

# Gian Luca Delzanno

## List of Publications by Year in descending order

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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	CPIC: A Curvilinear Particle-in-Cell Code for Plasma-Material Interaction Studies. IEEE Transactions on Plasma Science, 2013, 41, 3577-3587.	1.3	80
2	Attractive Potential around a Thermionically Emitting Microparticle. Physical Review Letters, 2004, 92, 035002.	7.8	77
3	An optimal robust equidistribution method for two-dimensional grid adaptation based on Monge-Kantorovich optimization. Journal of Computational Physics, 2008, 227, 9841-9864.	3.8	61
4	Multi-dimensional, fully-implicit, spectral method for the Vlasov-Maxwell equations with exact conservation laws in discrete form. Journal of Computational Physics, 2015, 301, 338-356.	3.8	59
5	On the velocity space discretization for the Vlasov-Poisson system: Comparison between implicit Hermite spectral and Particle-in-Cell methods. Computer Physics Communications, 2016, 198, 47-58.	7.5	55
6	Orbital-motion-limited theory of dust charging and plasma response. Physics of Plasmas, 2014, 21, .	1.9	51
7	Charging and Heat Collection by a Positively Charged Dust Grain in a Plasma. Physical Review Letters, 2014, 113, 035002.	7.8	50
8	Exact orbital motion theory of the shielding potential around an emitting, spherical body. Physics of Plasmas, 2005, 12, 062102.	1.9	43
9	Electron acceleration during guide field magnetic reconnection. Physics of Plasmas, 2008, 15, .	1.9	33
10	Modified Jeans Instability for Dust Grains in a Plasma. Physical Review Letters, 2005, 94, 175005.	7.8	31
11	On particle movers in cylindrical geometry for Particle-In-Cell simulations. Journal of Computational Physics, 2013, 253, 259-277.	3.8	29
12	Robust, multidimensional mesh-motion based on Monge-Kantorovich equidistribution. Journal of Computational Physics, 2011, 230, 87-103.	3.8	27
13	The impact of cold electrons and cold ions in magnetospheric physics. Journal of Atmospheric and Solar-Terrestrial Physics, 2021, 220, 105599.	1.6	27
14	New approach for the study of linear Vlasov stability of inhomogeneous systems. Physics of Plasmas, 2006, 13, 092110.	1.9	25
15	Numerical Study of Inertial Kinetic-Alfvén Turbulence. Astrophysical Journal, 2019, 870, 103.	4.5	25
16	Electron-only Reconnection in Kinetic-Alfvén Turbulence. Astrophysical Journal Letters, 2020, 893, L10.	8.3	25
17	Survivability of dust in tokamaks: Dust transport in the divertor sheath. Physics of Plasmas, 2014, 21, 022502.	1.9	24
18	Kink instability of flux ropes anchored at one end and free at the other. Journal of Geophysical Research, 2006, 111, .	3.3	23

#	ARTICLE	IF	CITATIONS
19	Comparison of dust charging between orbital-motion-limited theory and particle-in-cell simulations. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	23
20	Spectral Solver for Multi-scale Plasma Physics Simulations with Dynamically Adaptive Number of Moments. <i>Procedia Computer Science</i> , 2015, 51, 1148-1157.	2.0	23
21	Radiation-Belt Remediation Using Space-Based Antennas and Electron Beams. <i>IEEE Transactions on Plasma Science</i> , 2019, 47, 2045-2063.	1.3	23
22	Plasma dragged microparticles as a method to measure plasma flows. <i>Physics of Plasmas</i> , 2006, 13, 103501.	1.9	22
23	Can an electron gun solve the outstanding problem of magnetosphere-ionosphere connectivity?. <i>Journal of Geophysical Research: Space Physics</i> , 2016, 121, 6769-6773.	2.4	21
24	Active Experiments in Space: The Future. <i>Frontiers in Astronomy and Space Sciences</i> , 2019, 6, .	2.8	21
25	First Direct Observations of Propagation of Discrete Chorus Elements From the Equatorial Source to Higher Latitudes, Using the Van Allen Probes and Arase Satellites. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2020JA028315.	2.4	21
26	Lower hybrid to whistler mode conversion on a density striation. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	20
27	Decomposition of plasma kinetic entropy into position and velocity space and the use of kinetic entropy in particle-in-cell simulations. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	20
28	Future beam experiments in the magnetosphere with plasma contactors: How do we get the charge off the spacecraft?. <i>Journal of Geophysical Research: Space Physics</i> , 2015, 120, 3647-3664.	2.4	19
29	Future beam experiments in the magnetosphere with plasma contactors: The electron collection and ion emission routes. <i>Journal of Geophysical Research: Space Physics</i> , 2015, 120, 3588-3602.	2.4	19
30	SpectralPlasmaSolver: a Spectral Code for Multiscale Simulations of Collisionless, Magnetized Plasmas. <i>Journal of Physics: Conference Series</i> , 2016, 719, 012022.	0.4	19
31	A new method for analyzing line-tied kink modes in cylindrical geometry. <i>Physics of Plasmas</i> , 2006, 13, 072902.	1.9	18
32	Spectral Approach to Plasma Kinetic Simulations Based on Hermite Decomposition in the Velocity Space. <i>Frontiers in Astronomy and Space Sciences</i> , 2018, 5, .	2.8	18
33	The effect of line-tying on tearing modes. <i>Physics of Plasmas</i> , 2008, 15, 032904.	1.9	17
34	A model for evaluating compression effects in the $m[\sub \hat{l}]=1$ diocotron instability. <i>Physics of Plasmas</i> , 2001, 8, 1133.	1.9	14
35	On the numerical simulation of particle dynamics in the radiation belt: 1. Implicit and semi-implicit schemes. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 3463-3475.	2.4	14
36	Signatures of secondary collisionless magnetic reconnection driven by kink instability of a flux rope. <i>Plasma Physics and Controlled Fusion</i> , 2014, 56, 064010.	2.1	13

