

# David A Hammer

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/5562794/publications.pdf>

Version: 2024-02-01

93  
papers

2,438  
citations

172457

29  
h-index

214800

47  
g-index

94  
all docs

94  
docs citations

94  
times ranked

660  
citing authors

#	ARTICLE	IF	CITATIONS
1	Radiographic and spectroscopic studies of X-pinch plasma implosion dynamics and x-ray burst emission characteristics. <i>Physics of Plasmas</i> , 2001, 8, 1305.	1.9	158
2	Experiments measuring the initial energy deposition, expansion rates and morphology of exploding wires with about 1 kA/wire. <i>Physics of Plasmas</i> , 2001, 8, 216-230.	1.9	148
3	Multiphase Foamlike Structure of Exploding Wire Cores. <i>Physical Review Letters</i> , 1999, 83, 4313-4316.	7.8	125
4	Observation of a stable dense core within an unstable coronal plasma in wire-initiated dense Z-pinch experiments. <i>Physical Review Letters</i> , 1993, 71, 3806-3809.	7.8	109
5	X-ray backlighting of wire array Z-pinch implosions using X pinch. <i>Review of Scientific Instruments</i> , 2001, 72, 671-673.	1.3	92
6	X-pinch. Part I. <i>Plasma Physics Reports</i> , 2015, 41, 291-342.	0.9	92
7	High-luminosity monochromatic x-ray backlighting using an incoherent plasma source to study extremely dense plasmas (invited). <i>Review of Scientific Instruments</i> , 1997, 68, 740-744.	1.3	81
8	High Energy Density Z-Pinch Plasma Conditions with Picosecond Time Resolution. <i>Physical Review Letters</i> , 2002, 89, 035003.	7.8	79
9	A 1MA, variable risetime pulse generator for high energy density plasma research. <i>Review of Scientific Instruments</i> , 2008, 79, 073501.	1.3	79
10	Evolution of the structure of the dense plasma near the cross point in exploding wire X pinches. <i>Physics of Plasmas</i> , 1999, 6, 2840-2846.	1.9	78
11	The X-pinch as a point source of x rays for backlighting. <i>Review of Scientific Instruments</i> , 1995, 66, 779-781.	1.3	62
12	Study of gas-puff Z-pinches on COBRA. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	57
13	Hybrid X-pinch with conical electrodes. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	56
14	Structural Evolution and Formation of High-Pressure Plasmas in X-Pinches. <i>Physical Review Letters</i> , 2007, 98, 025003.	7.8	52
15	X-pinch source of subnanosecond soft X-ray pulses based on small-sized low-inductance current generator. <i>Journal of Experimental and Theoretical Physics</i> , 2010, 111, 363-370.	0.9	50
16	A simple air wedge shearing interferometer for studying exploding wires. <i>Review of Scientific Instruments</i> , 2001, 72, 1098-1100.	1.3	50
17	Electron-beam-generated x rays from X pinches. <i>Physics of Plasmas</i> , 2005, 12, 033102.	1.9	49
18	A review of projection radiography of plasma and biological objects in X-Pinch radiation. <i>Plasma Physics Reports</i> , 2016, 42, 226-268.	0.9	48

#	ARTICLE	IF	CITATIONS
19	X-pinch. Part II. Plasma Physics Reports, 2015, 41, 445-491.	0.9	46
20	Structure of the dense cores and ablation plasmas in the initiation phase of tungsten wire-array Z pinches. Physics of Plasmas, 2007, 14, 012704.	1.9	39
21	Initial experiments using radial foils on the Cornell Beam Research Accelerator pulsed power generator. Physics of Plasmas, 2010, 17, .	1.9	39
22	Accelerated electrons and hard X-ray emission from X-pinches. Plasma Physics Reports, 2008, 34, 754-770.	0.9	37
23	COBRA-STAR, a five frame point-projection x-ray imaging system for 1MA scale wire-array Z pinches. Review of Scientific Instruments, 2008, 79, 033503.	1.3	37
24	Diagnostics on the COBRA pulsed power generator. Review of Scientific Instruments, 2006, 77, 10F521.	1.3	33
25	X-pinch soft x-ray source for microlithography. Applied Physics Letters, 1990, 57, 2083-2085.	3.3	32
26	Spectroscopic investigations of the short wavelength x-ray spectra from X-pinch plasmas. Physica Scripta, 1995, 51, 517-521.	2.5	30
27	Characterization of wire x pinches driven by a microsecond-long capacitive discharge. Journal of Applied Physics, 2000, 87, 8295-8303.	2.5	30
28	Determination of the size and structure of an X-pinch x-ray source from the diffraction pattern produced by microfabricated slits. Applied Optics, 2005, 44, 2349.	2.1	30
29	Hybrid X-pinches. Plasma Physics Reports, 2012, 38, 359-381.	0.9	30
30	The Role of Flux Advection in the Development of the Ablation Streams and Precursors of Wire Array Z-pinches. , 2009, , .		29
31	Wide band focusing x-ray spectrograph with spatial resolution. Review of Scientific Instruments, 2008, 79, 013106.	1.3	28
32	High resolution absorption spectroscopy of exploding wire plasmas using an x-pinch x-ray source and spherically bent crystal. Review of Scientific Instruments, 2011, 82, 063501.	1.3	28
33	Dynamics of hybrid X-pinches. Plasma Physics Reports, 2015, 41, 52-70.	0.9	26
34	Helical plasma striations in liners in the presence of an external axial magnetic field. Physics of Plasmas, 2016, 23, .	1.9	25
35	Cross calibration of new x-ray films against direct exposure film from 1 to 8keV using the X-pinch x-ray source. Review of Scientific Instruments, 2005, 76, 113111.	1.3	22
36	Time and space resolved measurement of the electron temperature, mass density and ionization state in the ablation plasma between two exploding Al wires. Physics of Plasmas, 2012, 19, .	1.9	21

