Francesco Valentini

List of Publications by Year
in descending order

106	2,769	147801	206112
papers	citations	31 h-index	48 g-index

112	112	112	1110
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A hybrid-Vlasov model based on the current advance method for the simulation of collisionless magnetized plasma. Journal of Computational Physics, 2007, 225, 753-770.	3.8	167
2	Local Kinetic Effects in Two-Dimensional Plasma Turbulence. Physical Review Letters, 2012, 108, 045001.	7.8	159
3	A kinetic model of plasma turbulence. Journal of Plasma Physics, 2015, 81, .	2.1	136
4	PROTON KINETIC EFFECTS IN VLASOV AND SOLAR WIND TURBULENCE. Astrophysical Journal Letters, 2014, 781, L27.	8.3	80
5	Inhomogeneous kinetic effects related to intermittent magnetic discontinuities. Physical Review E, 2012, 86, 066405.	2.1	78
6	Excitation of nonlinear electron acoustic waves. Physics of Plasmas, 2006, 13, 052303.	1.9	74
7	Cross-Scale Effects in Solar-Wind Turbulence. Physical Review Letters, 2008, 101, 025006.	7.8	70
8	VLASOV SIMULATIONS OF MULTI-ION PLASMA TURBULENCE IN THE SOLAR WIND. Astrophysical Journal, 2013, 762, 99.	4.5	69
9	Magnetospheric Multiscale Observation of Plasma Velocity-Space Cascade: Hermite Representation and Theory. Physical Review Letters, 2017, 119, 205101.	7.8	69
10	Turbulence-Driven Ion Beams in the Magnetospheric Kelvin-Helmholtz Instability. Physical Review Letters, 2019, 122, 035102.	7.8	62
11	Turbulence Heating ObserveR â€“ satellite mission proposal. Journal of Plasma Physics, 2016, 82, .	2.1	60
12	Electron acoustic waves in pure ion plasmas. Physics of Plasmas, 2009, 16, .	1.9	58
13	Collisional Relaxation of Fine Velocity Structures in Plasmas. Physical Review Letters, 2016, 116, 145001.	7.8	58
14	Pathways to Dissipation in Weakly Collisional Plasmas. Astrophysical Journal, 2020, 891, 101.	4.5	56
15	Hybrid Vlasov-Maxwell simulations of two-dimensional turbulence in plasmas. Physics of Plasmas, 2014, 21, .	1.9	55
16	Two-Dimensional Kinetic Turbulence in the Solar Wind. Physical Review Letters, 2010, 104, 205002.	7.8	53
17	Differential kinetic dynamics and heating of ions in the turbulent solar wind. New Journal of Physics, 2016, 18, 125001.	2.9	51
18	NONLINEAR AND LINEAR TIMESCALES NEAR KINETIC SCALES IN SOLAR WIND TURBULENCE. Astrophysical Journal, 2014, 790, 155.	4.5	50

