

# Michael A Shay

## List of Publications by Year in descending order

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111  
papers

11,440  
citations

28274

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26613

107  
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113  
docs citations

113  
times ranked

2913  
citing authors

#	ARTICLE	IF	CITATIONS
1	Turbulence-driven magnetic reconnection and the magnetic correlation length: Observations from Magnetospheric Multiscale in Earth's magnetosheath. <i>Physics of Plasmas</i> , 2022, 29, .	1.9	30
2	Relativistic Asymmetric Magnetic Reconnection. <i>Physical Review Letters</i> , 2022, 128, 145101.	7.8	4
3	Prevalence of magnetic reconnection in the near-Sun heliospheric current sheet. <i>Astronomy and Astrophysics</i> , 2021, 650, A13.	5.1	23
4	Solar Orbiter observations of an ion-scale flux rope confined to a bifurcated solar wind current sheet. <i>Astronomy and Astrophysics</i> , 2021, 656, A27.	5.1	6
5	Scaling theory of three-dimensional magnetic reconnection spreading. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	3
6	Faster Form of Electron Magnetic Reconnection with a Finite Length X-Line. <i>Physical Review Letters</i> , 2021, 127, 155101.	7.8	13
7	Energy dissipation in turbulent reconnection. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	22
8	Spatial evolution of magnetic reconnection diffusion region structures with distance from the X-line. <i>Physics of Plasmas</i> , 2021, 28, .	1.9	3
9	Energy transfer in reconnection and turbulence. <i>Physical Review E</i> , 2021, 104, 065206.	2.1	16
10	Reconnection from a turbulence perspective. <i>Physics of Plasmas</i> , 2020, 27, .	1.9	17
11	Parker Solar Probe In Situ Observations of Magnetic Reconnection Exhausts during Encounter 1. <i>Astrophysical Journal, Supplement Series</i> , 2020, 246, 34.	7.7	65
12	Energy Flux Densities near the Electron Dissipation Region in Asymmetric Magnetopause Reconnection. <i>Physical Review Letters</i> , 2020, 125, 265102.	7.8	17
13	Particle Acceleration in Strong Turbulence in the Earth's Magnetotail. <i>Astrophysical Journal</i> , 2020, 898, 153.	4.5	27
14	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
15	Transition from ion-coupled to electron-only reconnection: Basic physics and implications for plasma turbulence. <i>Physics of Plasmas</i> , 2019, 26, .	1.9	61
16	Reconnection With Magnetic Flux Pileup at the Interface of Converging Jets at the Magnetopause. <i>Geophysical Research Letters</i> , 2019, 46, 1937-1946.	4.0	36
17	Properties of the Turbulence Associated with Electron-only Magnetic Reconnection in Earth's Magnetosheath. <i>Astrophysical Journal Letters</i> , 2019, 877, L37.	8.3	80
18	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

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19	Turbulent heating due to magnetic reconnection. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	29
20	Guide Field Reconnection: Exhaust Structure and Heating. <i>Geophysical Research Letters</i> , 2018, 45, 4569-4577.	4.0	34
21	Localized Oscillatory Energy Conversion in Magnetopause Reconnection. <i>Geophysical Research Letters</i> , 2018, 45, 1237-1245.	4.0	41
22	On the Collisionless Asymmetric Magnetic Reconnection Rate. <i>Geophysical Research Letters</i> , 2018, 45, 3311-3318.	4.0	15
23	Super-Alfvénic Propagation and Damping of Reconnection Onset Signatures. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 341-349.	2.4	9
24	Dependence of Kinetic Plasma Turbulence on Plasma $\beta^2$ . <i>Astrophysical Journal Letters</i> , 2018, 864, L21.	8.3	42
25	Electron-scale dynamics of the diffusion region during symmetric magnetic reconnection in space. <i>Science</i> , 2018, 362, 1391-1395.	12.6	221
26	Incompressible Energy Transfer in the Earth's Magnetosheath: Magnetospheric Multiscale Observations. <i>Astrophysical Journal</i> , 2018, 866, 106.	4.5	42
27	MMS Observations of Beta-dependent Constraints on Ion Temperature Anisotropy in Earth's Magnetosheath. <i>Astrophysical Journal</i> , 2018, 866, 25.	4.5	21
28	The reduction of magnetic reconnection outflow jets to sub-Alfvénic speeds. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	20
29	Electron magnetic reconnection without ion coupling in Earth's turbulent magnetosheath. <i>Nature</i> , 2018, 557, 202-206.	27.8	263
30	Why does Steady-State Magnetic Reconnection have a Maximum Local Rate of Order 0.1?. <i>Physical Review Letters</i> , 2017, 118, 085101.	7.8	112
31	Kinetic simulation of asymmetric magnetic reconnection with cold ions. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 5290-5306.	2.4	29
32	Drift waves, intense parallel electric fields, and turbulence associated with asymmetric magnetic reconnection at the magnetopause. <i>Geophysical Research Letters</i> , 2017, 44, 2978-2986.	4.0	46
33	Structure of Exhausts in Magnetic Reconnection with an X-line of Finite Extent. <i>Astrophysical Journal</i> , 2017, 848, 90.	4.5	5
34	Exploring the statistics of magnetic reconnection X-points in kinetic particle-in-cell turbulence. <i>Physics of Plasmas</i> , 2017, 24, .	1.9	37
35	Effects of a Guide Field on the Larmor Electric Field and Upstream Electron Temperature Anisotropy in Collisionless Asymmetric Magnetic Reconnection. <i>Astrophysical Journal</i> , 2017, 845, 113.	4.5	2
36	A review of the 0.1 reconnection rate problem. <i>Journal of Plasma Physics</i> , 2017, 83, .	2.1	93

