

# Jeremy Chittenden

## List of Publications by Year in descending order

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122  
papers

3,235  
citations

172457

29  
h-index

161849

54  
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122  
all docs

122  
docs citations

122  
times ranked

1094  
citing authors

#	ARTICLE	IF	CITATIONS
1	Measuring magnetic flux suppression in high-power laser-plasma interactions. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	14
2	Self-similar solutions for resistive diffusion, Ohmic heating, and Ettingshausen effects in plasmas of arbitrary $I^2$ . <i>Physics of Plasmas</i> , 2022, 29, 032703.	1.9	0
3	Investigating radiatively driven, magnetized plasmas with a university scale pulsed-power generator. <i>Physics of Plasmas</i> , 2022, 29, 042107.	1.9	3
4	Magnetized ICF implosions: Scaling of temperature and yield enhancement. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	15
5	Time-Varying Magnetopause Reconnection During Sudden Commencement: Global MHD Simulations. <i>Journal of Geophysical Research: Space Physics</i> , 2022, 127, .	2.4	4
6	Measurements of the temperature and velocity of the dense fuel layer in inertial confinement fusion experiments. <i>Physical Review E</i> , 2022, 105, .	2.1	5
7	The Magnetized Indirect Drive Project on the National Ignition Facility. <i>Journal of Fusion Energy</i> , 2022, 41, 1.	1.2	14
8	Neutron backscatter edges as a diagnostic of burn propagation. <i>Physics of Plasmas</i> , 2022, 29, 062707.	1.9	2
9	The effect of areal density asymmetries on scattered neutron spectra in ICF implosions. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	8
10	Diagnosing plasma magnetization in inertial confinement fusion implosions using secondary deuterium-tritium reactions. <i>Review of Scientific Instruments</i> , 2021, 92, 043543.	1.3	12
11	A preliminary assessment of the sensitivity of uniaxially driven fusion targets to flux-limited thermal conduction modeling. <i>Physics of Plasmas</i> , 2021, 28, 072702.	1.9	0
12	Interplanetary Shock-Induced Magnetopause Motion: Comparison Between Theory and Global Magnetohydrodynamic Simulations. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL092554.	4.0	10
13	Drift Orbit Bifurcations and Cross-Field Transport in the Outer Radiation Belt: Global MHD and Integrated Test-Particle Simulations. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2021JA029802.	2.4	9
14	Magnetic Signatures of Radiation-Driven Double Ablation Fronts. <i>Physical Review Letters</i> , 2020, 125, 145001.	7.8	23
15	High velocity outflows along the axis of pulsed power driven rod z-pinch. <i>AIP Advances</i> , 2020, 10, 105009.	1.3	1
16	Dipole Tilt Effect on Magnetopause Reconnection and the Steady-State Magnetosphere-Ionosphere System: Global MHD Simulations. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027510.	2.4	12
17	Density determination of the thermonuclear fuel region in inertial confinement fusion implosions. <i>Journal of Applied Physics</i> , 2020, 127, .	2.5	15
18	Extended-magnetohydrodynamics in under-dense plasmas. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	32

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19	Neutron backscatter edge: A measure of the hydrodynamic properties of the dense DT fuel at stagnation in ICF experiments. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	13
20	Impact of stalk on directly driven inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2020, 27, 032704.	1.9	15
21	Impact of imposed mode 2 laser drive asymmetry on inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	15
22	Perturbation modifications by pre-magnetisation of inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	28
23	Global MHD Simulations of the Earth's Bow Shock Shape and Motion Under Variable Solar Wind Conditions. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 259-271.	2.4	22
24	Ion heating and magnetic flux pile-up in a magnetic reconnection experiment with super-Alfvénic plasma inflows. <i>Physics of Plasmas</i> , 2018, 25, 042108.	1.9	10
25	An experimental platform for pulsed-power driven magnetic reconnection. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	20
26	Impact of asymmetries on fuel performance in inertial confinement fusion. <i>Physical Review E</i> , 2018, 98, .	2.1	16
27	Synthetic nuclear diagnostics for inferring plasma properties of inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	18
28	Diagnostic signatures of performance degrading perturbations in inertial confinement fusion implosions. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	14
29	Anomalous Heating and Plasmoid Formation in a Driven Magnetic Reconnection Experiment. <i>Physical Review Letters</i> , 2017, 118, 085001.	7.8	36
30	The structure of bow shocks formed by the interaction of pulsed-power driven magnetised plasma flows with conducting obstacles. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	19
31	Formation and structure of a current sheet in pulsed-power driven magnetic reconnection experiments. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	14
32	Self-Generated Magnetic Fields in the Stagnation Phase of Indirect-Drive Implosions on the National Ignition Facility. <i>Physical Review Letters</i> , 2017, 118, 155001.	7.8	61
33	Signatures of asymmetry in neutron spectra and images predicted by three-dimensional radiation hydrodynamics simulations of indirect drive implosions. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	29
34	Stop layer: a flow braking mechanism in space and support from a lab experiment. <i>Plasma Physics and Controlled Fusion</i> , 2016, 58, 064001.	2.1	7
35	Global MHD simulations of Neptune's magnetosphere. <i>Journal of Geophysical Research: Space Physics</i> , 2016, 121, 7497-7513.	2.4	20
36	Structure of a Magnetic Flux Annihilation Layer Formed by the Collision of Supersonic, Magnetized Plasma Flows. <i>Physical Review Letters</i> , 2016, 116, 225001.	7.8	16

