

Melvyn Goldstein

List of Publications by Year in descending order

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125
papers

8,056
citations

53751

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docs citations

128
times ranked

2574
citing authors

#	ARTICLE	IF	CITATIONS
1	Substructure of a Kelvin-Helmholtz Vortex Accompanied by Plasma Transport Under the Northward Interplanetary Magnetic Field. <i>Journal of Geophysical Research: Space Physics</i> , 2022, 127, .	0.8	2
2	An extended and fragmented Alfvén zone in the Young Solar Wind. <i>Monthly Notices of the Royal Astronomical Society</i> , 2022, 513, 159-167.	1.6	11
3	Generalized Fluid Models of the Braginskii Type. <i>Astrophysical Journal, Supplement Series</i> , 2022, 260, 26.	3.0	10
4	Random Walk and Trapping of Interplanetary Magnetic Field Lines: Global Simulation, Magnetic Connectivity, and Implications for Solar Energetic Particles. <i>Astrophysical Journal</i> , 2021, 908, 174.	1.6	11
5	Magnetohydrodynamic Turbulence in the Earth's Magnetotail From Observations and Global MHD Simulations. <i>Frontiers in Astronomy and Space Sciences</i> , 2021, 8, .	1.1	4
6	Magnetic field line random walk and solar energetic particle path lengths. <i>Astronomy and Astrophysics</i> , 2021, 650, A26.	2.1	20
7	Cluster After 20 Years of Operations: Science Highlights and Technical Challenges. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2021JA029474.	0.8	6
8	Large-scale Structure and Turbulence Transport in the Inner Solar Wind: Comparison of Parker Solar Probe's First Five Orbits with a Global 3D Reynolds-averaged MHD Model. <i>Astrophysical Journal</i> , 2021, 923, 89.	1.6	20
9	Observations of Energetic-particle Population Enhancements along Intermittent Structures near the Sun from the Parker Solar Probe. <i>Astrophysical Journal, Supplement Series</i> , 2020, 246, 61.	3.0	25
10	Clustering of Intermittent Magnetic and Flow Structures near Parker Solar Probe's First Perihelion: A Partial-variance-of-increments Analysis. <i>Astrophysical Journal, Supplement Series</i> , 2020, 246, 31.	3.0	37
11	Observations of Heating along Intermittent Structures in the Inner Heliosphere from PSP Data. <i>Astrophysical Journal, Supplement Series</i> , 2020, 246, 46.	3.0	26
12	Measures of Scale-dependent Alfvénicity in the First PSP Solar Encounter. <i>Astrophysical Journal, Supplement Series</i> , 2020, 246, 58.	3.0	51
13	Enhanced Energy Transfer Rate in Solar Wind Turbulence Observed near the Sun from Parker Solar Probe. <i>Astrophysical Journal, Supplement Series</i> , 2020, 246, 48.	3.0	56
14	Shear-driven Transition to Isotropically Turbulent Solar Wind Outside the Alfvén Critical Zone. <i>Astrophysical Journal</i> , 2020, 902, 94.	1.6	83
15	The interpretation of data from the Parker Solar Probe mission: shear-driven transition to an isotropically turbulent solar wind. <i>Radiation Effects and Defects in Solids</i> , 2020, 175, 1002-1003.	0.4	0
16	Electron Vorticity Indicative of the Electron Diffusion Region of Magnetic Reconnection. <i>Geophysical Research Letters</i> , 2019, 46, 6287-6296.	1.5	23
17	The Solar Wind Electron Halo as Produced by Electron Beams Originating in the Lower Corona: Beam Density Dependence. <i>Astrophysical Journal</i> , 2019, 883, 151.	1.6	6
18	Contextual Predictions for Parker Solar Probe. II. Turbulence Properties and Taylor Hypothesis. <i>Astrophysical Journal, Supplement Series</i> , 2019, 242, 12.	3.0	45