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37	THEMIS multispacecraft observations of a reconnecting magnetosheath current sheet with symmetric boundary conditions and a large guide field. <i>Geophysical Research Letters</i> , 2017, 44, 7598-7606.	4.0	14
38	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
39	Magnetospheric Multiscale analysis of intense field-aligned Poynting flux near the Earth's plasma sheet boundary. <i>Geophysical Research Letters</i> , 2017, 44, 7106-7113.	4.0	16
40	Ion-scale secondary flux ropes generated by magnetopause reconnection as resolved by MMS. <i>Geophysical Research Letters</i> , 2016, 43, 4716-4724.	4.0	95
41	Electron-scale measurements of magnetic reconnection in space. <i>Science</i> , 2016, 352, aaf2939.	12.6	545
42	Ion Larmor radius effects near a reconnection X line at the magnetopause: THEMIS observations and simulation comparison. <i>Geophysical Research Letters</i> , 2016, 43, 8844-8852.	4.0	21
43	MMS observations of electron-scale filamentary currents in the reconnection exhaust and near the X line. <i>Geophysical Research Letters</i> , 2016, 43, 6060-6069.	4.0	99
44	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
45	Magnetospheric Multiscale Satellites Observations of Parallel Electric Fields Associated with Magnetic Reconnection. <i>Physical Review Letters</i> , 2016, 116, 235102.	7.8	61
46	Magnetospheric Multiscale Observations of the Electron Diffusion Region of Large Guide Field Magnetic Reconnection. <i>Physical Review Letters</i> , 2016, 117, 015001.	7.8	74
47	Observations of Hall Reconnection Physics Far Downstream of the $X$ Line. <i>Physical Review Letters</i> , 2016, 117, 185102.	7.8	22
48	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
49	Magnetospheric Multiscale observations of large-amplitude, parallel, electrostatic waves associated with magnetic reconnection at the magnetopause. <i>Geophysical Research Letters</i> , 2016, 43, 5626-5634.	4.0	66
50	Establishing the Context for Reconnection Diffusion Region Encounters and Strategies for the Capture and Transmission of Diffusion Region Burst Data by MMS. <i>Space Science Reviews</i> , 2016, 199, 631-650.	8.1	14
51	The competition of electron and ion heating during magnetic reconnection. <i>Geophysical Research Letters</i> , 2015, 42, 9657-9665.	4.0	70
52	Fast magnetic reconnection due to anisotropic electron pressure. <i>Physics of Plasmas</i> , 2015, 22, .	1.9	24
53	TRANSITION FROM KINETIC TO MHD BEHAVIOR IN A COLLISIONLESS PLASMA. <i>Astrophysical Journal</i> , 2015, 811, 112.	4.5	40
54	Electron heating during magnetic reconnection: A simulation scaling study. <i>Physics of Plasmas</i> , 2014, 21, .	1.9	74

