

Matthew Gomez

List of Publications by Year in descending order

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Version: 2024-02-01

75
papers

2,249
citations

218677

26
h-index

214800

47
g-index

82
all docs

82
docs citations

82
times ranked

1046
citing authors

#	ARTICLE	IF	CITATIONS
1	Experimental Demonstration of Fusion-Relevant Conditions in Magnetized Liner Inertial Fusion. <i>Physical Review Letters</i> , 2014, 113, 155003.	7.8	332
2	Magnetically Driven Implosions for Inertial Confinement Fusion at Sandia National Laboratories. <i>IEEE Transactions on Plasma Science</i> , 2012, 40, 3222-3245.	1.3	154
3	Review of pulsed power-driven high energy density physics research on Z at Sandia. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	140
4	Conceptual designs of two petawatt-class pulsed-power accelerators for high-energy-density-physics experiments. <i>Physical Review Special Topics: Accelerators and Beams</i> , 2015, 18, .	1.8	116
5	Understanding Fuel Magnetization and Mix Using Secondary Nuclear Reactions in Magneto-Inertial Fusion. <i>Physical Review Letters</i> , 2014, 113, 155004.	7.8	105
6	Observations of Modified Three-Dimensional Instability Structure for Imploding z -Pinch Liners that are Premagnetized with an Axial Field. <i>Physical Review Letters</i> , 2013, 111, 235005.	7.8	101
7	High-Current Linear Transformer Driver Development at Sandia National Laboratories. <i>IEEE Transactions on Plasma Science</i> , 2010, 38, 704-713.	1.3	98
8	Experimental Demonstration of the Stabilizing Effect of Dielectric Coatings on Magnetically Accelerated Imploding Metallic Liners. <i>Physical Review Letters</i> , 2016, 116, 065001.	7.8	78
9	<i>Physics of Plasmas</i> , 2015, 22, 056306.	1.9	75
10	Modified helix-like instability structure on imploding z -pinch liners that are pre-imposed with a uniform axial magnetic field. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	69
11	Scaling magnetized liner inertial fusion on Z and future pulsed-power accelerators. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	65
12	Performance Scaling in Magnetized Liner Inertial Fusion Experiments. <i>Physical Review Letters</i> , 2020, 125, 155002.	7.8	65
13	A Primer on Pulsed Power and Linear Transformer Drivers for High Energy Density Physics Applications. <i>IEEE Transactions on Plasma Science</i> , 2018, 46, 3928-3967.	1.3	57
14	Experimental study of current loss and plasma formation in the Z machine post-hole convolute. <i>Physical Review Accelerators and Beams</i> , 2017, 20, .	1.6	47
15	Effects of magnetization on fusion product trapping and secondary neutron spectra. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	37
16	Origins and effects of mix on magnetized liner inertial fusion target performance. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	37
17		1.9	36
18	Assessing Stagnation Conditions and Identifying Trends in Magnetized Liner Inertial Fusion. <i>IEEE Transactions on Plasma Science</i> , 2019, 47, 2081-2101.	1.3	36

#	ARTICLE	IF	CITATIONS
19	An overview of magneto-inertial fusion on the Z machine at Sandia National Laboratories. Nuclear Fusion, 2022, 62, 042015.	3.5	35
20	Enhancing performance of magnetized liner inertial fusion at the Z facility. Physics of Plasmas, 2018, 25, .	1.9	34
21	Diagnosing and mitigating laser preheat induced mix in MagLIF. Physics of Plasmas, 2018, 25, .	1.9	33
22	MAIZE: a 1 MA LTD-Driven Z-Pinch at The University of Michigan. , 2009, , .		32
23	Magneto-Rayleigh-Taylor experiments on a MegaAmpere linear transformer driver. Physics of Plasmas, 2012, 19, 032701.	1.9	30
24	Minimizing scatter-losses during pre-heat for magneto-inertial fusion targets. Physics of Plasmas, 2018, 25, .	1.9	30
25	Changes in the electronic structure of highly compressed iron revealed by X-ray fluorescence lines and absorption edges. High Energy Density Physics, 2017, 24, 39-43.	1.5	29
26	Magnetic Priming at the Cathode of a Relativistic Magnetron. IEEE Transactions on Plasma Science, 2008, 36, 710-717.	1.3	27
27	Constraining preheat energy deposition in MagLIF experiments with multi-frame shadowgraphy. Physics of Plasmas, 2019, 26, .	1.9	27
28	Transmission-line-circuit model of an 85-TW, 25-MA pulsed-power accelerator. Physical Review Accelerators and Beams, 2018, 21, .	1.6	26
29	Steady-state modeling of current loss in a post-hole convolute driven by high power magnetically insulated transmission lines. Physical Review Special Topics: Accelerators and Beams, 2013, 16, .	1.8	25
30	An experimental platform for creating white dwarf photospheres in the laboratory. High Energy Density Physics, 2013, 9, 82-90.	1.5	23
31	Magnetic field measurements via visible spectroscopy on the Z machine. Review of Scientific Instruments, 2014, 85, 11E609.	1.3	22
32	Exploring magnetized liner inertial fusion with a semi-analytic model. Physics of Plasmas, 2016, 23, .	1.9	22
33	Fluorescence and absorption spectroscopy for warm dense matter studies and ICF plasma diagnostics. Physics of Plasmas, 2018, 25, .	1.9	20
34	Effect of soft metal gasket contacts on contact resistance, energy deposition, and plasma expansion profile in a wire array Z pinch. Review of Scientific Instruments, 2008, 79, 093512.	1.3	19
35	Experimental validation of a higher dimensional theory of electrical contact resistance. Applied Physics Letters, 2009, 95, .	3.3	18
36	Deep-learning-enabled Bayesian inference of fuel magnetization in magnetized liner inertial fusion. Physics of Plasmas, 2021, 28, .	1.9	16