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19	Contextual Predictions for the Parker Solar Probe. I. Critical Surfaces and Regions. <i>Astrophysical Journal, Supplement Series</i> , 2019, 241, 11.	3.0	33
20	An introductory guide to fluid models with anisotropic temperatures. Part 2. Kinetic theory, Pad� approximants and Landau fluid closures. <i>Journal of Plasma Physics</i> , 2019, 85, .	0.7	19
21	An introductory guide to fluid models with anisotropic temperatures. Part 1. CGL description and collisionless fluid hierarchy. <i>Journal of Plasma Physics</i> , 2019, 85, .	0.7	32
22	Energy partitioning constraints at kinetic scales in low- β^2 turbulence. <i>Physics of Plasmas</i> , 2018, 25, .	0.7	25
23	Weakened Magnetization and Onset of Large-scale Turbulence in the Young Solar Wind� Comparisons of Remote Sensing Observations with Simulation. <i>Astrophysical Journal Letters</i> , 2018, 856, L39.	3.0	17
24	Magnetospheric Multiscale Observations of an Ion Diffusion Region With Large Guide Field at the Magnetopause: Current System, Electron Heating, and Plasma Waves. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 1834-1852.	0.8	32
25	The Steady Global Corona and Solar Wind: A Three-dimensional MHD Simulation with Turbulence Transport and Heating. <i>Astrophysical Journal</i> , 2018, 865, 25.	1.6	69
26	New Closures for More Precise Modeling of Landau Damping in the Fluid Framework. <i>Physical Review Letters</i> , 2018, 121, 135101.	2.9	24
27	Structure and Dynamics of Three� Dimensional Magnetotail Reconnection. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 8241-8260.	0.8	5
28	How electron two-stream instability drives cyclic Langmuir collapse and continuous coherent emission. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 1502-1507.	3.3	30
29	On the origin of the crescent� shaped distributions observed by MMS at the magnetopause. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 2024-2039.	0.8	43
30	Solar Cycle Occurrence of Alfv�nic Fluctuations and Related Geo� Efficiency. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 9848-9857.	0.8	6
31	Coalescence of Macroscopic Flux Ropes at the Subsolar Magnetopause: Magnetospheric Multiscale Observations. <i>Physical Review Letters</i> , 2017, 119, 055101.	2.9	72
32	Cosmic-Ray Diffusion Coefficients throughout the Inner Heliosphere from a Global Solar Wind Simulation. <i>Astrophysical Journal, Supplement Series</i> , 2017, 230, 21.	3.0	42
33	Absence of the strahl during times of slow wind. <i>Annales Geophysicae</i> , 2017, 35, 71-85.	0.6	7
34	Observations of diffusion in the electron halo and strahl. <i>Annales Geophysicae</i> , 2016, 34, 1175-1189.	0.6	7
35	TRANSPORT OF SOLAR WIND H ⁺ AND He ⁺ IONS ACROSS EARTH�S BOW SHOCK. <i>Astrophysical Journal Letters</i> , 2016, 825, L27.	3.0	7
36	Partitioning of integrated energy fluxes in four tail reconnection events observed by Cluster. <i>Journal of Geophysical Research: Space Physics</i> , 2016, 121, 11,798.	0.8	7

