Sergio Servidio

List of Publications by Year
in descending order

121 papers	4,486 citations	94433 37 h-index	118850 62 g-index
122 all docs	122 docs citations	122 times ranked	1472 citing authors

#	Article	IF	Citations
1	STATISTICAL ANALYSIS OF DISCONTINUITIES IN SOLAR WIND ACE DATA AND COMPARISON WITH INTERMITTENT MHD TURBULENCE. Astrophysical Journal, 2009, 691, L111-L114.	4.5	217
2	Magnetic Reconnection in Two-Dimensional Magnetohydrodynamic Turbulence. Physical Review Letters, 2009, 102, 115003.	7.8	205
3	Intermittent MHD structures and classical discontinuities. Geophysical Research Letters, 2008, 35, .	4.0	175
4	EVIDENCE FOR INHOMOGENEOUS HEATING IN THE SOLAR WIND. Astrophysical Journal Letters, 2011, 727, L11.	8.3	174
5	Local Kinetic Effects in Two-Dimensional Plasma Turbulence. Physical Review Letters, 2012, 108, 045001.	7.8	159
6	Intermittency, nonlinear dynamics and dissipation in the solar wind and astrophysical plasmas. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140154.	3.4	141
7	A kinetic model of plasma turbulence. Journal of Plasma Physics, 2015, 81, .	2.1	136
8	Magnetic Reconnection and Intermittent Turbulence in the Solar Wind. Physical Review Letters, 2014, 112, .	7.8	124
9	Statistics of magnetic reconnection in two-dimensional magnetohydrodynamic turbulence. Physics of Plasmas, 2010, 17, .	1.9	113
10	Statistical association of discontinuities and reconnection in magnetohydrodynamic turbulence. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	103
11	Depression of Nonlinearity in Decaying Isotropic MHD Turbulence. Physical Review Letters, 2008, 100, 095005.	7.8	96
12	Magnetic reconnection as an element of turbulence. Nonlinear Processes in Geophysics, 2011, 18, 675-695.	1.3	96
13	PROTON KINETIC EFFECTS IN VLASOV AND SOLAR WIND TURBULENCE. Astrophysical Journal Letters, 2014, 781, L27.	8.3	80
14	Inhomogeneous kinetic effects related to intermittent magnetic discontinuities. Physical Review E, 2012, 86, 066405.	2.1	78
15	THE COMPLEX STRUCTURE OF MAGNETIC FIELD DISCONTINUITIES IN THE TURBULENT SOLAR WIND. Astrophysical Journal Letters, 2016, 823, L39.	8.3	70
16	VLASOV SIMULATIONS OF MULTI-ION PLASMA TURBULENCE IN THE SOLAR WIND. Astrophysical Journal, 2013, 762, 99.	4.5	69
17	Magnetospheric Multiscale Observation of Plasma Velocity-Space Cascade: Hermite Representation and Theory. Physical Review Letters, 2017, 119, 205101.	7.8	69
18	von KÃ¡rmÃ¡n self-preservation hypothesis for magnetohydrodynamic turbulence and its consequences for universality. Journal of Fluid Mechanics, 2012, 697, 296-315.	3.4	67

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19	Partial Variance of Increments Method in Solar Wind Observations and Plasma Simulations. Space Science Reviews, 2018, 214, 1.	8.1	67
20	Kinetic Cascade in Solar-wind Turbulence: 3D3V Hybrid-kinetic Simulations with Electron Inertia. Astrophysical Journal Letters, 2017, 846, L18.	8.3	66
21	Turbulence Heating ObserveR â€“ satellite mission proposal. Journal of Plasma Physics, 2016, 82, .	2.1	60
22	Hybrid Vlasov-Maxwell simulations of two-dimensional turbulence in plasmas. Physics of Plasmas, 2014, 21, .	1.9	55
23	Waiting-time distributions of magnetic discontinuities: Clustering or Poisson process?. Physical Review E, 2009, 80, 046401.	2.1	54
24	Differential kinetic dynamics and heating of ions in the turbulent solar wind. New Journal of Physics, 2016, 18, 125001.	2.9	51
25	LOCAL ANISOTROPY, HIGHER ORDER STATISTICS, AND TURBULENCE SPECTRA. Astrophysical Journal, 2012, 750, 103.	4.5	50
26	NONLINEAR AND LINEAR TIMESCALES NEAR KINETIC SCALES IN SOLAR WIND TURBULENCE. Astrophysical Journal, 2014, 790, 155.	4.5	50
27	On the accuracy of simulations of turbulence. Physics of Plasmas, 2010, 17, 082308.	1.9	45
28	Kinetic driven turbulence: Structure in space and time. Physics of Plasmas, 2010, 17, .	1.9	44
29	INTERCHANGE RECONNECTION IN A TURBULENT CORONA. Astrophysical Journal Letters, 2012, 758, L14.	8.3	43
30	Properties of Turbulence in the Reconnection Exhaust: Numerical Simulations Compared with Observations. Astrophysical Journal, 2017, 841, 60.	4.5	43
31	Effect of driving frequency on excitation of turbulence in a kinetic plasma. Physics of Plasmas, 2011, 18, .	1.9	42
32	Comment on â€œKinetic Simulations of Magnetized Turbulence in Astrophysical Plasmasâ€• Physical Review Letters, 2008, 101, 149501; author reply 149502.	7.8	41
33	The third-order law for increments in magnetohydrodynamic turbulence with constant shear. Physics of Plasmas, 2009, 16, .	1.9	41
34	Compressible turbulence in Hall Magnetohydrodynamics. Planetary and Space Science, 2007, 55, 2239-2243.	1.7	39
35	Generation of X-points and secondary islands in 2D magnetohydrodynamic turbulence. Physics of Plasmas, 2013, 20, .	1.9	38
36	KINETIC ALFVÃ‰N WAVE GENERATION BY LARGE-SCALE PHASE MIXING. Astrophysical Journal, 2015, 815, 7.	4.5	38

