D S Clark

List of Publications by Year in descending order

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116 papers	6,670 citations	41344 49 h-index	64796 79 g-index
117 all docs	117 docs citations	117 times ranked	1484 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	Exploring implosion designs for increased compression on the National Ignition Facility using high density carbon ablators. Physics of Plasmas, 2022, 29, .	1.9	15
4	Hydroscaling indirect-drive implosions on the National Ignition Facility. Physics of Plasmas, 2022, 29, .	1.9	4
5	Three dimensional low-mode areal-density non-uniformities in indirect-drive implosions at the National Ignition Facility. Physics of Plasmas, 2021, 28, .	1.9	12
6	Achieving record hot spot energies with large HDC implosions on NIF in HYBRID-E. Physics of Plasmas, 2021, 28, .	1.9	55
7	Biermann battery magnetic fields in ICF capsules: Total magnetic flux generation. Physics of Plasmas, 2021, 28, .	1.9	10
8	Record Energetics for an Inertial Fusion Implosion at NIF. Physical Review Letters, 2021, 126, 025001.	7.8	76
9	Understanding asymmetries using integrated simulations of capsule implosions in low gas-fill hohlraums at the National Ignition Facility. Plasma Physics and Controlled Fusion, 2021, 63, 025012.	2.1	14
10	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
11	Integrated performance of large HDC-capsule implosions on the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	22
12	Hot-spot mix in large-scale HDC implosions at NIF. Physics of Plasmas, 2020, 27, .	1.9	46
13	Principal factors in performance of indirect-drive laser fusion experiments. Physics of Plasmas, 2020, 27, .	1.9	7
14	Deficiencies in compression and yield in x-ray-driven implosions. Physics of Plasmas, 2020, 27, .	1.9	12
15	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
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	Cross-code comparison of the impact of the fill tube on high yield implosions on the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	16
18	Symmetric fielding of the largest diamond capsule implosions on the NIF. Physics of Plasmas, 2020, 27, .	1.9	28

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19	Hotspot conditions achieved in inertial confinement fusion experiments on the National Ignition Facility. Physics of Plasmas, 2020, 27, .	1.9	50
20	Mixing in ICF implosions on the National Ignition Facility caused by the fill-tube. Physics of Plasmas, 2020, 27, .	1.9	41
21	Impact of Localized Radiative Loss on Inertial Confinement Fusion Implosions. Physical Review Letters, 2020, 124, 145001.	7.8	58
22	Experiments to explore the influence of pulse shaping at the National Ignition Facility. Physics of Plasmas, 2020, 27, 112708.	1.9	11
23	Rayleighâ€“Taylor instabilities in high-energy density settings on the National Ignition Facility. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 18233-18238.	7.1	76
24	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
25	Turbulent mixing and transition criteria of flows induced by hydrodynamic instabilities. Physics of Plasmas, 2019, 26, .	1.9	154
26	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
27	Three-dimensional modeling and hydrodynamic scaling of National Ignition Facility implosions. Physics of Plasmas, 2019, 26, .	1.9	70
28	Progress of indirect drive inertial confinement fusion in the United States. Nuclear Fusion, 2019, 59, 112018.	3.5	38
29	Comparison of plastic, high density carbon, and beryllium as indirect drive NIF ablators. Physics of Plasmas, 2018, 25, .	1.9	39
30	Update 2017 on Target Fabrication Requirements for High-Performance NIF Implosion Experiments. Fusion Science and Technology, 2018, 73, 83-88.	1.1	2
31	Capsule Shimming Developments for National Ignition Facility (NIF) Hohlraum Asymmetry Experiments. Fusion Science and Technology, 2018, 73, 279-284.	1.1	3
32	Capsule physics comparison of National Ignition Facility implosion designs using plastic, high density carbon, and beryllium ablators. Physics of Plasmas, 2018, 25, .	1.9	62
33	High-Performance Indirect-Drive Cryogenic Implosions at High Adiabat on the National Ignition Facility. Physical Review Letters, 2018, 121, 135001.	7.8	86
34	A â€œpolar contactâ€•tent for reduced perturbation and improved performance of NIF ignition capsules. Physics of Plasmas, 2018, 25, 082714.	1.9	17
35	Single-mode perturbation growth in an idealized spherical implosion. Journal of Computational Physics, 2018, 371, 801-819.	3.8	14
36	Review of hydro-instability experiments with alternate capsule supports in indirect-drive implosions on the National Ignition Facility. Physics of Plasmas, 2018, 25, 072705.	1.9	20

