Jeremy Chittenden

List of Publications by Year
in descending order

122	3,235	172457	161849
papers	citations	29 h-index	54 g-index

122	122	122	1094
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Effect of discrete wires on the implosion dynamics of wire array Z pinches. Physics of Plasmas, 2001, 8, 3734-3747.	1.9	300
2	X-ray generation mechanisms in three-dimensional simulations of wire array Z-pinches. Plasma Physics and Controlled Fusion, 2004, 46, B457-B476.	2.1	196
3	Characteristics and scaling of tungsten-wire-arrayz-pinch implosion dynamics at 20 MA. Physical Review E, 2005, 71, 046406.	2.1	159
4	The evolution of magnetic tower jets in the laboratory. Physics of Plasmas, 2007, 14, 056501.	1.9	153
5	A high impedance megaâ€ampere generator for fiber zâ€pinch experiments. Review of Scientific Instruments, 1996, 67, 1533-1541.	1.3	147
6	Effect of Core-Corona Plasma Structure on Seeding of Instabilities in Wire ArrayZPinches. Physical Review Letters, 2000, 85, 98-101.	7.8	137
7	Snowplow-like behavior in the implosion phase of wire array Z pinches. Physics of Plasmas, 2002, 9, 2293-2301.	1.9	106
8	The dynamics of wire array Z-pinch implosions. Physics of Plasmas, 1999, 6, 2016-2022.	1.9	100
9	Azimuthal Structure and Global Instability in the Implosion Phase of Wire ArrayZ-Pinch Experiments. Physical Review Letters, 1998, 81, 4152-4155.	7.8	95
10	X-ray backlighting of wire array Z-pinch implosions using X pinch. Review of Scientific Instruments, 2001, 72, 671-673.	1.3	92
11	Physics of wire array Z-pinch implosions: experiments at Imperial College. Plasma Physics and Controlled Fusion, 2005, 47, A91-A108.	2.1	92
12	Dynamics of cylindrically converging precursor plasma flow in wire-arrayZ-pinch experiments. Physical Review E, 2006, 74, 046403.	2.1	62
13	Oblique shock structures formed during the ablation phase of aluminium wire array z-pinches. Physics of Plasmas, 2013, 20, .	1.9	62
14	Self-Generated Magnetic Fields in the Stagnation Phase of Indirect-Drive Implosions on the National Ignition Facility. Physical Review Letters, 2017, 118, 155001.	7.8	61
15	Development of Instabilities in 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, 101, 055005.	7.8	60
16	One-, two-, and three-dimensional modeling of the different phases of wire array Z-pinch evolution. Physics of Plasmas, 2001, 8, 2305-2314.	1.9	59
17	Equilibrium flow structures and scaling of implosion trajectories in wire array Z pinches. Physics of Plasmas, 2004, 11, 1118-1127.	1.9	59
18	Simulations of the implosion and stagnation of compact wire arrays. Physics of Plasmas, 2010, 17, .	1.9	59

#	Article	IF	Citations
19	Nested wire array Z-pinch experiments operating in the current transfer mode. Physics of Plasmas, 2003, 10, 1100-1112.	1.9	51
20	Quantitative analysis of plasma ablation using inverse wire array Z pinches. Physics of Plasmas, 2009, 16, .	1.9	43
21	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
22	Dynamics of conical wire array Z-pinch implosions. Physics of Plasmas, 2007, 14, 102704.	1.9	38
23	Instability growth for magnetized liner inertial fusion seeded by electro-thermal, electro-choric, and material strength effects. Physics of Plasmas, 2015, 22, .	1.9	38
24	Formation of episodic magnetically driven radiatively cooled plasma jets in the laboratory. Astrophysics and Space Science, 2009, 322, 19-23.	1.4	36
25	Anomalous Heating and Plasmoid Formation in a Driven Magnetic Reconnection Experiment. Physical Review Letters, 2017, 118, 085001.	7.8	36
26	Optical Thomson Scattering Measurements of Plasma Parameters in the Ablation Stage of 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, 2012, 108, 145002.	7.8	34
27	The effect of lower hybrid instabilities on plasma confinement in fiber Z pinches. Physics of Plasmas, 1995, 2, 1242-1249.	1.9	33
28	Extended-magnetohydrodynamics in under-dense plasmas. Physics of Plasmas, 2020, 27, .	1.9	32
29	The formation of reverse shocks in magnetized high energy density supersonic plasma flows. Physics of Plasmas, 2014, 21, 056305.	1.9	31
30	Signatures of asymmetry in neutron spectra and images predicted by three-dimensional radiation hydrodynamics simulations of indirect drive implosions. Physics of Plasmas, 2016, 23, .	1.9	29
31	Perturbation modifications by pre-magnetisation of inertial confinement fusion implosions. Physics of Plasmas, 2019, 26, .	1.9	28
32	Ion collisions and the Z-pinch precursor column. Physics of Plasmas, 2004, 11, 1609-1616.	1.9	27
33	Use of linear wire array Z pinches to examine plasma dynamics in high magnetic fields. Physics of Plasmas, 2004, 11, 4911-4921.	1.9	25
34	Structure of stagnated plasma in aluminum wire array Z pinches. Physics of Plasmas, 2006, 13, 082701.	1.9	25
35	Implosion and stagnation of wire array Z pinches. Physics of Plasmas, 2007, 14, 056315.	1.9	25
36	Supersonic jet formation and propagation in x-pinches. Astrophysics and Space Science, 2011, 336, 33-40.	1.4	23