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37	The Beam Plasma Interactions Experiment: An Active Experiment Using Pulsed Electron Beams. <i>Frontiers in Astronomy and Space Sciences</i> , 2020, 7, .	2.8	13
38	Outstanding questions in magnetospheric plasma physics: The pollenzo view. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2020, 208, 105377.	1.6	13
39	The fluid dynamic approach to equidistribution methods for grid adaptation. <i>Computer Physics Communications</i> , 2011, 182, 330-346.	7.5	12
40	An electrostatic Particle-In-Cell code on multi-block structured meshes. <i>Journal of Computational Physics</i> , 2017, 350, 796-823.	3.8	12
41	Convergence of Spectral Discretizations of the Vlasov–Poisson System. <i>SIAM Journal on Numerical Analysis</i> , 2017, 55, 2312-2335.	2.3	12
42	On the numerical simulation of particle dynamics in the radiation belt: 2. Procedure based on the diagonalization of the diffusion tensor. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 3476-3484.	2.4	11
43	Spacecraftâ€™Charging Mitigation of a Highâ€™Power Electron Beam Emitted by a Magnetospheric Spacecraft: Simple Theoretical Model for the Transient of the Spacecraft Potential. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 6424-6442.	2.4	11
44	Solving the auroral-arc-generator question by using an electron beam to unambiguously connect critical magnetospheric measurements to auroral images. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2020, 206, 105310.	1.6	11
45	Automated Classification of Plasma Regions Using 3D Particle Energy Distributions. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2021JA029620.	2.4	11
46	Grid Generation and Adaptation by Monge-Kantorovich Optimization in Two and Three Dimensions. , 2008, , 551-568.		11
47	The multi-dimensional Hermite-discontinuous Galerkin method for the Vlasovâ€™Maxwell equations. <i>Computer Physics Communications</i> , 2021, 264, 107866.	7.5	10
48	Line-tied kink modes in cylindrical equilibria with magnetic shear. <i>Physics of Plasmas</i> , 2007, 14, 072902.	1.9	9
49	Electrostatic mode associated with the pinch velocity in reversed field pinch simulations. <i>Physics of Plasmas</i> , 2008, 15, 122102.	1.9	9
50	Dust Divertor for a Tokamak Fusion Reactor. <i>Journal of Fusion Energy</i> , 2010, 29, 407-411.	1.2	8
51	Highâ€™Frequency Plasma Waves and Pitch Angle Scattering Induced by Pulsed Electron Beams. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 7543-7552.	2.4	8
52	A Mission Concept to Determine the Magnetospheric Causes of Aurora. <i>Frontiers in Astronomy and Space Sciences</i> , 2020, 7, .	2.8	8
53	Resistive effects on line-tied magnetohydrodynamic modes in cylindrical geometry. <i>Physics of Plasmas</i> , 2007, 14, .	1.9	7
54	Control of ideal and resistive magnetohydrodynamic modes in reversed field pinches with a resistive wall. <i>Physics of Plasmas</i> , 2010, 17, 112511.	1.9	7

