

William Paterson

List of Publications by Year in descending order

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119
papers

5,202
citations

94433

37
h-index

95266

68
g-index

121
all docs

121
docs citations

121
times ranked

1966
citing authors

#	ARTICLE	IF	CITATIONS
1	Fast Plasma Investigation for Magnetospheric Multiscale. Space Science Reviews, 2016, 199, 331-406.	8.1	960
2	Electron-scale dynamics of the diffusion region during symmetric magnetic reconnection in space. Science, 2018, 362, 1391-1395.	12.6	221
3	Extended magnetic reconnection at the Earth's magnetopause from detection of bi-directional jets. Nature, 2000, 404, 848-850.	27.8	212
4	The Comprehensive Plasma Instrumentation(CPI) for the GEOTAIL Spacecraft.. Journal of Geomagnetism and Geoelectricity, 1994, 46, 23-37.	0.9	150
5	Lower hybrid waves in the ion diffusion and magnetospheric inflow regions. Journal of Geophysical Research: Space Physics, 2017, 122, 517-533.	2.4	108
6	Magnetospheric Multiscale observations of magnetic reconnection associated with Kelvin-Helmholtz waves. Geophysical Research Letters, 2016, 43, 5606-5615.	4.0	104
7	MMS observations of electron-scale filamentary currents in the reconnection exhaust and near the X line. Geophysical Research Letters, 2016, 43, 6060-6069.	4.0	99
8	Boundary layer formation in the magnetotail: Geotail observations and comparisons with a global MHD simulation. Geophysical Research Letters, 1997, 24, 951-954.	4.0	95
9	Ion-scale secondary flux ropes generated by magnetopause reconnection as resolved by MMS. Geophysical Research Letters, 2016, 43, 4716-4724.	4.0	95
10	Electron scale structures and magnetic reconnection signatures in the turbulent magnetosheath. Geophysical Research Letters, 2016, 43, 5969-5978.	4.0	92
11	Rippled Quasiperpendicular Shock Observed by the Magnetospheric Multiscale Spacecraft. Physical Review Letters, 2016, 117, 165101.	7.8	87
12	MMS observations of large guide field symmetric reconnection between colliding reconnection jets at the center of a magnetic flux rope at the magnetopause. Geophysical Research Letters, 2016, 43, 5536-5544.	4.0	84
13	Currents and associated electron scattering and bouncing near the diffusion region at Earth's magnetopause. Geophysical Research Letters, 2016, 43, 3042-3050.	4.0	81
14	Observations of an Electron Diffusion Region in Symmetric Reconnection with Weak Guide Field. Astrophysical Journal, 2019, 870, 34.	4.5	79
15	Wave-particle energy exchange directly observed in a kinetic Alfvén-branch wave. Nature Communications, 2017, 8, 14719.	12.8	73
16	MMS Observation of Magnetic Reconnection in the Turbulent Magnetosheath. Journal of Geophysical Research: Space Physics, 2017, 122, 11,442.	2.4	73
17	Coalescence of Macroscopic Flux Ropes at the Subsolar Magnetopause: Magnetospheric Multiscale Observations. Physical Review Letters, 2017, 119, 055101.	7.8	72
18	Electron jet of asymmetric reconnection. Geophysical Research Letters, 2016, 43, 5571-5580.	4.0	66

