Melvyn Goldstein

List of Publications by Year
in descending order

125	8,056	53660 45	48187 88
papers	citations	h-index	g-index

128	128	128	2574
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Measurement of the rugged invariants of magnetohydrodynamic turbulence in the solar wind. Journal of Geophysical Research, 1982, 87, 6011-6028.	3.3	811
2	Evidence for the presence of quasiâ€twoâ€dimensional nearly incompressible fluctuations in the solar wind. Journal of Geophysical Research, 1990, 95, 20673-20683.	3.3	573
3	Magnetohydrodynamic Turbulence in the Solar Wind. Annual Review of Astronomy and Astrophysics, 1995, 33, 283-325.	8.1	516
4	Evidence of a Cascade and Dissipation of Solar-Wind Turbulence at the Electron Gyroscale. Physical Review Letters, 2009, 102, 231102.	2.9	486
5	Three Dimensional Anisotropic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>k</mml:mi></mml:math>Spectra of Turbulence at Subproton Scales in the Solar Wind. Physical Review Letters, 2010, 105, 131101.	2.9	389
6	Origin and evolution of fluctuations in the solar wind: Helios observations and Heliosâ€Voyager comparisons. Journal of Geophysical Research, 1987, 92, 12023-12035.	3.3	321
7	Cluster observations of electron holes in association with magnetotail reconnection and comparison to simulations. Journal of Geophysical Research, 2005, 110, .	3.3	251
8	Low-Frequency1fNoise in the Interplanetary Magnetic Field. Physical Review Letters, 1986, 57, 495-498.	2.9	204
9	Spectral Exponents of Kinetic and Magnetic Energy Spectra in Solar Wind Turbulence. Astrophysical Journal, 2007, 664, 543-548.	1.6	183
10	Observations and simulations of non-local acceleration of electrons in magnetotail magneticÂreconnectionÂevents. Nature Physics, 2011, 7, 360-365.	6.5	165
11	Velocity shear generation of solar wind turbulence. Journal of Geophysical Research, 1992, 97, 17115-17130.	3.3	159
12	Turbulent Generation of Outward-Traveling Interplanetary AlfvÃ©nic Fluctuations. Physical Review Letters, 1983, 51, 1484-1487.	2.9	150
13	A global MHD solar wind model with WKB AlfvÃ©n waves: Comparison with Ulysses data. Journal of Geophysical Research, 2000, 105, 12675-12695.	3.3	145
14	Test particle acceleration in turbulent reconnecting magnetic fields. Journal of Geophysical Research, 1988, 93, 14383-14400.	3.3	134
15	INTERMITTENT HEATING IN SOLAR WIND AND KINETIC SIMULATIONS. Astrophysical Journal Letters, 2013, 763, L30.	3.0	130
16	Stationarity of magnetohydrodynamic fluctuations in the solar wind. Journal of Geophysical Research, 1982, 87, 10347-10354.	3.3	120
17	Detection of Small-Scale Structures in the Dissipation Regime of Solar-Wind Turbulence. Physical Review Letters, 2012, 109, 191101.	2.9	116
18	A nonlinear theory of cosmic-ray pitch-angle diffusion in homogeneous magnetostatic turbulence. Astrophysical Journal, 1976, 204, 900.	1.6	102

