

S W Haan

List of Publications by Year in descending order

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Version: 2024-02-01

140
papers

12,139
citations

19657

61
h-index

25787

108
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143
all docs

143
docs citations

143
times ranked

2410
citing authors

#	ARTICLE	IF	CITATIONS
1	Extensions of a classical mechanics "piston-model" 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. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	22
2	Design of inertial fusion implosions reaching the burning plasma regime. <i>Nature Physics</i> , 2022, 18, 251-258.	16.7	87
3	Fuel convergence sensitivity in indirect drive implosions. <i>Physics of Plasmas</i> , 2021, 28, 042705.	1.9	11
4	Achieving record hot spot energies with large HDC implosions on NIF in HYBRID-E. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	55
5	Evidence of Three-Dimensional Asymmetries Seeded by High-Density Carbon-Ablator Nonuniformity in Experiments at the National Ignition Facility. <i>Physical Review Letters</i> , 2021, 126, 025002.	7.8	40
6	Review of hydrodynamic instability experiments in inertially confined fusion implosions on National Ignition Facility. <i>Plasma Physics and Controlled Fusion</i> , 2020, 62, 014007.	2.1	31
7	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.	2.1	53
8	Shock Compression of Liquid Deuterium up to 1ÂTPa. <i>Physical Review Letters</i> , 2019, 122, 255702.	7.8	26
9	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. <i>Physics of Plasmas</i> , 2019, 26, 062703.	1.9	8
10	Progress of indirect drive inertial confinement fusion in the United States. <i>Nuclear Fusion</i> , 2019, 59, 112018.	3.5	38
11	Measuring the shock impedance mismatch between high-density carbon and deuterium at the National Ignition Facility. <i>Physical Review B</i> , 2018, 97, .	3.2	21
12	Comparison of plastic, high density carbon, and beryllium as indirect drive NIF ablators. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	39
13	Update 2017 on Target Fabrication Requirements for High-Performance NIF Implosion Experiments. <i>Fusion Science and Technology</i> , 2018, 73, 83-88.	1.1	2
14	Visualizing deceleration-phase instabilities in inertial confinement fusion implosions using an "enhanced self-emission" technique at the National Ignition Facility. <i>Physics of Plasmas</i> , 2018, 25, 054502.	1.9	22
15	Capsule physics comparison of National Ignition Facility implosion designs using plastic, high density carbon, and beryllium ablators. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	62
16	Progress toward a self-consistent set of 1D ignition capsule metrics in ICF. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	51
17	Instability growth seeded by DT density perturbations in ICF capsules. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	13
18	Probing the seeding of hydrodynamic instabilities from nonuniformities in ablator materials using 2D velocimetry. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	32

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19	Hydrodynamic instability seeding by oxygen nonuniformities in glow discharge polymer inertial fusion ablaters. <i>Physical Review E</i> , 2018, 98, .	2.1	10
20	A "polar contact" tent for reduced perturbation and improved performance of NIF ignition capsules. <i>Physics of Plasmas</i> , 2018, 25, 082714.	1.9	17
21	Review of hydro-instability experiments with alternate capsule supports in indirect-drive implosions on the National Ignition Facility. <i>Physics of Plasmas</i> , 2018, 25, 072705.	1.9	20
22	Development of new platforms for hydrodynamic instability and asymmetry measurements in deceleration phase of indirectly driven implosions on NIF. <i>Physics of Plasmas</i> , 2018, 25, 082705.	1.9	15
23	Fusion Energy Output Greater than the Kinetic Energy of an Imploding Shell at the National Ignition Facility. <i>Physical Review Letters</i> , 2018, 120, 245003.	7.8	205
24	Improving ICF implosion performance with alternative capsule supports. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	54
25	Hydrodynamic instability growth of three-dimensional modulations in radiation-driven implosions with "low-foot" and "high-foot" drives at the National Ignition Facility. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	30
26	The role of hot spot mix in the low-foot and high-foot implosions on the NIF. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	49
27	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
28	Hydro-instability growth of perturbation seeds from alternate capsule-support strategies in indirect-drive implosions on National Ignition Facility. <i>Physics of Plasmas</i> , 2017, 24, 102707.	1.9	27
29	X-ray shadow imprint of hydrodynamic instabilities on the surface of inertial confinement fusion capsules by the fuel fill tube. <i>Physical Review E</i> , 2017, 95, 031204.	2.1	46
30	Performance of beryllium targets with full-scale capsules in low-fill 6.72-mm hohlraums on the National Ignition Facility. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	14
31	Indirect drive ignition at the National Ignition Facility. <i>Plasma Physics and Controlled Fusion</i> , 2017, 59, 014021.	2.1	64
32	Capsule modeling of high foot implosion experiments on the National Ignition Facility. <i>Plasma Physics and Controlled Fusion</i> , 2017, 59, 055006.	2.1	40
33	Use of ⁴¹ Ar production to measure ablator areal density in NIF beryllium implosions. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	2
34	Hydrodynamic growth experiments with the 3-D, "native-roughness" modulations on NIF. <i>Journal of Physics: Conference Series</i> , 2016, 717, 012052.	0.4	3
35	Progress in detailed modelling of low foot and high foot implosion experiments on the National Ignition Facility. <i>Journal of Physics: Conference Series</i> , 2016, 717, 012011.	0.4	2
36	Performance of indirectly driven capsule implosions on NIF using adiabat-shaping. <i>Journal of Physics: Conference Series</i> , 2016, 717, 012045.	0.4	0

