

# Erik Gilson

## List of Publications by Year in descending order

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95  
papers

1,420  
citations

361413

20  
h-index

377865

34  
g-index

102  
all docs

102  
docs citations

102  
times ranked

639  
citing authors

#	ARTICLE	IF	CITATIONS
1	Stability of very small strangelets. <i>Physical Review Letters</i> , 1993, 71, 332-335.	7.8	131
2	Drift Compression of an Intense Neutralized Ion Beam. <i>Physical Review Letters</i> , 2005, 95, 234801.	7.8	118
3	Results on intense beam focusing and neutralization from the neutralized beam experiment. <i>Physics of Plasmas</i> , 2004, 11, 2890-2898.	1.9	64
4	Paul Trap Simulator Experiment to Model Intense-Beam Propagation in Alternating-Gradient Transport Systems. <i>Physical Review Letters</i> , 2004, 92, 155002.	7.8	52
5	Recent US advances in ion-beam-driven high energy density physics and heavy ion fusion. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2007, 577, 1-7.	1.6	52
6	Quadrupole-Induced Resonant-Particle Transport in a Pure Electron Plasma. <i>Physical Review Letters</i> , 2003, 90, 015001.	7.8	47
7	Progress in beam focusing and compression for warm-dense matter experiments. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2009, 606, 75-82.	1.6	45
8	Beam dynamics of the Neutralized Drift Compression Experiment-II, a novel pulse-compressing ion accelerator. <i>Physics of Plasmas</i> , 2010, 17, 056704.	1.9	44
9	Numerical simulations of the Princeton magnetorotational instability experiment with conducting axial boundaries. <i>Physical Review E</i> , 2016, 94, 063107.	2.1	43
10	High frequency pacing of edge localized modes by injection of lithium granules in DIII-D H-mode discharges. <i>Nuclear Fusion</i> , 2016, 56, 056008.	3.5	42
11	A multi-species powder dropper for magnetic fusion applications. <i>Review of Scientific Instruments</i> , 2018, 89, 10K121.	1.3	40
12	Design and characterization of a neutralized-transport experiment for heavy-ion fusion. <i>Physical Review Special Topics: Accelerators and Beams</i> , 2004, 7, .	1.8	36
13	Comparison of experimental data and three-dimensional simulations of ion beam neutralization from the Neutralized Transport Experiment. <i>Physics of Plasmas</i> , 2005, 12, 043102.	1.9	27
14	Overview of US heavy ion fusion research. <i>Nuclear Fusion</i> , 2005, 45, 131-137.	3.5	27
15	Optimized simultaneous transverse and longitudinal focusing of intense ion beam pulses for warm dense matter applications. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2007, 577, 289-297.	1.6	27
16	Observations of wall conditioning by means of boron powder injection in DIII-D H-mode plasmas. <i>Nuclear Fusion</i> , 2020, 60, 126010.	3.5	27
17	Plans for longitudinal and transverse neutralized beam compression experiments, and initial results from solenoid transport experiments. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2007, 577, 215-222.	1.6	25
18	Fast Faraday cup to measure neutralized drift compression in intense ion charge bunches. <i>Physical Review Special Topics: Accelerators and Beams</i> , 2006, 9, .	1.8	24

#	ARTICLE	IF	CITATIONS
19	Neutralized transport experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 544, 225-235.	1.6	23
20	A space-charge-neutralizing plasma for beam drift compression. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 606, 22-30.	1.6	23
21	Short intense ion pulses for materials and warm dense matter research. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 800, 98-103.	1.6	19
22	Observation of a reduced-turbulence regime with boron powder injection in a stellarator. Nature Physics, 2022, 18, 350-356.	16.7	19
23	The NDCX-II engineering design. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 733, 226-232.	1.6	18
24	Progress in heavy ion fusion research. Physics of Plasmas, 2003, 10, 2064-2070.	1.9	17
25	First impurity powder injection experiments in LHD. Nuclear Materials and Energy, 2020, 25, 100842.	1.3	17
26	Heavy-ion-fusion-science: summary of US progress. Nuclear Fusion, 2007, 47, 721-727.	3.5	15
27	Simulations and experiments of intense ion beam current density compression in space and time. Physics of Plasmas, 2009, 16, 056701.	1.9	15
28	Simulation of long-distance beam propagation in the Paul trap simulator experiment. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2005, 544, 171-178.	1.6	14
29	Transverse beam compression on the Paul trap simulator experiment. Physical Review Special Topics: Accelerators and Beams, 2007, 10, .	1.8	14
30	Dynamics of ion beam charge neutralization by ferroelectric plasma sources. Physics of Plasmas, 2016, 23, .	1.9	14
31	Irradiation of materials with short, intense ion pulses at NDCX-II. Laser and Particle Beams, 2017, 35, 373-378.	1.0	14
32	ELM Suppression by Boron Powder Injection and Comparison with Lithium Powder Injection on EAST. Journal of Fusion Energy, 2020, 39, 429-435.	1.2	14
33	Experimental confirmation of the standard magnetorotational instability mechanism with a spring-mass analogue. Communications Physics, 2019, 2, .	5.3	12
34	Wall conditioning and ELM mitigation with boron nitride powder injection in KSTAR. Nuclear Materials and Energy, 2021, 28, 101043.	1.3	12
35	The Paul Trap Simulator Experiment. Laser and Particle Beams, 2003, 21, 549-552.	1.0	11
36	Conditions for minimization of halo particle production during transverse compression of intense ion charge bunches in the Paul Trap Simulator Experiment (PTSX). Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 577, 117-124.	1.6	11