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37	Magnetic Signatures of Radiation-Driven Double Ablation Fronts. Physical Review Letters, 2020, 125, 145001.	7.8	23
38	Global MHD Simulations of the Earth's Bow Shock Shape and Motion Under Variable Solar Wind Conditions. Journal of Geophysical Research: Space Physics, 2018, 123, 259-271.	2.4	22
39	Experimental Studies of Magnetically Driven Plasma Jets. Astrophysics and Space Science, 2011, 336, 41-46.	1.4	21
40	Processes terminating radiative collapse in a hydrogen fiber Z pinch. Physics of Fluids B, 1990, 2, 1889-1897.	1.7	20
41	Study of the effect of current rise time on the formation of the precursor column in cylindrical wire array Z pinches at 1 MA. Physics of Plasmas, 2009, 16, .	1.9	20
42	Global MHD simulations of Neptune's magnetosphere. Journal of Geophysical Research: Space Physics, 2016, 121, 7497-7513.	2.4	20
43	An experimental platform for pulsed-power driven magnetic reconnection. Physics of Plasmas, 2018, 25, .	1.9	20
44	Optical Thomson scattering measurements of cylindrical wire array parameters. Physics of Plasmas, 2012, 19, .	1.9	19
45	The structure of bow shocks formed by the interaction of pulsed-power driven magnetised plasma flows with conducting obstacles. Physics of Plasmas, 2017, 24, .	1.9	19
46	Synthetic nuclear diagnostics for inferring plasma properties of inertial confinement fusion implosions. Physics of Plasmas, 2018, 25, .	1.9	18
47	Bow shocks in ablated plasma streams for nested wire array z-pinches: A laboratory astrophysics testbed for radiatively cooled shocks. Physics of Plasmas, 2010, 17, .	1.9	17
48	Measurement of pulsed-power-driven magnetic fields via proton deflectometry. Applied Physics Letters, 2014, 105, .	3.3	17
49	Structure of a Magnetic Flux Annihilation Layer Formed by the Collision of Supersonic, Magnetized Plasma Flows. Physical Review Letters, 2016, 116, 225001.	7.8	16
50	Impact of asymmetries on fuel performance in inertial confinement fusion. Physical Review E, 2018, 98, .	2.1	16
51	Use of spherically bent crystals to diagnose wire array z pinches. Review of Scientific Instruments, 2004, 75, 3681-3683.	1.3	15
52	Impact of imposed mode 2 laser drive asymmetry on inertial confinement fusion implosions. Physics of Plasmas, 2019, 26, .	1.9	15
53	Density determination of the thermonuclear fuel region in inertial confinement fusion implosions. Journal of Applied Physics, 2020, 127, .	2.5	15
54	Impact of stalk on directly driven inertial confinement fusion implosions. Physics of Plasmas, 2020, 27, 032704.	1.9	15

