion</i> , 2019, 59, 112018.	3.5	38
30	Theory and measurements of convective Raman side scatter in inertial confinement fusion experiments. <i>Physical Review E</i> , 2019, 99, 033203.	2.1	34
31	Stimulated backscatter of laser light from BigFoot hohlraums on the National Ignition Facility. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	28
32	Optimization of high energy x ray production through laser plasma interaction. <i>High Energy Density Physics</i> , 2019, 31, 13-18.	1.5	8
33	Maintaining low-mode symmetry control with extended pulse shapes for lower-adiabat Bigfoot implosions on the National Ignition Facility. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	14
34	X-ray spectroscopy of planar laser-plasma interaction experiments at the National Ignition Facility. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	3
35	The National Direct-Drive Inertial Confinement Fusion Program. <i>Nuclear Fusion</i> , 2019, 59, 032007.	3.5	10
36	First Observation of Cross-Beam Energy Transfer Mitigation for Direct-Drive Inertial Confinement Fusion Implosions Using Wavelength Detuning at the National Ignition Facility. <i>Physical Review Letters</i> , 2018, 120, 085001.	7.8	65

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37	Origins and Scaling of Hot-Electron Preheat in Ignition-Scale Direct-Drive Inertial Confinement Fusion Experiments. <i>Physical Review Letters</i> , 2018, 120, 055001.	7.8	104
38	The National Direct-Drive Program: OMEGA to the National Ignition Facility. <i>Fusion Science and Technology</i> , 2018, 73, 89-97.	1.1	12
39	The high velocity, high adiabat, "Bigfoot" campaign and tests of indirect-drive implosion scaling. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	90
40	Exploring the limits of case-to-capsule ratio, pulse length, and picket energy for symmetric hohlraum drive on the National Ignition Facility Laser. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	79
41	Optimization of a high-yield, low-areal-density fusion product source at the National Ignition Facility with applications in nucleosynthesis experiments. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	10
42	High-Performance Indirect-Drive Cryogenic Implosions at High Adiat on the National Ignition Facility. <i>Physical Review Letters</i> , 2018, 121, 135001.	7.8	86
43	Time resolved detection of two-plasmon decay using three-halves harmonic emission on the National Ignition Facility. <i>Review of Scientific Instruments</i> , 2018, 89, 083504.	1.3	0
44	Wavelength-detuning cross-beam energy transfer mitigation scheme for direct drive: Modeling and evidence from National Ignition Facility implosions. <i>Physics of Plasmas</i> , 2018, 25, 056314.	1.9	40
45	10.1063/1.5022181.1., 2018, , .		0
46	High-energy (>70 keV) x-ray conversion efficiency measurement on the ARC laser at the National Ignition Facility. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	45
47	The relationship between gas fill density and hohlraum drive performance at the National Ignition Facility. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	55
48	Development of an inertial confinement fusion platform to study charged-particle-producing nuclear reactions relevant to nuclear astrophysics. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	20
49	Symmetry control of an indirectly driven high-density-carbon implosion at high convergence and high velocity. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	106
50	Mix and hydrodynamic instabilities on NIF. <i>Journal of Instrumentation</i> , 2017, 12, C06001-C06001.	1.2	21
51	Laser-direct-drive program: Promise, challenge, and path forward. <i>Matter and Radiation at Extremes</i> , 2017, 2, 37-54.	3.9	117
52	Demonstration of a long pulse X-ray source at the National Ignition Facility. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	9
53	Short pulse, high resolution, backlighters for point projection high-energy radiography at the National Ignition Facility. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	42
54	Indirect drive ignition at the National Ignition Facility. <i>Plasma Physics and Controlled Fusion</i> , 2017, 59, 014021.	2.1	64