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37	A FOUR-FLUID MHD MODEL OF THE SOLAR WIND/INTERSTELLAR MEDIUM INTERACTION WITH TURBULENCE TRANSPORT AND PICKUP PROTONS AS SEPARATE FLUID. <i>Astrophysical Journal</i> , 2016, 820, 17.	1.6	54
38	SOLAR WIND COLLISIONAL AGE FROM A GLOBAL MAGNETOHYDRODYNAMICS SIMULATION. <i>Astrophysical Journal</i> , 2016, 821, 34.	1.6	16
39	Identifying the electron diffusion region in a realistic simulation of Earth's magnetotail. <i>Geophysical Research Letters</i> , 2016, 43, 6005-6011.	1.5	12
40	Observation of high-frequency electrostatic waves in the vicinity of the reconnection ion diffusion region by the spacecraft of the Magnetospheric Multiscale (MMS) mission. <i>Geophysical Research Letters</i> , 2016, 43, 4808-4815.	1.5	32
41	Effect of magnetic islands on the localization of kinetic Alfvén wave. <i>Physics of Plasmas</i> , 2015, 22, 122106.	0.7	3
42	Propagation of Pi2 pulsations through the braking region in global MHD simulations. <i>Journal of Geophysical Research: Space Physics</i> , 2015, 120, 10,574.	0.8	10
43	Kinetic scale turbulence and dissipation in the solar wind: key observational results and future outlook. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2015, 373, 20140147.	1.6	62
44	The Science of the Cluster Mission. <i>Thirty Years of Astronomical Discovery With UKIRT</i> , 2015, , 159-179.	0.3	1
45	Recent highlights from Cluster, the first 3-D magnetospheric mission. <i>Annales Geophysicae</i> , 2015, 33, 1221-1235.	0.6	16
46	PICKUP ION MEDIATED PLASMAS. I. BASIC MODEL AND LINEAR WAVES IN THE SOLAR WIND AND LOCAL INTERSTELLAR MEDIUM. <i>Astrophysical Journal</i> , 2014, 797, 87.	1.6	59
47	Bidirectional Energy Cascades and the Origin of Kinetic Alfvénic and Whistler Turbulence in the Solar Wind. <i>Physical Review Letters</i> , 2014, 112, 061101.	2.9	25
48	RELAXATION PROCESSES IN SOLAR WIND TURBULENCE. <i>Astrophysical Journal Letters</i> , 2014, 789, L44.	3.0	10
49	THREE-FLUID, THREE-DIMENSIONAL MAGNETOHYDRODYNAMIC SOLAR WIND MODEL WITH EDDY VISCOSITY AND TURBULENT RESISTIVITY. <i>Astrophysical Journal</i> , 2014, 788, 43.	1.6	95
50	THE ORIGIN OF NON-MAXWELLIAN SOLAR WIND ELECTRON VELOCITY DISTRIBUTION FUNCTION: CONNECTION TO NANOFIARES IN THE SOLAR CORONA. <i>Astrophysical Journal Letters</i> , 2014, 795, L38.	3.0	41
51	Generation of Pi2 pulsations by intermittent earthward propagating dipolarization fronts: An MHD case study. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 6364-6377.	0.8	5
52	POLARIZATION AND COMPRESSIBILITY OF OBLIQUE KINETIC ALFVÉN WAVES. <i>Astrophysical Journal</i> , 2013, 766, 93.	1.6	27
53	Cluster observations near reconnection X lines in Earth's magnetotail current sheet. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 4199-4209.	0.8	19
54	The adiabatic phase mixing and heating of electrons in Buneman turbulence. <i>Physics of Plasmas</i> , 2013, 20, .	0.7	18

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55	INTERMITTENT HEATING IN SOLAR WIND AND KINETIC SIMULATIONS. <i>Astrophysical Journal Letters</i> , 2013, 763, L30.	3.0	130
56	Dipolarization and turbulence in the plasma sheet during a substorm: THEMIS observations and global MHD simulations. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 7752-7761.	0.8	32
57	Direct auroral precipitation from the magnetotail during substorms. <i>Geophysical Research Letters</i> , 2013, 40, 3787-3792.	1.5	8
58	Dynamical processes in space: Cluster results. <i>Annales Geophysicae</i> , 2013, 31, 1045-1059.	0.6	18
59	Direct observations of the formation of the solar wind halo from the strahl. <i>Annales Geophysicae</i> , 2012, 30, 163-175.	0.6	26
60	Detection of Small-Scale Structures in the Dissipation Regime of Solar-Wind Turbulence. <i>Physical Review Letters</i> , 2012, 109, 191101.	2.9	116
61	The first in situ observation of Kelvin-Helmholtz waves at high-latitude magnetopause during strongly dawnward interplanetary magnetic field conditions. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	67
62	THREE-DIMENSIONAL MAGNETOHYDRODYNAMIC MODELING OF THE SOLAR WIND INCLUDING PICKUP PROTONS AND TURBULENCE TRANSPORT. <i>Astrophysical Journal</i> , 2012, 754, 40.	1.6	59
63	NEW INSIGHT INTO SHORT-WAVELENGTH SOLAR WIND FLUCTUATIONS FROM VLASOV THEORY. <i>Astrophysical Journal</i> , 2012, 748, 100.	1.6	98
64	SOLAR WIND MODELING WITH TURBULENCE TRANSPORT AND HEATING. <i>Astrophysical Journal</i> , 2011, 727, 84.	1.6	99
65	Observations of electron vorticity in the inner plasma sheet. <i>Annales Geophysicae</i> , 2011, 29, 1517-1527.	0.6	4
66	Kelvin-Helmholtz waves under southward interplanetary magnetic field. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	94
67	Observations and simulations of non-local acceleration of electrons in magnetotail magnetic reconnection events. <i>Nature Physics</i> , 2011, 7, 360-365.	6.5	165
68	Three Dimensional Anisotropic k Spectra of Turbulence at Subproton Scales in the Solar Wind. <i>Physical Review Letters</i> , 2010, 105, 131101.	2.9	389
69	Wave-Vector Dependence of Magnetic-Turbulence Spectra in the Solar Wind. <i>Physical Review Letters</i> , 2010, 104, 171101.	2.9	67
70	First measurements of electron vorticity in the foreshock and solar wind. <i>Annales Geophysicae</i> , 2010, 28, 2187-2200.	0.6	9
71	Magnetic energy distribution in the four-dimensional frequency and wave vector domain in the solar wind. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	29
72	Kinetic Alfvén Wave Turbulence and Transport through a Reconnection Diffusion Region. <i>Physical Review Letters</i> , 2009, 102, 015001.	2.9	87