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37	Instability growth for magnetized liner inertial fusion seeded by electro-thermal, electro-choric, and material strength effects. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	38
38	Ablation dynamics in wire array Z-pinchs under modifications on global magnetic field topology. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	3
39	Effects of uneven mass distribution on plasma dynamics in cylindrical wire array Z-pinchs. <i>Journal of Physics: Conference Series</i> , 2015, 591, 012027.	0.4	1
40	Investigation of radiative bow-shocks in magnetically accelerated plasma flows. <i>Physics of Plasmas</i> , 2015, 22, 052710.	1.9	10
41	Investigation of Current Transport in $2 \times 2$ Wire Array Plasmas. <i>IEEE Transactions on Plasma Science</i> , 2015, 43, 2527-2531.	1.3	3
42	The formation of reverse shocks in magnetized high energy density supersonic plasma flows. <i>Physics of Plasmas</i> , 2014, 21, 056305.	1.9	31
43	Early time instability growth for MagLIF seeded by electro-thermal and material strength effects. , 2014, , .		0
44	Understanding neutron production in the deuterium dense plasma focus. <i>AIP Conference Proceedings</i> , 2014, , .	0.4	6
45	Rotating plasma disks in dense Z-pinch experiments. , 2014, , .		2
46	Effects of perturbations and radial profiles on ignition of inertial confinement fusion hotspots. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	8
47	Measurement of pulsed-power-driven magnetic fields via proton deflectometry. <i>Applied Physics Letters</i> , 2014, 105, .	3.3	17
48	Investigation of magnetized, radiative bow-shocks in magnetically accelerated plasma flows. , 2014, , .		0
49	Study of micro-pinchs in wire-array Z pinchs. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	11
50	Ablation dynamics in coiled wire-array Z-pinchs. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	6
51	Oblique shock structures formed during the ablation phase of aluminium wire array z-pinchs. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	62
52	Optical Thomson scattering measurements of cylindrical wire array parameters. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	19
53	Effects of alpha particle transport in 3D $\alpha$ hydro simulations of perturbed NIF targets. , 2012, , .		0
54	Optical Thomson Scattering Measurements of Plasma Parameters in the Ablation Stage of Wire Array $Z$ Pinches. <i>Physical Review Letters</i> , 2012, 108, 145002.	7.8	34

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55	End-On laser interferometry of wire array z-pinch implosions on the MAGPIE generator. , 2012, , .		0
56	Experimental Studies of Magnetically Driven Plasma Jets. Astrophysics and Space Science, 2011, 336, 41-46.	1.4	21
57	Supersonic jet formation and propagation in x-pinchs. Astrophysics and Space Science, 2011, 336, 33-40.	1.4	23
58	A fast atomic physics model for Z-pinch simulations. , 2010, , .		3
59	Simulations of the implosion and stagnation of compact wire arrays. Physics of Plasmas, 2010, 17, .	1.9	59
60	Bow shocks in ablated plasma streams for nested wire array z-pinchs: A laboratory astrophysics testbed for radiatively cooled shocks. Physics of Plasmas, 2010, 17, .	1.9	17
61	Effect of Current Rise-time on the Formation of Precursor Structures and Mass Ablation Rate in Cylindrical Wire Array Z-Pinchs. , 2009, , .		0
62	3D MHD Simulations of Radial Wire Array Z-pinchs. , 2009, , .		2
63	Quantitative analysis of plasma ablation using inverse wire array Z pinchs. Physics of Plasmas, 2009, 16, .	1.9	43
64	Study of the effect of current rise time on the formation of the precursor column in cylindrical wire array Z pinchs at 1 MA. Physics of Plasmas, 2009, 16, .	1.9	20
65	Current losses in wire array Z-pinchs on the Z generator. , 2009, , .		2
66	Formation of episodic magnetically driven radiatively cooled plasma jets in the laboratory. Astrophysics and Space Science, 2009, 322, 19-23.	1.4	36
67	Investigations of the ablation phase of low wire number arrays at 200 kA. , 2009, , .		0
68	Large diameter copper wire array implosions for K-shell x-ray generation on the refurbished Z machine. , 2009, , .		2
69	High powers from large diameter wire arrays on the refurbished Z generator. , 2009, , .		2
70	Current rise-rate scaling for radial wire arrays. , 2009, , .		0
71	Quantitative Analysis of Plasma Ablation Using Inverse Wire Array Z-pinchs. , 2009, , .		2
72	Magneto-Hydrodynamic Modeling in the Design and Interpretation of Wire Array Z-pinchs. , 2009, , .		3