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37	Implosion configurations for robust ignition using high-density carbon (diamond) ablator for indirect-drive ICF at the National Ignition Facility. Journal of Physics: Conference Series, 2016, 717, 012023.	0.4	30
38	Surface oxygen micropatterns on glow discharge polymer targets by photo irradiation. Journal of Applied Physics, 2016, 119, .	2.5	12
39	First beryllium capsule implosions on the National Ignition Facility. Physics of Plasmas, 2016, 23, 056310.	1.9	37
40	The near vacuum hohlraum campaign at the NIF: A new approach. Physics of Plasmas, 2016, 23, .	1.9	51
41	Three-dimensional simulations of low foot and high foot implosion experiments on the National Ignition Facility. Physics of Plasmas, 2016, 23, .	1.9	162
42	Performance of indirectly driven capsule implosions on the National Ignition Facility using adiabat-shaping. Physics of Plasmas, 2016, 23, 056303.	1.9	38
43	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
44	Integrated modeling of cryogenic layered highfoot experiments at the NIF. Physics of Plasmas, 2016, 23, .	1.9	59
45	Inertially confined fusion plasmas dominated by alpha-particle self-heating. Nature Physics, 2016, 12, 800-806.	16.7	144
46	Quantitative Defect Analysis of Ablator Capsule Surfaces Using a Leica Confocal Microscope and a High-Density Atomic Force Microscope. Fusion Science and Technology, 2016, 70, 377-386.	1.1	7
47	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
48	Hydrodynamic growth and mix experiments at National Ignition Facility. Journal of Physics: Conference Series, 2016, 688, 012113.	0.4	3
49	Experimental evidence of a bubble-merger regime for the Rayleigh-Taylor Instability at the ablation front. Journal of Physics: Conference Series, 2016, 717, 012010.	0.4	5
50	Improved Performance of High Areal Density Indirect Drive Implosions at the National Ignition Facility using a Four-Shock Adiabat Shaped Drive. Physical Review Letters, 2015, 115, 105001.	7.8	58
51	Probing the deep nonlinear stage of the ablative Rayleigh-Taylor instability in indirect drive experiments on the National Ignition Facility. Physics of Plasmas, 2015, 22, .	1.9	30
52	2015, 22, 056314.	1.9	49
53	First High-Convergence Cryogenic Implosion in a Near-Vacuum Hohlraum. Physical Review Letters, 2015, 114, 175001.	7.8	117
54	Cryogenic tritium-hydrogen-deuterium and deuterium-tritium layer implosions with high density carbon ablaters in near-vacuum hohlraums. Physics of Plasmas, 2015, 22, 062703.	1.9	62