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55	Magnetized ICF implosions: Scaling of temperature and yield enhancement. Physics of Plasmas, 2022, 29, .	1.9	15
56	Modeling Magnetic Tower Jets in the Laboratory. Astrophysics and Space Science, 2005, 298, 277-286.	1.4	14
57	Formation and structure of a current sheet in pulsed-power driven magnetic reconnection experiments. Physics of Plasmas, 2017, 24, .	1.9	14
58	Diagnostic signatures of performance degrading perturbations in inertial confinement fusion implosions. Physics of Plasmas, 2018, 25, .	1.9	14
59	Measuring magnetic flux suppression in high-power laserâ€“plasma interactions. Physics of Plasmas, 2022, 29, .	1.9	14
60	The Magnetized Indirect Drive Project on the National Ignition Facility. Journal of Fusion Energy, 2022, 41, 1.	1.2	14
61	Neutron backscatter edge: A measure of the hydrodynamic properties of the dense DT fuel at stagnation in ICF experiments. Physics of Plasmas, 2020, 27, .	1.9	13
62	Dipole Tilt Effect on Magnetopause Reconnection and the Steadyâ€State Magnetosphereâ€Ionosphere System: Global MHD Simulations. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027510.	2.4	12
63	Diagnosing plasma magnetization in inertial confinement fusion implosions using secondary deuterium-tritium reactions. Review of Scientific Instruments, 2021, 92, 043543.	1.3	12
64	Study of micro-pinches in wire-array Z pinches. Physics of Plasmas, 2013, 20, .	1.9	11
65	Optimization of a highâ€voltage trigatron switch. Journal of Applied Physics, 1995, 78, 3659-3663.	2.5	10
66	Investigation of radiative bow-shocks in magnetically accelerated plasma flows. Physics of Plasmas, 2015, 22, 052710.	1.9	10
67	Ion heating and magnetic flux pile-up in a magnetic reconnection experiment with super-AlfvÃ©nic plasma inflows. Physics of Plasmas, 2018, 25, 042108.	1.9	10
68	Interplanetary Shockâ€Induced Magnetopause Motion: Comparison Between Theory and Global Magnetohydrodynamic Simulations. Geophysical Research Letters, 2021, 48, e2021GL092554.	4.0	10
69	Wire Array Z-pinches on Sphinx Machine: Experimental Results and Relevant Points of Microsecond Implosion Physics. AIP Conference Proceedings, 2006, , .	0.4	9
70	Drift Orbit Bifurcations and Crossâ€Field Transport in the Outer Radiation Belt: Global MHD and Integrated Testâ€Particle Simulations. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029802.	2.4	9
71	Effects of perturbations and radial profiles on ignition of inertial confinement fusion hotspots. Physics of Plasmas, 2014, 21, .	1.9	8
72	The effect of areal density asymmetries on scattered neutron spectra in ICF implosions. Physics of Plasmas, 2021, 28, .	1.9	8

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73	Effect of Discrete Wires on The Implosion Dynamics of Wire Array Z-Pinches. AIP Conference Proceedings, 2002, , .	0.4	7
74	Stop layer: a flow braking mechanism in space and support from a lab experiment. Plasma Physics and Controlled Fusion, 2016, 58, 064001.	2.1	7
75	Ablation dynamics in coiled wire-array Z-pinches. Physics of Plasmas, 2013, 20, .	1.9	6
76	Understanding neutron production in the deuterium dense plasma focus. AIP Conference Proceedings, 2014, , .	0.4	6
77	The Effect of Array Configuration on Current Distribution in a Wire Array Z-Pinch. AIP Conference Proceedings, 2002, , .	0.4	5
78	Laboratory astrophysics: 2D and 3D numerical modeling of jets and flows produced in wire array experiments. AIP Conference Proceedings, 2004, , .	0.4	5
79	Measurements of the temperature and velocity of the dense fuel layer in inertial confinement fusion experiments. Physical Review E, 2022, 105, .	2.1	5
80	How 3D Effects Limit X-ray Power in Wire Array Z-pinches. AIP Conference Proceedings, 2002, , .	0.4	4
81	Laboratory Modeling of Radiatively Cooled Jets Using Conical Wire Array Z-pinches. AIP Conference Proceedings, 2004, , .	0.4	4
82	Implosion Dynamics in Conical Wire Array Z-pinches. AIP Conference Proceedings, 2006, , .	0.4	4
83	Timeâ€Varying Magnetopause Reconnection During Sudden Commencement: Global MHD Simulations. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	4
84	Ablation Rate of Wire Cores in Wire Array Z-Pinch Experiments. AIP Conference Proceedings, 2002, , .	0.4	3
85	Deflection of Supersonic Plasma Jets by Ionised Hydrocarbon Targets. AIP Conference Proceedings, 2002, , .	0.4	3
86	Magneto-Hydrodynamic Modeling in the Design and Interpretation of Wire Array Z-pinches. , 2009, , .		3
87	A fast atomic physics model for Z-pinch simulations. , 2010, , .		3
88	Ablation dynamics in wire array Z-pinches under modifications on global magnetic field topology. Physics of Plasmas, 2015, 22, .	1.9	3
89	Investigation of Current Transport in <inline-formula> <tex-math notation="LaTeX">$2imes 2$ </tex-math></inline-formula> Wire Array Plasmas. IEEE Transactions on Plasma Science, 2015, 43, 2527-2531.	1.3	3
90	Investigating radiatively driven, magnetized plasmas with a university scale pulsed-power generator. Physics of Plasmas, 2022, 29, 042107.	1.9	3

