

Paul A Cassak

List of Publications by Year in descending order

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117
papers

5,885
citations

61857

43
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79541

73
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121
all docs

121
docs citations

121
times ranked

2358
citing authors

#	ARTICLE	IF	CITATIONS
1	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.	2.9	15
2	Theory, observations, and simulations of kinetic entropy in a magnetotail electron diffusion region. <i>Physics of Plasmas</i> , 2022, 29, .	0.7	7
3	Electron-only reconnection and associated electron heating and acceleration in PHASMA. <i>Physics of Plasmas</i> , 2022, 29, .	0.7	7
4	First-principles theory of the rate of magnetic reconnection in magnetospheric and solar plasmas. <i>Communications Physics</i> , 2022, 5, .	2.0	20
5	Dissipation measures in weakly collisional plasmas. <i>Monthly Notices of the Royal Astronomical Society</i> , 2021, 505, 4857-4873.	1.6	29
6	Structures in the terms of the Vlasov equation observed at Earth's magnetopause. <i>Nature Physics</i> , 2021, 17, 1056-1065.	6.5	15
7	Scaling theory of three-dimensional magnetic reconnection spreading. <i>Physics of Plasmas</i> , 2021, 28, .	0.7	3
8	Faster Form of Electron Magnetic Reconnection with a Finite Length X-Line. <i>Physical Review Letters</i> , 2021, 127, 155101.	2.9	13
9	Kinetic entropy-based measures of distribution function non-Maxwellianity: theory and simulations. <i>Journal of Plasma Physics</i> , 2020, 86, .	0.7	13
10	Estimating Effective Collision Frequency and Kinetic Entropy Uncertainty in Particle-in-Cell Simulations. <i>Journal of Physics: Conference Series</i> , 2020, 1620, 012009.	0.3	5
11	Nascent Flux Rope Observations at Earth's Dayside Magnetopause. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2020JA027919.	0.8	3
12	Electron Inflow Velocities and Reconnection Rates at Earth's Magnetopause and Magnetosheath. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089082.	1.5	23
13	Magnetic Reconnection in the Space Sciences: Past, Present, and Future. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2018JA025935.	0.8	65
14	Energy Flux Densities near the Electron Dissipation Region in Asymmetric Magnetopause Reconnection. <i>Physical Review Letters</i> , 2020, 125, 265102.	2.9	17
15	Particle Acceleration in Strong Turbulence in the Earth's Magnetotail. <i>Astrophysical Journal</i> , 2020, 898, 153.	1.6	27
16	MMS Multi-Point Analysis of FTE Evolution: Physical Characteristics and Dynamics. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 5376-5395.	0.8	17
17	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, .	0.7	20
18	Transition from ion-coupled to electron-only reconnection: Basic physics and implications for plasma turbulence. <i>Physics of Plasmas</i> , 2019, 26, .	0.7	61

