

Marc Swisdak

List of Publications by Year in descending order

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122
papers

7,841
citations

44069

48
h-index

49909

87
g-index

124
all docs

124
docs citations

124
times ranked

2808
citing authors

#	ARTICLE	IF	CITATIONS
1	Electron acceleration from contracting magnetic islands during reconnection. <i>Nature</i> , 2006, 443, 553-556.	27.8	793
2	Formation of Electron Holes and Particle Energization During Magnetic Reconnection. <i>Science</i> , 2003, 299, 873-877.	12.6	374
3	Two-Scale Structure of the Electron Dissipation Region during Collisionless Magnetic Reconnection. <i>Physical Review Letters</i> , 2007, 99, 155002.	7.8	275
4	Dipolarization fronts as a signature of transient reconnection in the magnetotail. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	272
5	Cluster observations of electron holes in association with magnetotail reconnection and comparison to simulations. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	251
6	A MAGNETIC RECONNECTION MECHANISM FOR THE GENERATION OF ANOMALOUS COSMIC RAYS. <i>Astrophysical Journal</i> , 2010, 709, 963-974.	4.5	239
7	Formation of secondary islands during magnetic reconnection. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	221
8	Diamagnetic suppression of component magnetic reconnection at the magnetopause. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	220
9	Production of Energetic Electrons during Magnetic Reconnection. <i>Physical Review Letters</i> , 2005, 94, 095001.	7.8	190
10	The mechanisms of electron heating and acceleration during magnetic reconnection. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	172
11	The Hall fields and fast magnetic reconnection. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	168
12	A MAGNETIC RECONNECTION MECHANISM FOR ION ACCELERATION AND ABUNDANCE ENHANCEMENTS IN IMPULSIVE FLARES. <i>Astrophysical Journal</i> , 2009, 700, L16-L20.	4.5	153
13	Ion heating resulting from pickup in magnetic reconnection exhausts. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	151
14	A current filamentation mechanism for breaking magnetic field lines during reconnection. <i>Nature</i> , 2011, 474, 184-187.	27.8	137
15	THE VECTOR DIRECTION OF THE INTERSTELLAR MAGNETIC FIELD OUTSIDE THE HELIOSPHERE. <i>Astrophysical Journal</i> , 2010, 710, 1769-1775.	4.5	131
16	THE POWER-LAW SPECTRA OF ENERGETIC PARTICLES DURING MULTI-ISLAND MAGNETIC RECONNECTION. <i>Astrophysical Journal Letters</i> , 2013, 763, L5.	8.3	130
17	The scaling of embedded collisionless reconnection. <i>Physics of Plasmas</i> , 2004, 11, 2199-2213.	1.9	126
18	Kinetic signatures of the region surrounding the X line in asymmetric (magnetopause) reconnection. <i>Geophysical Research Letters</i> , 2016, 43, 4145-4154.	4.0	106

#	ARTICLE	IF	CITATIONS
19	Quantifying gyrotropy in magnetic reconnection. <i>Geophysical Research Letters</i> , 2016, 43, 43-49.	4.0	103
20	The importance of plasma β^2 conditions for magnetic reconnection at Saturn's magnetopause. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	102
21	Three-Species Collisionless Reconnection: Effect of O ⁺ on Magnetotail Reconnection. <i>Physical Review Letters</i> , 2004, 93, 175001.	7.8	92
22	The role of three-dimensional transport in driving enhanced electron acceleration during magnetic reconnection. <i>Physics of Plasmas</i> , 2017, 24, 092110.	1.9	92
23	A model of the bifurcated current sheet. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	87
24	Spontaneous formation of dipolarization fronts and reconnection onset in the magnetotail. <i>Geophysical Research Letters</i> , 2013, 40, 22-27.	4.0	87
25	Structure and dynamics of a new class of thin current sheets. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	85
26	Inherently three dimensional magnetic reconnection: A mechanism for bursty bulk flows?. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	84
27	MMS observations of large guide field symmetric reconnection between colliding reconnection jets at the center of a magnetic flux rope at the magnetopause. <i>Geophysical Research Letters</i> , 2016, 43, 5536-5544.	4.0	84
28	Electron acceleration in three-dimensional magnetic reconnection with a guide field. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	83
29	Orientation of the reconnection X-line. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	82
30	The effects of turbulence on three-dimensional magnetic reconnection at the magnetopause. <i>Geophysical Research Letters</i> , 2016, 43, 6020-6027.	4.0	80
31	Switchbacks as signatures of magnetic flux ropes generated by interchange reconnection in the corona. <i>Astronomy and Astrophysics</i> , 2021, 650, A2.	5.1	80
32	Transition from antiparallel to component magnetic reconnection. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	76
33	Electron heating during magnetic reconnection: A simulation scaling study. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	74
34	A statistical model of magnetic islands in a current layer. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	73
35	Onset of collisionless magnetic reconnection in two-dimensional current sheets and formation of dipolarization fronts. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	71
36	IS THE MAGNETIC FIELD IN THE HELIOSHEATH LAMINAR OR A TURBULENT SEA OF BUBBLES?. <i>Astrophysical Journal</i> , 2011, 734, 71.	4.5	71