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73	$\hat{\pm}$ Heating in a Stagnated Z-pinch. , 2009, , .		0
74	Astrophysical Jets with Conical Wire Arrays: Radiative Cooling, Rotation & Deflection. , 2009, , .		1
75	Development of Instabilities in Wire-Array $Z$ Pinches. Physical Review Letters, 2008, 101, 055005.	7.8	60
76	The evolution of magnetic tower jets in the laboratory. Physics of Plasmas, 2007, 14, 056501.	1.9	153
77	Implosion and stagnation of wire array Z pinches. Physics of Plasmas, 2007, 14, 056315.	1.9	25
78	Dynamics of conical wire array Z-pinch implosions. Physics of Plasmas, 2007, 14, 102704.	1.9	38
79	Hotspot ignition using a Z-pinch precursor plasma in a magneto-inertial ICF scheme. AIP Conference Proceedings, 2006, , .	0.4	1
80	The Effect of Wire Initiation on Array Dynamics. AIP Conference Proceedings, 2006, , .	0.4	1
81	Wire Array Z-pinches on Sphinx Machine: Experimental Results and Relevant Points of Microsecond Implosion Physics. AIP Conference Proceedings, 2006, , .	0.4	9
82	Implosion Dynamics in Conical Wire Array Z-pinches. AIP Conference Proceedings, 2006, , .	0.4	4
83	Plasma Ablation and Precursor Column Formation in Wire-Array Z-Pinches. AIP Conference Proceedings, 2006, , .	0.4	1
84	3D Resistive, Radiative MHD Modeling of Z-pinches. AIP Conference Proceedings, 2006, , .	0.4	2
85	Seeded Perturbations in Wire Array Z-Pinches. AIP Conference Proceedings, 2006, , .	0.4	1
86	Laboratory Experiments with Supersonic Radiatively Cooled Jets: Jet Deflection via Crosswinds and Magnetic Tower Outflows. AIP Conference Proceedings, 2006, , .	0.4	1
87	Structure of stagnated plasma in aluminum wire array Z pinches. Physics of Plasmas, 2006, 13, 082701.	1.9	25
88	Dynamics of cylindrically converging precursor plasma flow in wire-array Z-pinch experiments. Physical Review E, 2006, 74, 046403.	2.1	62
89	Modeling Magnetic Tower Jets in the Laboratory. Astrophysics and Space Science, 2005, 298, 277-286.	1.4	14
90	Characteristics and scaling of tungsten-wire-array Z-pinch implosion dynamics at 20 MA. Physical Review E, 2005, 71, 046406.	2.1	159