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37	Hydrodynamic instabilities seeded by the X-ray shadow of ICF capsule fill-tubes. Physics of Plasmas, 2018, 25, .	1.9	25
38	Improving ICF implosion performance with alternative capsule supports. Physics of Plasmas, 2017, 24, .	1.9	54
39	Hydrodynamic instability growth of three-dimensional modulations in radiation-driven implosions with â€œlow-footâ€•and â€œhigh-footâ€•drives at the National Ignition Facility. Physics of Plasmas, 2017, 24, .	1.9	30
40	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
41	Hydro-instability growth of perturbation seeds from alternate capsule-support strategies in indirect-drive implosions on National Ignition Facility. Physics of Plasmas, 2017, 24, 102707.	1.9	27
42	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.	2.1	46
43	Indirect drive ignition at the National Ignition Facility. Plasma Physics and Controlled Fusion, 2017, 59, 014021.	2.1	64
44	Capsule modeling of high foot implosion experiments on the National Ignition Facility. Plasma Physics and Controlled Fusion, 2017, 59, 055006.	2.1	40
45	On the design of the NIF Continuum Spectrometer. , 2017, , .		9
46	Hydrodynamic growth experiments with the 3-D, â€œnative-roughnessâ€•modulations on NIF. Journal of Physics: Conference Series, 2016, 717, 012052.	0.4	3
47	Indirect-drive ablative Richtmyer Meshkov node scaling. Journal of Physics: Conference Series, 2016, 717, 012034.	0.4	12
48	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
49	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
50	Performance of indirectly driven capsule implosions on NIF using adiabat-shaping. Journal of Physics: Conference Series, 2016, 717, 012045.	0.4	0
51	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
52	First beryllium capsule implosions on the National Ignition Facility. Physics of Plasmas, 2016, 23, 056310.	1.9	37
53	Mitigating the impact of hohlraum asymmetries in National Ignition Facility implosions using capsule shims. Physics of Plasmas, 2016, 23, 072707.	1.9	20
54	Three-dimensional simulations of low foot and high foot implosion experiments on the National Ignition Facility. Physics of Plasmas, 2016, 23, .	1.9	162

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55	Performance of indirectly driven capsule implosions on the National Ignition Facility using adiabat-shaping. Physics of Plasmas, 2016, 23, 056303.	1.9	38
56	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
57	Integrated modeling of cryogenic layered highfoot experiments at the NIF. Physics of Plasmas, 2016, 23, .	1.9	59
58	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
59	Hydrodynamic growth and mix experiments at National Ignition Facility. Journal of Physics: Conference Series, 2016, 688, 012113.	0.4	3
60	Simulations and experiments of the growth of the â€œtentâ€•perturbation in NIF ignition implosions. Journal of Physics: Conference Series, 2016, 717, 012021.	0.4	28
61	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
62	Design of indirectly driven, high-compression Inertial Confinement Fusion implosions with improved hydrodynamic stability using a 4-shock adiabat-shaped drive. Physics of Plasmas, 2015, 22, .	1.9	22
63	First High-Convergence Cryogenic Implosion in a Near-Vacuum Hohlraum. Physical Review Letters, 2015, 114, 175001.	7.8	117
64	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
65	Three-dimensional simulations of National Ignition Facility implosions: Insight into experimental	1.9	28
66	A strategy for reducing stagnation phase hydrodynamic instability growth in inertial confinement fusion implosions. Physics of Plasmas, 2015, 22, 052705.	1.9	6
67	Instability growth seeded by oxygen in CH shells on the National Ignition Facility. Physics of Plasmas, 2015, 22, .	1.9	46
68	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
69	Three-dimensional hydrodynamics of the deceleration stage in inertial confinement fusion. Physics of Plasmas, 2015, 22, 032702.	1.9	45
70	Adiabat-shaping in indirect drive inertial confinement fusion. Physics of Plasmas, 2015, 22, 052702.	1.9	31
71	Differential ablator-fuel adiabat tuning in indirect-drive implosions. Physical Review E, 2015, 91, 031101.	2.1	25
72	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