#	ARTICLE	IF	CITATIONS
37	Determination of the size of a radiation source by the method of calculation of diffraction patterns. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2013, 115, 128-136.	0.6	18
38	Effect of an electron beam generated in an X-pinch plasma on the structure of the K spectra of multiply charged ions. Journal of Experimental and Theoretical Physics, 1997, 85, 484-491.	0.9	17
39	A Study of Thin Foil Explosion. IEEE Transactions on Plasma Science, 2018, 46, 3741-3745.	1.3	17
40	Nested multilayered X pinches for generators with mega-ampere current level. Physics of Plasmas, 2009, 16, 050702.	1.9	16
41	A source of hard X-ray radiation based on hybrid X pinches. Physics of Plasmas, 2016, 23, .	1.9	16
42	Observations of the magneto-Rayleigh-Taylor instability and shock dynamics in gas-puff Z-pinch experiments. Physics of Plasmas, 2018, 25, .	1.9	16
43	Stabilization of Liner Implosions via a Dynamic Screw Pinch. Physical Review Letters, 2020, 125, 035001.	7.8	15
44	The impact of Hall physics on magnetized high energy density plasma jets. Physics of Plasmas, 2014, 21, .	1.9	14
45	Characterization of the COBRA triple-nozzle gas-puff valve using planar laser induced fluorescence. , 2014, , .		13
46	Study of New Configurations of Hybrid $X$ Pinches. IEEE Transactions on Plasma Science, 2014, 42, 748-752.	1.3	13
47	Direct comparison of wire, foil, and hybrid X-pinches on a 200 kA, 150 ns current driver. Journal of Applied Physics, 2021, 129, .	2.5	13
48	Formation, cascade development, and rupture of the X-pinch neck. Journal of Experimental and Theoretical Physics, 2000, 91, 469-478.	0.9	12
49	Gas puff Z-pinch implosions with external $B_z$ field on COBRA. AIP Conference Proceedings, 2014, , .	0.4	11
50	A compact linear accelerator based on a scalable microelectromechanical-system RF-structure. Review of Scientific Instruments, 2017, 88, 063304.	1.3	11
51	Study of Electric Explosion of Flat Micron-Thick Foils at Current Densities of $(5\hat{\sim}50)\text{Å}^{-1}$ —108 A/cm <sup>2</sup> . Plasma Physics Reports, 2018, 44, 236-244.	0.9	11
52	Time-resolved and multiple-angle Thomson scattering on gas-puff Z-Pinch plasmas at pinch time. Review of Scientific Instruments, 2018, 89, 10C117.	1.3	11
53	Time-Resolved Thomson Scattering on Laboratory Plasma Jets. IEEE Transactions on Plasma Science, 2018, 46, 3901-3905.	1.3	11
54	Measuring 10-20 T magnetic fields in single wire explosions using Zeeman splitting. Review of Scientific Instruments, 2016, 87, 103506.	1.3	10

#	ARTICLE	IF	CITATIONS
55	Multi-angle multi-pulse time-resolved Thomson scattering on laboratory plasma jets. Review of Scientific Instruments, 2018, 89, 10C109.	1.3	10
56	Study of the structure of exploding flat foils at superhigh current density. Journal of Applied Physics, 2020, 128, 205902.	2.5	10
57	Implosion dynamics of triple-nozzle gas-puff z pinches on COBRA. Physics of Plasmas, 2021, 28, 022703.	1.9	10
58	Physico-chemical factors influence beet (Beta vulgaris L.) seed germination.. , 2003, , 433-440.		9
59	X-Pinches as Broadband Sources of X-Rays for Radiography. Journal of Biomedical Science and Engineering, 2015, 08, 747-755.	0.4	9
60	A doubly curved elliptical crystal spectrometer for the study of localized x-ray absorption in hot plasmas. Review of Scientific Instruments, 2014, 85, 103114.	1.3	8
61	Study of Triple Ar Gas Puff Z-Pinches on 0.9-MA, 200-ns COBRA. IEEE Transactions on Plasma Science, 2018, 46, 3864-3870.	1.3	8
62	Intense pulsed plasma x-ray source for lithography. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1991, 9, 3245.	1.6	7
63	The Imaging of Z-Pinches Using X-Pinch Backlighting. AIP Conference Proceedings, 2006, , .	0.4	7
64	Measuring 20-100 T B-fields using Zeeman splitting of sodium emission lines on a 500 kA pulsed power machine. Review of Scientific Instruments, 2016, 87, 11D407.	1.3	7
65	Time-Resolved Thomson Scattering on Gas-Puff Z-Pinch Plasmas at Pinch Time. IEEE Transactions on Plasma Science, 2018, 46, 3906-3911.	1.3	7
66	Measurements of high-current electron beams from X pinches and wire array Z pinches. Review of Scientific Instruments, 2008, 79, 10E316.	1.3	6
67	Technique for insulated and non-insulated metal liner X-pinch radiography on a 1 MA pulsed power machine. Review of Scientific Instruments, 2017, 88, 113502.	1.3	6
68	Enhancing the x-ray output of a single-wire explosion with a gas-puff based plasma opening switch. Physics of Plasmas, 2018, 25, .	1.9	6
69	Radiative properties of argon gas puff z-pinch implosions on COBRA. Physics of Plasmas, 2016, 23, .	1.9	5
70	Liner implosion experiments driven by a dynamic screw pinch. Physics of Plasmas, 2021, 28, .	1.9	5
71	Measurements of the imploding plasma sheath in triple-nozzle gas-puff z pinches. Physics of Plasmas, 2022, 29, 062702.	1.9	5
72	Investigation of the effect of a power feed vacuum gap in solid liner experiments at 1 MA. Physics of Plasmas, 2015, 22, .	1.9	4