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73	A mechanism for electrostatic solitary structures in the Earth's magnetosheath. Journal of Geophysical Research, 2009, 114, .	3.3	58
74	Evidence of a Cascade and Dissipation of Solar-Wind Turbulence at the Electron Gyroscale. Physical Review Letters, 2009, 102, 231102.	2.9	486
75	Scale-dependent angle of alignment between velocity and magnetic field fluctuations in solar wind turbulence. Journal of Geophysical Research, 2009, 114, .	3.3	44
76	Mode Conversion and Anomalous Transport in Kelvin-Helmholtz Vortices and Kinetic Alfvén Waves at the Earth's Magnetopause. Physical Review Letters, 2007, 99, 175004.	2.9	83
77	Spectral Exponents of Kinetic and Magnetic Energy Spectra in Solar Wind Turbulence. Astrophysical Journal, 2007, 664, 543-548.	1.6	183
78	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
79	Self-similar scaling of magnetic energy in the inertial range of solar wind turbulence. Journal of Geophysical Research, 2006, 111, .	3.3	9
80	Power spectrum of small-scale turbulent velocity fluctuations in the solar wind. Journal of Geophysical Research, 2006, 111, .	3.3	65
81	Cluster observations of electron holes in association with magnetotail reconnection and comparison to simulations. Journal of Geophysical Research, 2005, 110, .	3.3	251
82	Origin and dynamics of the heliospheric streamer belt and current sheet. Journal of Geophysical Research, 2005, 110, .	3.3	13
83	Low-density anomalies and sub-Alfvénic solar wind. Journal of Geophysical Research, 2005, 110, .	3.3	15
84	Cluster electric current density measurements within a magnetic flux rope in the plasma sheet. Geophysical Research Letters, 2003, 30, .	1.5	77
85	A tilted-dipole MHD model of the solar corona and solar wind. Journal of Geophysical Research, 2003, 108, .	3.3	65
86	A global MHD solar wind model with WKB Alfvén waves: Comparison with Ulysses data. Journal of Geophysical Research, 2000, 105, 12675-12695.	3.3	145
87	Evidence for a high-latitude origin of lower latitude high-speed wind. Geophysical Research Letters, 1998, 25, 595-598.	1.5	11
88	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
89	Coarse-graining and nonlocal processes in proton cyclotron resonant interactions. Physics of Plasmas, 1998, 5, 333-344.	0.7	6
90	Anisotropy in Hall MHD turbulence due to a mean magnetic field. Journal of Plasma Physics, 1997, 57, 129-154.	0.7	47

