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	Self-consistent fluid model for a quantum electron gas. Physical Review B, 2001, 64, .	3.2	589
2	Quantum ion-acoustic waves. Physics of Plasmas, 2003, 10, 3858-3866.	1.9	572
3	Multistream model for quantum plasmas. Physical Review E, 2000, 62, 2763-2772.	2.1	349
4	Quantum hydrodynamic model for the nonlinear electron dynamics in thin metal films. Physical Review B, 2008, 78, .	3.2	313
5	Long-Time Behavior of Nonlinear Landau Damping. Physical Review Letters, 1997, 79, 2815-2818.	7.8	198
6	Quantum Plasma Effects in the Classical Regime. Physical Review Letters, 2008, 100, 175001.	7.8	188
7	A drift-kinetic Semi-Lagrangian 4D code for ion turbulence simulation. Journal of Computational Physics, 2006, 217, 395-423.	3.8	145
8	Autoresonant control of the many-electron dynamics in nonparabolic quantum wells. Applied Physics Letters, 2007, 91, .	3.3	134
9	Entropy and Wigner functions. Physical Review E, 2000, 62, 4665-4674.	2.1	94
10	Theory and simulation of classical and quantum echoes. Physical Review E, 1996, 53, 6460-6470.	2.1	93
11	Nyquist method for Wigner-Poisson quantum plasmas. Physical Review E, 2001, 64, 026413.	2.1	76
12	Breather mode in the many-electron dynamics of semiconductor quantum wells. Physical Review B, 2009, 80, .	3.2	71
13	Zonal flow and streamer generation in drift turbulence. Plasma Physics and Controlled Fusion, 2001, 43, 825-837.	2.1	64
14	Expansion of a quantum electron gas. Journal of Plasma Physics, 1993, 50, 145-162.	2.1	61
15	Test-Particle Transport in Strong Electrostatic Drift Turbulence with Finite Larmor Radius Effects. Physical Review Letters, 1996, 76, 4360-4363.	7.8	59
16	Rescaling methods and plasma expansions into vacuum. Physics of Fluids B, 1993, 5, 388-401.	1.7	54
17	The Gbar project, or how does antimatter fall?. Hyperfine Interactions, 2014, 228, 141-150.	0.5	47
18	Non-Gaussian transport in strong plasma turbulence. Physics of Plasmas, 2002, 9, 791-799.	1.9	44

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19	Quasineutral plasma expansion into infinite vacuum as a model for parallel ELM transport. Plasma Physics and Controlled Fusion, 2013, 55, 085003.	2.1	43
20	Vlasov simulations of plasma-wall interactions in a magnetized and weakly collisional plasma. Physics of Plasmas, 2006, 13, 083504.	1.9	41
21	Kinetic simulations of ion temperature measurements from retarding field analyzers. Physics of Plasmas, 2002, 9, 1806-1814.	1.9	39
22	Transport properties of energetic particles in a turbulent electrostatic field. Physics of Plasmas, 1997, 4, 628-635.	1.9	38
23	The gyro-radius scaling of ion thermal transport from global numerical simulations of ion temperature gradient driven turbulence. Physics of Plasmas, 1999, 6, 3267-3275.	1.9	33
24	Preface to Special Topic: Plasmonics and solid state plasmas. Physics of Plasmas, 2018, 25, .	1.9	33
25	Vlasov gyrokinetic simulations of ionâ€temperatureâ€gradient driven instabilities. Physics of Plasmas, 1996, 3, 202-217.	1.9	29
26	Semiclassical Vlasov and fluid models for an electron gas with spin effects. European Physical Journal D, 2014, 68, 1.	1.3	28
27	Evidence for strange kinetics in Hasegawa-Mima turbulent transport. Plasma Physics and Controlled Fusion, 2000, 42, L13-L22.	2.1	27
28	Numerical study of plasmaâ€“wall transition in an oblique magnetic field. Journal of Nuclear Materials, 2001, 290-293, 763-767.	2.7	26
29	Autoresonant control of the magnetization switching in single-domain nanoparticles. Journal Physics D: Applied Physics, 2014, 47, 345004.	2.8	26