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37	Electron holes and heating in the reconnection dissipation region. Geophysical Research Letters, 2010, 37, .	4.0	69
38	Parallel electric fields are inefficient drivers of energetic electrons in magnetic reconnection. Physics of Plasmas, 2016, 23, .	1.9	68
39	The structure of the magnetic reconnection exhaust boundary. Physics of Plasmas, 2012, 19, .	1.9	67
40	Electron Acceleration during Macroscale Magnetic Reconnection. Physical Review Letters, 2021, 126, 135101.	7.8	65
41	Magnetic reconnection, buoyancy, and flapping motions in magnetotail explosions. Journal of Geophysical Research: Space Physics, 2014, 119, 7151-7168.	2.4	64
42	Secondary Magnetic Islands Generated by the Kelvin-Helmholtz Instability in a Reconnecting Current Sheet. Physical Review Letters, 2012, 108, 255005.	7.8	63
43	Transition from ion-coupled to electron-only reconnection: Basic physics and implications for plasma turbulence. Physics of Plasmas, 2019, 26, .	1.9	61
44	von Kármán Energy Decay and Heating of Protons and Electrons in a Kinetic Turbulent Plasma. Physical Review Letters, 2013, 111, 121105.	7.8	57
45	SUPPRESSION OF ELECTRON THERMAL CONDUCTION IN THE HIGH $\hat{\rho}^2$ INTRACLUSTER MEDIUM OF GALAXY CLUSTERS. Astrophysical Journal Letters, 2016, 830, L9.	8.3	54
46	A simple MHD model for the formation of multiple dipolarization fronts. Geophysical Research Letters, 2010, 37, .	4.0	52
47	On the 3D structure and dissipation of reconnection-driven flow bursts. Geophysical Research Letters, 2014, 41, 3710-3716.	4.0	50
48	THE ACCELERATION OF IONS IN SOLAR FLARES DURING MAGNETIC RECONNECTION. Astrophysical Journal Letters, 2011, 743, L35.	8.3	49
49	Nonlinear Development of Streaming Instabilities in Strongly Magnetized Plasma. Physical Review Letters, 2009, 102, 145004.	7.8	47
50	Drift waves, intense parallel electric fields, and turbulence associated with asymmetric magnetic reconnection at the magnetopause. Geophysical Research Letters, 2017, 44, 2978-2986.	4.0	46
51	A POROUS, LAYERED HELIOPAUSE. Astrophysical Journal Letters, 2013, 774, L8.	8.3	44
52	Suppression of Electron Thermal Conduction by Whistler Turbulence in a Sustained Thermal Gradient. Physical Review Letters, 2018, 120, 035101.	7.8	44
53	Influence of asymmetries and guide fields on the magnetic reconnection diffusion region in collisionless space plasmas. Plasma Physics and Controlled Fusion, 2013, 55, 124001.	2.1	43
54	A MODEL OF THE HELIOSPHERE WITH JETS. Astrophysical Journal Letters, 2015, 808, L44.	8.3	43