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55	Polar-direct-drive experiments at the National Ignition Facility. Journal of Physics: Conference Series, 2016, 717, 012009.	0.4	1
56	Performance of indirectly driven capsule implosions on NIF using adiabat-shaping. Journal of Physics: Conference Series, 2016, 717, 012045.	0.4	0
57	A high-speed two-frame, 1-2 ns gated X-ray CMOS imager used as a hohlraum diagnostic on the National Ignition Facility (invited). Review of Scientific Instruments, 2016, 87, 11E203.	1.3	16
58	Isolating and quantifying cross-beam energy transfer in direct-drive implosions on OMEGA and the National Ignition Facility. Physics of Plasmas, 2016, 23, .	1.9	19
59	Direct drive: Simulations and results from the National Ignition Facility. Physics of Plasmas, 2016, 23, 056305.	1.9	36
60	Optical smoothing of laser imprinting in planar-target experiments on OMEGA EP using multi-FM 1-D smoothing by spectral dispersion. Physics of Plasmas, 2016, 23, .	1.9	9
61	Performance of indirectly driven capsule implosions on the National Ignition Facility using adiabat-shaping. Physics of Plasmas, 2016, 23, 056303.	1.9	38
62	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
63	eHXI: a permanently installed, hard x-ray imager for the National Ignition Facility. Journal of Instrumentation, 2016, 11, P06010-P06010.	1.2	14
64	A direct-drive exploding-pusher implosion as the first step in development of a monoenergetic charged-particle backlighting platform at the National Ignition Facility. High Energy Density Physics, 2016, 18, 38-44.	1.5	9
65	Inertially confined fusion plasmas dominated by alpha-particle self-heating. Nature Physics, 2016, 12, 800-806.	16.7	144
66	Generation and Beaming of Early Hot Electrons onto the Capsule in Laser-Driven Ignition Hohlräume. Physical Review Letters, 2016, 116, 075003.	7.8	45
67	Demonstration of Fuel Hot-Spot Pressure in Excess of 50 ÅGbar for Direct-Drive, Layered Deuterium-Tritium Implosions on OMEGA. Physical Review Letters, 2016, 117, 025001.	7.8	72
68	Hydrodynamic simulations of long-scale-length plasmas for two-plasmon-decay planar-target experiments on the NIF. Journal of Physics: Conference Series, 2016, 717, 012053.	0.4	6
69	Improved hard x-ray (50-80 keV) imaging of hohlraum implosion experiments at the National Ignition Facility. Proceedings of SPIE, 2016, , .	0.8	4
70	The National Ignition Facility Diagnostic Set at the Completion of the National Ignition Campaign, September 2012. Fusion Science and Technology, 2016, 69, 420-451.	1.1	29
71	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
72	Measurements of the ablation-front trajectory and low-mode nonuniformity in direct-drive implosions using x-ray self-emission shadowgraphy. High Power Laser Science and Engineering, 2015, 3, .	4.6	22

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73	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, .	1.9	19
74	Laser irradiance scaling in polar direct drive implosions on the National Ignition Facility. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	11
75	Bright x-ray stainless steel K-shell source development at the National Ignition Facility. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	21
76	First High-Convergence Cryogenic Implosion in a Near-Vacuum Hohlraum. <i>Physical Review Letters</i> , 2015, 114, 175001.	7.8	117
77	Multibeam Stimulated Raman Scattering in Inertial Confinement Fusion Conditions. <i>Physical Review Letters</i> , 2015, 115, 055003.	7.8	62
78	Spherical strong-shock generation for shock-ignition inertial fusion. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	49
79		1.9	52
80	Developing a bright 17-keV x-ray source for probing high-energy-density states of matter at high spatial resolution. <i>Physics of Plasmas</i> , 2015, 22, 043114.	1.9	7
81	First results of radiation-driven, layered deuterium-tritium implosions with a 3-shock adiabat-shaped drive at the National Ignition Facility. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	29
82	Time-dependent and radiation field effects on collisional-radiative simulations of radiative properties of blast waves launched in clusters of xenon. <i>High Energy Density Physics</i> , 2015, 17, 119-128.	1.5	0
