

# Giovanni Manfredi

## List of Publications by Year in descending order

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115  
papers

4,440  
citations

201674

27  
h-index

110387

64  
g-index

122  
all docs

122  
docs citations

122  
times ranked

1784  
citing authors

#	ARTICLE	IF	CITATIONS
1	Logical entropy and negative probabilities in quantum mechanics. 4open, 2022, 5, 8.	0.4	3
2	Logical entropy " special issue. 4open, 2022, 5, E1.	0.4	3
3	Is the cosmological constant an eigenvalue?. General Relativity and Gravitation, 2021, 53, 1.	2.0	0
4	Noise and ergodic properties of Brownian motion in an optical tweezer: Looking at regime crossovers in an Ornstein-Uhlenbeck process. Physical Review E, 2021, 103, 032132.	2.1	5
5	Geometric particle-in-cell methods for the Vlasov"Maxwell equations with spin effects. Journal of Plasma Physics, 2021, 87, .	2.1	6
6	MOND-like behavior in the Dirac"Milne universe. Astronomy and Astrophysics, 2021, 652, A91.	5.1	5
7	Probing quantum effects with classical stochastic analogs. Physical Review Research, 2021, 3, .	3.6	0
8	Fluid descriptions of quantum plasmas. Reviews of Modern Plasma Physics, 2021, 5, 1.	4.1	16
9	Influence of the electron spill-out and nonlocality on gap plasmons in the limit of vanishing gaps. Physical Review B, 2021, 104, .	3.2	4
10	Magnetic force fields of isolated small nanoparticle clusters. Nanoscale, 2020, 12, 1842-1851.	5.6	11
11	Driving Orbital Magnetism in Metallic Nanoparticles through Circularly Polarized Light: A Real-Time TDDFT Study. ACS Photonics, 2020, 7, 2429-2439.	6.6	15
12	Density functional theory for collisionless plasmas " equivalence of fluid and kinetic approaches. Journal of Plasma Physics, 2020, 86, .	2.1	6
13	Structure formation in a Dirac-Milne universe: Comparison with the standard cosmological model. Physical Review D, 2020, 102, .	4.7	4
14	Optimal protocols and universal time-energy bound in Brownian thermodynamics. Physical Review Research, 2020, 2, .	3.6	12
15	Phase-space modeling of solid-state plasmas. Reviews of Modern Plasma Physics, 2019, 3, 1.	4.1	20
16	Spin current generation by ultrafast laser pulses in ferromagnetic nickel films. Physical Review B, 2018, 97, .	3.2	18
17	Preface to Special Topic: Plasmonics and solid state plasmas. Physics of Plasmas, 2018, 25, .	1.9	33
18	Gravity, antimatter and the Dirac-Milne universe. Hyperfine Interactions, 2018, 239, 1.	0.5	19

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19	Plasmonic breathing modes in C60 molecules: A quantum hydrodynamic approach. <i>Physical Review A</i> , 2018, 98, .	2.5	2
20	Magnetic moment generation in small gold nanoparticles via the plasmonic inverse Faraday effect. <i>Physical Review B</i> , 2018, 98, .	3.2	25
21	Cosmological structure formation with negative mass. <i>Physical Review D</i> , 2018, 98, .	4.7	26
22	Ultrafast spin current generation in ferromagnetic thin films. , 2018, , .		1
23	Quantum hydrodynamics for nanoplasmonics. , 2018, , .		1
24	Phase-space methods for the spin dynamics in condensed matter systems. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017, 375, 20160199.	3.4	16
25	Spin-torque switching and control using chirped AC currents. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 415002.	2.8	3
26	Effect of collisional temperature isotropisation on ELM parallel transport in a tokamak scrape-off layer. <i>Plasma Physics and Controlled Fusion</i> , 2016, 58, 085004.	2.1	5
27	Bose-Einstein condensation of positronium: modification of the wave scattering length below to the critical temperature. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2016, 49, 084002.	1.5	6
28	Coherent spin-light-induced mechanisms in the semirelativistic limit of the self-consistent Dirac-Maxwell equations. <i>Physical Review A</i> , 2016, 93, .	2.5	3
29	High-harmonic generation in a quantum electron gas trapped in a nonparabolic and anisotropic well. <i>Physical Review B</i> , 2016, 93, .	3.2	25
30	Cosmology in one dimension: Vlasov dynamics. <i>Physical Review E</i> , 2016, 93, 042211.	2.1	5
31	Kinetic simulations of the Chodura and Debye sheaths for magnetic fields with grazing incidence. <i>Plasma Physics and Controlled Fusion</i> , 2016, 58, 025008.	2.1	24
32	Effect of Disorder and Dipolar Interactions in Two-Dimensional Assemblies of Iron-Oxide Magnetic Nanoparticles. <i>Journal of Physical Chemistry C</i> , 2016, 120, 7381-7387.	3.1	5
33	Theory and applications of the Vlasov equation. <i>European Physical Journal D</i> , 2015, 69, 1.	1.3	17
34	Solid state plasmas. <i>Plasma Physics and Controlled Fusion</i> , 2015, 57, 054004.	2.1	18
35	Equivalence between the semirelativistic limit of the Dirac-Maxwell equations and the Breit-Pauli model in the mean-field approximation. <i>Physical Review A</i> , 2015, 91, .	2.5	6
36	The Schrödinger-Newton equations beyond Newton. <i>General Relativity and Gravitation</i> , 2015, 47, 1.	2.0	22