30	Cosmological structure formation with negative mass. Physical Review D, 2018, 98, .	4.7	26
31	Non-relativistic limits of Maxwellâ€™s equations. European Journal of Physics, 2013, 34, 859-871.	0.6	25
32	High-harmonic generation in a quantum electron gas trapped in a nonparabolic and anisotropic well. Physical Review B, 2016, 93, .	3.2	25
33	Magnetic moment generation in small gold nanoparticles via the plasmonic inverse Faraday effect. Physical Review B, 2018, 98, .	3.2	25
34	Kinetic simulations of the Chodura and Debye sheaths for magnetic fields with grazing incidence. Plasma Physics and Controlled Fusion, 2016, 58, 025008.	2.1	24
35	The SchrÃ¶dingerâ€“Newton equations beyond Newton. General Relativity and Gravitation, 2015, 47, 1.	2.0	22
36	Finite-size and nonlinear effects on the ultrafast electron transport in thin metal films. Physical Review B, 2005, 72, .	3.2	21

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37	Loschmidt Echo in a System of Interacting Electrons. Physical Review Letters, 2006, 97, 190404.	7.8	21
38	Magnetized plasmaâ€“wall transitionâ€”consequences for wall sputtering and erosion. Plasma Physics and Controlled Fusion, 2008, 50, 025009.	2.1	21
39	Ultrafast magnetization dynamics in diluted magnetic semiconductors. New Journal of Physics, 2009, 11, 073010.	2.9	21
40	Lagrangian approach to the semirelativistic electron dynamics in the mean-field approximation. Physical Review A, 2013, 88, .	2.5	21
41	Vlasov modelling of parallel transport in a tokamak scrape-off layer. Plasma Physics and Controlled Fusion, 2011, 53, 015012.	2.1	20
42	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
43	Variational approach to the time-dependent SchrÃ¶dingerâ€“Newton equations. Classical and Quantum Gravity, 2013, 30, 075006.	4.0	20
44	Phase-space modeling of solid-state plasmas. Reviews of Modern Plasma Physics, 2019, 3, 1.	4.1	20
45	Gravity, antimatter and the Dirac-Milne universe. Hyperfine Interactions, 2018, 239, 1.	0.5	19
46	Solid state plasmas. Plasma Physics and Controlled Fusion, 2015, 57, 054004.	2.1	18
47	Autoresonant switching of the magnetization in single-domain nanoparticles: Two-level theory. Physical Review B, 2015, 91, .	3.2	18
48	Spin current generation by ultrafast laser pulses in ferromagnetic nickel films. Physical Review B, 2018, 97, .	3.2	18
49	The numerical integration of the Vlasov equation possessing an invariant. Journal of Computational Physics, 1995, 121, 298-313.	3.8	17
50	Fidelity Decay in Trapped Bose-Einstein Condensates. Physical Review Letters, 2008, 100, 050405.	7.8	17
51	Theory and applications of the Vlasov equation. European Physical Journal D, 2015, 69, 1.	1.3	17
52	Magnetization reversal in isolated and interacting single-domain nanoparticles. Physical Review B, 2011, 84, .	3.2	16
53	Phase-space methods for the spin dynamics in condensed matter systems. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20160199.	3.4	16
54	Fluid descriptions of quantum plasmas. Reviews of Modern Plasma Physics, 2021, 5, 1.	4.1	16

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55	Vlasov simulations of ultrafast electron dynamics and transport in thin metal films. Physical Review B, 2004, 70, .	3.2	15
56	Phase-space structures in quantum-plasma wave turbulence. Physical Review E, 2008, 78, 056407.	2.1	15
57	Bose-Einstein condensation of positronium in silica pores. Physical Review A, 2014, 89, .	2.5	15
58	Quantum-relativistic hydrodynamic model for a spin-polarized electron gas interacting with light. Physical Review E, 2014, 90, 013103.	2.1	15