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19	Outflow of hydrogen ions from Ganymede. <i>Geophysical Research Letters</i> , 1997, 24, 2151-2154.	4.0	57
20	Geotail survey of ion flow in the plasma sheet: Observations between 10 and 50RE. <i>Journal of Geophysical Research</i> , 1998, 103, 11811-11825.	3.3	56
21	Observations of thermal plasmas in Jupiter's magnetotail. <i>Journal of Geophysical Research</i> , 2002, 107, SIA 1-1.	3.3	56
22	Electron currents and heating in the ion diffusion region of asymmetric reconnection. <i>Geophysical Research Letters</i> , 2016, 43, 4691-4700.	4.0	53
23	Electron diffusion region during magnetopause reconnection with an intermediate guide field: Magnetospheric multiscale observations. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 5235-5246.	2.4	52
24	Electron Crescent Distributions as a Manifestation of Diamagnetic Drift in an Electron-Scale Current Sheet: Magnetospheric Multiscale Observations Using New 7.5Åms Fast Plasma Investigation Moments. <i>Geophysical Research Letters</i> , 2018, 45, 578-584.	4.0	52
25	Observations of Magnetic Reconnection in the Transition Region of Quasi-Parallel Shocks. <i>Geophysical Research Letters</i> , 2019, 46, 1177-1184.	4.0	51
26	Relation between electrostatic solitary waves and hot plasma flow in the plasma sheet boundary layer: GEOTAIL observations. <i>Geophysical Research Letters</i> , 1994, 21, 2919-2922.	4.0	50
27	Electron Heating at Kinetic Scales in Magnetosheath Turbulence. <i>Astrophysical Journal</i> , 2017, 836, 247.	4.5	50
28	Electron dynamics in a subproton-gyroscale magnetic hole. <i>Geophysical Research Letters</i> , 2016, 43, 4112-4118.	4.0	49
29	Kinetic evidence of magnetic reconnection due to Kelvin-Helmholtz waves. <i>Geophysical Research Letters</i> , 2016, 43, 5635-5643.	4.0	47
30	Instability of Anisotropic Electron Beams near the Electron Diffusion Region. <i>Physical Review Letters</i> , 2017, 119, 025101.	7.8	46
31	Observations of nonadiabatic acceleration of ions in Earth's magnetotail. <i>Journal of Geophysical Research</i> , 1994, 99, 14877.	3.3	45
32	Cross-tail magnetic flux ropes as observed by the GEOTAIL spacecraft. <i>Geophysical Research Letters</i> , 1995, 22, 1193-1196.	4.0	45
33	Plasma sheet thickness and electric currents. <i>Journal of Geophysical Research</i> , 2001, 106, 6179-6193.	3.3	43
34	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.	2.4	43
35	Survey of plasma parameters in Earth's distant magnetotail with the Geotail spacecraft. <i>Geophysical Research Letters</i> , 1994, 21, 2971-2974.	4.0	42
36	Magnetospheric Multiscale mission observations of the outer electron diffusion region. <i>Geophysical Research Letters</i> , 2017, 44, 2049-2059.	4.0	41

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37	Evidence for Secondary Flux Rope Generated by the Electron Kelvin-Helmholtz Instability in a Magnetic Reconnection Diffusion Region. <i>Physical Review Letters</i> , 2018, 120, 075101.	7.8	40
38	Spacecraft and Instrument Photoelectrons Measured by the Dual Electron Spectrometers on MMS. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 11,548.	2.4	39
39	Ion sources and acceleration mechanisms inferred from local distribution functions. <i>Geophysical Research Letters</i> , 1997, 24, 955-958.	4.0	38
40	Galileo observations of electron beams and thermal ions in Jupiter's magnetosphere and their relationship to the auroras. <i>Journal of Geophysical Research</i> , 2002, 107, SMP 35-1-SMP 35-17.	3.3	37
41	Finite gyroradius effects in the electron outflow of asymmetric magnetic reconnection. <i>Geophysical Research Letters</i> , 2016, 43, 6724-6733.	4.0	37
42	In Situ Observation of Magnetic Reconnection Between an Earthward Propagating Flux Rope and the Geomagnetic Field. <i>Geophysical Research Letters</i> , 2018, 45, 8729-8737.	4.0	37
43	Direct measurements of two-way wave-particle energy transfer in a collisionless space plasma. <i>Science</i> , 2018, 361, 1000-1003.	12.6	36
44	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
45	Signatures of complex magnetic topologies from multiple reconnection sites induced by Kelvin-Helmholtz instability. <i>Journal of Geophysical Research: Space Physics</i> , 2016, 121, 9926-9939.	2.4	35
46	Low-energy electron measurements at Ganymede with the Galileo spacecraft: Probes of the magnetic topology. <i>Geophysical Research Letters</i> , 1997, 24, 2159-2162.	4.0	33
47	Localized reconnection and substorm onset on Dec. 22, 1996. <i>Geophysical Research Letters</i> , 1999, 26, 3545-3548.	4.0	33
48	Ion energization in Ganymede's magnetosphere: Using multifluid simulations to interpret ion energy spectrograms. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	33
49	The substructure of a flux transfer event observed by the MMS spacecraft. <i>Geophysical Research Letters</i> , 2016, 43, 9434-9443.	4.0	33
50	Electron Diffusion Regions in Magnetotail Reconnection Under Varying Guide Fields. <i>Geophysical Research Letters</i> , 2019, 46, 6230-6238.	4.0	33
51	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.	4.0	32
52	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.	2.4	32
53	Statistics of Reconnecting Current Sheets in the Transition Region of Earth's Bow Shock. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027119.	2.4	32
54	Geotail Observations of an Unusual Magnetotail under Very Northward IMF Conditions. <i>Journal of Geomagnetism and Geoelectricity</i> , 1996, 48, 473-487.	0.9	32