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91	Demonstration of Radiation Pulse Shaping with Nested-Tungsten-Wire-Array Z-Pinches for High-Yield Inertial Confinement Fusion. <i>Physical Review Letters</i> , 2005, 95, 185001.	7.8	40
92	Physics of wire array Z-pinch implosions: experiments at Imperial College. <i>Plasma Physics and Controlled Fusion</i> , 2005, 47, A91-A108.	2.1	92
93	Laboratory astrophysics: 2D and 3D numerical modeling of jets and flows produced in wire array experiments. <i>AIP Conference Proceedings</i> , 2004, , .	0.4	5
94	Equilibrium flow structures and scaling of implosion trajectories in wire array Z pinches. <i>Physics of Plasmas</i> , 2004, 11, 1118-1127.	1.9	59
95	Use of spherically bent crystals to diagnose wire array z pinches. <i>Review of Scientific Instruments</i> , 2004, 75, 3681-3683.	1.3	15
96	Use of linear wire array Z pinches to examine plasma dynamics in high magnetic fields. <i>Physics of Plasmas</i> , 2004, 11, 4911-4921.	1.9	25
97	X-ray generation mechanisms in three-dimensional simulations of wire array Z-pinches. <i>Plasma Physics and Controlled Fusion</i> , 2004, 46, B457-B476.	2.1	196
98	Ion collisions and the Z-pinch precursor column. <i>Physics of Plasmas</i> , 2004, 11, 1609-1616.	1.9	27
99	Laboratory Modeling of Radiatively Cooled Jets Using Conical Wire Array Z-pinches. <i>AIP Conference Proceedings</i> , 2004, , .	0.4	4
100	Nested wire array Z-pinch experiments operating in the current transfer mode. <i>Physics of Plasmas</i> , 2003, 10, 1100-1112.	1.9	51
101	Snowplow-like behavior in the implosion phase of wire array Z pinches. <i>Physics of Plasmas</i> , 2002, 9, 2293-2301.	1.9	106
102	Effect of Discrete Wires on The Implosion Dynamics of Wire Array Z-Pinches. <i>AIP Conference Proceedings</i> , 2002, , .	0.4	7
103	How 3D Effects Limit X-ray Power in Wire Array Z-pinches. <i>AIP Conference Proceedings</i> , 2002, , .	0.4	4
104	The Production of Hypersonic, Radiatively Cooled Plasma Projectiles of Extremely High Energy Density in Imploding Z-pinches. <i>AIP Conference Proceedings</i> , 2002, , .	0.4	0
105	The Effect of Array Configuration on Current Distribution in a Wire Array Z-Pinch. <i>AIP Conference Proceedings</i> , 2002, , .	0.4	5
106	Ablation Rate of Wire Cores in Wire Array Z-Pinch Experiments. <i>AIP Conference Proceedings</i> , 2002, , .	0.4	3
107	Implosion Dynamics and X-ray Characteristics of Nested Wire Array Z-pinches. <i>AIP Conference Proceedings</i> , 2002, , .	0.4	2
108	Experiments With Radiatively Cooled Supersonic Plasma Jets Generated in Conical Wire Array Z-Pinches. <i>AIP Conference Proceedings</i> , 2002, , .	0.4	0

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109	Why do Wire-Array Z-Pinches give such a Sharp and Efficient X-Ray Pulse?. AIP Conference Proceedings, 2002, , .	0.4	0
110	Characteristics and dynamics of a 215-eV dynamic-hohlraum x-ray source on Z. AIP Conference Proceedings, 2002, , .	0.4	2
111	Deflection of Supersonic Plasma Jets by Ionised Hydrocarbon Targets. AIP Conference Proceedings, 2002, , .	0.4	3
112	A Kinetic Description of Ions in Aluminium Wire-Array Precursor Plasma. AIP Conference Proceedings, 2002, , .	0.4	1
113	Effect of discrete wires on the implosion dynamics of wire array Z pinches. Physics of Plasmas, 2001, 8, 3734-3747.	1.9	300
114	X-ray backlighting of wire array Z-pinch implosions using X pinch. Review of Scientific Instruments, 2001, 72, 671-673.	1.3	92
115	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
116	Effect of Core-Corona Plasma Structure on Seeding of Instabilities in Wire Array Z-Pinches. Physical Review Letters, 2000, 85, 98-101.	7.8	137
117	The dynamics of wire array Z-pinch implosions. Physics of Plasmas, 1999, 6, 2016-2022.	1.9	100
118	Azimuthal Structure and Global Instability in the Implosion Phase of Wire Array Z-Pinch Experiments. Physical Review Letters, 1998, 81, 4152-4155.	7.8	95
119	A high impedance megaampere generator for fiber Z-pinch experiments. Review of Scientific Instruments, 1996, 67, 1533-1541.	1.3	147
120	Optimization of a high-voltage trigatron switch. Journal of Applied Physics, 1995, 78, 3659-3663.	2.5	10
121	The effect of lower hybrid instabilities on plasma confinement in fiber Z pinches. Physics of Plasmas, 1995, 2, 1242-1249.	1.9	33
122	Processes terminating radiative collapse in a hydrogen fiber Z pinch. Physics of Fluids B, 1990, 2, 1889-1897.	1.7	20