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37	Colliding AlfvÃ©nic wave packets in magnetohydrodynamics, Hall and kineticÂsimulations. Journal of Plasma Physics, 2017, 83, .	2.1	38
38	The third-order law for magnetohydrodynamic turbulence with shear: Numerical investigation. Physics of Plasmas, 2010, 17, .	1.9	37
39	Exploring the statistics of magnetic reconnection X-points in kinetic particle-in-cell turbulence. Physics of Plasmas, 2017, 24, .	1.9	37
40	Velocity-space cascade in magnetized plasmas: Numerical simulations. Physics of Plasmas, 2018, 25, .	1.9	37
41	Reconnection events in two-dimensional Hall magnetohydrodynamic turbulence. Physics of Plasmas, 2012, 19, .	1.9	35
42	Numerical Study on the Validity of the Taylor Hypothesis in Space Plasmas. Astrophysical Journal, Supplement Series, 2017, 231, 4.	7.7	35
43	Generation of non-Gaussian statistics and coherent structures in ideal magnetohydrodynamics. Physics of Plasmas, 2009, 16, .	1.9	34
44	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
45	DISSIPATION AND RECONNECTION IN BOUNDARY-DRIVEN REDUCED MAGNETOHYDRODYNAMICS. Astrophysical Journal, 2014, 797, 63.	4.5	32
46	REVISITING A CLASSIC: THE PARKERâ€“MOFFATT PROBLEM. Astrophysical Journal, 2017, 834, 166.	4.5	32
47	Current Sheets, Plasmoids and Flux Ropes in the Heliosphere. Space Science Reviews, 2021, 217, 1.	8.1	32
48	Intermittent structures and magnetic discontinuities on small scales in MHD simulations and solar wind. Planetary and Space Science, 2010, 58, 1895-1899.	1.7	31
49	Statistical properties of ideal three-dimensional Hall magnetohydrodynamics: The spectral structure of the equilibrium ensemble. Physics of Plasmas, 2008, 15, .	1.9	30
50	EVIDENCE FOR NONLINEAR DEVELOPMENT OF MAGNETOHYDRODYNAMIC SCALE INTERMITTENCY IN THE INNER HELIOSPHERE. Astrophysical Journal, 2012, 749, 105.	4.5	30
51	Transition to kinetic turbulence at proton scales driven by large-amplitude kinetic AlfvÃ©n fluctuations. Astronomy and Astrophysics, 2017, 599, A8.	5.1	30
52	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
53	Current Sheets, Magnetic Islands, and Associated Particle Acceleration in the Solar Wind as Observed by Ulysses near the Ecliptic Plane. Astrophysical Journal, 2019, 881, 116.	4.5	29
54	Dissipation measures in weakly collisional plasmas. Monthly Notices of the Royal Astronomical Society, 2021, 505, 4857-4873.	4.4	29