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91	Nonlinear evolution of interplanetary Alfvénic fluctuations with convected structures. Geophysical Research Letters, 1996, 23, 591-594.	1.5	8
92	Turbulence in the solar wind: Kinetic effects. AIP Conference Proceedings, 1996, , .	0.3	3
93	A model for cyclotron interaction effects on large scales. AIP Conference Proceedings, 1996, , .	0.3	1
94	The nature of the solar wind. Nature, 1996, 381, 31-32.	13.7	14
95	A Vlasov moment description of cyclotron wave-particle interactions. Physics of Plasmas, 1996, 3, 1437-1446.	0.7	14
96	Magnetohydrodynamic turbulence and its relationship to interplanetary magnetic fluctuations. Geophysical Monograph Series, 1995, , 7-20.	0.1	1
97	Observed properties of helical interplanetary magnetic fields. Geophysical Monograph Series, 1995, , 21-27.	0.1	1
98	The evolution of magnetic helicity in compressible magnetohydrodynamics with a mean magnetic field. Geophysical Monograph Series, 1995, , 1-5.	0.1	3
99	On interacting plasma vortex sheets. Geophysical Monograph Series, 1995, , 49-53.	0.1	0
100	Magnetohydrodynamic Turbulence in the Solar Wind. Annual Review of Astronomy and Astrophysics, 1995, 33, 283-325.	8.1	516
101	On the dynamics of a plasma vortex street and its topological signatures. Physics of Plasmas, 1994, 1, 2125-2134.	0.7	10
102	An evolving MHD vortex street model for quasi-periodic solar wind fluctuations. Geophysical Research Letters, 1992, 19, 1427-1430.	1.5	16
103	Velocity shear generation of solar wind turbulence. Journal of Geophysical Research, 1992, 97, 17115-17130.	3.3	159
104	The structure of helical interplanetary magnetic fields. Geophysical Research Letters, 1991, 18, 1505-1508.	1.5	21
105	Turbulence and Waves in the Solar Wind. Reviews of Geophysics, 1991, 29, 932-943.	9.0	51
106	Parametric instabilities of circularly polarized large-amplitude dispersive Alfvén waves: excitation of obliquely-propagating daughter and side-band waves. Journal of Plasma Physics, 1991, 46, 129-152.	0.7	91
107	Parametric instabilities of circularly polarized large-amplitude dispersive Alfvén waves: excitation of parallel-propagating electromagnetic daughter waves. Journal of Plasma Physics, 1991, 46, 107-127.	0.7	53
108	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

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109	A mechanism for bursty radio emission in planetary magnetospheres. <i>Geophysical Research Letters</i> , 1990, 17, 2229-2232.	1.5	23
110	Do interplanetary Alfvén waves cause auroral activity?. <i>Journal of Geophysical Research</i> , 1990, 95, 4327-4331.	3.3	7
111	Evidence for the presence of quasi-two-dimensional nearly incompressible fluctuations in the solar wind. <i>Journal of Geophysical Research</i> , 1990, 95, 20673-20683.	3.3	573
112	Test particle acceleration in turbulent reconnecting magnetic fields. <i>Journal of Geophysical Research</i> , 1988, 93, 14383-14400.	3.3	134
113	Numerical simulation of the generation of turbulence from cometary ion pickup. <i>Geophysical Research Letters</i> , 1987, 14, 860-863.	1.5	17
114	Origin and evolution of fluctuations in the solar wind: Helios observations and Helios-Voyager comparisons. <i>Journal of Geophysical Research</i> , 1987, 92, 12023-12035.	3.3	321
115	Acceleration of charged particles in magnetic reconnection: Solar flares, the magnetosphere, and solar wind. <i>Geophysical Research Letters</i> , 1986, 13, 205-208.	1.5	44
116	Systematic errors in determining the propagation direction of interplanetary Alfvénic fluctuations. <i>Journal of Geophysical Research</i> , 1986, 91, 13357-13365.	3.3	17
117	Low-Frequency Noise in the Interplanetary Magnetic Field. <i>Physical Review Letters</i> , 1986, 57, 495-498.	2.9	204
118	Turbulent Generation of Outward-Traveling Interplanetary Alfvénic Fluctuations. <i>Physical Review Letters</i> , 1983, 51, 1484-1487.	2.9	150
119	Measurement of the rugged invariants of magnetohydrodynamic turbulence in the solar wind. <i>Journal of Geophysical Research</i> , 1982, 87, 6011-6028.	3.3	811
120	Stationarity of magnetohydrodynamic fluctuations in the solar wind. <i>Journal of Geophysical Research</i> , 1982, 87, 10347-10354.	3.3	120
121	Arcs in Saturn's radio spectra. <i>Nature</i> , 1981, 292, 728-731.	13.7	6
122	A nonlinear theory of cosmic-ray pitch-angle diffusion in homogeneous magnetostatic turbulence. <i>Astrophysical Journal</i> , 1976, 204, 900.	1.6	102
123	Lunar magnetism. <i>Nature</i> , 1975, 258, 175-175.	13.7	10
124	Numerical Simulation of Interplanetary and Magnetospheric Phenomena: The Kelvin-Helmholtz Instability. <i>Geophysical Monograph Series</i> , 0, , 113-125.	0.1	21
125	Kelvin-Helmholtz Vortices as an Interplay of Magnetosphere-Ionosphere Coupling. <i>Frontiers in Astronomy and Space Sciences</i> , 0, 9, .	1.1	5