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37	Collisionless $\alpha$ -thermalization in the sheath of an argon discharge. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	8
38	Autoresonant switching of the magnetization in single-domain nanoparticles: Two-level theory. <i>Physical Review B</i> , 2015, 91, .	3.2	18
39	Theoretical Modeling of Coherent Ultrafast Spin-Light Interactions: From One to Many-Electron Systems. <i>Springer Proceedings in Physics</i> , 2015, , 152-155.	0.2	0
40	Magnetization Evolution in Semiconductor Heterostructures After Laser Excitation. <i>Springer Proceedings in Physics</i> , 2015, , 11-13.	0.2	0
41	An Eulerian Vlasov code for plasma-wall interactions. <i>Journal of Physics: Conference Series</i> , 2014, 561, 012005.	0.4	11
42	Bose-Einstein condensation of positronium in silica pores. <i>Physical Review A</i> , 2014, 89, .	2.5	15
43	Study of the quenched lifetime of an interacting positronium gas. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2014, 47, 155202.	1.5	4
44	The Gbar project, or how does antimatter fall?. <i>Hyperfine Interactions</i> , 2014, 228, 141-150.	0.5	47
45	Asymptotic preserving schemes for the Wigner-Poisson-BGK equations in the diffusion limit. <i>Computer Physics Communications</i> , 2014, 185, 448-458.	7.5	7
46	Quantum-relativistic hydrodynamic model for a spin-polarized electron gas interacting with light. <i>Physical Review E</i> , 2014, 90, 013103.	2.1	15
47	Autoresonant control of the magnetization switching in single-domain nanoparticles. <i>Journal Physics D: Applied Physics</i> , 2014, 47, 345004.	2.8	26
48	Semiclassical Vlasov and fluid models for an electron gas with spin effects. <i>European Physical Journal D</i> , 2014, 68, 1.	1.3	28
49	Study of the positronium thermalization in porous materials. <i>European Physical Journal D</i> , 2014, 68, 1.	1.3	5
50	High-harmonic generation by nonlinear resonant excitation of surface plasmon modes in metallic nanoparticles. <i>Physical Review B</i> , 2014, 89, .	3.2	15
51	Quasineutral plasma expansion into infinite vacuum as a model for parallel ELM transport. <i>Plasma Physics and Controlled Fusion</i> , 2013, 55, 085003.	2.1	43
52	Bose-Einstein-condensation dynamics with a quantum-kinetic approach. <i>Physical Review A</i> , 2013, 88, .	2.5	11
53	Lagrangian approach to the semirelativistic electron dynamics in the mean-field approximation. <i>Physical Review A</i> , 2013, 88, .	2.5	21
54	Variational approach to the time-dependent Schrödinger-Newton equations. <i>Classical and Quantum Gravity</i> , 2013, 30, 075006.	4.0	20

