

Lorin Matthews

List of Publications by Year in descending order

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Version: 2024-02-01

94
papers

1,237
citations

361045

20
h-index

476904

29
g-index

103
all docs

103
docs citations

103
times ranked

546
citing authors

#	ARTICLE	IF	CITATIONS
1	Influence of temporal variations in plasma conditions on the electric potential near self-organized dust chains. <i>Physics of Plasmas</i> , 2022, 29, .	0.7	8
2	Determining Forces On Dust Grains In A Plasma With A Position-Dependent Number Density. , 2022, , .		0
3	Torsion Excitation in Dusty Plasma Crystals. , 2022, , .		1
4	Torsion density related to electrode and crystal size. , 2022, , .		0
5	An Experimental Investigation of Charging Methods on the Lunar Surface. , 2022, , .		0
6	The initial structure of chondrule dust rims II: Charged grains. <i>Icarus</i> , 2021, 354, 114053.	1.1	5
7	A machine learning based Bayesian optimization solution to non-linear responses in dusty plasmas. <i>Machine Learning: Science and Technology</i> , 2021, 2, 035017.	2.4	6
8	Fractional Laplacian spectral approach to turbulence in a dusty plasma monolayer. <i>Physics of Plasmas</i> , 2021, 28, .	0.7	4
9	Using Dust Grains to Measure Plasma Conditions with a Changing Number Density. , 2021, , .		0
10	Examining Ionization Wave Effects on Self-Organization of Dust Chains*. , 2021, , .		0
11	Dust in Protoplanetary Environments. , 2021, , .		0
12	Effect of ionization waves on dust chain formation in a DC discharge. <i>Journal of Plasma Physics</i> , 2021, 87, .	0.7	9
13	Detailed Model of the Growth of Fluffy Dust Aggregates in a Protoplanetary Disk: Effects of Nebular Conditions. <i>Astrophysical Journal</i> , 2020, 897, 182.	1.6	5
14	Dust as probes: Determining confinement and interaction forces. <i>Physical Review E</i> , 2020, 102, 043210.	0.8	16
15	Dust charging in dynamic ion wakes. <i>Physics of Plasmas</i> , 2020, 27, .	0.7	23
16	Anomalous diffusion in one-dimensional disordered systems: a discrete fractional Laplacian method. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020, 53, 135205.	0.7	14
17	Numerical study of anomalous diffusion of light in semicrystalline polymer structures. <i>Physical Review Research</i> , 2020, 2, .	1.3	6
18	Ionization waves in the PK-4 direct current neon discharge. <i>Plasma Sources Science and Technology</i> , 2020, 29, 115014.	1.3	17

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19	Dust Particle Pair Correlation Functions and the Nonlinear Effect of Interaction Potentials. IEEE Transactions on Plasma Science, 2019, 47, 3057-3062.	0.6	2
20	Nonlinear mode coupling and internal resonance observed in a dusty plasma. New Journal of Physics, 2019, 21, 103051.	1.2	6
21	Mapping the Plasma Potential in a Glass Box. IEEE Transactions on Plasma Science, 2019, 47, 3079-3086.	0.6	4
22	Spectral approach to transport in a two-dimensional honeycomb lattice with substitutional disorder. Physical Review B, 2019, 99, .	1.1	4
23	Nonlinear response of vertical paired structure in complex plasma. Plasma Physics and Controlled Fusion, 2019, 61, 055004.	0.9	6
24	Self-diffusion in two-dimensional quasimagnetized rotating dusty plasmas. Physical Review E, 2019, 99, 013203.	0.8	31
25	The initial structure of chondrule dust rims I: Electrically neutral grains. Icarus, 2019, 321, 99-111.	1.1	11
26	Transport properties of disordered two-dimensional complex plasma crystal. Contributions To Plasma Physics, 2018, 58, 209-216.	0.5	11
27	Particle Growth in an Experimental Dusty Plasma System. Chinese Physics Letters, 2018, 35, 125201.	1.3	3
28	Discrete stochastic charging of aggregate grains. Physical Review E, 2018, 97, 053207.	0.8	6
29	Delocalization in infinite disordered two-dimensional lattices of different geometry. Physical Review B, 2017, 96, .	1.1	5
30	Simple experiment on the sputtering rate of solids in gas discharges. Physics of Plasmas, 2017, 24, .	0.7	1
31	The magnetic field inside a protoplanetary disc gap opened by planets of different masses. Monthly Notices of the Royal Astronomical Society, 2017, 472, 3277-3287.	1.6	25
32	Using dust as probes to determine sheath extent and structure. Journal of Plasma Physics, 2016, 82, .	0.7	7
33	Temperature measurement of a dust particle in a RF plasma GEC reference cell. Journal of Plasma Physics, 2016, 82, .	0.7	11
34	Mapping of force fields in a capacitively driven radiofrequency plasma discharge. Journal of Plasma Physics, 2016, 82, .	0.7	2
35	Ion-wake field inside a glass box. Physical Review E, 2016, 94, 033201.	0.8	17
36	Diffusion in single layer quasi-magnetized strongly coupled dusty plasmas. , 2016, , .		0

