Daniel Sinars

List of Publications by Year in descending order

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Version: 2024-02-01

71 papers	4,574 citations	87888 38 h-index	95266 68 g-index
72 all docs	72 docs citations	72 times ranked	1334 citing authors

#	Article	IF	Citations
1	Pulsed-power-driven cylindrical liner implosions of laser preheated fuel magnetized with an axial field. Physics of Plasmas, 2010, 17, .	1.9	486
2	Experimental Demonstration of Fusion-Relevant Conditions in Magnetized Liner Inertial Fusion. Physical Review Letters, 2014, 113, 155003.	7.8	332
3	Pulsed-power-driven high energy density physics and inertial confinement fusion research. Physics of Plasmas, 2005, 12, 055503.	1.9	280
4	Characteristics and scaling of tungsten-wire-arrayz-pinch implosion dynamics at 20 MA. Physical Review E, 2005, 71, 046406.	2.1	159
5	Magnetically Driven Implosions for Inertial Confinement Fusion at Sandia National Laboratories. IEEE Transactions on Plasma Science, 2012, 40, 3222-3245.	1.3	154
6	Review of pulsed power-driven high energy density physics research on Z at Sandia. Physics of Plasmas, 2020, 27, .	1.9	140
7	Monochromatic x-ray imaging experiments on the Sandia National Laboratories Z facility (invited). Review of Scientific Instruments, 2004, 75, 3672-3677.	1.3	135
8	Measurements of Magneto-Rayleigh-Taylor Instability Growth during the Implosion of Initially Solid Al Tubes Driven by the 20-MA, 100-ns Z Facility. Physical Review Letters, 2010, 105, 185001.	7.8	132
9	Multiphase Foamlike Structure of Exploding Wire Cores. Physical Review Letters, 1999, 83, 4313-4316.	7.8	125
10	Design of magnetized liner inertial fusion experiments using the Z facility. Physics of Plasmas, 2014, 21, .	1.9	123
11	Understanding Fuel Magnetization and Mix Using Secondary Nuclear Reactions in Magneto-Inertial Fusion. Physical Review Letters, 2014, 113, 155004.	7.8	105
12	Measurements of magneto-Rayleighâ€“Taylor instability growth during the implosion of initially solid metal liners. Physics of Plasmas, 2011, 18, .	1.9	104
13	Penetrating Radiography of Imploding and Stagnating Beryllium Liners on the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Z</mml:mi></mml:math>Accelerator. Physical Review Letters, 2012, 109, 135004.	7.8	102
14	Observations of Modified Three-Dimensional Instability Structure for Imploding<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>z</mml:mi></mml:math>-Pinch Liners that are Premagnetized with an Axial Field. Physical Review Letters, 2013, 111, 235005.	7.8	101
15	Beryllium liner implosion experiments on the Z accelerator in preparation for magnetized liner inertial fusion. Physics of Plasmas, 2013, 20, .	1.9	95
16	Mass-Profile and Instability-Growth Measurements for 300-WireZ-Pinch Implosions Driven by 14â€“18ÂMA. Physical Review Letters, 2004, 93, 145002.	7.8	88
17	Compact single and nested tungsten-wire-array dynamics at 14â€“19MA and applications to inertial confinement fusion. Physics of Plasmas, 2006, 13, 056318.	1.9	82
18	Progress in symmetric ICF capsule implosions and wire-arrayz-pinch source physics for double-pinch-driven hohlraums. Plasma Physics and Controlled Fusion, 2006, 48, R1-R35.	2.1	82