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55	of Plasmas, 2015, 22, 056315.	1.9	82
56	Thin Shell, High Velocity Inertial Confinement Fusion Implosions on the National Ignition Facility. Physical Review Letters, 2015, 114, 145004.	7.8	56
57	Instability growth seeded by oxygen in CH shells on the National Ignition Facility. Physics of Plasmas, 2015, 22, .	1.9	46
58	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
59	Three-dimensional hydrodynamics of the deceleration stage in inertial confinement fusion. Physics of Plasmas, 2015, 22, 032702.	1.9	45
60	Adiabat-shaping in indirect drive inertial confinement fusion. Physics of Plasmas, 2015, 22, 052702.	1.9	31
61	Effect of the mounting membrane on shape in inertial confinement fusion implosions. Physics of Plasmas, 2015, 22, .	1.9	85
62	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
63	First results of radiation-driven, layered deuterium-tritium implosions with a 3-shock adiabat-shaped drive at the National Ignition Facility. Physics of Plasmas, 2015, 22, .	1.9	29
64	Stabilization of high-compression, indirect-drive inertial confinement fusion implosions using a 4-shock adiabat-shaped drive. Physics of Plasmas, 2015, 22, .	1.9	40
65	Hydrodynamic instability growth of three-dimensional, "native-roughness" modulations in x-ray driven, spherical implosions at the National Ignition Facility. Physics of Plasmas, 2015, 22, .	1.9	46
66	Metrics for long wavelength asymmetries in inertial confinement fusion implosions on the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	140
67	A survey of pulse shape options for a revised plastic ablator ignition design. Physics of Plasmas, 2014, 21, .	1.9	50
68	Simulations of indirectly driven gas-filled capsules at the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	12
69	Development of the CD Symcap platform to study gas-shell mix in implosions at the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	42
70	Hydrodynamic instability growth and mix experiments at the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	60
71	First Measurements of Hydrodynamic Instability Growth in Indirectly Driven Implosions at Ignition-Relevant Conditions on the National Ignition Facility. Physical Review Letters, 2014, 112, 185003.	7.8	90
72	Measurements of an Ablator-Gas Atomic Mix in Indirectly Driven Implosions at the National Ignition Facility. Physical Review Letters, 2014, 112, 025002.	7.8	60

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73	Dynamic symmetry of indirectly driven inertial confinement fusion capsules on the National Ignition Facility. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	81
74	High-density carbon ablator experiments on the National Ignition Facility. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	116
75	The high-foot implosion campaign on the National Ignition Facility. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	149
76	An in-flight radiography platform to measure hydrodynamic instability growth in inertial confinement fusion capsules at the National Ignition Facility. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	98
77	Reduced instability growth with high-adiabat high-foot implosions at the National Ignition Facility. <i>Physical Review E</i> , 2014, 90, 011102.	2.1	77
78	Progress towards ignition on the National Ignition Facility. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	259
79	Hot-Spot Mix in Ignition-Scale Inertial Confinement Fusion Targets. <i>Physical Review Letters</i> , 2013, 111, 045001.	7.8	135
80	Onset of Hydrodynamic Mix in High-Velocity, Highly Compressed Inertial Confinement Fusion Implosions. <i>Physical Review Letters</i> , 2013, 111, 085004.	7.8	215
81	Hohlraum energetics scaling to 520 TW on the National Ignition Facility. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	59
82	Performance of High-Convergence, Layered DT Implosions with Extended-Duration Pulses at the National Ignition Facility. <i>Physical Review Letters</i> , 2013, 111, 215001.	7.8	47
83	Numerical Modeling of the Sensitivity of X-Ray Driven Implosions to Low-Mode Flux Asymmetries. <i>Physical Review Letters</i> , 2013, 110, 075001.	7.8	63
84	Diagnosing implosion performance at the National Ignition Facility (NIF) by means of neutron spectrometry. <i>Nuclear Fusion</i> , 2013, 53, 043014.	3.5	84
85	Detailed implosion modeling of deuterium-tritium layered experiments on the National Ignition Facility. <i>Physics of Plasmas</i> , 2013, 20, 056318.	1.9	128
86	Nuclear imaging of the fuel assembly in ignition experiments. <i>Physics of Plasmas</i> , 2013, 20, 056320.	1.9	65
87	The effect of laser pulse shape variations on the adiabat of NIF capsule implosions. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	40
88	NIF Ignition Campaign Target Performance and Requirements: Status May 2012. <i>Fusion Science and Technology</i> , 2013, 63, 67-75.	1.1	28
89	Cryogenic thermonuclear fuel implosions on the National Ignition Facility. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	95
90	Diagnosing implosions at the national ignition facility with X-ray spectroscopy. <i>AIP Conference Proceedings</i> , 2012, , .	0.4	3