59	High-harmonic generation by nonlinear resonant excitation of surface plasmon modes in metallic nanoparticles. Physical Review B, 2014, 89, .	3.2	15
60	Driving Orbital Magnetism in Metallic Nanoparticles through Circularly Polarized Light: A Real-Time TDDFT Study. ACS Photonics, 2020, 7, 2429-2439.	6.6	15
61	Quantumâ€“classical transition in the electron dynamics of thin metal films. New Journal of Physics, 2009, 11, 063042.	2.9	14
62	Collective Electron Dynamics in Metallic and Semiconductor Nanostructures. Lecture Notes in Physics, 2010, , 1-44.	0.7	14
63	Time-dependent model for diluted magnetic semiconductors including band structure and confinement effects. Physical Review B, 2010, 81, .	3.2	14
64	Quantum systems that follow classical dynamics. European Journal of Physics, 1993, 14, 101-107.	0.6	12
65	Vlasov simulations of plasma-wall interactions in a weakly collisional plasma. Computer Physics Communications, 2004, 164, 262-268.	7.5	12
66	Optimal protocols and universal time-energy bound in Brownian thermodynamics. Physical Review Research, 2020, 2, .	3.6	12
67	Nonlinear dynamics of electronâ€“positron clusters. New Journal of Physics, 2012, 14, 075012.	2.9	11
68	Adiabatic Cooling of Trapped Non-Neutral Plasmas. Physical Review Letters, 2012, 109, 255005.	7.8	11
69	Bose-Einstein-condensation dynamics with a quantum-kinetic approach. Physical Review A, 2013, 88, .	2.5	11
70	An Eulerian Vlasov code for plasma-wall interactions. Journal of Physics: Conference Series, 2014, 561, 012005.	0.4	11
71	Magnetic force fields of isolated small nanoparticle clusters. Nanoscale, 2020, 12, 1842-1851.	5.6	11
72	Effect of viscous dissipation on the generation of shear flow at a plasma edge in the finite gyro-radius guiding center approximation. Physica Scripta, 1997, 55, 617-627.	2.5	10

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73	Numerical assessment of ion turbulent thermal transport scaling laws. Nuclear Fusion, 2001, 41, 637-643.	3.5	10
74	Exact treatment of planar two-electron quantum dots: Effects of anharmonicity on the complexity. Physical Review B, 2013, 87, .	3.2	10
75	Bursting events in zonal flow-drift wave turbulence. Physics of Plasmas, 2003, 10, 2824-2830.	1.9	9
76	Nonlinear absorption of ultrashort laser pulses in thin metal films. Optics Letters, 2005, 30, 3090.	3.3	9
77	Laser induced ultrafast demagnetization in diluted magnetic semiconductor nanostructures. European Physical Journal D, 2009, 52, 155-158.	1.3	9
78	Collisionless â€œthermalizationâ€•in the sheath of an argon discharge. Physics of Plasmas, 2015, 22, .	1.9	8
79	Asymptotic preserving schemes for the Wignerâ€“Poissonâ€“BGK equations in the diffusion limit. Computer Physics Communications, 2014, 185, 448-458.	7.5	7
80	Spin-dependent dipole excitation in alkali-metal nanoparticles. Physical Review B, 2009, 80, .	3.2	6
81	Equivalence between the semirelativistic limit of the Dirac-Maxwell equations and the Breit-Pauli model in the mean-field approximation. Physical Review A, 2015, 91, .	2.5	6
82	Boseâ€“Einstein condensation of positronium: modification of thes-wave scattering length below to the critical temperature. Journal of Physics B: Atomic, Molecular and Optical Physics, 2016, 49, 084002.	1.5	6
83	Density functional theory for collisionless plasmas â€“ equivalence of fluid and kinetic approaches. Journal of Plasma Physics, 2020, 86, .	2.1	6
84	Geometric particle-in-cell methods for the Vlasovâ€“Maxwell equations with spin effects. Journal of Plasma Physics, 2021, 87, .	2.1	6
85	Slowly decaying drift turbulence with wave effects. Journal of Plasma Physics, 1999, 61, 601-622.	2.1	5