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37	Comparison of Plasma Magnetic Field Interactions in a Static and Dynamic Plasma Facility. Transactions of the Japan Society for Aeronautical and Space Sciences Aerospace Technology Japan, 2016, 14, Pe_21-Pe_26.	0.1	2
38	Physical interpretation of the spectral approach to delocalization in infinite disordered systems. Materials Research Express, 2016, 3, 125904.	0.8	8
39	Photophoretic force on aggregate grains. Monthly Notices of the Royal Astronomical Society, 2016, 455, 2582-2591.	1.6	9
40	Multipole Expansions of Aggregate Charge: How Far to Go?. IEEE Transactions on Plasma Science, 2016, 44, 519-524.	0.6	7
41	DUST COAGULATION IN THE VICINITY OF A GAP-OPENING JUPITER-MASS PLANET. Astrophysical Journal, 2016, 823, 80.	1.6	25
42	Dusty plasma cavities: Probe-induced and natural. Physical Review E, 2015, 91, 063105.	0.8	12
43	Analysis of magnetic field plasma interactions using microparticles as probes. Physical Review E, 2015, 92, 023107.	0.8	8
44	Mode couplings and resonance instabilities in finite dust chains. Physical Review E, 2015, 91, 053101.	0.8	9
45	Electrical conductivity of the thermal dusty plasma under the conditions of a hybrid plasma environment simulation facility. New Journal of Physics, 2015, 17, 053041.	1.2	23
46	Mode coupling and resonance instabilities in quasi-two-dimensional dust clusters in complex plasmas. Physical Review E, 2014, 90, 033109.	0.8	25
47	Measurement of net electric charge and dipole moment of dust aggregates in a complex plasma. Physical Review E, 2014, 90, 033101.	0.8	24
48	Interaction force in a vertical dust chain inside a glass box. Physical Review E, 2014, 90, 013107.	0.8	13
49	Two-dimensional and three-dimensional Coulomb clusters in parabolic traps. Physics of Plasmas, 2014, 21, .	0.7	9
50	Dust as probe for horizontal field distribution in low pressure gas discharges. Plasma Sources Science and Technology, 2014, 23, 045008.	1.3	22
51	Photophoresis on polydisperse basalt microparticles under microgravity. Journal of Aerosol Science, 2014, 76, 126-137.	1.8	14
52	Slow Plastic Creep of 2D Dusty Plasma Solids. Physical Review Letters, 2014, 113, 025002.	2.9	54
53	Mode couplings and resonance instabilities in dust clusters. Physical Review E, 2013, 88, 043103.	0.8	22
54	CHARGING OF AGGREGATE GRAINS IN ASTROPHYSICAL ENVIRONMENTS. Astrophysical Journal, 2013, 763, 77.	1.6	54