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19	MMS Measurements of the Vlasov Equation: Probing the Electron Pressure Divergence Within Thin Current Sheets. <i>Geophysical Research Letters</i> , 2019, 46, 7862-7872.	1.5	19
20	Properties of Magnetic Reconnection and FTEs on the Dayside Magnetopause With and Without Positive IMF $\langle i \rangle B_x$ Component During Southward IMF. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 4037-4048.	0.8	25
21	Stationarity of the Reconnection X-Line at Earth's Magnetopause for Southward IMF. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 8524-8534.	0.8	14
22	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.	0.8	18
23	Magnetic Reconnection, Turbulence, and Particle Acceleration: Observations in the Earth's Magnetotail. <i>Geophysical Research Letters</i> , 2018, 45, 3338-3347.	1.5	69
24	Assessing the Time Dependence of Reconnection With Poynting's Theorem: MMS Observations. <i>Geophysical Research Letters</i> , 2018, 45, 2886-2892.	1.5	6
25	Spacecraft Observations of Oblique Electron Beams Breaking the Frozen-In Law During Asymmetric Reconnection. <i>Physical Review Letters</i> , 2018, 120, 055101.	2.9	20
26	MMS Observation of Asymmetric Reconnection Supported by $\nabla \cdot \mathbf{E}$ Electron Pressure Divergence. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 1806-1821.	0.8	34
27	Localized Oscillatory Energy Conversion in Magnetopause Reconnection. <i>Geophysical Research Letters</i> , 2018, 45, 1237-1245.	1.5	41
28	On the Collisionless Asymmetric Magnetic Reconnection Rate. <i>Geophysical Research Letters</i> , 2018, 45, 3311-3318.	1.5	15
29	Super-Alfvénic Propagation and Damping of Reconnection Onset Signatures. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 341-349.	0.8	9
30	The Transition Between Antiparallel and Component Magnetic Reconnection at Earth's Dayside Magnetopause. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 10,177.	0.8	12
31	Cavitons and spontaneous hot flow anomalies in a hybrid-Vlasov global magnetospheric simulation. <i>Annales Geophysicae</i> , 2018, 36, 1081-1097.	0.6	12
32	Observational Evidence of Large-scale Multiple Reconnection at the Earth's Dayside Magnetopause. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 8407-8421.	0.8	21
33	The reduction of magnetic reconnection outflow jets to sub-Alfvénic speeds. <i>Physics of Plasmas</i> , 2018, 25, .	0.7	20
34	Localized and Intense Energy Conversion in the Diffusion Region of Asymmetric Magnetic Reconnection. <i>Geophysical Research Letters</i> , 2018, 45, 5260-5267.	1.5	26
35	Electron magnetic reconnection without ion coupling in Earth's turbulent magnetosheath. <i>Nature</i> , 2018, 557, 202-206.	13.7	263
36	Reconnection rates and X line motion at the magnetopause: Global 2D hybrid-Vlasov simulation results. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 2877-2888.	0.8	51

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37	Why does Steady-State Magnetic Reconnection have a Maximum Local Rate of Order 0.1?. Physical Review Letters, 2017, 118, 085101.	2.9	112
38	Kinetic simulation of asymmetric magnetic reconnection with cold ions. Journal of Geophysical Research: Space Physics, 2017, 122, 5290-5306.	0.8	29
39	Large-scale characteristics of reconnection diffusion regions and associated magnetopause crossings observed by MMS. Journal of Geophysical Research: Space Physics, 2017, 122, 5466-5486.	0.8	48
40	Reconstruction of the electron diffusion region observed by the Magnetospheric Multiscale spacecraft: First results. Geophysical Research Letters, 2017, 44, 4566-4574.	1.5	27
41	Drift waves, intense parallel electric fields, and turbulence associated with asymmetric magnetic reconnection at the magnetopause. Geophysical Research Letters, 2017, 44, 2978-2986.	1.5	46
42	Elongation of Flare Ribbons. Astrophysical Journal, 2017, 838, 17.	1.6	42
43	Structure of Exhausts in Magnetic Reconnection with an X-line of Finite Extent. Astrophysical Journal, 2017, 848, 90.	1.6	5
44	Turbulence in Three-Dimensional Simulations of Magnetopause Reconnection. Journal of Geophysical Research: Space Physics, 2017, 122, 11,086.	0.8	37
45	The Effect of a Guide Field on Local Energy Conversion During Asymmetric Magnetic Reconnection: MMS Observations. Journal of Geophysical Research: Space Physics, 2017, 122, 11,342.	0.8	45
46	Effects of a Guide Field on the Larmor Electric Field and Upstream Electron Temperature Anisotropy in Collisionless Asymmetric Magnetic Reconnection. Astrophysical Journal, 2017, 845, 113.	1.6	2
47	A review of the 0.1 reconnection rate problem. Journal of Plasma Physics, 2017, 83, .	0.7	93
48	Global Three-Dimensional Simulation of Earth's Dayside Reconnection Using a Two-Way Coupled Magnetohydrodynamics With Embedded Particle-in-Cell Model: Initial Results. Journal of Geophysical Research: Space Physics, 2017, 122, 10,318.	0.8	62
49	Scaling the Ion Inertial Length and Its Implications for Modeling Reconnection in Global Simulations. Journal of Geophysical Research: Space Physics, 2017, 122, 10,336.	0.8	48
50	Space physics and policy for contemporary society. Journal of Geophysical Research: Space Physics, 2017, 122, 4430-4435.	0.8	14
51	The Effect of a Guide Field on Local Energy Conversion During Asymmetric Magnetic Reconnection: Particle-in-Cell Simulations. Journal of Geophysical Research: Space Physics, 2017, 122, 11,523.	0.8	27
52	Transition from global to local control of dayside reconnection from ionospheric-sourced mass loading. Journal of Geophysical Research: Space Physics, 2017, 122, 9474-9488.	0.8	17
53	Inside the Black Box: Magnetic Reconnection and the Magnetospheric Multiscale Mission. Space Weather, 2016, 14, 186-197.	1.3	21
54	Currents and associated electron scattering and bouncing near the diffusion region at Earth's magnetopause. Geophysical Research Letters, 2016, 43, 3042-3050.	1.5	81

