Gian Luca Delzanno

List of Publications by Year
in descending order

81 papers	1,356 citations	361413 20 h-index	414414 32 g-index
83 all docs	83 docs citations	83 times ranked	1140 citing authors

#	Article	IF	Citations
1	Pitch-Angle Diffusion in the Earthâ€™s Magnetosphere Organized by the Mozer-Transformed Coordinate System. Frontiers in Astronomy and Space Sciences, 2022, 9, .	2.8	4
2	The Need for a System Science Approach to Global Magnetospheric Models. Frontiers in Astronomy and Space Sciences, 2022, 9, .	2.8	3
3	Nonlinear coupling of whistler waves to oblique electrostatic turbulence enabled by cold plasma. Physics of Plasmas, 2021, 28, .	1.9	5
4	Do Impulsive Solar-Energetic-Electron (SEE) Events Drive High-Voltage Charging Events on the Nightside of the Moon?. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	3
5	The multi-dimensional Hermite-discontinuous Galerkin method for the Vlasovâ€“Maxwell equations. Computer Physics Communications, 2021, 264, 107866.	7.5	10
6	Electron-beam/plasma coupling physics in support of active experiments in space. , 2021, , .		0
7	Automated Classification of Plasma Regions Using 3D Particle Energy Distributions. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029620.	2.4	11
8	The impact of cold electrons and cold ions in magnetospheric physics. Journal of Atmospheric and Solar-Terrestrial Physics, 2021, 220, 105599.	1.6	27
9	Ion Emission From a Positively Biased Hollow Cathode Plasma. IEEE Transactions on Plasma Science, 2020, 48, 2693-2705.	1.3	5
10	A Mission Concept to Determine the Magnetospheric Causes of Aurora. Frontiers in Astronomy and Space Sciences, 2020, 7, .	2.8	8
11	First Direct Observations of Propagation of Discrete Chorus Elements From the Equatorial Source to Higher Latitudes, Using the Van Allen Probes and Arase Satellites. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028315.	2.4	21
12	Solving the auroral-arc-generator question by using an electron beam to unambiguously connect critical magnetospheric measurements to auroral images. Journal of Atmospheric and Solar-Terrestrial Physics, 2020, 206, 105310.	1.6	11
13	The Beam Plasma Interactions Experiment: An Active Experiment Using Pulsed Electron Beams. Frontiers in Astronomy and Space Sciences, 2020, 7, .	2.8	13
14	Outstanding questions in magnetospheric plasma physics: The pollenzo view. Journal of Atmospheric and Solar-Terrestrial Physics, 2020, 208, 105377.	1.6	13
15	Response to Comment on â€œRadiation-Belt Remediation Using Space-Based Antennas and Electron Beamsâ€• by G. Ganguli and C. Crabtree. IEEE Transactions on Plasma Science, 2020, 48, 604-607.	1.3	1
16	Editorial: Active Experiments in Space: Past, Present, and Future. Frontiers in Astronomy and Space Sciences, 2020, 7, .	2.8	2
17	Electron-only Reconnection in Kinetic-AlfvÃ©n Turbulence. Astrophysical Journal Letters, 2020, 893, L10.	8.3	25
18	Radiation-Belt Remediation Using Space-Based Antennas and Electron Beams. IEEE Transactions on Plasma Science, 2019, 47, 2045-2063.	1.3	23