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19	Nonclassical Transport and Particle-Field Coupling: from Laboratory Plasmas to the Solar Wind. Space Science Reviews, 2013, 178, 233-270.	8.1	48
20	Nonlinear Landau damping in nonextensive statistics. Physics of Plasmas, 2005, 12, 072106.	1.9	45
21	Electrostatic Short-Scale Termination of Solar-Wind Turbulence. Physical Review Letters, 2009, 102, 225001.	7.8	43
22	Turbulent dynamo in a collisionless plasma. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3950-3953.	7.1	43
23	SHORT-WAVELENGTH ELECTROSTATIC FLUCTUATIONS IN THE SOLAR WIND. Astrophysical Journal, 2011, 739, 54.	4.5	41
24	KINETIC ALFVÃ‰N WAVE GENERATION BY LARGE-SCALE PHASE MIXING. Astrophysical Journal, 2015, 815, 7.	4.5	38
25	Colliding AlfvÃ©nic wave packets in magnetohydrodynamics, Hall and kineticÂsimulations. Journal of Plasma Physics, 2017, 83, .	2.1	38
26	New Ion-Wave Path in the Energy Cascade. Physical Review Letters, 2011, 106, 165002.	7.8	37
27	Undamped electrostatic plasma waves. Physics of Plasmas, 2012, 19, .	1.9	37
28	Velocity-space cascade in magnetized plasmas: Numerical simulations. Physics of Plasmas, 2018, 25, .	1.9	37
29	Energetic particle transport in the presence of magnetic turbulence: influence of spectral extension and intermittency. Monthly Notices of the Royal Astronomical Society, 2016, 459, 3395-3406.	4.4	36
30	Numerical Study on the Validity of the Taylor Hypothesis in Space Plasmas. Astrophysical Journal, Supplement Series, 2017, 231, 4.	7.7	35
31	From AlfvÃ©n waves to kinetic AlfvÃ©n waves in an inhomogeneous equilibrium structure. Journal of Geophysical Research: Space Physics, 2016, 121, 1024-1045.	2.4	33
32	REVISITING A CLASSIC: THE PARKERâ€“MOFFATT PROBLEM. Astrophysical Journal, 2017, 834, 166.	4.5	32
33	Transition to kinetic turbulence at proton scales driven by large-amplitude kinetic AlfvÃ©n fluctuations. Astronomy and Astrophysics, 2017, 599, A8.	5.1	30
34	Local energy transfer rate and kinetic processes: the fate of turbulent energy in two-dimensional hybrid Vlasovâ€“Maxwell numerical simulations. Journal of Plasma Physics, 2018, 84, .	2.1	29
35	Diagnosing collisionless energy transfer using fieldâ€“particle correlations: AlfvÃ©n-ion cyclotronÂturbulence. Journal of Plasma Physics, 2020, 86, .	2.1	29
36	Self-consistent Lagrangian study of nonlinear Landau damping. Physical Review E, 2005, 71, 017402.	2.1	27

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37	A numerical scheme for the integration of the Vlasovâ€“Poisson system of equations, in the magnetized case. Journal of Computational Physics, 2005, 210, 730-751.	3.8	26
38	Phase space transport in the interaction between shocks and plasma turbulence. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	25
39	Turbulence generation during the head-on collision of AlfvÃ©nic wave packets. Physical Review E, 2017, 96, 023201.	2.1	24
40	Energy conversion in turbulent weakly collisional plasmas: Eulerian hybrid Vlasov-Maxwell simulations. Physics of Plasmas, 2019, 26, .	1.9	23
41	Experimental Investigation of Electron-Acoustic Waves in Electron Plasmas. AIP Conference Proceedings, 2006, , .	0.4	22
42	Fluid simulations of plasma turbulence at ion scales: Comparison with Vlasov-Maxwell simulations. Physics of Plasmas, 2018, 25, .	1.9	22
43	Multifractal scaling and intermittency in hybrid Vlasov-Maxwell simulations of plasma turbulence. Physics of Plasmas, 2016, 23, .	1.9	20
44	Protonâ€“Proton Collisions in the Turbulent Solar Wind: Hybrid Boltzmannâ€“Maxwell Simulations. Astrophysical Journal, 2019, 887, 208.	4.5	20
45	Vlasov simulations of kinetic AlfvÃ©n waves at proton kinetic scales. Physics of Plasmas, 2014, 21, .	1.9	19
46	Electrostatic Landau pole for Î¹-velocity distributions. Physics of Plasmas, 2007, 14, .	1.9	18
47	Eulerian simulations of collisional effects on electrostatic plasma waves. Physics of Plasmas, 2013, 20, .	1.9	18
48	Two-fluid numerical simulations of turbulence inside Kelvin-Helmholtz vortices: Intermittency and reconnecting current sheets. Physics of Plasmas, 2015, 22, .	1.9	18
49	Collisional relaxation: Landau versus Dougherty operator. Journal of Plasma Physics, 2015, 81, .	2.1	17
50	Collisional effects on the numerical recurrence in Vlasov-Poisson simulations. Physics of Plasmas, 2016, 23, .	1.9	17
51	Electrostatic analyzer design for solar wind proton measurements with high temporal, energy, and angular resolutions. Journal of Geophysical Research: Space Physics, 2017, 122, 1439-1450.	2.4	17
52	THE ROLE OF ALPHA PARTICLES IN THE EVOLUTION OF THE SOLAR-WIND TURBULENCE TOWARD SHORT SPATIAL SCALES. Astrophysical Journal, 2011, 741, 43.	4.5	16
53	Analysis of intermittent heating in a multi-component turbulent plasma. European Physical Journal D, 2014, 68, 1.	1.3	16
54	Building Up Solar-wind-like 3D Uniform-intensity Magnetic Fields. Astrophysical Journal Letters, 2019, 881, L5.	8.3	15