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55	Ion-scale secondary flux ropes generated by magnetopause reconnection as resolved by MMS. Geophysical Research Letters, 2016, 43, 4716-4724.	1.5	95
56	The local dayside reconnection rate for oblique interplanetary magnetic fields. Journal of Geophysical Research: Space Physics, 2016, 121, 5105-5120.	0.8	12
57	Particle-in-cell simulation study of the scaling of asymmetric magnetic reconnection with in-plane flow shear. Physics of Plasmas, 2016, 23, 082107.	0.7	8
58	Electron-scale measurements of magnetic reconnection in space. Science, 2016, 352, aaf2939.	6.0	545
59	Magnetospheric ion influence on magnetic reconnection at the duskside magnetopause. Geophysical Research Letters, 2016, 43, 1435-1442.	1.5	42
60	Ion Larmor radius effects near a reconnection X line at the magnetopause: THEMIS observations and simulation comparison. Geophysical Research Letters, 2016, 43, 8844-8852.	1.5	21
61	MMS observations of electron-scale filamentary currents in the reconnection exhaust and near the X line. Geophysical Research Letters, 2016, 43, 6060-6069.	1.5	99
62	Stable reconnection at the dusk flank magnetopause. Geophysical Research Letters, 2016, 43, 9374-9382.	1.5	7
63	Magnetospheric Multiscale Satellites Observations of Parallel Electric Fields Associated with Magnetic Reconnection. Physical Review Letters, 2016, 116, 235102.	2.9	61
64	Magnetospheric Multiscale Observations of the Electron Diffusion Region of Large Guide Field Magnetic Reconnection. Physical Review Letters, 2016, 117, 015001.	2.9	74
65	The effects of turbulence on three-dimensional magnetic reconnection at the magnetopause. Geophysical Research Letters, 2016, 43, 6020-6027.	1.5	80
66	Subsolar magnetopause observation and kinetic simulation of a tripolar guide magnetic field perturbation consistent with a magnetic island. Geophysical Research Letters, 2016, 43, 3035-3041.	1.5	7
67	Observations of Hall Reconnection Physics Far Downstream of the X Line. Physical Review Letters, 2016, 117, 185102.	2.9	22
68	Spacecraft Observations and Analytic Theory of Crescent-Shaped Electron Distributions in Asymmetric Magnetic Reconnection. Physical Review Letters, 2016, 117, 185101.	2.9	42
69	Separator reconnection at the magnetopause for predominantly northward and southward IMF: Techniques and results. Journal of Geophysical Research: Space Physics, 2016, 121, 140-156.	0.8	34
70	Kinetic signatures of the region surrounding the X line in asymmetric (magnetopause) reconnection. Geophysical Research Letters, 2016, 43, 4145-4154.	1.5	106
71	Magnetospheric Multiscale observations of large-amplitude, parallel, electrostatic waves associated with magnetic reconnection at the magnetopause. Geophysical Research Letters, 2016, 43, 5626-5634.	1.5	66
72	Reconnection at Earth's Dayside Magnetopause. Astrophysics and Space Science Library, 2016, , 213-276.	1.0	38