83	Investigation of ion kinetic effects in direct-drive exploding-pusher implosions at the NIF. <i>Physics of Plasmas</i> , 2014, 21, 122712.	1.9	33
84	A magnetic particle time-of-flight (MagPTOF) diagnostic for measurements of shock- and compression-bang time at the NIF (invited). <i>Review of Scientific Instruments</i> , 2014, 85, 11D901.	1.3	12
85	A compact proton spectrometer for measurement of the absolute DD proton spectrum from which yield and $\langle i \rangle$ are determined in thin-shell inertial-confinement-fusion implosions. <i>Review of Scientific Instruments</i> , 2014, 85, 103504.	1.3	15
86	Time-resolved measurements of the hot-electron population in ignition-scale experiments on the National Ignition Facility (invited). <i>Review of Scientific Instruments</i> , 2014, 85, 11D501.	1.3	39
87	Shock-ignition relevant experiments with planar targets on OMEGA. <i>Physics of Plasmas</i> , 2014, 21, 022702.	1.9	42
88	Shock timing measurements and analysis in deuterium-tritium-ice layered capsule implosions on NIF. <i>Physics of Plasmas</i> , 2014, 21, 022703.	1.9	27
89	Physics issues for shock ignition. <i>Nuclear Fusion</i> , 2014, 54, 054009.	3.5	100
90	A polar-drive shock-ignition design for the National Ignition Facility. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	37

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91	Improving cryogenic deuterium-tritium implosion performance on OMEGA. Physics of Plasmas, 2013, 20, .	1.9	48
92	Analysis of microscopic magnitudes of radiative blast waves launched in xenon clusters with collisional-radiative steady-state simulations. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 125, 69-83.	2.3	5
93	Progress towards polar-drive ignition for the NIF. Nuclear Fusion, 2013, 53, 113021.	3.5	20
94	Polar-drive implosions on OMEGA and the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	28
95	Measuring the hot-electron population using time-resolved hard x-ray detectors on the NIF. Proceedings of SPIE, 2013, , .	0.8	4
96	Soft x-ray backlighting of direct-drive implosions using a spherical crystal imager on OMEGA. Review of Scientific Instruments, 2012, 83, 10E501.	1.3	13
97	Optical Thomson Scattering Measurements of Plasma Parameters in the Ablation Stage of Wire Array $Z$ Pinches. Physical Review Letters, 2012, 108, 145002.	7.8	34
98	Spherical shock-ignition experiments with the 40 + 20-beam configuration on OMEGA. Physics of Plasmas, 2012, 19, .	1.9	78
99	Determination of the average ionization and thermodynamic regimes of xenon plasmas with an application to the characterization of blast waves launched in xenon clusters. High Energy Density Physics, 2011, 7, 71-76.	1.5	6
100	Investigations of laser-driven radiative blast waves in clustered gases. High Energy Density Physics, 2010, 6, 274-279.	1.5	19
101	Pulse-Length Dependence of the Anisotropy of Laser-Driven Cluster Explosions: Transition to the Impulsive Regime for Pulses Approaching the Few-Cycle Limit. Physical Review Letters, 2010, 104, 203401.	7.8	39
102	Observation of a Velocity Domain Cooling Instability in a Radiative Shock. Physical Review Letters, 2010, 105, 205003.	7.8	23
103	Laser heating of large noble gas clusters: from the resonant to the relativistic interaction regimes. New Journal of Physics, 2008, 10, 123011.	2.9	9
104	Anisotropic Explosions of Hydrogen Clusters under Intense Femtosecond Laser Irradiation. Physical Review Letters, 2007, 98, 123401.	7.8	32
105	High resolution imaging of colliding blast waves in cluster media. Plasma Physics and Controlled Fusion, 2007, 49, B117-B124.	2.1	20
106	Colliding Blast Waves Driven by the Interaction of a Short-Pulse Laser with a Gas of Atomic Clusters. Astrophysics and Space Science, 2007, 307, 131-137.	1.4	13
107	Investigating the Astrophysical Applicability of Radiative and Non-Radiative Blast wave Structure in Cluster Media. Astrophysics and Space Science, 2007, 307, 139-145.	1.4	21
108	Dynamic Acceleration Effects in Explosions of Laser-Irradiated Heteronuclear Clusters. Physical Review Letters, 2005, 95, 195003.	7.8	40