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55	Electron reflection effects on particle and heat fluxes to positively charged dust subject to strong electron emission. <i>Physics of Plasmas</i> , 2018, 25, 063702.	1.9	7
56	The role of resistivity on line-tied kink modes in cylindrical geometry. <i>Physics of Plasmas</i> , 2007, 14, 070702.	1.9	6
57	Possible potentially threatening co-orbiting material of asteroid 2000EE104 identified through interplanetary magnetic field disturbances. <i>Meteoritics and Planetary Science</i> , 2017, 52, 1125-1132.	1.6	6
58	Reply to comment by J. M. Albert on "On the numerical simulation of particle dynamics in the radiation belt. Part I: Implicit and semi-implicit schemes" and "On the numerical simulation of particle dynamics in the radiation belt. Part II: Procedure based on the diagonalization of the diffusion tensor". <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 7765-7767.	2.4	5
59	PIC simulations of wave-particle interactions with an initial electron velocity distribution from a kinetic ring current model. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2018, 177, 169-178.	1.6	5
60	Ion Emission From a Positively Biased Hollow Cathode Plasma. <i>IEEE Transactions on Plasma Science</i> , 2020, 48, 2693-2705.	1.3	5
61	Nonlinear coupling of whistler waves to oblique electrostatic turbulence enabled by cold plasma. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	5
62	Generalized Monge-Kantorovich Optimization for Grid Generation and Adaptation in $L_p$ . <i>SIAM Journal of Scientific Computing</i> , 2010, 32, 3524-3547.	2.8	4
63	A paradigm for the stability of the plasma sheath against fluid perturbations. <i>Physics of Plasmas</i> , 2011, 18, 103508.	1.9	4
64	Pitch-Angle Diffusion in the Earth's Magnetosphere Organized by the Mozer-Transformed Coordinate System. <i>Frontiers in Astronomy and Space Sciences</i> , 2022, 9, .	2.8	4
65	Stability analysis of hollow electron columns including compressional and thermal effects: Integrability condition and numerical simulations. <i>Physics of Plasmas</i> , 2002, 9, 4863-4870.	1.9	3
66	Stability analysis of hollow electron columns including compressional and thermal effects: Initial value treatment. <i>Physics of Plasmas</i> , 2003, 10, 1262-1277.	1.9	3
67	Driven reconnection about a magnetic X point in weakly collisional plasmas. <i>Physics of Plasmas</i> , 2004, 11, 5212-5228.	1.9	3
68	Tethered Capacitor Charge Mitigation in Electron Beam Experiments. <i>Frontiers in Astronomy and Space Sciences</i> , 2018, 5, .	2.8	3
69	Do Impulsive Solar-Energetic-Electron (SEE) Events Drive High-Voltage Charging Events on the Nightside of the Moon?. <i>Frontiers in Astronomy and Space Sciences</i> , 2021, 8, .	2.8	3
70	PHYSICS OF DUST IN MAGNETIC FUSION DEVICES. , 2008, , .		3
71	The Need for a System Science Approach to Global Magnetospheric Models. <i>Frontiers in Astronomy and Space Sciences</i> , 2022, 9, .	2.8	3
72	Nonlinear phase of the compressional $m=1$ diocotron instability: Saturation and analogy with geophysical fluid dynamics. <i>Physics of Plasmas</i> , 2002, 9, 5059-5069.	1.9	2

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73	The effect of plasma flow on line-tied magnetohydrodynamic modes. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	2
74	Generation of dust projectiles passing over an obstacle in the plasma sheath. <i>Physics of Plasmas</i> , 2012, 19, 083701.	1.9	2
75	Editorial: Active Experiments in Space: Past, Present, and Future. <i>Frontiers in Astronomy and Space Sciences</i> , 2020, 7, .	2.8	2
76	Instability and Threshold of ULF Waves Triggered by Positive Cloudto Ground Lightning. <i>Physica Scripta</i> , 2004, , 65.	2.5	1
77	Response to Comment on "Radiation-Belt Remediation Using Space-Based Antennas and Electron Beams" by G. Ganguli and C. Crabtree. <i>IEEE Transactions on Plasma Science</i> , 2020, 48, 604-607.	1.3	1
78	Dust-plasma interaction: a review of dust charging theory and simulation. , 0, , .		1
79	Modified Jeans Instability for Dusty Plasmas: Linear Theory. <i>IEEE International Conference on Plasma Science</i> , 2005, , .	0.0	0
80	Attraction of Dust Grains in a Nebula. , 2007, , .		0
81	Electron-beam/plasma coupling physics in support of active experiments in space. , 2021, , .		0