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73	Asymmetric magnetic reconnection with a flow shear and applications to the magnetopause. Journal of Geophysical Research: Space Physics, 2015, 120, 7748-7763.	0.8	46
74	Comparative analysis of dayside magnetic reconnection models in global magnetosphere simulations. Journal of Geophysical Research: Space Physics, 2015, 120, 276-294.	0.8	46
75	Fast magnetic reconnection due to anisotropic electron pressure. Physics of Plasmas, 2015, 22, .	0.7	24
76	Electron heating during magnetic reconnection: A simulation scaling study. Physics of Plasmas, 2014, 21, .	0.7	74
77	On the 3D structure and dissipation of reconnection-driven flow bursts. Geophysical Research Letters, 2014, 41, 3710-3716.	1.5	50
78	Observation of a retreating x line and magnetic islands poleward of the cusp during northward interplanetary magnetic field conditions. Journal of Geophysical Research: Space Physics, 2014, 119, 9643-9657.	0.8	17
79	Overview on numerical studies of reconnection and dissipation in the solar wind. , 2013, , .		0
80	On phase diagrams of magnetic reconnection. Physics of Plasmas, 2013, 20, .	0.7	27
81	New Electric Field in Asymmetric Magnetic Reconnection. Physical Review Letters, 2013, 111, 135001.	2.9	41
82	ON THE CAUSE OF SUPRA-ARCADE DOWNFLOWS IN SOLAR FLARES. Astrophysical Journal Letters, 2013, 775, L14.	3.0	26
83	Tracing magnetic separators and their dependence on IMF clock angle in global magnetospheric simulations. Journal of Geophysical Research: Space Physics, 2013, 118, 4998-5007.	0.8	36
84	Reconnection events in two-dimensional Hall magnetohydrodynamic turbulence. Physics of Plasmas, 2012, 19, .	0.7	35
85	Guide field dependence of 3D X line spreading during collisionless magnetic reconnection. Journal of Geophysical Research, 2012, 117, .	3.3	41
86	Magnetic Reconnection for Coronal Conditions: Reconnection Rates, Secondary Islands and Onset. Space Science Reviews, 2012, 172, 283-302.	3.7	46
87	Magnetic reconnection as an element of turbulence. Nonlinear Processes in Geophysics, 2011, 18, 675-695.	0.6	96
88	ESTIMATES OF DENSITIES AND FILLING FACTORS FROM A COOLING TIME ANALYSIS OF SOLAR MICROFLARES OBSERVED WITH $RHESSI$. Astrophysical Journal, 2011, 736, 75.	1.6	3
89	Theory and simulations of the scaling of magnetic reconnection with symmetric shear flow. Physics of Plasmas, 2011, 18, .	0.7	25
90	Model for Incomplete Reconnection in Sawtooth Crashes. Physical Review Letters, 2011, 107, 255002.	2.9	33