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19	Highâ€Frequency Plasma Waves and Pitch Angle Scattering Induced by Pulsed Electron Beams. Journal of Geophysical Research: Space Physics, 2019, 124, 7543-7552.	2.4	8
20	Decomposition of plasma kinetic entropy into position and velocity space and the use of kinetic entropy in particle-in-cell simulations. Physics of Plasmas, 2019, 26, .	1.9	20
21	Active Experiments in Space: The Future. Frontiers in Astronomy and Space Sciences, 2019, 6, .	2.8	21
22	Numerical Study of Inertial Kinetic-AlfvÃ©n Turbulence. Astrophysical Journal, 2019, 870, 103.	4.5	25
23	PIC simulations of wave-particle interactions with an initial electron velocity distribution from a kinetic ring current model. Journal of Atmospheric and Solar-Terrestrial Physics, 2018, 177, 169-178.	1.6	5
24	Tethered Capacitor Charge Mitigation in Electron Beam Experiments. Frontiers in Astronomy and Space Sciences, 2018, 5, .	2.8	3
25	Spectral Approach to Plasma Kinetic Simulations Based on Hermite Decomposition in the Velocity Space. Frontiers in Astronomy and Space Sciences, 2018, 5, .	2.8	18
26	Spacecraftâ€Charging Mitigation of a Highâ€Power Electron Beam Emitted by a Magnetospheric Spacecraft: Simple Theoretical Model for the Transient of the Spacecraft Potential. Journal of Geophysical Research: Space Physics, 2018, 123, 6424-6442.	2.4	11
27	Electron reflection effects on particle and heat fluxes to positively charged dust subject to strong electron emission. Physics of Plasmas, 2018, 25, 063702.	1.9	7
28	Possible potentially threatening coâ€orbiting material of asteroid 2000EE104 identified through interplanetary magnetic field disturbances. Meteoritics and Planetary Science, 2017, 52, 1125-1132.	1.6	6
29	An electrostatic Particle-In-Cell code on multi-block structured meshes. Journal of Computational Physics, 2017, 350, 796-823.	3.8	12
30	Convergence of Spectral Discretizations of the Vlasov–Poisson System. SIAM Journal on Numerical Analysis, 2017, 55, 2312-2335.	2.3	12
31	Can an electron gun solve the outstanding problem of magnetosphereâ€ionosphere connectivity?. Journal of Geophysical Research: Space Physics, 2016, 121, 6769-6773.	2.4	21
32	SpectralPlasmaSolver: a Spectral Code for Multiscale Simulations of Collisionless, Magnetized Plasmas. Journal of Physics: Conference Series, 2016, 719, 012022.	0.4	19
33	On the velocity space discretization for the Vlasovâ€“Poisson system: Comparison between implicit Hermite spectral and Particle-in-Cell methods. Computer Physics Communications, 2016, 198, 47-58.	7.5	55
34	Future beam experiments in the magnetosphere with plasma contactors: How do we get the charge off the spacecraft?. Journal of Geophysical Research: Space Physics, 2015, 120, 3647-3664.	2.4	19
35	Comparison of dust charging between orbital-motion-limited theory and particle-in-cell simulations. Physics of Plasmas, 2015, 22, .	1.9	23
36	Future beam experiments in the magnetosphere with plasma contactors: The electron collection and ion emission routes. Journal of Geophysical Research: Space Physics, 2015, 120, 3588-3602.	2.4	19

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37	Spectral Solver for Multi-scale Plasma Physics Simulations with Dynamically Adaptive Number of Moments. Procedia Computer Science, 2015, 51, 1148-1157.	2.0	23
38	Multi-dimensional, fully-implicit, spectral method for the Vlasovâ€“Maxwell equations with exact conservation laws in discrete form. Journal of Computational Physics, 2015, 301, 338-356.	3.8	59
39	Signatures of secondary collisionless magnetic reconnection driven by kink instability of a flux rope. Plasma Physics and Controlled Fusion, 2014, 56, 064010.	2.1	13
40	Orbital-motion-limited theory of dust charging and plasma response. Physics of Plasmas, 2014, 21, .	1.9	51
41	Survivability of dust in tokamaks: Dust transport in the divertor sheath. Physics of Plasmas, 2014, 21, 022502.	1.9	24
42	Charging and Heat Collection by a Positively Charged Dust Grain in a Plasma. Physical Review Letters, 2014, 113, 035002.	7.8	50
43	On the numerical simulation of particle dynamics in the radiation belt: 1. Implicit and semiâ€implicit schemes. Journal of Geophysical Research: Space Physics, 2013, 118, 3463-3475.	2.4	14
44	On the numerical simulation of particle dynamics in the radiation belt: 2. Procedure based on the diagonalization of the diffusion tensor. Journal of Geophysical Research: Space Physics, 2013, 118, 3476-3484.	2.4	11
45	On particle movers in cylindrical geometry for Particle-In-Cell simulations. Journal of Computational Physics, 2013, 253, 259-277.	3.8	29
46	CPIC: A Curvilinear Particle-in-Cell Code for Plasmaâ€“Material Interaction Studies. IEEE Transactions on Plasma Science, 2013, 41, 3577-3587.	1.3	80
47	Reply to comment by J. M.â€‰Albert on â€œOn the numerical simulation of particle dynamics in the radiation belt. Part I: Implicit and semiâ€implicit schemesâ€• and â€œOn the numerical simulation of particle dynamics in the radiation belt. Part II: Procedure based on the diagonalization of the diffusion tensorâ€• Journal of Geophysical Research: Space Physics, 2013, 118, 7765-7767.	2.4	5
48	Generation of dust projectiles passing over an obstacle in the plasma sheath. Physics of Plasmas, 2012, 19, 083701.	1.9	2
49	Lower hybrid to whistler mode conversion on a density striation. Journal of Geophysical Research, 2012, 117, .	3.3	20
50	A paradigm for the stability of the plasma sheath against fluid perturbations. Physics of Plasmas, 2011, 18, 103508.	1.9	4
51	The fluid dynamic approach to equidistribution methods for grid adaptation. Computer Physics Communications, 2011, 182, 330-346.	7.5	12
52	Robust, multidimensional mesh-motion based on Mongeâ€“Kantorovich equidistribution. Journal of Computational Physics, 2011, 230, 87-103.	3.8	27
53	Dust Divertor for a Tokamak Fusion Reactor. Journal of Fusion Energy, 2010, 29, 407-411.	1.2	8
54	Control of ideal and resistive magnetohydrodynamic modes in reversed field pinches with a resistive wall. Physics of Plasmas, 2010, 17, 112511.	1.9	7