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91	Implosion Dynamics and X-ray Characteristics of Nested Wire Array Z-pinches. AIP Conference Proceedings, 2002, , .	0.4	2
92	Characteristics and dynamics of a 215-eV dynamic-hohlraum x-ray source on Z. AIP Conference Proceedings, 2002, , .	0.4	2
93	3D Resistive, Radiative MHD Modeling of Z-pinches. AIP Conference Proceedings, 2006, , .	0.4	2
94	3D MHD Simulations of Radial Wire Array Z-pinches. , 2009, , .		2
95	Current losses in wire array Z-pinches on the Z generator. , 2009, , .		2
96	Large diameter copper wire array implosions for K-shell x-ray generation on the refurbished Z machine. , 2009, , .		2
97	High powers from large diameter wire arrays on the refurbished Z generator. , 2009, , .		2
98	Quantitative Analysis of Plasma Ablation Using Inverse Wire Array Z-pinches. , 2009, , .		2
99	Rotating plasma disks in dense Z-pinch experiments. , 2014, , .		2
100	Neutron backscatter edges as a diagnostic of burn propagation. Physics of Plasmas, 2022, 29, 062707.	1.9	2
101	A Kinetic Description of Ions in Aluminium Wire-Array Precursor Plasma. AIP Conference Proceedings, 2002, , .	0.4	1
102	Hotspot ignition using a Z-pinch precursor plasma in a magneto-inertial ICF scheme. AIP Conference Proceedings, 2006, , .	0.4	1
103	The Effect of Wire Initiation on Array Dynamics. AIP Conference Proceedings, 2006, , .	0.4	1
104	Plasma Ablation and Precursor Column Formation in Wire-Array Z-Pinches. AIP Conference Proceedings, 2006, , .	0.4	1
105	Seeded Perturbations in Wire Array Z-Pinches. AIP Conference Proceedings, 2006, , .	0.4	1
106	Laboratory Experiments with Supersonic Radiatively Cooled Jets: Jet Deflection via Crosswinds and Magnetic Tower Outflows. AIP Conference Proceedings, 2006, , .	0.4	1
107	Astrophysical Jets with Conical Wire Arrays: Radiative Cooling, Rotation & Deflection. , 2009, , .		1
108	Effects of uneven mass distribution on plasma dynamics in cylindrical wire array Z-pinches. Journal of Physics: Conference Series, 2015, 591, 012027.	0.4	1

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109	High velocity outflows along the axis of pulsed power driven rod z-pinches. AIP Advances, 2020, 10, 105009.	1.3	1
110	The Production of Hypersonic, Radiatively Cooled Plasma Projectiles of Extremely High Energy Density in Imploding Z-pinches. AIP Conference Proceedings, 2002, , .	0.4	0
111	Experiments With Radiatively Cooled Supersonic Plasma Jets Generated in Conical Wire Array Z-Pinches. AIP Conference Proceedings, 2002, , .	0.4	0
112	Why do Wire-Array Z-Pinches give such a Sharp and Efficient X-Ray Pulse?. AIP Conference Proceedings, 2002, , .	0.4	0
113	Effect of Current Rise-time on the Formation of Precursor Structures and Mass Ablation Rate in Cylindrical Wire Array Z-Pinches. , 2009, , .		0
114	Investigations of the ablation phase of low wire number arrays at 200 kA. , 2009, , .		0
115	Current rise-rate scaling for radial wire arrays. , 2009, , .		0
116	Î± Heating in a Stagnated Z-pinch. , 2009, , .		0
117	Effects of alpha particle transport in 3D 4π hydro simulations of perturbed NIF targets. , 2012, , .		0
118	End-On laser interferometry of wire array z-pinch implosions on the MAGPIE generator. , 2012, , .		0
119	Early time instability growth for MagLIF seeded by electro-thermal and material strength effects. , 2014, , .		0
120	Investigation of magnetized, radiative bow-shocks in magnetically accelerated plasma flows. , 2014, , .		0
121	A preliminary assessment of the sensitivity of uniaxially driven fusion targets to flux-limited thermal conduction modeling. Physics of Plasmas, 2021, 28, 072702.	1.9	0
122	Self-similar solutions for resistive diffusion, Ohmic heating, and Ettingshausen effects in plasmas of arbitrary Î². Physics of Plasmas, 2022, 29, 032703.	1.9	0