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91	Neutron spectrometryâ€”An essential tool for diagnosing implosions at the National Ignition Facility (invited). Review of Scientific Instruments, 2012, 83, 10D308.	1.3	117
92	Shock timing experiments on the National Ignition Facility: Initial results and comparison with simulation. Physics of Plasmas, 2012, 19, .	1.9	115
93	A high-resolution integrated model of the National Ignition Campaign cryogenic layered experiments. Physics of Plasmas, 2012, 19, .	1.9	108
94	Progress in the indirect-drive National Ignition Campaign. Plasma Physics and Controlled Fusion, 2012, 54, 124026.	2.1	38
95	Precision Shock Tuning on the National Ignition Facility. Physical Review Letters, 2012, 108, 215004.	7.8	83
96	Hot-spot mix in ignition-scale implosions on the NIF. Physics of Plasmas, 2012, 19, .	1.9	107
97	The velocity campaign for ignition on NIF. Physics of Plasmas, 2012, 19, .	1.9	76
98	Direct Measurement of Energetic Electrons Coupling to an Imploding Low-Adiabatic Inertial Confinement Fusion Capsule. Physical Review Letters, 2012, 108, 135006.	7.8	44
99	First implosion experiments with cryogenic thermonuclear fuel on the National Ignition Facility. Plasma Physics and Controlled Fusion, 2012, 54, 045013.	2.1	41
100	Performance metrics for inertial confinement fusion implosions: Aspects of the technical framework for measuring progress in the National Ignition Campaign. Physics of Plasmas, 2012, 19, .	1.9	78
101	Diagnosing and controlling mix in National Ignition Facility implosion experiments. Physics of Plasmas, 2011, 18, .	1.9	92
102	Capsule implosion optimization during the indirect-drive National Ignition Campaign. Physics of Plasmas, 2011, 18, .	1.9	131
103	Point design targets, specifications, and requirements for the 2010 ignition campaign on the National Ignition Facility. Physics of Plasmas, 2011, 18, .	1.9	534
104	Short-wavelength and three-dimensional instability evolution in National Ignition Facility ignition capsule designs. Physics of Plasmas, 2011, 18, .	1.9	87
105	The experimental plan for cryogenic layered target implosions on the National Ignition Facilityâ€”The inertial confinement approach to fusion. Physics of Plasmas, 2011, 18, .	1.9	148
106	Analysis of the National Ignition Facility ignition hohlraum energetics experiments. Physics of Plasmas, 2011, 18, .	1.9	82
107	Symmetry tuning for ignition capsules via the symcap technique. Physics of Plasmas, 2011, 18, .	1.9	101
108	Prediction of ignition implosion performance using measurements of Low-deuterium surrogates. Journal of Physics: Conference Series, 2010, 244, 022014.	0.4	12