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37	Neutralized drift compression experiments with a high-intensity ion beam. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 577, 223-230.	1.6	11
38	Use of a Linear Paul Trap to Study Random Noise-Induced Beam Degradation in High-Intensity Accelerators. Physical Review Letters, 2009, 102, 145003.	7.8	11
39	Long plasma source for heavy ion beam charge neutralization. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2009, 606, 124-127.	1.6	11
40	Modeling Intense Beam Propagation in the Paul Trap Simulator Experiment (PTSX). AIP Conference Proceedings, 2003, , .	0.4	10
41	Source-to-target simulation of simultaneous longitudinal and transverse focusing of heavy ion beams. Physical Review Special Topics: Accelerators and Beams, 2008, 11, .	1.8	10
42	Decay of the Diocotron Rotation and Transport in a New Low-Density Asymmetry-Dominated Regime. Physical Review Letters, 2002, 89, 105002.	7.8	9
43	Ion injection optimization for a linear Paul trap to study intense beam propagation. Physical Review Special Topics: Accelerators and Beams, 2007, 10, .	1.8	9
44	Analysis of continuously rotating quadrupole focusing channels using generalized Courant-Snyder theory. Physics of Plasmas, 2013, 20, 083121.	1.9	9
45	Effects of axial boundary conductivity on a free Stewartson-Shercliff layer. Physical Review E, 2018, 97, 063110.	2.1	9
46	Parameter space mapping of the Princeton magnetorotational instability experiment. Physical Review E, 2020, 102, 023113.	2.1	9
47	Studies of emittance growth and halo particle production in intense charged particle beams using the Paul Trap Simulator Experiment. Physics of Plasmas, 2010, 17, .	1.9	8
48	Overview of lithium injection and flowing liquid lithium results from the USâ€“China collaboration on EAST. Physica Scripta, 2020, T171, 014067.	2.5	8
49	US heavy ion beam research for high energy density physics applications and fusion. European Physical Journal Special Topics, 2006, 133, 731-741.	0.2	7
50	Experimental simulations of beam propagation over large distances in a compact linear Paul trap. Physics of Plasmas, 2006, 13, 056705.	1.9	7
51	Bunching and focusing of an intense ion beam for target heating experiments. , 2007, , .		7
52	Excitation of transverse dipole and quadrupole modes in a pure ion plasma in a linear Paul trap to study collective processes in intense beams. Physics of Plasmas, 2013, 20, 055706.	1.9	7
53	Short-pulse, compressed ion beams at the Neutralized Drift Compression Experiment. Journal of Physics: Conference Series, 2016, 717, 012079.	0.4	7
54	Optimizing beam transport in rapidly compressing beams on the neutralized drift compression experiment-II. Matter and Radiation at Extremes, 2018, 3, 78-84.	3.9	7