86	Loschmidt echo for the many-electron dynamics in nonparabolic quantum wells. New Journal of Physics, 2009, 11, 013050.	2.9	5
87	Electron thermalization and quantum decoherence in metal nanostructures. Physical Review B, 2010, 81, .	3.2	5
88	Study of the positronium thermalization in porous materials. European Physical Journal D, 2014, 68, 1.	1.3	5
89	Effect of collisional temperature isotropisation on ELM parallel transport in a tokamak scrape-off layer. Plasma Physics and Controlled Fusion, 2016, 58, 085004.	2.1	5
90	Cosmology in one dimension: Vlasov dynamics. Physical Review E, 2016, 93, 042211.	2.1	5

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91	Effect of Disorder and Dipolar Interactions in Two-Dimensional Assemblies of Iron-Oxide Magnetic Nanoparticles. Journal of Physical Chemistry C, 2016, 120, 7381-7387.	3.1	5
92	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
93	MOND-like behavior in the Diracâ€“Milne universe. Astronomy and Astrophysics, 2021, 652, A91.	5.1	5
94	Charge-separation velocity shear and suppression of turbulence at a plasma edge in the gyrokinetic approximation. Journal of Plasma Physics, 1999, 61, 191-212.	2.1	4
95	Study of the quenched lifetime of an interacting positronium gas. Journal of Physics B: Atomic, Molecular and Optical Physics, 2014, 47, 155202.	1.5	4
96	Structure formation in a Dirac-Milne universe: Comparison with the standard cosmological model. Physical Review D, 2020, 102, .	4.7	4
97	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
98	Charge separation at a plasmaâ€“wall transition due to the finite ion gyro-radius. Journal of Nuclear Materials, 1999, 266-269, 873-876.	2.7	3
99	Collective Effects Triggered by Individual Effects in Oneâ€Dimensional Plasmas. Transport Theory and Statistical Physics, 2005, 34, 275-285.	0.4	3
100	Vlasov simulations of electron dynamics in metallic nanostructures. Computational Materials Science, 2006, 35, 327-331.	3.0	3
101	Comparison of free-streaming ELM formulae to a Vlasov simulation. Journal of Nuclear Materials, 2013, 438, S633-S637.	2.7	3
102	Coherent spin-light-induced mechanisms in the semirelativistic limit of the self-consistent Dirac-Maxwell equations. Physical Review A, 2016, 93, .	2.5	3
103	Spin-torque switching and control using chirped AC currents. Journal Physics D: Applied Physics, 2017, 50, 415002.	2.8	3
104	Logical entropy and negative probabilities in quantum mechanics. 4open, 2022, 5, 8.	0.4	3
105	Logical entropy â€“ special issue. 4open, 2022, 5, E1.	0.4	3
106	Zonal flow and streamer generation in drift turbulence. Plasma Physics and Controlled Fusion, 2001, 43, 1001-1001.	2.1	2
107	Plasmonic breathing modes in C60 molecules: A quantum hydrodynamic approach. Physical Review A, 2018, 98, .	2.5	2
108	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

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109	Magnetized plasma-wall transition and its effect on wall sputtering and erosion. , 2008, , .		1
110	Ultrafast spin current generation in ferromagnetic thin films. , 2018, , .		1
111	Quantum hydrodynamics for nanoplasmonics. , 2018, , .		1
112	Theoretical Modeling of Coherent Ultrafast Spin-Light Interactions: From One to Many-Electron Systems. Springer Proceedings in Physics, 2015, , 152-155.	0.2	0
113	Is the cosmological constant an eigenvalue?. General Relativity and Gravitation, 2021, 53, 1.	2.0	0
114	Probing quantum effects with classical stochastic analogs. Physical Review Research, 2021, 3, .	3.6	0
115	Magnetization Evolution in Semiconductor Heterostructures After Laser Excitation. Springer Proceedings in Physics, 2015, , 11-13.	0.2	0