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19	SOLAR WIND MODELING WITH TURBULENCE TRANSPORT AND HEATING. Astrophysical Journal, 2011, 727, 84.	1.6	99
20	NEW INSIGHT INTO SHORT-WAVELENGTH SOLAR WIND FLUCTUATIONS FROM VLASOV THEORY. Astrophysical Journal, 2012, 748, 100.	1.6	98
21	THREE-FLUID, THREE-DIMENSIONAL MAGNETOHYDRODYNAMIC SOLAR WIND MODEL WITH EDDY VISCOSITY AND TURBULENT RESISTIVITY. Astrophysical Journal, 2014, 788, 43.	1.6	95
22	Kelvin-Helmholtz waves under southward interplanetary magnetic field. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	94
23	Parametric instabilities of circularly polarized large-amplitude dispersive AlfvÃ©n waves: excitation of obliquely-propagating daughter and side-band waves. Journal of Plasma Physics, 1991, 46, 129-152.	0.7	91
24	Kinetic AlfvÃ©n Wave Turbulence and Transport through a Reconnection Diffusion Region. Physical Review Letters, 2009, 102, 015001.	2.9	87
25	Mode Conversion and Anomalous Transport in Kelvin-Helmholtz Vortices and Kinetic AlfvÃ©n Waves at the Earthâ€™s Magnetopause. Physical Review Letters, 2007, 99, 175004.	2.9	83
26	Shear-driven Transition to Isotropically Turbulent Solar Wind Outside the AlfvÃ©n Critical Zone. Astrophysical Journal, 2020, 902, 94.	1.6	83
27	Cluster electric current density measurements within a magnetic flux rope in the plasma sheet. Geophysical Research Letters, 2003, 30, .	1.5	77
28	Coalescence of Macroscopic Flux Ropes at the Subsolar Magnetopause: Magnetospheric Multiscale Observations. Physical Review Letters, 2017, 119, 055101.	2.9	72
29	The Steady Global Corona and Solar Wind: A Three-dimensional MHD Simulation with Turbulence Transport and Heating. Astrophysical Journal, 2018, 865, 25.	1.6	69
30	Wave-Vector Dependence of Magnetic-Turbulence Spectra in the Solar Wind. Physical Review Letters, 2010, 104, 171101.	2.9	67
31	The first in situ observation of Kelvinâ€Helmholtz waves at highâ€latitude magnetopause during strongly dawnward interplanetary magnetic field conditions. Journal of Geophysical Research, 2012, 117, .	3.3	67
32	A tilted-dipole MHD model of the solar corona and solar wind. Journal of Geophysical Research, 2003, 108, .	3.3	65
33	Power spectrum of small-scale turbulent velocity fluctuations in the solar wind. Journal of Geophysical Research, 2006, 111, .	3.3	65
34	Kinetic scale turbulence and dissipation in the solar wind: key observational results and future outlook. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140147.	1.6	62
35	THREE-DIMENSIONAL MAGNETOHYDRODYNAMIC MODELING OF THE SOLAR WIND INCLUDING PICKUP PROTONS AND TURBULENCE TRANSPORT. Astrophysical Journal, 2012, 754, 40.	1.6	59
36	PICKUP ION MEDIATED PLASMAS. I. BASIC MODEL AND LINEAR WAVES IN THE SOLAR WIND AND LOCAL INTERSTELLAR MEDIUM. Astrophysical Journal, 2014, 797, 87.	1.6	59

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37	A mechanism for electrostatic solitary structures in the Earth's magnetosheath. Journal of Geophysical Research, 2009, 114, .	3.3	58
38	Enhanced Energy Transfer Rate in Solar Wind Turbulence Observed near the Sun from Parker Solar Probe. Astrophysical Journal, Supplement Series, 2020, 246, 48.	3.0	56
39	A FOUR-FLUID MHD MODEL OF THE SOLAR WIND/INTERSTELLAR MEDIUM INTERACTION WITH TURBULENCE TRANSPORT AND PICKUP PROTONS AS SEPARATE FLUID. Astrophysical Journal, 2016, 820, 17.	1.6	54
40	Parametric instabilities of circularly polarized large-amplitude dispersive AlfvÃ©n waves: excitation of parallel-propagating electromagnetic daughter waves. Journal of Plasma Physics, 1991, 46, 107-127.	0.7	53
41	Turbulence and Waves in the Solar Wind. Reviews of Geophysics, 1991, 29, 932-943.	9.0	51
42	Measures of Scale-dependent AlfvÃ©nicity in the First PSP Solar Encounter. Astrophysical Journal, Supplement Series, 2020, 246, 58.	3.0	51
43	Anisotropy in Hall MHD turbulence due to a mean magnetic field. Journal of Plasma Physics, 1997, 57, 129-154.	0.7	47
44	The evolution of slab fluctuations in the presence of pressure-balanced magnetic structures and velocity shears. Journal of Geophysical Research, 1998, 103, 23691-23704.	3.3	46
45	Contextual Predictions for Parker Solar Probe. II. Turbulence Properties and Taylor Hypothesis. Astrophysical Journal, Supplement Series, 2019, 242, 12.	3.0	45
46	Acceleration of charged particles in magnetic reconnection: Solar flares, the magnetosphere, and solar wind. Geophysical Research Letters, 1986, 13, 205-208.	1.5	44
47	Scaleâ€dependent angle of alignment between velocity and magnetic field fluctuations in solar wind turbulence. Journal of Geophysical Research, 2009, 114, .	3.3	44
48	On the origin of the crescentâ€shaped distributions observed by MMS at the magnetopause. Journal of Geophysical Research: Space Physics, 2017, 122, 2024-2039.	0.8	43
49	Cosmic-Ray Diffusion Coefficients throughout the Inner Heliosphere from a Global Solar Wind Simulation. Astrophysical Journal, Supplement Series, 2017, 230, 21.	3.0	42
50	THE ORIGIN OF NON-MAXWELLIAN SOLAR WIND ELECTRON VELOCITY DISTRIBUTION FUNCTION: CONNECTION TO NANOFLARES IN THE SOLAR CORONA. Astrophysical Journal Letters, 2014, 795, L38.	3.0	41
51	Clustering of Intermittent Magnetic and Flow Structures near Parker Solar Probeâ€™s First Perihelionâ€”A Partial-variance-of-increments Analysis. Astrophysical Journal, Supplement Series, 2020, 246, 31.	3.0	37
52	Contextual Predictions for the Parker Solar Probe. I. Critical Surfaces and Regions. Astrophysical Journal, Supplement Series, 2019, 241, 11.	3.0	33
53	Dipolarization and turbulence in the plasma sheet during a substorm: THEMIS observations and global MHD simulations. Journal of Geophysical Research: Space Physics, 2013, 118, 7752-7761.	0.8	32
54	Observation of highâ€frequency electrostatic waves in the vicinity of the reconnection ion diffusion region by the spacecraft of the Magnetospheric Multiscale (MMS) mission. Geophysical Research Letters, 2016, 43, 4808-4815.	1.5	32