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55	NONLINEAR AND LINEAR TIMESCALES NEAR KINETIC SCALES IN SOLAR WIND TURBULENCE. <i>Astrophysical Journal</i> , 2014, 790, 155.	4.5	50
56	Ion bulk heating in magnetic reconnection exhausts at Earth's magnetopause: Dependence on the inflow Alfvén speed and magnetic shear angle. <i>Geophysical Research Letters</i> , 2014, 41, 7002-7010.	4.0	73
57	von Kármán Energy Decay and Heating of Protons and Electrons in a Kinetic Turbulent Plasma. <i>Physical Review Letters</i> , 2013, 111, 121105.	7.8	57
58	Energy Partition in Magnetic Reconnection in Earth's Magnetotail. <i>Physical Review Letters</i> , 2013, 110, 225001.	7.8	75
59	Overview on numerical studies of reconnection and dissipation in the solar wind. , 2013, , .		0
60	Influence of asymmetries and guide fields on the magnetic reconnection diffusion region in collisionless space plasmas. <i>Plasma Physics and Controlled Fusion</i> , 2013, 55, 124001.	2.1	43
61	INTERMITTENT HEATING IN SOLAR WIND AND KINETIC SIMULATIONS. <i>Astrophysical Journal Letters</i> , 2013, 763, L30.	8.3	130
62	New Electric Field in Asymmetric Magnetic Reconnection. <i>Physical Review Letters</i> , 2013, 111, 135001.	7.8	41
63	ON THE CAUSE OF SUPRA-ARCADE DOWNFLOWS IN SOLAR FLARES. <i>Astrophysical Journal Letters</i> , 2013, 775, L14.	8.3	26
64	Electron bulk heating in magnetic reconnection at Earth's magnetopause: Dependence on the inflow Alfvén speed and magnetic shear. <i>Geophysical Research Letters</i> , 2013, 40, 4475-4480.	4.0	101
65	Reconnection events in two-dimensional Hall magnetohydrodynamic turbulence. <i>Physics of Plasmas</i> , 2012, 19, .	1.9	35
66	Magnetic Reconnection for Coronal Conditions: Reconnection Rates, Secondary Islands and Onset. <i>Space Science Reviews</i> , 2012, 172, 283-302.	8.1	46
67	Magnetotail dipolarization front and associated ion reflection: Particle-in-cell simulations. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	51
68	Survival of flux transfer event (FTE) flux ropes far along the tail magnetopause. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	39
69	Super-Alfvénic Propagation of Substorm Reconnection Signatures and Poynting Flux. <i>Physical Review Letters</i> , 2011, 107, 065001.	7.8	66
70	Direct Evidence for a Three-Dimensional Magnetic Flux Rope Flanked by Two Active Magnetic Reconnection Lines at Earth's Magnetopause. <i>Physical Review Letters</i> , 2011, 107, 165007.	7.8	78
71	Effect of inflow density on ion diffusion region of magnetic reconnection: Particle-in-cell simulations. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	25
72	Effect of driving frequency on excitation of turbulence in a kinetic plasma. <i>Physics of Plasmas</i> , 2011, 18, .	1.9	42

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73	Asymmetry of the Ion Diffusion Region Hall Electric and Magnetic Fields during Guide Field Reconnection: Observations and Comparison with Simulations. <i>Physical Review Letters</i> , 2010, 104, 205001.	7.8	91
74	A saddle-node bifurcation model of magnetic reconnection onset. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	21
75	Statistics of magnetic reconnection in two-dimensional magnetohydrodynamic turbulence. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	113
76	Average properties of the magnetic reconnection ion diffusion region in the Earth's magnetotail: The 2001â€“2005 Cluster observations and comparison with simulations. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	182
77	Scaling of asymmetric magnetic reconnection: Kinetic particle-in-cell simulations. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	61
78	Kinetic driven turbulence: Structure in space and time. <i>Physics of Plasmas</i> , 2010, 17, .	1.9	44
79	Scaling of Sweet-Parker reconnection with secondary islands. <i>Physics of Plasmas</i> , 2009, 16, 120702.	1.9	104
80	Structure of the dissipation region in fluid simulations of asymmetric magnetic reconnection. <i>Physics of Plasmas</i> , 2009, 16, 055704.	1.9	48
81	Kinetic dissipation and anisotropic heating in a turbulent collisionless plasma. <i>Physics of Plasmas</i> , 2009, 16, .	1.9	109
82	Response to "Comment on "Scaling of asymmetric magnetic reconnection: General theory and collisional simulations" [Phys. Plasmas 16, 034701 (2009)]. <i>Physics of Plasmas</i> , 2009, 16, 034702.	1.9	2
83	The hall effect in magnetic reconnection: Hybrid versus Hall-less hybrid simulations. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	24
84	Magnetic Reconnection in Two-Dimensional Magnetohydrodynamic Turbulence. <i>Physical Review Letters</i> , 2009, 102, 115003.	7.8	205
85	Ion heating resulting from pickup in magnetic reconnection exhausts. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	151
86	A MAGNETIC RECONNECTION MECHANISM FOR ION ACCELERATION AND ABUNDANCE ENHANCEMENTS IN IMPULSIVE FLARES. <i>Astrophysical Journal</i> , 2009, 700, L16-L20.	4.5	153
87	Scaling of asymmetric Hall magnetic reconnection. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	54
88	The Hall fields and fast magnetic reconnection. <i>Physics of Plasmas</i> , 2008, 15, .	1.9	168
89	Catastrophic onset of fast magnetic reconnection with a guide field. <i>Physics of Plasmas</i> , 2007, 14, 054502.	1.9	45
90	Scaling of asymmetric magnetic reconnection: General theory and collisional simulations. <i>Physics of Plasmas</i> , 2007, 14, .	1.9	401

