

Matthew Gomez

List of Publications by Year in descending order

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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	An overview of magneto-inertial fusion on the Z machine at Sandia National Laboratories. Nuclear Fusion, 2022, 62, 042015.	3.5	35
2	Estimation of stagnation performance metrics in magnetized liner inertial fusion experiments using Bayesian data assimilation. Physics of Plasmas, 2022, 29, .	1.9	11
3	Inertial Confinement Fusion - Experimental Physics: Z-Pinch and Magnetized Liner Inertial Fusion. , 2021, , 739-750.		0
4	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
5	A time-resolved, in-chamber x-ray pinhole imager for Z. Review of Scientific Instruments, 2021, 92, 033512.	1.3	4
6	Fusion gain from cylindrical liner-driven implosions of field reversed configurations. Physics of Plasmas, 2021, 28, .	1.9	4
7	Deep-learning-enabled Bayesian inference of fuel magnetization in magnetized liner inertial fusion. Physics of Plasmas, 2021, 28, .	1.9	16
8	Deep Learning Enabled Assessment of Magnetic Confinement in Magnetized Liner Inertial Fusion. , 2021, , .		1
9	Increased preheat energy to MagLIF targets with cryogenic cooling. , 2021, , .		0
10	Magnetic field effects on laser energy deposition and filamentation in magneto-inertial fusion relevant plasmas. Physics of Plasmas, 2021, 28, .	1.9	3
11	Performance Scaling in Magnetized Liner Inertial Fusion Experiments. Physical Review Letters, 2020, 125, 155002.	7.8	65
12	Review of pulsed power-driven high energy density physics research on Z at Sandia. Physics of Plasmas, 2020, 27, .	1.9	140
13	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
14	Quantification of MagLIF morphology using the Mallat scattering transformation. Physics of Plasmas, 2020, 27, .	1.9	9
15	Constraining preheat energy deposition in MagLIF experiments with multi-frame shadowgraphy. Physics of Plasmas, 2019, 26, .	1.9	27
16	Assessing Stagnation Conditions and Identifying Trends in Magnetized Liner Inertial Fusion. IEEE Transactions on Plasma Science, 2019, 47, 2081-2101.	1.3	36
17	Origins and effects of mix on magnetized liner inertial fusion target performance. Physics of Plasmas, 2019, 26, .	1.9	37
18	Fluorescence and absorption spectroscopy for warm dense matter studies and ICF plasma diagnostics. Physics of Plasmas, 2018, 25, .	1.9	20

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19	Design and testing of a magnetically driven implosion peak current diagnostic. <i>Physics of Plasmas</i> , 2018, 25, 042702.	1.9	8
20	Plasma and radiation detection via fiber interferometry. <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	11
21	Minimizing scatter-losses during pre-heat for magneto-inertial fusion targets. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	30
22	Diagnosing and mitigating laser preheat induced mix in MagLIF. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	33
23	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
24	Enhancing performance of magnetized liner inertial fusion at the Z facility. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	34
25	Transmission-line-circuit model of an 85-TW, 25-MA pulsed-power accelerator. <i>Physical Review Accelerators and Beams</i> , 2018, 21, .	1.6	26
26	Detection of an anomalous pressure on a magneto-inertial-fusion load current diagnostic. <i>Physics of Plasmas</i> , 2017, 24, 013119.	1.9	5
27	Changes in the electronic structure of highly compressed iron revealed by X-ray fluorescence lines and absorption edges. <i>High Energy Density Physics</i> , 2017, 24, 39-43.	1.5	29
28	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
29	Fusion-neutron measurements for magnetized liner inertial fusion experiments on the Z accelerator. <i>Journal of Physics: Conference Series</i> , 2016, 717, 012020.	0.4	15
30	Scaling magnetized liner inertial fusion on Z and future pulsed-power accelerators. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	65
31	Exploring magnetized liner inertial fusion with a semi-analytic model. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	22
32	Electrothermal instability evolution on Z-pinch rods and imploding liners pulsed with intense current. , 2016, , .		1
33	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
34	Nonlinear laser-plasma interaction in magnetized liner inertial fusion. <i>Proceedings of SPIE</i> , 2016, , .	0.8	2
35	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
36		1.9	36