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55	The effect of plasma flow on line-tied magnetohydrodynamic modes. Physics of Plasmas, 2010, 17, .	1.9	2
56	Generalized Mongeâ€“Kantorovich Optimization for Grid Generation and Adaptation in L_{p}. SIAM Journal of Scientific Computing, 2010, 32, 3524-3547.	2.8	4
57	An optimal robust equidistribution method for two-dimensional grid adaptation based on Mongeâ€“Kantorovich optimization. Journal of Computational Physics, 2008, 227, 9841-9864.	3.8	61
58	The effect of line-tying on tearing modes. Physics of Plasmas, 2008, 15, 032904.	1.9	17
59	Electron acceleration during guide field magnetic reconnection. Physics of Plasmas, 2008, 15, .	1.9	33
60	Electrostatic mode associated with the pinch velocity in reversed field pinch simulations. Physics of Plasmas, 2008, 15, 122102.	1.9	9
61	Grid Generation and Adaptation by Monge-Kantorovich Optimization in Two and Three Dimensions. , 2008, , 551-568.		11
62	PHYSICS OF DUST IN MAGNETIC FUSION DEVICES. , 2008, , .		3
63	The role of resistivity on line-tied kink modes in cylindrical geometry. Physics of Plasmas, 2007, 14, 070702.	1.9	6
64	Resistive effects on line-tied magnetohydrodynamic modes in cylindrical geometry. Physics of Plasmas, 2007, 14, .	1.9	7
65	Line-tied kink modes in cylindrical equilibria with magnetic shear. Physics of Plasmas, 2007, 14, 072902.	1.9	9
66	Attraction of Dust Grains in a Nebula. , 2007, , .		0
67	Kink instability of flux ropes anchored at one end and free at the other. Journal of Geophysical Research, 2006, 111, .	3.3	23
68	New approach for the study of linear Vlasov stability of inhomogeneous systems. Physics of Plasmas, 2006, 13, 092110.	1.9	25
69	A new method for analyzing line-tied kink modes in cylindrical geometry. Physics of Plasmas, 2006, 13, 072902.	1.9	18
70	Plasma dragged microparticles as a method to measure plasma flows. Physics of Plasmas, 2006, 13, 103501.	1.9	22
71	Exact orbital motion theory of the shielding potential around an emitting, spherical body. Physics of Plasmas, 2005, 12, 062102.	1.9	43
72	Modified Jeans Instability for Dust Grains in a Plasma. Physical Review Letters, 2005, 94, 175005.	7.8	31

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73	Modified Jeans Instability for Dusty Plasmas: Linear Theory. IEEE International Conference on Plasma Science, 2005, , .	0.0	0
74	Driven reconnection about a magnetic X point in weakly collisional plasmas. Physics of Plasmas, 2004, 11, 5212-5228.	1.9	3
75	Attractive Potential around a Thermionically Emitting Microparticle. Physical Review Letters, 2004, 92, 035002.	7.8	77
76	Instability and Threshold of ULF Waves Triggered by Positive Cloudto Ground Lightning. Physica Scripta, 2004, , 65.	2.5	1
77	Stability analysis of hollow electron columns including compressional and thermal effects: Initial value treatment. Physics of Plasmas, 2003, 10, 1262-1277.	1.9	3
78	Stability analysis of hollow electron columns including compressional and thermal effects: Integrability condition and numerical simulations. Physics of Plasmas, 2002, 9, 4863-4870.	1.9	3
79	Nonlinear phase of the compressional m=1 diocotron instability: Saturation and analogy with geophysical fluid dynamics. Physics of Plasmas, 2002, 9, 5059-5069.	1.9	2
80	A model for evaluating compression effects in the m[sub Î¸]=1 diocotron instability. Physics of Plasmas, 2001, 8, 1133.	1.9	14
81	Dust-plasma interaction: a review of dust charging theory and simulation. , 0, , .		1