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55	Magnetospheric Multiscale Observations of an Ion Diffusion Region With Large Guide Field at the Magnetopause: Current System, Electron Heating, and Plasma Waves. Journal of Geophysical Research: Space Physics, 2018, 123, 1834-1852.	0.8	32
56	An introductory guide to fluid models with anisotropic temperatures. Part 1. CGL description and collisionless fluid hierarchy. Journal of Plasma Physics, 2019, 85, .	0.7	32
57	How electron two-stream instability drives cyclic Langmuir collapse and continuous coherent emission. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 1502-1507.	3.3	30
58	Magnetic energy distribution in the fourâ€dimensional frequency and wave vector domain in the solar wind. Journal of Geophysical Research, 2010, 115, .	3.3	29
59	POLARIZATION AND COMPRESSIBILITY OF OBLIQUE KINETIC ALFVÃ‰N WAVES. Astrophysical Journal, 2013, 766, 93.	1.6	27
60	Direct observations of the formation of the solar wind halo from the strahl. Annales Geophysicae, 2012, 30, 163-175.	0.6	26
61	Observations of Heating along Intermittent Structures in the Inner Heliosphere from PSP Data. Astrophysical Journal, Supplement Series, 2020, 246, 46.	3.0	26
62	Bidirectional Energy Cascades and the Origin of Kinetic AlfvÃ©nic and Whistler Turbulence in the Solar Wind. Physical Review Letters, 2014, 112, 061101.	2.9	25
63	Energy partitioning constraints at kinetic scales in low-Î² turbulence. Physics of Plasmas, 2018, 25, .	0.7	25
64	Observations of Energetic-particle Population Enhancements along Intermittent Structures near the Sun from the Parker Solar Probe. Astrophysical Journal, Supplement Series, 2020, 246, 61.	3.0	25
65	New Closures for More Precise Modeling of Landau Damping in the Fluid Framework. Physical Review Letters, 2018, 121, 135101.	2.9	24
66	A mechanism for bursty radio emission in planetary magnetospheres. Geophysical Research Letters, 1990, 17, 2229-2232.	1.5	23
67	Electron Vorticity Indicative of the Electron Diffusion Region of Magnetic Reconnection. Geophysical Research Letters, 2019, 46, 6287-6296.	1.5	23
68	The structure of helical interplanetary magnetic fields. Geophysical Research Letters, 1991, 18, 1505-1508.	1.5	21
69	Numerical Simulation of Interplanetary and Magnetospheric Phenomena: The Kelvin-Helmholtz Instability. Geophysical Monograph Series, 0, , 113-125.	0.1	21
70	Magnetic field line random walk and solar energetic particle path lengths. Astronomy and Astrophysics, 2021, 650, A26.	2.1	20
71	Large-scale Structure and Turbulence Transport in the Inner Solar Wind: Comparison of Parker Solar Probeâ€™s First Five Orbits with a Global 3D Reynolds-averaged MHD Model. Astrophysical Journal, 2021, 923, 89.	1.6	20
72	Cluster observations near reconnection X lines in Earth's magnetotail current sheet. Journal of Geophysical Research: Space Physics, 2013, 118, 4199-4209.	0.8	19