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55	On the deviation from Maxwellian of the ion velocity distribution functions in the turbulentÂmagnetosheath. Journal of Plasma Physics, 2020, 86, .	2.1	15
56	On the Transmission of Turbulent Structures across the Earthâ€™s Bow Shock. Astrophysical Journal, 2022, 933, 167.	4.5	15
57	Solar wind interaction with the Earth's magnetosphere: the role of reconnection in the presence of a large scale sheared flow. Nonlinear Processes in Geophysics, 2009, 16, 1-10.	1.3	14
58	Generation of temperature anisotropy for alpha particle velocity distributions in solar wind at 0.3 AU: Vlasov simulations and Helios observations. Journal of Geophysical Research: Space Physics, 2014, 119, 2400-2410.	2.4	14
59	ViDA: a Vlasovâ€“DArwin solver for plasma physics at electron scales. Journal of Plasma Physics, 2019, 85, .	2.1	13
60	Kinetic entropy-based measures of distribution function non-Maxwellianity: theory and simulations. Journal of Plasma Physics, 2020, 86, .	2.1	13
61	Magnetic-field effects on nonlinear electrostatic-wave Landau damping. Physical Review E, 2005, 71, 016402.	2.1	12
62	Excitation of nonlinear electrostatic waves with phase velocity close to the ion-thermal speed. Plasma Physics and Controlled Fusion, 2011, 53, 105017.	2.1	12
63	THE NONLINEAR AND NONLOCAL LINK BETWEEN MACROSCOPIC ALFVÃ‰NIC AND MICROSCOPIC ELECTROSTATIC SCALES IN THE SOLAR WIND. Astrophysical Journal Letters, 2014, 788, L16.	8.3	12
64	Numerical study of ion-cyclotron resonant interaction via hybrid-Vlasov simulations. Physics of Plasmas, 2010, 17, .	1.9	11
65	Response to â€œComment on â€˜Undamped electrostatic plasma wavesâ€™â€•[Phys. Plasmas 20, 034701 (2013)]. Physics of Plasmas, 2013, 20, 034702.	1.9	11
66	Kinetic ion-acoustic solitary waves in collisional plasmas. European Physical Journal D, 2014, 68, 1.	1.3	11
67	Electron Heating by Kinetic AlfvÃ©n Waves in Coronal Loop Turbulence. Astrophysical Journal, 2019, 871, 66.	4.5	11
68	Wave-particle interactions in collisionless plasmas: The failure of Vlasov approximation in describing the approach to statistical equilibrium. Europhysics Letters, 2007, 78, 65001.	2.0	10
69	Damping of Bernsteinâ€“Greeneâ€“Kruskal modes in collisional plasmas. Physics of Plasmas, 2008, 15, 022102.	1.9	10
70	Nonlinear regime of electrostatic waves propagation in presence of electron-electron collisions. Physics of Plasmas, 2015, 22, .	1.9	10
71	Slow electrostatic fluctuations generated by beam-plasma interaction. Physics of Plasmas, 2017, 24, .	1.9	10
72	On the estimation of the current density in space plasmas: Multi- versus single-point techniques. Planetary and Space Science, 2017, 140, 6-10.	1.7	10