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55	Turbulence laws in natural bed flows. Journal of Fluid Mechanics, 2016, 798, 540-571.	3.4	28
56	Time decorrelation in isotropic magnetohydrodynamic turbulence. Europhysics Letters, 2011, 96, 55003.	2.0	26
57	Generation of Turbulence in Colliding Reconnection Jets. Astrophysical Journal, 2018, 867, 10.	4.5	26
58	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
59	Emergence of very long time fluctuations and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>1</mml:mn><mml:mo>/</mml:mo><mml:mi>f</mml:mi></mml:mrow></mml:math>noise in ideal flows. Physical Review E, 2011, 83, 066318.	2.1	24
60	MAGNETIC FIELD LINE RANDOM WALK IN MODELS AND SIMULATIONS OF REDUCED MAGNETOHYDRODYNAMIC TURBULENCE. Astrophysical Journal, 2013, 779, 56.	4.5	24
61	Turbulence generation during the head-on collision of AlfvÃ©nic wave packets. Physical Review E, 2017, 96, 023201.	2.1	24
62	Current Sheets, Plasmoids and Flux Ropes in the Heliosphere. Space Science Reviews, 2021, 217, 1.	8.1	24
63	ON THE ORIGIN OF ANISOTROPY IN MAGNETOHYDRODYNAMIC TURBULENCE: THE ROLE OF HIGHER-ORDER CORRELATIONS. Astrophysical Journal, 2013, 768, 10.	4.5	23
64	Turbulent energy dissipation rate in a tilting flume with a highly rough bed. Physics of Fluids, 2017, 29, .	4.0	23
65	Energy conversion in turbulent weakly collisional plasmas: Eulerian hybrid Vlasov-Maxwell simulations. Physics of Plasmas, 2019, 26, .	1.9	23
66	Fluid simulations of plasma turbulence at ion scales: Comparison with Vlasov-Maxwell simulations. Physics of Plasmas, 2018, 25, .	1.9	22
67	Parametric Instability in Two-dimensional AlfvÃ©nic Turbulence. Astrophysical Journal, 2019, 880, 156.	4.5	22
68	Multifractal scaling and intermittency in hybrid Vlasov-Maxwell simulations of plasma turbulence. Physics of Plasmas, 2016, 23, .	1.9	20
69	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
70	Protonâ€“Proton Collisions in the Turbulent Solar Wind: Hybrid Boltzmannâ€“Maxwell Simulations. Astrophysical Journal, 2019, 887, 208.	4.5	20
71	Hydrodynamic Relaxation of an Electron Plasma to a Near-Maximum Entropy State. Physical Review Letters, 2009, 102, 244501.	7.8	19
72	Nonlinear waves and instabilities leading to secondary reconnection in reconnectionÂoutflows. Journal of Plasma Physics, 2018, 84, .	2.1	19

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73	Two-fluid numerical simulations of turbulence inside Kelvin-Helmholtz vortices: Intermittency and reconnecting current sheets. Physics of Plasmas, 2015, 22, .	1.9	18
74	Multipoint observations of plasma phenomena made in space by Cluster. Journal of Plasma Physics, 2015, 81, .	2.1	18
75	Explosive Particle Dispersion in Plasma Turbulence. Physical Review Letters, 2016, 117, 095101.	7.8	18
76	Single-spacecraft Identification of Flux Tubes and Current Sheets in the Solar Wind. Astrophysical Journal Letters, 2019, 881, L11.	8.3	18
77	Identification of coherent structures in space plasmas: the magnetic helicityâ€“PVI method. Astronomy and Astrophysics, 2021, 650, A20.	5.1	18
78	COMPLEXITY AND DIFFUSION OF MAGNETIC FLUX SURFACES IN ANISOTROPIC TURBULENCE. Astrophysical Journal, 2014, 785, 56.	4.5	17
79	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
80	Analysis of intermittent heating in a multi-component turbulent plasma. European Physical Journal D, 2014, 68, 1.	1.3	16
81	Ion diffusion and acceleration in plasmaÂturbulence. Journal of Plasma Physics, 2018, 84, .	2.1	16
82	Ergodicity of ideal Galerkin three-dimensional magnetohydrodynamics and Hall magnetohydrodynamics models. Physical Review E, 2008, 78, 046302.	2.1	15
83	Turbulence anisotropy and intermittency in open-channel flows on rough beds. Physics of Fluids, 2020, 32, 115127.	4.0	15
84	On the Transmission of Turbulent Structures across the Earthâ€™s Bow Shock. Astrophysical Journal, 2022, 933, 167.	4.5	15
85	SIGN SINGULARITY AND FLARES IN SOLAR ACTIVE REGION NOAA 11158. Astrophysical Journal, 2015, 801, 36.	4.5	14
86	Coronal Heating Topology: The Interplay of Current Sheets and Magnetic Field Lines. Astrophysical Journal, 2017, 844, 87.	4.5	13
87	Properties of Decaying Plasma Turbulence at Subproton Scales. Astrophysical Journal, 2018, 860, 11.	4.5	13
88	Kinetic entropy-based measures of distribution function non-Maxwellianity: theory and simulations. Journal of Plasma Physics, 2020, 86, .	2.1	13
89	MagneToRE: Mapping the 3-D Magnetic Structure of the Solar Wind Using a Large Constellation of Nanosatellites. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	13
90	How to identify reconnecting current sheets in incompressible Hall MHD turbulence. Journal of Geophysical Research: Space Physics, 2013, 118, 4033-4038.	2.4	11