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73	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
74	Hydrodynamic instability growth of three-dimensional, â€œnative-roughnessâ€•modulations in x-ray driven, spherical implosions at the National Ignition Facility. Physics of Plasmas, 2015, 22, .	1.9	46
75	Metrics for long wavelength asymmetries in inertial confinement fusion implosions on the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	140
76	A survey of pulse shape options for a revised plastic ablator ignition design. Physics of Plasmas, 2014, 21, .	1.9	50
77	Optimized beryllium target design for indirectly driven inertial confinement fusion experiments on the National Ignition Facility. Physics of Plasmas, 2014, 21, 022701.	1.9	55
78	Simulations of indirectly driven gas-filled capsules at the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	12
79	The effects of early time laser drive on hydrodynamic instability growth in National Ignition Facility implosions. Physics of Plasmas, 2014, 21, .	1.9	38
80	Hydrodynamic instability growth and mix experiments at the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	60
81	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
82	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
83	Hydrodynamic instabilities in beryllium targets for the National Ignition Facility. Physics of Plasmas, 2014, 21, 092701.	1.9	27
84	An in-flight radiography platform to measure hydrodynamic instability growth in inertial confinement fusion capsules at the National Ignition Facility. Physics of Plasmas, 2014, 21, .	1.9	98
85	Reduced instability growth with high-adiabat high-foot implosions at the National Ignition Facility. Physical Review E, 2014, 90, 011102.	2.1	77
86	Inhibition of turbulence in inertial-confinement-fusion hot spots by viscous dissipation. Physical Review E, 2014, 89, 053106.	2.1	97
87	Progress towards ignition on the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	259
88	Onset of Hydrodynamic Mix in High-Velocity, Highly Compressed Inertial Confinement Fusion Implosions. Physical Review Letters, 2013, 111, 085004.	7.8	215
89	Performance of High-Convergence, Layered DT Implosions with Extended-Duration Pulses at the National Ignition Facility. Physical Review Letters, 2013, 111, 215001.	7.8	47
90	Numerical Modeling of the Sensitivity of X-Ray Driven Implosions to Low-Mode Flux Asymmetries. Physical Review Letters, 2013, 110, 075001.	7.8	63

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91	X-ray driven implosions at ignition relevant velocities on the National Ignition Facility. Physics of Plasmas, 2013, 20, .	1.9	54
92	Detailed implosion modeling of deuterium-tritium layered experiments on the National Ignition Facility. Physics of Plasmas, 2013, 20, 056318.	1.9	128
93	Nuclear imaging of the fuel assembly in ignition experiments. Physics of Plasmas, 2013, 20, 056320.	1.9	65
94	The effect of laser pulse shape variations on the adiabat of NIF capsule implosions. Physics of Plasmas, 2013, 20, .	1.9	40
95	NIF Ignition Campaign Target Performance and Requirements: Status May 2012. Fusion Science and Technology, 2013, 63, 67-75.	1.1	28
96	Cryogenic thermonuclear fuel implosions on the National Ignition Facility. Physics of Plasmas, 2012, 19, .	1.9	95
97	Assembly of High-Areal-Density Deuterium-Tritium Fuel from Indirectly Driven Cryogenic Implosions. Physical Review Letters, 2012, 108, 215005.	7.8	57
98	Implosion dynamics measurements at the National Ignition Facility. Physics of Plasmas, 2012, 19, .	1.9	125
99	Shock timing experiments on the National Ignition Facility: Initial results and comparison with simulation. Physics of Plasmas, 2012, 19, .	1.9	115
100	A high-resolution integrated model of the National Ignition Campaign cryogenic layered experiments. Physics of Plasmas, 2012, 19, .	1.9	108
101	Progress in the indirect-drive National Ignition Campaign. Plasma Physics and Controlled Fusion, 2012, 54, 124026.	2.1	38
102	Precision Shock Tuning on the National Ignition Facility. Physical Review Letters, 2012, 108, 215004.	7.8	83
103	First implosion experiments with cryogenic thermonuclear fuel on the National Ignition Facility. Plasma Physics and Controlled Fusion, 2012, 54, 045013.	2.1	41
104	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
105	Diagnosing and controlling mix in National Ignition Facility implosion experiments. Physics of Plasmas, 2011, 18, .	1.9	92
106	Capsule implosion optimization during the indirect-drive National Ignition Campaign. Physics of Plasmas, 2011, 18, .	1.9	131
107	Point design targets, specifications, and requirements for the 2010 ignition campaign on the National Ignition Facility. Physics of Plasmas, 2011, 18, .	1.9	534
108	Short-wavelength and three-dimensional instability evolution in National Ignition Facility ignition capsule designs. Physics of Plasmas, 2011, 18, .	1.9	87

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109	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
110	Prediction of ignition implosion performance using measurements of Low-deuterium surrogates. Journal of Physics: Conference Series, 2010, 244, 022014.	0.4	12
111	Plastic ablator ignition capsule design for the National Ignition Facility. Physics of Plasmas, 2010, 17, .	1.9	89
112	Robustness studies of ignition targets for the National Ignition Facility in two dimensions. Physics of Plasmas, 2008, 15, .	1.9	71
113	Linear and nonlinear Rayleigh-Taylor growth at strongly convergent spherical interfaces. Physics of Fluids, 2006, 18, 064106.	4.0	3
114	Nonlinear Rayleighâ€"Taylor growth in converging geometry. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 544, 324-328.	1.6	1
115	Acceleration- and deceleration-phase nonlinear Rayleigh-Taylor growth at spherical interfaces. Physical Review E, 2005, 72, 056308.	2.1	15
116	Nonlinear Rayleigh-Taylor growth in converging geometry. Physical Review E, 2005, 71, 055302.	2.1	15