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55	Comparison of free-streaming ELM formulae to a Vlasov simulation. Journal of Nuclear Materials, 2013, 438, S633-S637.	2.7	3
56	Non-relativistic limits of Maxwell's equations. European Journal of Physics, 2013, 34, 859-871.	0.6	25
57	Exact treatment of planar two-electron quantum dots: Effects of anharmonicity on the complexity. Physical Review B, 2013, 87, .	3.2	10
58	Comparison of fluid and kinetic models of target energy fluxes during edge localized modes. Plasma Physics and Controlled Fusion, 2012, 54, 045002.	2.1	20
59	Nonlinear dynamics of electron-positron clusters. New Journal of Physics, 2012, 14, 075012.	2.9	11
60	Adiabatic Cooling of Trapped Non-Neutral Plasmas. Physical Review Letters, 2012, 109, 255005.	7.8	11
61	Magnetization reversal in isolated and interacting single-domain nanoparticles. Physical Review B, 2011, 84, .	3.2	16
62	Vlasov modelling of parallel transport in a tokamak scrape-off layer. Plasma Physics and Controlled Fusion, 2011, 53, 015012.	2.1	20
63	Collective Electron Dynamics in Metallic and Semiconductor Nanostructures. Lecture Notes in Physics, 2010, , 1-44.	0.7	14
64	Time-dependent model for diluted magnetic semiconductors including band structure and confinement effects. Physical Review B, 2010, 81, .	3.2	14
65	Electron thermalization and quantum decoherence in metal nanostructures. Physical Review B, 2010, 81, .	3.2	5
66	Quantum-classical transition in the electron dynamics of thin metal films. New Journal of Physics, 2009, 11, 063042.	2.9	14
67	Loschmidt echo for the many-electron dynamics in nonparabolic quantum wells. New Journal of Physics, 2009, 11, 013050.	2.9	5
68	Ultrafast magnetization dynamics in diluted magnetic semiconductors. New Journal of Physics, 2009, 11, 073010.	2.9	21
69	Laser induced ultrafast demagnetization in diluted magnetic semiconductor nanostructures. European Physical Journal D, 2009, 52, 155-158.	1.3	9
70	Spin-dependent dipole excitation in alkali-metal nanoparticles. Physical Review B, 2009, 80, .	3.2	6
71	Breather mode in the many-electron dynamics of semiconductor quantum wells. Physical Review B, 2009, 80, .	3.2	71
72	Quantum hydrodynamic model for the nonlinear electron dynamics in thin metal films. Physical Review B, 2008, 78, .	3.2	313

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73	Quantum Plasma Effects in the Classical Regime. Physical Review Letters, 2008, 100, 175001.	7.8	188
74	Phase-space structures in quantum-plasma wave turbulence. Physical Review E, 2008, 78, 056407.	2.1	15
75	Magnetized plasma-wall transition and its effect on wall sputtering and erosion. , 2008, , .		1
76	Magnetized plasmaâ€“wall transitionâ€“consequences for wall sputtering and erosion. Plasma Physics and Controlled Fusion, 2008, 50, 025009.	2.1	21
77	Fidelity Decay in Trapped Bose-Einstein Condensates. Physical Review Letters, 2008, 100, 050405.	7.8	17
78	Autoresonant control of the many-electron dynamics in nonparabolic quantum wells. Applied Physics Letters, 2007, 91, .	3.3	134
79	Vlasov simulations of plasma-wall interactions in a magnetized and weakly collisional plasma. Physics of Plasmas, 2006, 13, 083504.	1.9	41
80	Vlasov simulations of electron dynamics in metallic nanostructures. Computational Materials Science, 2006, 35, 327-331.	3.0	3
81	A drift-kinetic Semi-Lagrangian 4D code for ion turbulence simulation. Journal of Computational Physics, 2006, 217, 395-423.	3.8	145
82	Loschmidt Echo in a System of Interacting Electrons. Physical Review Letters, 2006, 97, 190404.	7.8	21
83	Finite-size and nonlinear effects on the ultrafast electron transport in thin metal films. Physical Review B, 2005, 72, .	3.2	21
84	Collective Effects Triggered by Individual Effects in Oneâ€“Dimensional Plasmas. Transport Theory and Statistical Physics, 2005, 34, 275-285.	0.4	3
85	Nonlinear absorption of ultrashort laser pulses in thin metal films. Optics Letters, 2005, 30, 3090.	3.3	9
86	Vlasov simulations of ultrafast electron dynamics and transport in thin metal films. Physical Review B, 2004, 70, .	3.2	15
87	Vlasov simulations of plasma-wall interactions in a weakly collisional plasma. Computer Physics Communications, 2004, 164, 262-268.	7.5	12
88	Quantum ion-acoustic waves. Physics of Plasmas, 2003, 10, 3858-3866.	1.9	572
89	Bursting events in zonal flow-drift wave turbulence. Physics of Plasmas, 2003, 10, 2824-2830.	1.9	9
90	Kinetic simulations of ion temperature measurements from retarding field analyzers. Physics of Plasmas, 2002, 9, 1806-1814.	1.9	39