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73	An introductory guide to fluid models with anisotropic temperatures. Part 2. Kinetic theory, PadÃ© approximants and Landau fluid closures. Journal of Plasma Physics, 2019, 85, .	0.7	19
74	The adiabatic phase mixing and heating of electrons in Buneman turbulence. Physics of Plasmas, 2013, 20, .	0.7	18
75	Dynamical processes in space: Cluster results. Annales Geophysicae, 2013, 31, 1045-1059.	0.6	18
76	Systematic errors in determining the propagation direction of interplanetary Alfvenic fluctuations. Journal of Geophysical Research, 1986, 91, 13357-13365.	3.3	17
77	Numerical simulation of the generation of turbulence from cometary ion pickâ€up. Geophysical Research Letters, 1987, 14, 860-863.	1.5	17
78	Weakened Magnetization and Onset of Large-scale Turbulence in the Young Solar Windâ€”Comparisons of Remote Sensing Observations with Simulation. Astrophysical Journal Letters, 2018, 856, L39.	3.0	17
79	An evolving MHD vortex street model for quasiâ€periodic solar wind fluctuations. Geophysical Research Letters, 1992, 19, 1427-1430.	1.5	16
80	SOLAR WIND COLLISIONAL AGE FROM A GLOBAL MAGNETOHYDRODYNAMICS SIMULATION. Astrophysical Journal, 2016, 821, 34.	1.6	16
81	Recent highlights from Cluster, the first 3-D magnetospheric mission. Annales Geophysicae, 2015, 33, 1221-1235.	0.6	16
82	Low-density anomalies and sub-AlfvÃ©nic solar wind. Journal of Geophysical Research, 2005, 110, .	3.3	15
83	The nature of the solar wind. Nature, 1996, 381, 31-32.	13.7	14
84	A Vlasov moment description of cyclotron waveâ€“particle interactions. Physics of Plasmas, 1996, 3, 1437-1446.	0.7	14
85	Origin and dynamics of the heliospheric streamer belt and current sheet. Journal of Geophysical Research, 2005, 110, .	3.3	13
86	Identifying the electron diffusion region in a realistic simulation of Earth's magnetotail. Geophysical Research Letters, 2016, 43, 6005-6011.	1.5	12
87	Evidence for a high-latitude origin of lower latitude high-speed wind. Geophysical Research Letters, 1998, 25, 595-598.	1.5	11
88	Random Walk and Trapping of Interplanetary Magnetic Field Lines: Global Simulation, Magnetic Connectivity, and Implications for Solar Energetic Particles. Astrophysical Journal, 2021, 908, 174.	1.6	11
89	An extended and fragmented AlfvÃ©n zone in the Young Solar Wind. Monthly Notices of the Royal Astronomical Society, 2022, 513, 159-167.	1.6	11
90	Lunar magnetism. Nature, 1975, 258, 175-175.	13.7	10