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73	Exact hybrid Vlasov equilibria for sheared plasmas with in-plane and out-of-plane magnetic field. Physical Review E, 2018, 97, 053212.	2.1	9
74	Kinetic AlfvÃ©n wave generation by velocity shear in collisionless plasmas. Journal of Plasma Physics, 2020, 86, .	2.1	9
75	Nonâ€Maxwellianity of Electron Distributions Near Earth's Magnetopause. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029260.	2.4	9
76	Fourierâ€“Hermite decomposition of the collisional Vlasovâ€“Maxwell system: implications for the velocity-space cascade. Plasma Physics and Controlled Fusion, 2019, 61, 054005.	2.1	8
77	Trapped Particle Effects in the Parametric Instability of Near-Acoustic Plasma Waves. Physical Review Letters, 2018, 121, 235004.	7.8	7
78	Kelvinâ€“Helmholtz Instability at Proton Scales with an Exact Kinetic Equilibrium. Astrophysical Journal, 2020, 901, 17.	4.5	7
79	Excitation and Decay of Electron Acoustic Waves. AIP Conference Proceedings, 2006, , .	0.4	6
80	Analysis of cancellation exponents in two-dimensional Vlasov turbulence. Physics of Plasmas, 2014, 21, 072315.	1.9	6
81	Kinetic Features for the Identification of Kelvinâ€“Helmholtz Vortices in In Situ Observations. Astrophysical Journal, 2021, 912, 154.	4.5	6
82	Waveâ€Particle Interaction and Nonlinear Landau Damping in Collisionless Electron Plasmas. Transport Theory and Statistical Physics, 2005, 34, 89-101.	0.4	5
83	Effect of velocity diffusion on the propagation of nonlinear plasma waves. Europhysics Letters, 2008, 81, 15002.	2.0	5
84	Electrostatic fluctuations in the solar wind: An evidence of the link between AlfvÃ©nic and electrostatic scales. Journal of Geophysical Research: Space Physics, 2014, 119, 7012-7024.	2.4	5
85	Importance of energy and angular resolutions in top-hat electrostatic analysers for solar wind proton measurements. Journal of Instrumentation, 2016, 11, C08010-C08010.	1.2	5
86	Fluid and kinetic nonlinearities of near-acoustic plasma waves. Physics of Plasmas, 2019, 26, 122108.	1.9	5
87	Non-linear plasma wave decay to longer wavelength. AIP Conference Proceedings, 2015, , .	0.4	4
88	Turbulent Magnetogenesis in a Collisionless Plasma. Astrophysical Journal Letters, 2021, 922, L18.	8.3	4
89	Kinetic evolution of the perpendicular turbulent cascade in the solar wind. Europhysics Letters, 2010, 92, 49002.	2.0	3
90	The kinetic nature of turbulence at short scales in the solar wind. Planetary and Space Science, 2011, 59, 547-555.	1.7	3

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91	Local and global properties of energy transfer in models of plasma turbulence. Journal of Plasma Physics, 2021, 87, .	2.1	3
92	Characterizing Satellite Path Through Kelvinâ€Helmholtz Instability Using a Mixing Parameter. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	3
93	The approach to statistical equilibrium in collisionless wave-particle interactions. Communications in Nonlinear Science and Numerical Simulation, 2008, 13, 34-39.	3.3	2
94	Decay instability of electron acoustic waves. Communications in Nonlinear Science and Numerical Simulation, 2008, 13, 215-220.	3.3	2
95	Exact hybrid-kinetic equilibria for magnetized plasmas with shearing flows. Astronomy and Astrophysics, 2021, 645, A147.	5.1	2
96	Nature of Electrostatic Fluctuations in the Terrestrial Magnetosheath. Astrophysical Journal, 2021, 919, 75.	4.5	2
97	Nonlinear evolution of high frequency electrostatic waves in a magnetized plasma: Bernstein-Landau paradox revisited. AIP Conference Proceedings, 2004, , .	0.4	1
98	Linear and nonlinear regimes of bump-on-tail instability through Vlasov and toy model simulations. Europhysics Letters, 2008, 83, 55001.	2.0	1
99	Hybrid Vlasov simulations for alpha particles heating in the solar wind. Proceedings of the International Astronomical Union, 2010, 6, 168-171.	0.0	1
100	Nonclassical Transport and Particle-Field Coupling: from Laboratory Plasmas to the Solar Wind. Space Sciences Series of ISSI, 2013, , 157-194.	0.0	1
101	Spatiotemporal Pattern Formation in a Ring of Chuaâ€™s Oscillators. Regular and Chaotic Dynamics, 2021, 26, 717-731.	0.8	1
102	Phase Space Flights in Nonlinear Landau Damping. AIP Conference Proceedings, 2004, , .	0.4	0
103	Proper Orthogonal Decomposition of two-dimensional turbulence in a pure electron plasma. , 2010, , .		0
104	Overview on numerical studies of reconnection and dissipation in the solar wind. , 2013, , .		0
105	Plasma physics and astrophysics: retrospects, state-of-the art, and prospects. Rendiconti Lincei, 2021, 32, 25-44.	2.2	0
106	Small Scale Processes in the Solar Wind. , 0, , .		0