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109	Plastic ablator ignition capsule design for the National Ignition Facility. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	89
110	Probing high areal-density cryogenic deuterium-tritium implosions using downscattered neutron spectra measured by the magnetic recoil spectrometer. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	91
111	Tuning the Implosion Symmetry of ICF Targets via Controlled Crossed-Beam Energy Transfer. <i>Physical Review Letters</i> , 2009, 102, 025004.	7.8	247
112	Robustness studies of ignition targets for the National Ignition Facility in two dimensions. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	71
113	Experimental studies of ICF indirect-drive Be and high density C candidate ablators. <i>Journal of Physics: Conference Series</i> , 2008, 112, 022004.	0.4	13
114	Spectroscopic determination of temperature and density spatial profiles and mix in indirect-drive implosion cores. <i>Physical Review E</i> , 2007, 76, 056403.	2.1	28
115	Very-high-growth-factor planar ablative Rayleigh-Taylor experiments. <i>Physics of Plasmas</i> , 2007, 14, 056313.	1.9	34
116	Increasing robustness of indirect drive capsule designs against short wavelength hydrodynamic instabilities. <i>Physics of Plasmas</i> , 2005, 12, 056316.	1.9	84
117	Design of a 250â€eV cryogenic ignition capsule for the National Ignition Facility. <i>Physics of Plasmas</i> , 2004, 11, 4261-4266.	1.9	7
118	Yield and hydrodynamic instability versus absorbed energy for a uniformly doped beryllium 250â€eV ignition capsule. <i>Physics of Plasmas</i> , 2004, 11, 4695-4700.	1.9	8
119	Shock propagation, preheat, and x-ray burnthrough in indirect-drive inertial confinement fusion ablator materials. <i>Physics of Plasmas</i> , 2004, 11, 2778-2789.	1.9	53
120	National Ignition Facility targets driven at high radiation temperature: Ignition, hydrodynamic stability, and laserâ€plasma interactions. <i>Physics of Plasmas</i> , 2004, 11, 1128-1144.	1.9	24
121	The physics basis for ignition using indirect-drive targets on the National Ignition Facility. <i>Physics of Plasmas</i> , 2004, 11, 339-491.	1.9	1,618
122	Shock timing technique for the National Ignition Facility. <i>Physics of Plasmas</i> , 2001, 8, 2245-2250.	1.9	86
123	Three-dimensional HYDRA simulations of National Ignition Facility targets. <i>Physics of Plasmas</i> , 2001, 8, 2275-2280.	1.9	579
124	A simple time-dependent analytic model of the P2 asymmetry in cylindrical hohlraums. <i>Physics of Plasmas</i> , 1999, 6, 2137-2143.	1.9	35
125	Nonlinear Rayleigh-Taylor Evolution of a Three-Dimensional Multimode Perturbation. <i>Physical Review Letters</i> , 1998, 80, 4426-4429.	7.8	71
126	A comparison of three-dimensional multimode hydrodynamic instability growth on various National Ignition Facility capsule designs withHYDRAsimulations. <i>Physics of Plasmas</i> , 1998, 5, 1125-1132.	1.9	118

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127	Reduced scale National Ignition Facility capsule design. <i>Physics of Plasmas</i> , 1998, 5, 3708-3713.	1.9	50
128	The development and advantages of beryllium capsules for the National Ignition Facility. <i>Physics of Plasmas</i> , 1998, 5, 1953-1959.	1.9	136
129	NIF Capsule Design Update. <i>Fusion Science and Technology</i> , 1997, 31, 402-405.	0.6	54
130	Ignition target design and robustness studies for the National Ignition Facility. <i>Physics of Plasmas</i> , 1996, 3, 2084-2093.	1.9	91
131	Three-dimensional simulations of Nova high growth factor capsule implosion experiments. <i>Physics of Plasmas</i> , 1996, 3, 2070-2076.	1.9	143
132	Effects of variable x-ray preheat shielding in indirectly driven implosions. <i>Physics of Plasmas</i> , 1996, 3, 2094-2097.	1.9	20
133	Three-Dimensional Single Mode Rayleigh-Taylor Experiments on Nova. <i>Physical Review Letters</i> , 1995, 75, 3677-3680.	7.8	65
134	Design and modeling of ignition targets for the National Ignition Facility. <i>Physics of Plasmas</i> , 1995, 2, 2480-2487.	1.9	329
135	A review of the ablative stabilization of the Rayleigh-Taylor instability in regimes relevant to inertial confinement fusion. <i>Physics of Plasmas</i> , 1994, 1, 1379-1389.	1.9	191
136	Diagnosis of Pusher-Fuel Mix in Indirectly Driven Nova Implosions. <i>Physical Review Letters</i> , 1994, 73, 2324-2327.	7.8	78
137	Modeling of Nova indirect drive Rayleigh-Taylor experiments. <i>Physics of Plasmas</i> , 1994, 1, 3652-3661.	1.9	40
138	Weakly nonlinear hydrodynamic instabilities in inertial fusion. <i>Physics of Fluids B</i> , 1991, 3, 2349-2355.	1.7	208
139	Large growth Rayleigh-Taylor experiments using shaped laser pulses. <i>Physical Review Letters</i> , 1991, 67, 3259-3262.	7.8	75
140	Onset of nonlinear saturation for Rayleigh-Taylor growth in the presence of a full spectrum of modes. <i>Physical Review A</i> , 1989, 39, 5812-5825.	2.5	251