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37	Physics of Plasmas, 2015, 22, 056306.	1.9	75
38	Effects of magnetization on fusion product trapping and secondary neutron spectra. Physics of Plasmas, 2015, 22, .	1.9	37
39	Experimental progress in Magnetized Liner Inertial Fusion (MAGLIF). , 2015, , .		0
40	Modified helix-like instability structure on imploding z-pinch liners that are pre-imposed with a uniform axial magnetic field. Physics of Plasmas, 2014, 21, .	1.9	69
41	Magnetic field measurements via visible spectroscopy on the Z machine. Review of Scientific Instruments, 2014, 85, 11E609.	1.3	22
42	Experimental verification of the Magnetized Liner Inertial Fusion (MagLIF) concept. , 2014, , .		0
43	Experimental Demonstration of Fusion-Relevant Conditions in Magnetized Liner Inertial Fusion. Physical Review Letters, 2014, 113, 155003.	7.8	332
44	Understanding Fuel Magnetization and Mix Using Secondary Nuclear Reactions in Magneto-Inertial Fusion. Physical Review Letters, 2014, 113, 155004.	7.8	105
45	Observations of Modified Three-Dimensional Instability Structure for Imploding z -Pinch Liners that are Premagnetized with an Axial Field. Physical Review Letters. 2013. 111. 235005.	7.8	101
46	An experimental platform for creating white dwarf photospheres in the laboratory. High Energy Density Physics, 2013, 9, 82-90.	1.5	23
47	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
48	Magneto-Rayleigh-Taylor experiments on a MegaAmpere linear transformer driver. Physics of Plasmas, 2012, 19, 032701.	1.9	30
49	Pinned, optically aligned diagnostic dock for use on the Z facility. Review of Scientific Instruments, 2012, 83, 10D714.	1.3	3
50	Magnetically Driven Implosions for Inertial Confinement Fusion at Sandia National Laboratories. IEEE Transactions on Plasma Science, 2012, 40, 3222-3245.	1.3	154
51	Contact Resistance with Dissimilar Materials: Bulk Contacts and Thin Film Contacts. , 2011, , .		4
52	Creating White Dwarf Photospheres in the Laboratory. , 2010, , .		2
53	High-Current Linear Transformer Driver Development at Sandia National Laboratories. IEEE Transactions on Plasma Science, 2010, 38, 704-713.	1.3	98
54	P4-17: Recent advances on electrical contact resistance: Theory and experiment. , 2010, , .		0

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55	Recent advances on electrical contact resistance: Theory and experiment. , 2010, , .		1
56	Post-hole convolute studies on the Z machine at SNL and maize at U of M. , 2010, , .		0
57	An experimental investigation of the magneto-Rayleigh-Taylor instability using thin foils driven by A1-MA Ltd. , 2010, , .		0
58	Experiments on the UM 1-MA linear transformer driver facility. , 2009, , .		0
59	Magneto-rayleigh-taylor instabilities on thin foils driven by a 1-MA LTD. , 2009, , .		0
60	Experimental validation of a higher dimensional theory of electrical contact resistance. Applied Physics Letters, 2009, 95, .	3.3	18
61	Linear Transformer Driver (LTD) development at Sandia national laboratory. , 2009, , .		10
62	Experimental study of plasma evolution in a single post-hole convolute on a 1 MA linear transformer driver. , 2009, , .		0
63	Theory and experimental measurements of contact resistance. , 2009, , .		3
64	MAIZE: a 1 MA LTD-Driven Z-Pinch at The University of Michigan. , 2009, , .		32
65	Magnetic Priming at the Cathode of a Relativistic Magnetron. IEEE Transactions on Plasma Science, 2008, 36, 710-717.	1.3	27
66	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
67	Effects of perturbing B-field orientation on magnetic priming of a Relativistic Magnetron. , 2008, , .		0
68	A higher dimensional theory of contact resistance. , 2008, , .		0
69	Wire-Tension Effects on Plasma Dynamics in a Two-Wire Z-Pinch. IEEE Transactions on Plasma Science, 2008, 36, 1284-1285.	1.3	6
70	Wire Contact Resistance Effects in a Multiwire Z-Pinch. , 2007, , .		0
71	Metal-Oxide-Junction, Triple-Point Cathodes for High Current Vacuum Electron Devices. , 2007, , .		0
72	Design of a MITL for a 1 MA LTD driving a wire array z-pinch load. , 2007, , .		0

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73	Linear and nonlinear evolution of azimuthal clumping instabilities in a Z-pinch wire array. Physics of Plasmas, 2007, 14, 012706.	1.9	2
74	High current Linear Transformer Driver (LTD) experiments. , 2007, , .		10
75	Design of a MITL for a 1 MA LTD Driving a Wire Array Z-Pinch Load. , 2007, , .		1