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91	Magnetic field reversals and long-time memory in conducting flows. Physical Review E, 2014, 90, 043010.	2.1	11
92	A Case for Electron-Astrophysics. Experimental Astronomy, 0, , 1.	3.7	11
93	Magnetic Switchback Occurrence Rates in the Inner Heliosphere: Parker Solar Probe and 1 au. Astrophysical Journal Letters, 2022, 929, L10.	8.3	11
94	Local relaxation and maximum entropy in two-dimensional turbulence. Physics of Fluids, 2010, 22, .	4.0	10
95	A review of relaxation and structure in some turbulent plasmas: magnetohydrodynamics and related models. Journal of Turbulence, 2012, 13, N37.	1.4	10
96	RELAXATION PROCESSES IN SOLAR WIND TURBULENCE. Astrophysical Journal Letters, 2014, 789, L44.	8.3	10
97	Parker Solar Probe observations of helical structures as boundaries for energetic particles. Monthly Notices of the Royal Astronomical Society, 2021, 508, 2114-2122.	4.4	10
98	A model for two-dimensional bursty turbulence in magnetized plasmas. Physics of Plasmas, 2008, 15, .	1.9	9
99	Coherent Structure Formation through nonlinear interactions in 2D Magnetohydrodynamic Turbulence. Scientific Reports, 2017, 7, 13849.	3.3	9
100	Statistical Analysis of Ions in Two-Dimensional Plasma Turbulence. Solar Physics, 2019, 294, 1.	2.5	8
101	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
102	Nonlinear Dynamics of Inviscid Reduced MHD Plasmas: The Appearance of Quasi-Single-Helicity States. Physical Review Letters, 2005, 95, 045001.	7.8	7
103	Velocity scales in steady-nonuniform turbulent flows with low relative submergence. Environmental Fluid Mechanics, 2019, 19, 1025-1041.	1.6	7
104	A spectral method algorithm for numerical simulations of gravitational fields. Classical and Quantum Gravity, 2021, 38, 075027.	4.0	7
105	Analysis of cancellation exponents in two-dimensional Vlasov turbulence. Physics of Plasmas, 2014, 21, 072315.	1.9	6
106	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
107	Estimating Effective Collision Frequency and Kinetic Entropy Uncertainty in Particle-in-Cell Simulations. Journal of Physics: Conference Series, 2020, 1620, 012009.	0.4	5
108	Aliasing instabilities in the numerical evolution of the Einstein field equations. General Relativity and Gravitation, 2021, 53, 1.	2.0	5

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109	Turbulent Magnetogenesis in a Collisionless Plasma. Astrophysical Journal Letters, 2021, 922, L18.	8.3	4
110	Dispersive Effects of Hall Electric Field in Turbulence. , 2010, , .		3
111	Statistical properties of solar wind discontinuities, intermittent turbulence, and rapid emergence of non-Gaussian distributions. AIP Conference Proceedings, 2010, , .	0.4	3
112	Local and global properties of energy transfer in models of plasma turbulence. Journal of Plasma Physics, 2021, 87, .	2.1	3
113	Orszag Tang vortexâ€"Kinetic study of a turbulent plasma. , 2010, , .		2
114	Cancellation analysis of current density in solar active region NOAA10019. Journal of Space Weather and Space Climate, 2015, 5, A28.	3.3	2
115	Properties of magnetic reconnection in MHD turbulence. , 2010, , .		1
116	Complexity in astro and geospace systems: the turbulence versus SOC controversy. AIP Conference Proceedings, 2007, , .	0.4	0
117	Emergence of intermittent structures and reconnection in MHD turbulence. Proceedings of the International Astronomical Union, 2010, 6, 116-119.	0.0	0
118	The third-order law for magnetohydrodynamic turbulence with constant shear. , 2010, , .		0
119	Overview on numerical studies of reconnection and dissipation in the solar wind. , 2013, , .		0
120	Solar wind fluctuations and the von Kaỳrmaỳnâ€"Howarth equations: The role of fourth-order correlations. , 2013, , .		0
121	An experimental study on the anisotropic and intermittent behaviour of a turbulent flow over a rough bed. Journal of Physics: Conference Series, 2022, 2293, 012001.	0.4	0