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55	Comparison of a statistical model for magnetic islands in large current layers with Hall MHD simulations and Cluster FTE observations. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	42
56	Kinetic Dissipation Around a Dipolarization Front. <i>Geophysical Research Letters</i> , 2018, 45, 4639-4647.	4.0	42
57	Localized Oscillatory Energy Conversion in Magnetopause Reconnection. <i>Geophysical Research Letters</i> , 2018, 45, 1237-1245.	4.0	41
58	Ultracold Plasma Expansion in a Magnetic Field. <i>Physical Review Letters</i> , 2008, 100, 235002.	7.8	39
59	Reconnection onset in the magnetotail: Particle simulations with open boundary conditions. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	38
60	Development of a Turbulent Outflow During Electron-Positron Magnetic Reconnection. <i>Astrophysical Journal</i> , 2008, 680, 999-1008.	4.5	38
61	THE EFFECTS OF PLASMA BETA AND ANISOTROPY INSTABILITIES ON THE DYNAMICS OF RECONNECTING MAGNETIC FIELDS IN THE HELIOSHEATH. <i>Astrophysical Journal</i> , 2011, 743, 70.	4.5	38
62	Turbulence in Three-Dimensional Simulations of Magnetopause Reconnection. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 11,086.	2.4	37
63	A computational model for exploring particle acceleration during reconnection in macroscale systems. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	37
64	A model of the bifurcated current sheet: 2. Flapping motions. <i>Geophysical Research Letters</i> , 2004, 31, n/a-n/a.	4.0	36
65	Ion Heating and Acceleration During Magnetic Reconnection Relevant to the Corona. <i>Space Science Reviews</i> , 2012, 172, 227-240.	8.1	33
66	Wave Generation and Heat Flux Suppression in Astrophysical Plasma Systems. <i>Astrophysical Journal</i> , 2018, 867, 154.	4.5	33
67	The onset of ion heating during magnetic reconnection with a strong guide field. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	31
68	The Effect of a Guide Field on Local Energy Conversion During Asymmetric Magnetic Reconnection: Particle-in-Cell Simulations. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 11,523.	2.4	27
69	The Twist of the Draped Interstellar Magnetic Field Ahead of the Heliopause: A Magnetic Reconnection Driven Rotational Discontinuity. <i>Astrophysical Journal Letters</i> , 2017, 839, L12.	8.3	26
70	Localized and Intense Energy Conversion in the Diffusion Region of Asymmetric Magnetic Reconnection. <i>Geophysical Research Letters</i> , 2018, 45, 5260-5267.	4.0	26
71	The effects of strong temperature anisotropy on the kinetic structure of collisionless slow shocks and reconnection exhausts. I. Particle-in-cell simulations. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	25
72	SUPPRESSION OF ENERGETIC ELECTRON TRANSPORT IN FLARES BY DOUBLE LAYERS. <i>Astrophysical Journal</i> , 2012, 757, 20.	4.5	24

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73	Fast magnetic reconnection due to anisotropic electron pressure. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	24
74	An interhemispheric model of artificial ionospheric ducts. <i>Radio Science</i> , 2006, 41, n/a-n/a.	1.6	23
75	The effects of strong temperature anisotropy on the kinetic structure of collisionless slow shocks and reconnection exhausts. II. Theory. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	23
76	Electron Inflow Velocities and Reconnection Rates at Earth's Magnetopause and Magnetosheath. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089082.	4.0	23
77	Test of methods to infer the magnetic reconnection geometry from spacecraft data. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	22
78	Scattering of Energetic Electrons by Heat-flux-driven Whistlers in Flares. <i>Astrophysical Journal</i> , 2019, 887, 190.	4.5	22
79	Three-dimensional simulations of the orientation and structure of reconnection X-lines. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	21
80	Distinctive features of internally driven magnetotail reconnection. <i>Geophysical Research Letters</i> , 2017, 44, 3028-3037.	4.0	21
81	Decomposition of plasma kinetic entropy into position and velocity space and the use of kinetic entropy in particle-in-cell simulations. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	20
82	DYNAMICS OF DOUBLE LAYERS, ION ACCELERATION, AND HEAT FLUX SUPPRESSION DURING SOLAR FLARES. <i>Astrophysical Journal</i> , 2014, 793, 7.	4.5	19
83	MMS Measurements of the Vlasov Equation: Probing the Electron Pressure Divergence Within Thin Current Sheets. <i>Geophysical Research Letters</i> , 2019, 46, 7862-7872.	4.0	19
84	Data Mining Reconstruction of Magnetotail Reconnection and Implications for Its First-Principle Modeling. <i>Frontiers in Physics</i> , 2021, 9, .	2.1	19
85	Whistler-regulated Magnetohydrodynamics: Transport Equations for Electron Thermal Conduction in the High- β^2 Intracluster Medium of Galaxy Clusters. <i>Astrophysical Journal</i> , 2021, 923, 245.	4.5	19
86	The adiabatic phase mixing and heating of electrons in Buneman turbulence. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	18
87	Magnetic Reconnection in Three Dimensions: Modeling and Analysis of Electromagnetic Drift Waves in the Adjacent Current Sheet. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 10085-10103.	2.4	18
88	On the formation of a plasma bubble. <i>Geophysical Research Letters</i> , 2005, 32, .	4.0	17
89	Test of Shi et al. method to infer the magnetic reconnection geometry from spacecraft data: MHD simulation with guide field and antiparallel kinetic simulation. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	17
90	Simulation study of a positive ionospheric storm phase observed at Millstone Hill. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	16