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91	Ultra-low-frequency wave power in the magnetotail lobes 1. Relation to substorm Onsets and the auroral electrojet index. Geophysical Research Letters, 1990, 17, 1845-1848.	1.5	10
92	On the dynamics of a plasma vortex street and its topological signatures. Physics of Plasmas, 1994, 1, 2125-2134.	0.7	10
93	RELAXATION PROCESSES IN SOLAR WIND TURBULENCE. Astrophysical Journal Letters, 2014, 789, L44.	3.0	10
94	Propagation of Pi2 pulsations through the braking region in global MHD simulations. Journal of Geophysical Research: Space Physics, 2015, 120, 10,574.	0.8	10
95	Generalized Fluid Models of the Braginskii Type. Astrophysical Journal, Supplement Series, 2022, 260, 26.	3.0	10
96	Self-similar scaling of magnetic energy in the inertial range of solar wind turbulence. Journal of Geophysical Research, 2006, 111, .	3.3	9
97	First measurements of electron vorticity in the foreshock and solar wind. Annales Geophysicae, 2010, 28, 2187-2200.	0.6	9
98	Nonlinear evolution of interplanetary AlfvÃ©nic fluctuations with convected structures. Geophysical Research Letters, 1996, 23, 591-594.	1.5	8
99	Direct auroral precipitation from the magnetotail during substorms. Geophysical Research Letters, 2013, 40, 3787-3792.	1.5	8
100	Do interplanetary AlfvÃ©n waves cause auroral activity?. Journal of Geophysical Research, 1990, 95, 4327-4331.	3.3	7
101	Observations of diffusion in the electron halo and strahl. Annales Geophysicae, 2016, 34, 1175-1189.	0.6	7
102	TRANSPORT OF SOLAR WIND H⁺ AND He⁺⁺ IONS ACROSS EARTHâ€™S BOW SHOCK. Astrophysical Journal Letters, 2016, 825, L27.	3.0	7
103	Partitioning of integrated energy fluxes in four tail reconnection events observed by Cluster. Journal of Geophysical Research: Space Physics, 2016, 121, 11,798.	0.8	7
104	Absence of the strahl during times of slow wind. Annales Geophysicae, 2017, 35, 71-85.	0.6	7
105	Arcs in Saturn's radio spectra. Nature, 1981, 292, 728-731.	13.7	6
106	Coarse-graining and nonlocal processes in proton cyclotron resonant interactions. Physics of Plasmas, 1998, 5, 333-344.	0.7	6
107	Solar Cycle Occurrence of AlfvÃ©nic Fluctuations and Related Geoâ€Efficiency. Journal of Geophysical Research: Space Physics, 2017, 122, 9848-9857.	0.8	6
108	The Solar Wind Electron Halo as Produced by Electron Beams Originating in the Lower Corona: Beam Density Dependence. Astrophysical Journal, 2019, 883, 151.	1.6	6

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109	Cluster After 20 Years of Operations: Science Highlights and Technical Challenges. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029474.	0.8	6
110	Generation of Pi2 pulsations by intermittent earthward propagating dipolarization fronts: An MHD case study. Journal of Geophysical Research: Space Physics, 2013, 118, 6364-6377.	0.8	5
111	Structure and Dynamics of Threeâ€Dimensional Magnetotail Reconnection. Journal of Geophysical Research: Space Physics, 2018, 123, 8241-8260.	0.8	5
112	Kelvin-Helmholtz Vortices as an Interplay of Magnetosphere-Ionosphere Coupling. Frontiers in Astronomy and Space Sciences, 0, 9, .	1.1	5
113	Observations of electron vorticity in the inner plasma sheet. Annales Geophysicae, 2011, 29, 1517-1527.	0.6	4
114	Magnetohydrodynamic Turbulence in the Earthâ€™s Magnetotail From Observations and Global MHD Simulations. Frontiers in Astronomy and Space Sciences, 2021, 8, .	1.1	4
115	The evolution of magnetic helicity in compressible magnetohydrodynamics with a mean magnetic field. Geophysical Monograph Series, 1995, , 1-5.	0.1	3
116	Turbulence in the solar wind: Kinetic effects. AIP Conference Proceedings, 1996, , .	0.3	3
117	Effect of magnetic islands on the localization of kinetic AlfvÃ©n wave. Physics of Plasmas, 2015, 22, 122106.	0.7	3
118	Substructure of a Kelvinâ€Helmholtz Vortex Accompanied by Plasma Transport Under the Northward Interplanetary Magnetic Field. Journal of Geophysical Research: Space Physics, 2022, 127, .	0.8	2
119	Magnetohydrodynamic turbulence and its relationship to interplanetary magnetic fluctuations. Geophysical Monograph Series, 1995, , 7-20.	0.1	1
120	Observed properties of helical interplanetary magnetic fields. Geophysical Monograph Series, 1995, , 21-27.	0.1	1
121	A model for cyclotron interaction effects on large scales. AIP Conference Proceedings, 1996, , .	0.3	1
122	The Science of the Cluster Mission. Thirty Years of Astronomical Discovery With UKIRT, 2015, , 159-179.	0.3	1
123	On interacting plasma vortex sheets. Geophysical Monograph Series, 1995, , 49-53.	0.1	0
124	Mode decomposition scheme for ideal magnetohydrodynamic plane waves in space-time coordinates. Journal of Geophysical Research, 2007, 112, n/a-n/a.	3.3	0
125	The interpretation of data from the Parker Solar Probe mission: shear-driven transition to an isotropically turbulent solar wind. Radiation Effects and Defects in Solids, 2020, 175, 1002-1003.	0.4	0