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37	Fusion-neutron measurements for magnetized liner inertial fusion experiments on the Z accelerator. Journal of Physics: Conference Series, 2016, 717, 012020.	0.4	15
38	Plasma and radiation detection via fiber interferometry. Journal of Applied Physics, 2018, 123, .	2.5	11
39	Estimation of stagnation performance metrics in magnetized liner inertial fusion experiments using Bayesian data assimilation. Physics of Plasmas, 2022, 29, .	1.9	11
40	High current Linear Transformer Driver (LTD) experiments. , 2007, , .		10
41	Linear Transformer Driver (LTD) development at Sandia national laboratory. , 2009, , .		10
42	Quantification of MagLIF morphology using the Mallat scattering transformation. Physics of Plasmas, 2020, 27, .	1.9	9
43	Design and testing of a magnetically driven implosion peak current diagnostic. Physics of Plasmas, 2018, 25, 042702.	1.9	8
44	The inductively driven transmission line: A passively coupled device for diagnostic applications on the Z pulsed power facility. Review of Scientific Instruments, 2021, 92, 033501.	1.3	7
45	Wire-Tension Effects on Plasma Dynamics in a Two-Wire Z-Z -Pinch. IEEE Transactions on Plasma Science, 2008, 36, 1284-1285.	1.3	6
46	A pulsed-power implementation of "Laser Gate" for increasing laser energy coupling and fusion yield in magnetized liner inertial fusion (MagLIF). Review of Scientific Instruments, 2020, 91, 063507.	1.3	6
47	Detection of an anomalous pressure on a magneto-inertial-fusion load current diagnostic. Physics of Plasmas, 2017, 24, 013119.	1.9	5
48	Contact Resistance with Dissimilar Materials: Bulk Contacts and Thin Film Contacts. , 2011, , .		4
49	A time-resolved, in-chamber x-ray pinhole imager for Z. Review of Scientific Instruments, 2021, 92, 033512.	1.3	4
50	Fusion gain from cylindrical liner-driven implosions of field reversed configurations. Physics of Plasmas, 2021, 28, .	1.9	4
51	Theory and experimental measurements of contact resistance. , 2009, , .		3
52	Pinned, optically aligned diagnostic dock for use on the Z facility. Review of Scientific Instruments, 2012, 83, 10D714.	1.3	3
53	Magnetic field effects on laser energy deposition and filamentation in magneto-inertial fusion relevant plasmas. Physics of Plasmas, 2021, 28, .	1.9	3
54	Linear and nonlinear evolution of azimuthal clumping instabilities in a Z-pinch wire array. Physics of Plasmas, 2007, 14, 012706.	1.9	2

#	ARTICLE	IF	CITATIONS
55	Creating White Dwarf Photospheres in the Laboratory. , 2010, , .		2
56	Nonlinear laser-plasma interaction in magnetized liner inertial fusion. Proceedings of SPIE, 2016, , .	0.8	2
57	Design of a MITL for a 1 MA LTD Driving a Wire Array Z-Pinch Load. , 2007, , .		1
58	Recent advances on electrical contact resistance: Theory and experiment. , 2010, , .		1
59	Electrothermal instability evolution on Z-pinch rods and imploding liners pulsed with intense current. , 2016, , .		1
60	Deep Learning Enabled Assessment of Magnetic Confinement in Magnetized Liner Inertial Fusion. , 2021, , .		1
61	Wire Contact Resistance Effects in a Multiwire Z-Pinch. , 2007, , .		0
62	Metal-Oxide-Junction, Triple-Point Cathodes for High Current Vacuum Electron Devices. , 2007, , .		0
63	Design of a MITL for a 1 MA LTD driving a wire array z-pinch load. , 2007, , .		0
64	Effects of perturbing B-field orientation on magnetic priming of a Relativistic Magnetron. , 2008, , .		0
65	A higher dimensional theory of contact resistance. , 2008, , .		0
66	Experiments on the UM 1-MA linear transformer driver facility. , 2009, , .		0
67	Magneto-rayleigh-taylor instabilities on thin foils driven by a 1-MA LTD. , 2009, , .		0
68	Experimental study of plasma evolution in a single post-hole convolute on a 1 MA linear transformer driver. , 2009, , .		0
69	P4-17: Recent advances on electrical contact resistance: Theory and experiment. , 2010, , .		0
70	Post-hole convolute studies on the Z machine at SNL and maize at U of M. , 2010, , .		0
71	An experimental investigation of the magneto-Rayleigh-Taylor instability using thin foils driven by A1-MA Ltd. , 2010, , .		0
72	Experimental verification of the Magnetized Liner Inertial Fusion (MagLIF) concept. , 2014, , .		0

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73	Experimental progress in Magnetized Liner Inertial Fusion (MAGLIF). , 2015, , .		0
74	Inertial Confinement Fusion - Experimental Physics: Z-Pinch and Magnetized Liner Inertial Fusion. , 2021, , 739-750.		0
75	Increased preheat energy to MagLIF targets with cryogenic cooling. , 2021, , .		0