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91	Scaling of the magnetic reconnection rate with symmetric shear flow. <i>Physics of Plasmas</i> , 2011, 18, .	0.7	40
92	Three-dimensional simulations of the orientation and structure of reconnection X-lines. <i>Physics of Plasmas</i> , 2010, 17, .	0.7	21
93	A saddle-node bifurcation model of magnetic reconnection onset. <i>Physics of Plasmas</i> , 2010, 17, .	0.7	21
94	Comparison of Secondary Islands in Collisional Reconnection to Hall Reconnection. <i>Physical Review Letters</i> , 2010, 105, 015004.	2.9	73
95	Statistics of magnetic reconnection in two-dimensional magnetohydrodynamic turbulence. <i>Physics of Plasmas</i> , 2010, 17, .	0.7	113
96	Magnetic reconnection with asymmetry in the outflow direction. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	24
97	Scaling of asymmetric magnetic reconnection: Kinetic particle-in-cell simulations. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	61
98	THE IMPACT OF MICROSCOPIC MAGNETIC RECONNECTION ON PRE-FLARE ENERGY STORAGE. <i>Astrophysical Journal</i> , 2009, 707, L158-L162.	1.6	32
99	Scaling of Sweet-Parker reconnection with secondary islands. <i>Physics of Plasmas</i> , 2009, 16, 120702.	0.7	104
100	Structure of the dissipation region in fluid simulations of asymmetric magnetic reconnection. <i>Physics of Plasmas</i> , 2009, 16, 055704.	0.7	48
101	Kinetic dissipation and anisotropic heating in a turbulent collisionless plasma. <i>Physics of Plasmas</i> , 2009, 16, .	0.7	109
102	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.	0.7	2
103	The hall effect in magnetic reconnection: Hybrid versus Hall-less hybrid simulations. <i>Geophysical Research Letters</i> , 2009, 36, .	1.5	24
104	Magnetic Reconnection in Two-Dimensional Magnetohydrodynamic Turbulence. <i>Physical Review Letters</i> , 2009, 102, 115003.	2.9	205
105	Ion heating resulting from pickup in magnetic reconnection exhausts. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	151
106	A MAGNETIC RECONNECTION MECHANISM FOR ION ACCELERATION AND ABUNDANCE ENHANCEMENTS IN IMPULSIVE FLARES. <i>Astrophysical Journal</i> , 2009, 700, L16-L20.	1.6	153
107	Scaling of asymmetric Hall magnetic reconnection. <i>Geophysical Research Letters</i> , 2008, 35, .	1.5	54
108	From Solar and Stellar Flares to Coronal Heating: Theory and Observations of How Magnetic Reconnection Regulates Coronal Conditions. <i>Astrophysical Journal</i> , 2008, 676, L69-L72.	1.6	46

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109	Catastrophic onset of fast magnetic reconnection with a guide field. <i>Physics of Plasmas</i> , 2007, 14, 054502.	0.7	45
110	Scaling of asymmetric magnetic reconnection: General theory and collisional simulations. <i>Physics of Plasmas</i> , 2007, 14, .	0.7	401
111	Onset of Fast Magnetic Reconnection. <i>Physical Review Letters</i> , 2007, 98, 215001.	2.9	69
112	A Model for Spontaneous Onset of Fast Magnetic Reconnection. <i>Astrophysical Journal</i> , 2006, 644, L145-L148.	1.6	72
113	Catastrophe Model for Fast Magnetic Reconnection Onset. <i>Physical Review Letters</i> , 2005, 95, 235002.	2.9	144
114	Microwave measurements of rhenium quadrupole coupling in cyclopentadienyl rhenium tricarbonyl. <i>Journal of Chemical Physics</i> , 1998, 108, 8878-8883.	1.2	10
115	Determination of structural parameters for the half-sandwich compounds cyclopentadienyl thallium and cyclopentadienyl indium and indium quadrupole coupling for cyclopentadienyl indium using microwave spectroscopy. <i>Journal of Chemical Physics</i> , 1997, 107, 3766-3773.	1.2	14
116	Measurements of structural and quadrupole coupling parameters for bromoferrocene using microwave spectroscopy. <i>Journal of Chemical Physics</i> , 1997, 107, 6541-6548.	1.2	18
117	Measurements of Structural and Quadrupolar Coupling Parameters for Chloroferrocene Using Microwave Spectroscopy. <i>Inorganic Chemistry</i> , 1997, 36, 2868-2871.	1.9	9