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91	Non-Gaussian transport in strong plasma turbulence. <i>Physics of Plasmas</i> , 2002, 9, 791-799.	1.9	44
92	Zonal flow and streamer generation in drift turbulence. <i>Plasma Physics and Controlled Fusion</i> , 2001, 43, 825-837.	2.1	64
93	Self-consistent fluid model for a quantum electron gas. <i>Physical Review B</i> , 2001, 64, .	3.2	589
94	Numerical study of plasmaâ€‘wall transition in an oblique magnetic field. <i>Journal of Nuclear Materials</i> , 2001, 290-293, 763-767.	2.7	26
95	Numerical assessment of ion turbulent thermal transport scaling laws. <i>Nuclear Fusion</i> , 2001, 41, 637-643.	3.5	10
96	Zonal flow and streamer generation in drift turbulence. <i>Plasma Physics and Controlled Fusion</i> , 2001, 43, 1001-1001.	2.1	2
97	Nyquist method for Wigner-Poisson quantum plasmas. <i>Physical Review E</i> , 2001, 64, 026413.	2.1	76
98	Evidence for strange kinetics in Hasegawa-Mima turbulent transport. <i>Plasma Physics and Controlled Fusion</i> , 2000, 42, L13-L22.	2.1	27
99	Multistream model for quantum plasmas. <i>Physical Review E</i> , 2000, 62, 2763-2772.	2.1	349
100	Entropy and Wigner functions. <i>Physical Review E</i> , 2000, 62, 4665-4674.	2.1	94
101	Charge separation at a plasmaâ€‘wall transition due to the finite ion gyro-radius. <i>Journal of Nuclear Materials</i> , 1999, 266-269, 873-876.	2.7	3
102	The gyro-radius scaling of ion thermal transport from global numerical simulations of ion temperature gradient driven turbulence. <i>Physics of Plasmas</i> , 1999, 6, 3267-3275.	1.9	33
103	Charge-separation velocity shear and suppression of turbulence at a plasma edge in the gyrokinetic approximation. <i>Journal of Plasma Physics</i> , 1999, 61, 191-212.	2.1	4
104	Slowly decaying drift turbulence with wave effects. <i>Journal of Plasma Physics</i> , 1999, 61, 601-622.	2.1	5
105	Effect of viscous dissipation on the generation of shear flow at a plasma edge in the finite gyro-radius guiding center approximation. <i>Physica Scripta</i> , 1997, 55, 617-627.	2.5	10
106	Transport properties of energetic particles in a turbulent electrostatic field. <i>Physics of Plasmas</i> , 1997, 4, 628-635.	1.9	38
107	Long-Time Behavior of Nonlinear Landau Damping. <i>Physical Review Letters</i> , 1997, 79, 2815-2818.	7.8	198
108	Theory and simulation of classical and quantum echoes. <i>Physical Review E</i> , 1996, 53, 6460-6470.	2.1	93

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109	Test-Particle Transport in Strong Electrostatic Drift Turbulence with Finite Larmor Radius Effects. Physical Review Letters, 1996, 76, 4360-4363.	7.8	59
110	Vlasov gyrokinetic simulations of ion temperature gradient driven instabilities. Physics of Plasmas, 1996, 3, 202-217.	1.9	29
111	The numerical integration of the Vlasov equation possessing an invariant. Journal of Computational Physics, 1995, 121, 298-313.	3.8	17
112	Rescaling methods and plasma expansions into vacuum. Physics of Fluids B, 1993, 5, 388-401.	1.7	54
113	Quantum systems that follow classical dynamics. European Journal of Physics, 1993, 14, 101-107.	0.6	12
114	On some analogies concerning the N -body problem, quantum billiards and the refraction of a light beam. European Journal of Physics, 1993, 14, 206-210.	0.6	1
115	Expansion of a quantum electron gas. Journal of Plasma Physics, 1993, 50, 145-162.	2.1	61