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91	Particle heating and energy partition in low- β^2 guide field reconnection with kinetic Riemann simulations. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	16
92	THE ROLE OF PRESSURE ANISOTROPY ON PARTICLE ACCELERATION DURING MAGNETIC RECONNECTION. <i>Astrophysical Journal</i> , 2013, 764, 126.	4.5	15
93	The Formation of Magnetic Depletions and Flux Annihilation Due to Reconnection in the Heliosheath. <i>Astrophysical Journal</i> , 2017, 837, 159.	4.5	15
94	Large-scale parallel electric fields and return currents in a global simulation model. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	15
95	Laboratory Observations of Electron Heating and Non-Maxwellian Distributions at the Kinetic Scale during Electron-Only Magnetic Reconnection. <i>Physical Review Letters</i> , 2022, 128, 025002.	7.8	15
96	CORONAL ELECTRON CONFINEMENT BY DOUBLE LAYERS. <i>Astrophysical Journal</i> , 2013, 778, 144.	4.5	14
97	Effects of Large-Scale Convection on Mode Frequencies. <i>Astrophysical Journal</i> , 1999, 512, 442-453.	4.5	14
98	The generation of random variates from a relativistic Maxwellian distribution. <i>Physics of Plasmas</i> , 2013, 20, .	1.9	13
99	Magnetized jets driven by the Sun: The structure of the heliosphere revisited—Updates. <i>Physics of Plasmas</i> , 2016, 23, .	1.9	13
100	Correlated Spatio-temporal Evolution of Extreme-Ultraviolet Ribbons and Hard X-Rays in a Solar Flare. <i>Astrophysical Journal</i> , 2022, 926, 218.	4.5	13
101	Atypical current sheets and plasma bubbles: A self-consistent kinetic model. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	11
102	Multiscale Nature of the Magnetotail Reconnection Onset. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL093065.	4.0	11
103	Flux Rope Merging and the Structure of Switchbacks in the Solar Wind. <i>Astrophysical Journal</i> , 2022, 925, 213.	4.5	11
104	The Weibel instability inside the electron-positron Harris sheet. <i>Physics of Plasmas</i> , 2009, 16, 042101.	1.9	9
105	Noise-induced magnetic field saturation in kinetic simulations. <i>Journal of Plasma Physics</i> , 2020, 86, .	2.1	9
106	Hemispheric daytime ionospheric response to intense solar wind forcing. <i>Geophysical Monograph Series</i> , 2005, , 261-275.	0.1	8
107	Axis and velocity determination for quasi two-dimensional plasma/field structures from Faraday's law: A second look. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 2073-2086.	2.4	8
108	Particle-in-cell simulation study of the scaling of asymmetric magnetic reconnection with in-plane flow shear. <i>Physics of Plasmas</i> , 2016, 23, 082107.	1.9	8

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109	SCALING OF THE GROWTH RATE OF MAGNETIC ISLANDS IN THE HELIOSHEATH. <i>Astrophysical Journal Letters</i> , 2012, 750, L30.	8.3	7
110	Turbulence and Transport During Guide Field Reconnection at the Magnetopause. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027498.	2.4	7
111	Electron-only reconnection and associated electron heating and acceleration in PHASMA. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	7
112	Instabilities and turbulence in low- β guide field reconnection exhausts with kinetic Riemann simulations. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	6
113	Estimating Effective Collision Frequency and Kinetic Entropy Uncertainty in Particle-in-Cell Simulations. <i>Journal of Physics: Conference Series</i> , 2020, 1620, 012009.	0.4	5
114	Characteristics of Multi-scale Current Sheets in the Solar Wind at 1 au Associated with Magnetic Reconnection and the Case for a Heliospheric Current Sheet Avalanche. <i>Astrophysical Journal</i> , 2022, 933, 181.	4.5	5
115	Characterizing Ion Flows Across a Magnetotail Dipolarization Jet. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 6326-6334.	2.4	4
116	The reversibility of magnetic reconnection. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	3
117	Comment on "Creation of Magnetic Energy in the Solar Atmosphere". <i>Physical Review Letters</i> , 2001, 86, 1662-1662.	7.8	2
118	Slow Shock Formation Upstream of Reconnecting Current Sheets. <i>Astrophysical Journal</i> , 2022, 926, 24.	4.5	1
119	Shay and Swisdak Reply. <i>Physical Review Letters</i> , 2005, 95, .	7.8	0
120	Correction to "Onset of collisionless magnetic reconnection in two-dimensional current sheets and formation of dipolarization fronts". <i>Journal of Geophysical Research</i> , 2012, 117, n/a-n/a.	3.3	0
121	Particle-In-Cell Simulations of Magnetotail Dipolarizations Guided by Local Plasma Observations and Magnetometer Data Mining. , 2021, , .		0
122	Ion Heating and Acceleration During Magnetic Reconnection Relevant to the Corona. <i>Space Sciences Series of ISSI</i> , 2012, , 227-240.	0.0	0