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19	Experimental Demonstration of the Stabilizing Effect of Dielectric Coatings on Magnetically Accelerated Imploding Metallic Liners. Physical Review Letters, 2016, 116, 065001.	7.8	78
20	Physics of Plasmas, 2015, 22, 056306.	1.9	75
21	Modified helix-like instability structure on imploding z-pinch liners that are pre-imposed with a uniform axial magnetic field. Physics of Plasmas, 2014, 21, .	1.9	69
22	X-ray power and yield measurements at the refurbished Z machine. Review of Scientific Instruments, 2014, 85, 083501.	1.3	68
23	Scaling magnetized liner inertial fusion on Z and future pulsed-power accelerators. Physics of Plasmas, 2016, 23, .	1.9	65
24	Performance Scaling in Magnetized Liner Inertial Fusion Experiments. Physical Review Letters, 2020, 125, 155002.	7.8	65
25	Simulations of the implosion and stagnation of compact wire arrays. Physics of Plasmas, 2010, 17, .	1.9	59
26	A Primer on Pulsed Power and Linear Transformer Drivers for High Energy Density Physics Applications. IEEE Transactions on Plasma Science, 2018, 46, 3928-3967.	1.3	57
27	Measurements of the mass distribution and instability growth for wire-array Z-pinch implosions driven by 14â€“20 MA. Physics of Plasmas, 2005, 12, 056303.	1.9	54
28	Steady-state radiation ablation in the wire-array Z pinch. Physics of Plasmas, 2007, 14, 022705.	1.9	54
29	Three-dimensional effects in trailing mass in the wire-array Z pinch. Physics of Plasmas, 2008, 15, .	1.9	54
30	Solid liner implosions on Z for producing multi-megabar, shockless compressions. Physics of Plasmas, 2012, 19, .	1.9	54
31	Magneto-Inertial Fusion. Journal of Fusion Energy, 2016, 35, 69-77.	1.2	51
32	Laser-driven magnetized liner inertial fusion. Physics of Plasmas, 2017, 24, .	1.9	49
33	Pulsed-coil magnet systems for applying uniform 10â€“30 T fields to centimeter-scale targets on Sandia's Z facility. Review of Scientific Instruments, 2014, 85, 124701.	1.3	47
34	Monochromatic x-ray backlighting of wire-arrayz-pinch plasmas using spherically bent quartz crystals. Review of Scientific Instruments, 2003, 74, 2202-2205.	1.3	46
35	Direct Experimental Evidence for Current-Transfer Mode Operation of Nested Tungsten Wire Arrays at 16â€“19ÂMA. Physical Review Letters, 2005, 94, 225003.	7.8	44
36	Measurements and simulations of the ablation stage of wire arrays with different initial wire sizes. Physics of Plasmas, 2006, 13, 042704.	1.9	42

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37	Demonstration of Radiation Pulse Shaping with Nested-Tungsten-Wire-ArrayZPinches for High-Yield Inertial Confinement Fusion. Physical Review Letters, 2005, 95, 185001.	7.8	40
38	Radiation Energetics of ICF-Relevant Wire-Array<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Z</mml:mi></mml:math>Pinches. Physical Review Letters, 2008, 100, 145002.	7.8	38
39	Effects of magnetization on fusion product trapping and secondary neutron spectra. Physics of Plasmas, 2015, 22, .	1.9	37
40	Origins and effects of mix on magnetized liner inertial fusion target performance. Physics of Plasmas, 2019, 26, .	1.9	37
41	Contrasting physics in wire array z pinch sources of 1-20â€‰keV emission on the Z facility. Physics of Plasmas, 2014, 21, .	1.9	36
42		1.9	36
43	Enhancing performance of magnetized liner inertial fusion at the Z facility. Physics of Plasmas, 2018, 25, .	1.9	34
44	Laser-driven magnetized liner inertial fusion on OMEGA. Physics of Plasmas, 2017, 24, .	1.9	33
45	Diagnosing and mitigating laser preheat induced mix in MagLIF. Physics of Plasmas, 2018, 25, .	1.9	33
46	Compact, rugged in-chamber transmission spectrometers (7â€“28 keV) for the Sandia Z facility. Review of Scientific Instruments, 2011, 82, 063113.	1.3	32
47	Analysis and implementation of a space resolving spherical crystal spectrometer for x-ray Thomson scattering experiments. Review of Scientific Instruments, 2015, 86, 043504.	1.3	31
48	2â€“20ns interframe time 2-frame 6.151keV x-ray imaging on the recently upgraded Z Accelerator: A progress report. Review of Scientific Instruments, 2008, 79, 10E914.	1.3	28
49	Displacement current phenomena in the magnetically insulated transmission lines of the refurbished<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Z</mml:mi></mml:math>accelerator. Physical Review Special Topics: Accelerators and Beams, 2010, 13, .	1.8	28
50	Constraining preheat energy deposition in MagLIF experiments with multi-frame shadowgraphy. Physics of Plasmas, 2019, 26, .	1.9	27
51	Simulating the magnetized liner inertial fusion plasma confinement with smaller-scale experiments. Physics of Plasmas, 2012, 19, .	1.9	26
52	Direct measurement of the inertial confinement time in a magnetically driven implosion. Physics of Plasmas, 2017, 24, .	1.9	26
53	Effects of Mass Ablation on the Scaling of X-Ray Power with Current in Wire-ArrayZPinches. Physical Review Letters, 2009, 102, 025005.	7.8	22
54	Exploring magnetized liner inertial fusion with a semi-analytic model. Physics of Plasmas, 2016, 23, .	1.9	22