#	ARTICLE	IF	CITATIONS
73	Implosion mediated gas-puff hybrid X-pinch. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	4
74	Hard X-rays from hybrid X pinches. <i>AIP Conference Proceedings</i> , 2014, , .	0.4	3
75	X-ray absorption spectroscopy on the basis of hybrid X-pinch radiation. <i>Plasma Physics Reports</i> , 2015, 41, 535-541.	0.9	3
76	Study of the time-resolved, 3-dimensional current density distribution in solid metallic liners at 1 MA. <i>Physics of Plasmas</i> , 2016, 23, 092711.	1.9	3
77	Magnetic Field Measurements in Wire-Array Z-Pinches using Magneto-Optically Active Waveguides. , 2009, , .		2
78	Overview of 12-cm-Diameter, Argon Gas-Puff Experiments and Analyses with $>200$ -ns Implosion Times at 3- to 6-MA Peak Currents. , 2009, , .		2
79	Anode-Cathode Asymmetry in a Wire-Array Z-Pinch: Highly Resolved Axial-Shear-Flow Structure Observed on the Outer Edges of Ablating Wires. <i>IEEE Transactions on Plasma Science</i> , 2011, 39, 2430-2431.	1.3	2
80	Cable Array Z-Pinch Experiments at 1 MA. <i>IEEE Transactions on Plasma Science</i> , 2012, 40, 3367-3371.	1.3	2
81	Early time studies of cylindrical liner implosions at 1 MA on COBRA. <i>AIP Conference Proceedings</i> , 2014, , .	0.4	2
82	The Role of Ion Acoustic Instability in the Development of the Azimuthal Current Density Profile in Liner Experiments at 1 MA. <i>IEEE Transactions on Plasma Science</i> , 2018, 46, 1921-1928.	1.3	2
83	The generation of mega-gauss fields on the Cornell beam research accelerator. <i>Review of Scientific Instruments</i> , 2018, 89, 095102.	1.3	2
84	Studying the Dynamics of Hybrid X-Pinches. <i>Bulletin of the Russian Academy of Sciences: Physics</i> , 2018, 82, 386-389.	0.6	2
85	Electron plasma wave Thomson scattering on laboratory plasma jets. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	2
86	Current polarity effects on laboratory plasma jets. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	2
87	Interferometric Characterization of Laboratory Plasma Astrophysical Jets Produced by a $1\text{-}\mu\text{s}$ Pulsed Power Driver. <i>IEEE Transactions on Plasma Science</i> , 2014, 42, 2666-2667.	1.3	1
88	Comment on "A doubly curved elliptical crystal spectrometer for the study of localized x-ray absorption in hot plasmas" [Rev. Sci. Instrum. 85, 103114 (2014)]. <i>Review of Scientific Instruments</i> , 2016, 87, 107101.	1.3	1
89	Studying of Explosive Electron Emission From "Whisker" Cathode Using X-Ray Point-Projection Radiography. <i>IEEE Transactions on Plasma Science</i> , 2018, 46, 3815-3819.	1.3	1
90	Design of a 3-D Printed Experimental Platform for Studying the Formation and Magnetization of Turbulent Plasma Jets. <i>IEEE Transactions on Plasma Science</i> , 2020, 48, 4056-4067.	1.3	1

#	ARTICLE	IF	CITATIONS
91	Reconnection Effects in z-pinch Wire Arrays from 2-D Hall-MHD Simulations. , 2007, , .		0
92	Magnetic Field Measurements in Wire-Array Z-Pinches Using Magnetoactive Materials. , 2007, , .		0
93	Measurements of the Imploding Plasma Sheath in Triple Nozzle Gas-Puff Z Pinches on 1-Ma Cobra* . , 2021, , .		0