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55	Nonaxisymmetric simulations of the Princeton magnetorotational instability experiment with insulating and conducting axial boundaries. <i>Physical Review E</i> , 2019, 100, 033116.	2.1	7
56	Real-time wall conditioning and recycling modification utilizing boron and boron nitride powder injections into the Large Helical Device. <i>Nuclear Fusion</i> , 2022, 62, 086021.	3.5	7
57	ECR plasma source for heavy ion beam charge neutralization. <i>Laser and Particle Beams</i> , 2003, 21, 37-40.	1.0	6
58	Experiments on transverse compression of a long charge bunch in a linear Paul trap. <i>Physical Review Special Topics: Accelerators and Beams</i> , 2007, 10, .	1.8	6
59	Line identification of boron and nitrogen emissions in EUV and VUV wavelength ranges in the impurity powder dropping experiments of LHD and its application to spectroscopic diagnostics. <i>Plasma Science and Technology</i> , 0, , .	1.5	6
60	Ferroelectric plasma source for heavy ion beam space charge neutralization. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2007, 577, 203-206.	1.6	5
61	Experimental investigation of random noise-induced beam degradation in high-intensity accelerators using a linear Paul trap. <i>Physical Review Special Topics: Accelerators and Beams</i> , 2009, 12, .	1.8	5
62	Plasma source development for the NDCX-I and NDCX-II neutralized drift compression experiments. <i>Laser and Particle Beams</i> , 2012, 30, 435-443.	1.0	5
63	Ferroelectric plasma sources for NDCX-II and heavy ion drivers. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2014, 733, 75-79.	1.6	5
64	Deuterium pellet fueling in type-III ELMy H-mode plasmas on EAST superconducting tokamak. <i>Fusion Engineering and Design</i> , 2019, 145, 79-86.	1.9	5
65	Recent results from the Paul trap simulator experiment. , 0, , .		4
66	Heavy ion fusion science research for high energy density physics and fusion applications. <i>Journal of Physics: Conference Series</i> , 2008, 112, 032029.	0.4	4
67	Studies of electrical breakdown processes across vacuum gaps between metallic electrodes. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2014, 733, 168-170.	1.6	4
68	Study on Thermal Mixing of MHD Liquid Metal Free-Surface Film Flow. <i>Fusion Science and Technology</i> , 2017, 72, 796-800.	1.1	4
69	Design and implementation of a Thomson parabola for fluence dependent energy-loss measurements at the Neutralized Drift Compression eXperiment. <i>Review of Scientific Instruments</i> , 2018, 89, 103302.	1.3	4
70	Development of a 1-m plasma source for heavy ion beam charge neutralization. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2005, 544, 378-382.	1.6	3
71	Ferroelectric Plasma Source for Heavy Ion Beam Charge Neutralization. , 0, , .		3
72	LSP Simulations of the Neutralized Drift Compression Experiment. , 0, , .		3

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73	Turbulence and jet-driven zonal flows: Secondary circulation in rotating fluids due to asymmetric forcing. <i>Physical Review E</i> , 2019, 99, 023108.	2.1	3
74	Laser-Induced Fluorescence diagnostic of barium ion plasmas in the Paul Trap Simulator Experiment. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2005, 544, 514-519.	1.6	2
75	A solenoid final focusing system with plasma neutralization for target heating experiments. , 2007, , .		2
76	Advanced plasma flow simulations of cathodic-arc and ferroelectric plasma sources for neutralized drift compression experiments. <i>Physical Review Special Topics: Accelerators and Beams</i> , 2008, 11, .	1.8	2
77	Recent advances in the physics of collective excitations in the Paul trap simulator experiment. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2009, 606, 48-52.	1.6	2
78	Exploratory test of utility of magnetic insulation for electrostatic accelerators. <i>Physics of Plasmas</i> , 2012, 19, 023107.	1.9	2
79	Lithium granular injector operational experience triggering ELMs in H-mode on DIII-D. , 2015, , .		2
80	Study on thermal mixing of liquidâ€metal free-surface flow by obstacles installed at the bottom of a channel. <i>Fusion Engineering and Design</i> , 2016, 109-111, 1193-1198.	1.9	2
81	Generation of mean flows in rotating anisotropic turbulence: The case of solar near-surface shear layer. <i>Astronomy and Astrophysics</i> , 0, , .	5.1	2
82	Decay of the diocotron rotation and transport in a new low-density asymmetry-dominated regime. <i>AIP Conference Proceedings</i> , 2002, , .	0.4	1
83	Quadrupole induced resonant particle transport in a pure electron plasma. <i>AIP Conference Proceedings</i> , 2002, , .	0.4	1
84	Development of Laser-Induced Fluorescence Diagnostic for the Paul Trap Simulator Experiment. , 0, , .		1
85	Extreme compression of heavy-ion beam pulses: Experiments and modeling. , 2007, , .		1
86	Meter-long plasma source for heavy ion beam space charge neutralization. , 2007, , .		1
87	Paul Trap Simulator Experiment (PTSX) to simulate intense beam propagation through a periodic focusing quadrupole field. <i>AIP Conference Proceedings</i> , 2002, , .	0.4	0
88	Simulating the Long-Distance Propagation of Intense Beams in the Paul Trap Simulator Experiment. , 0, , .		0
89	A Fast Faraday Cup for the Neutralized Drift Compression Experiment. , 0, , .		0
90	Initial density profile measurements using a Laser-Induced Fluorescence diagnostic in the Paul Trap Simulator Experiment. , 2007, , .		0

#	ARTICLE	IF	CITATIONS
91	End-to-end simulations of an accelerator for heavy ion beam bunching. , 2007, , .		0
92	Experiments on transverse bunch compression on the Princeton Paul Trap Simulator experiment. , 2007, , .		0
93	Experimental program for the Princeton Ion Source Test Facility. Laser and Particle Beams, 2010, 28, 571-574.	1.0	0
94	Preface to Special Topic: Collective Effects in Particle Beams and Nonneutral Plasmas. Physics of Plasmas, 2018, 25, 011501.	1.9	0
95	Dynamics of Ion Beam Charge Neutralization by Ferroelectric Plasma Sources*. , 2017, , .		0