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55	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msup><mml:mn>10</mml:mn><mml:mn>7</mml:mn></mml:msup></mml:math>-A load-current<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>B</mml:mi></mml:math>-dot monitor: Simulations, design, and performance. Physical Review Special Topics-Accelerators and Beams, 2010, 13, .	1.8	19
56	Diagnosing suprathermal ion populations in Z-pinch plasmas using fusion neutron spectra. Physics of Plasmas, 2013, 20, .	1.9	17
57	Effect of axial magnetic flux compression on the magnetic Rayleigh-Taylor instability (theory). AIP Conference Proceedings, 2014, , .	0.4	17
58	Enhancement of x-ray yield from the Z-Beamlet laser for monochromatic backlighting by using a prepulse. Review of Scientific Instruments, 2006, 77, 10E309.	1.3	15
59	Fusion-neutron measurements for magnetized liner inertial fusion experiments on the Z accelerator. Journal of Physics: Conference Series, 2016, 717, 012020.	0.4	15
60	The Role of Magnetized Liner Inertial Fusion as a Pathway to Fusion Energy. Journal of Fusion Energy, 2016, 35, 78-84.	1.2	14
61	Estimation of stagnation performance metrics in magnetized liner inertial fusion experiments using Bayesian data assimilation. Physics of Plasmas, 2022, 29, .	1.9	11
62	ZR neutron diagnostic suite. Journal of Physics: Conference Series, 2008, 112, 032076.	0.4	9
63	Design and testing of a magnetically driven implosion peak current diagnostic. Physics of Plasmas, 2018, 25, 042702.	1.9	8
64	A novel, magnetically driven convergent Richtmyerâ€“Meshkov platform. Physics of Plasmas, 2020, 27, .	1.9	7
65	A new time and space resolved transmission spectrometer for research in inertial confinement fusion and radiation source development. Review of Scientific Instruments, 2017, 88, 013504.	1.3	6
66	Detection of an anomalous pressure on a magneto-inertial-fusion load current diagnostic. Physics of Plasmas, 2017, 24, 013119.	1.9	5
67	Studying the Richtmyerâ€“Meshkov instability in convergent geometry under high energy density conditions using the Decel platform. Physics of Plasmas, 2022, 29, .	1.9	4
68	Nonlinear laser-plasma interaction in magnetized liner inertial fusion. Proceedings of SPIE, 2016, , .	0.8	2
69	The science, technology, and applications of Terawatt-class pulsed power drivers at Sandia National Laboratories. , 2010, , .		1
70	Attracting and Retaining Top Scientists and Engineers at U.S. National Laboratories and Universities: Listening to the Next Generation. Electrochemical Society Interface, 2019, 28, 34-36.	0.4	0
71	From 25 Years of Fusion at Z Onward to the Next Generation of Pulsed Power. , 2022, , .		0