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91	Evidence for an Elongated ( $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" \rangle$ Tj ETQq1 1 0.784314 rgBT /Overlock 107) Diffusion Region during Fast Magnetic Reconnection. <i>Physical Review Letters</i> , 2007, 99, 255002.	7.8	150
92	Two-Scale Structure of the Electron Dissipation Region during Collisionless Magnetic Reconnection. <i>Physical Review Letters</i> , 2007, 99, 155002.	7.8	275
93	Multi-point observations of the Hall electromagnetic field and secondary island formation during magnetic reconnection. <i>Journal of Geophysical Research</i> , 2007, 112, n/a-n/a.	3.3	128
94	A Model for Spontaneous Onset of Fast Magnetic Reconnection. <i>Astrophysical Journal</i> , 2006, 644, L145-L148.	4.5	72
95	Electron acceleration from contracting magnetic islands during reconnection. <i>Nature</i> , 2006, 443, 553-556.	27.8	793
96	The scaling of forced collisionless reconnection. <i>Physics of Plasmas</i> , 2005, 12, 122312.	1.9	6
97	Production of Energetic Electrons during Magnetic Reconnection. <i>Physical Review Letters</i> , 2005, 94, 095001.	7.8	190
98	Transition from antiparallel to component magnetic reconnection. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	76
99	The scaling of embedded collisionless reconnection. <i>Physics of Plasmas</i> , 2004, 11, 2199-2213.	1.9	126
100	Three-Species Collisionless Reconnection: Effect of O <sup>+</sup> on Magnetotail Reconnection. <i>Physical Review Letters</i> , 2004, 93, 175001.	7.8	92
101	Temporal structure of the fast convective flow in the plasma sheet: Comparison between observations and two-fluid simulations. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	241
102	Inherently three dimensional magnetic reconnection: A mechanism for bursty bulk flows?. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	84
103	Diamagnetic suppression of component magnetic reconnection at the magnetopause. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	220
104	Formation of Electron Holes and Particle Energization During Magnetic Reconnection. <i>Science</i> , 2003, 299, 873-877.	12.6	374
105	Three-dimensional particle simulations of collisionless magnetic reconnection. <i>Journal of Geophysical Research</i> , 2002, 107, SMP 6-1.	3.3	231
106	Alfvénic collisionless magnetic reconnection and the Hall term. <i>Journal of Geophysical Research</i> , 2001, 106, 3759-3772.	3.3	389
107	Role of Dispersive Waves in Collisionless Magnetic Reconnection. <i>Physical Review Letters</i> , 2001, 87, 195004.	7.8	231
108	Geospace Environmental Modeling (GEM) Magnetic Reconnection Challenge. <i>Journal of Geophysical Research</i> , 2001, 106, 3715-3719.	3.3	1,071

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109	The scaling of collisionless, magnetic reconnection for large systems. Geophysical Research Letters, 1999, 26, 2163-2166.	4.0	237
110	The role of electron dissipation on the rate of collisionless magnetic reconnection. Geophysical Research Letters, 1998, 25, 3759-3762.	4.0	195
111	Structure of the dissipation region during collisionless magnetic reconnection. Journal of Geophysical Research, 1998, 103, 9165-9176.	3.3	331