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55	Mode Couplings and Conversions for Horizontal Dust Particle Pairs in Complex Plasmas. IEEE Transactions on Plasma Science, 2013, 41, 745-753.	0.6	12
56	Glow and Dust in Plasma Boundaries. IEEE Transactions on Plasma Science, 2013, 41, 799-803.	0.6	4
57	Vertical Interaction Between Dust Particles Confined in a Glass Box in a Complex Plasma. IEEE Transactions on Plasma Science, 2013, 41, 794-798.	0.6	3
58	Helical structures in vertically aligned dust particle chains in a complex plasma. Physical Review E, 2013, 87, 053106.	0.8	38
59	Vertical-probe-induced asymmetric dust oscillation in complex plasma. Physical Review E, 2013, 87, 053109.	0.8	4
60	Guest Editorial Special Issue on Dusty Plasmas. IEEE Transactions on Plasma Science, 2013, 41, 733-734.	0.6	3
61	Effects of monomer shape on the formation of aggregates from a power law monomer distribution. New Journal of Physics, 2013, 15, 073026.	1.2	3
62	COSMIC DUST AGGREGATION WITH STOCHASTIC CHARGING. Astrophysical Journal, 2013, 776, 103.	1.6	20
63	Determination of the levitation limits of dust particles within the sheath in complex plasma experiments. Physics of Plasmas, 2012, 19, .	0.7	27
64	CHARGING AND COAGULATION OF DUST IN PROTOPLANETARY PLASMA ENVIRONMENTS. Astrophysical Journal, 2012, 744, 8.	1.6	49
65	The influence of monomer shape on aggregate morphologies. Astronomy and Astrophysics, 2012, 539, A99.	2.1	9
66	Modeling Agglomeration of Dust Particles in Plasma. AIP Conference Proceedings, 2011, , .	0.3	5
67	The effect of dust charge variation, due to ion flow and electron depletion, on dust levitation. AIP Conference Proceedings, 2011, , .	0.3	3
68	One-dimensional vertical dust strings in a glass box. Physical Review E, 2011, 84, 016411.	0.8	38
69	Dust particle charge in plasma with ion flow and electron depletion near plasma boundaries. Physics of Plasmas, 2011, 18, .	0.7	22
70	Agglomeration of Dust Particles in the Lab. AIP Conference Proceedings, 2011, , .	0.3	2
71	The effect of electrode heating on the discharge parameters in complex plasma experiments. Plasma Sources Science and Technology, 2011, 20, 015026.	1.3	1
72	Fluid modeling of void closure in microgravity noble gas complex plasmas. Physical Review E, 2010, 81, 056402.	0.8	25

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73	Dipole–Dipole Interactions of Charged-Magnetic Grains. IEEE Transactions on Plasma Science, 2010, 38, 792-797.	0.6	13
74	Vibrational Modes and Instabilities of a Dust-Particle Pair in a Complex Plasma. IEEE Transactions on Plasma Science, 2010, 38, 826-832.	0.6	13
75	Crystallization Dynamics of a Single Layer Complex Plasma. Physical Review Letters, 2010, 105, 115004.	2.9	103
76	Probing the Sheath Electric Field With a Crystal Lattice by Using Thermophoresis in Dusty Plasma. IEEE Transactions on Plasma Science, 2010, 38, 768-773.	0.6	9
77	Simple method to measure the interaction potential of dielectric grains in a dusty plasma. Physical Review E, 2010, 82, 036401.	0.8	16
78	Experimental and computational characterization of a modified GEC cell for dusty plasma experiments. New Journal of Physics, 2009, 11, 063024.	1.2	14
79	Effect of dipole–dipole charge interactions on dust coagulation. New Journal of Physics, 2009, 11, 063030.	1.2	16
80	Phase transitions in a dusty plasma with two distinct particle sizes. Advances in Space Research, 2008, 41, 1510-1513.	1.2	27
81	Charging and Growth of Fractal Dust Grains. IEEE Transactions on Plasma Science, 2008, 36, 310-314.	0.6	12
82	Charging of Fractal Dust Agglomerates in a Plasma Environment. , 2007, , .		0
83	Formation of Cosmic Dust Bunnies. IEEE Transactions on Plasma Science, 2007, 35, 260-265.	0.6	16
84	Investigation of dust wake field oscillations. , 2007, , .		0
85	Charging of fractal dust agglomerates in a plasma environment. , 2007, , .		2
86	Effect of multi-sized dust distribution on local plasma sheath potentials. Advances in Space Research, 2006, 38, 2575-2580.	1.2	7
87	Dynamics of a dust crystal with two different size dust species. Advances in Space Research, 2006, 38, 2564-2570.	1.2	12
88	Dusty plasma correlation function experiment. Advances in Space Research, 2004, 34, 2379-2383.	1.2	17
89	Charged grains in Saturn’s F-Ring: interaction with Saturn’s magnetic field. Advances in Space Research, 2004, 33, 2292-2297.	1.2	9
90	A model of coagulation in dust clouds during grain charging. Advances in Space Research, 2004, 34, 2384-2389.	1.2	1

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91	Digital imaging and analysis of dusty plasmas. <i>Advances in Space Research</i> , 2004, 34, 2374-2378.	1.2	20
92	Effects of the Charge-Dipole Interaction on the Coagulation of Fractal Aggregates. <i>IEEE Transactions on Plasma Science</i> , 2004, 32, 586-593.	0.6	35
93	Gravitoelectrodynamics in Saturn's F ring: encounters with Prometheus and Pandora. <i>Journal of Physics A</i> , 2003, 36, 6207-6214.	1.6	21
94	Numerical Simulation of Gravitoelectrodynamics in Dusty Plasmas. , 2002, , 199-202.		0