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55	Lower Hybrid Drift Waves and Electromagnetic Electron Spaceâ€Phase Holes Associated With Dipolarization Fronts and Fieldâ€Aligned Currents Observed by the Magnetospheric Multiscale Mission During a Substorm. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 12,236.	2.4	31
56	Lower-Hybrid Drift Waves Driving Electron Nongyrotropic Heating and Vortical Flows in a Magnetic Reconnection Layer. <i>Physical Review Letters</i> , 2020, 125, 025103.	7.8	29
57	Pressure, volume, density relationships in the plasma sheet. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	28
58	Decay of mesoscale flux transfer events during quasiâ€continuous spatially extended reconnection at the magnetopause. <i>Geophysical Research Letters</i> , 2016, 43, 4755-4762.	4.0	28
59	Observations of plasmas associated with the magnetic signature of a plasmoid in the distant magnetotail. <i>Geophysical Research Letters</i> , 1994, 21, 2967-2970.	4.0	27
60	Generation mechanism of ESW based on GEOTAIL plasma wave observation, plasma observation and particle simulation. <i>Geophysical Research Letters</i> , 1999, 26, 421-424.	4.0	27
61	Plasmas observed with the Galileo spacecraft during its flyby over Io's northern polar region. <i>Journal of Geophysical Research</i> , 2002, 107, SMP 31-1-SMP 31-19.	3.3	27
62	Force balance at the magnetopause determined with MMS: Application to flux transfer events. <i>Geophysical Research Letters</i> , 2016, 43, 11,941.	4.0	27
63	Observations of a slow-mode shock at the lobe-plasma sheet boundary in Earth's distant magnetotail. <i>Geophysical Research Letters</i> , 1995, 22, 2981-2984.	4.0	26
64	The Properties of Lion Roars and Electron Dynamics in Mirror Mode Waves Observed by the Magnetospheric MultiScale Mission. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 93-103.	2.4	26
65	Magnetic Reconnection Inside a Flux Rope Induced by Kelvinâ€Helmholtz Vortices. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027665.	2.4	26
66	Energy partitioning constraints at kinetic scales in low- β^2 turbulence. <i>Physics of Plasmas</i> , 2018, 25, .	1.9	25
67	Survey of electron and ion bulk flows in the distant magnetotail with the Geotail spacecraft. <i>Geophysical Research Letters</i> , 1994, 21, 2963-2966.	4.0	24
68	Observations of magnetic flux ropes and associated currents in Earth's magnetotail with the Galileo spacecraft. <i>Geophysical Research Letters</i> , 1995, 22, 2087-2090.	4.0	24
69	Smallâ€Scale Flux Transfer Events Formed in the Reconnection Exhaust Region Between Two X Lines. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 8473-8488.	2.4	23
70	Electron Vorticity Indicative of the Electron Diffusion Region of Magnetic Reconnection. <i>Geophysical Research Letters</i> , 2019, 46, 6287-6296.	4.0	23
71	Large Field Events in the Distant Magnetotail During Magnetic Storms. <i>Journal of Geomagnetism and Geoelectricity</i> , 1996, 48, 561-575.	0.9	23
72	Geometry of the plasma sheet in the midnight-to-dawn sector of the Jovian Magnetosphere: Plasma observations with the Galileo spacecraft. <i>Geophysical Research Letters</i> , 1997, 24, 869-872.	4.0	21

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73	Quantitative analysis of a Hall system in the exhaust of asymmetric magnetic reconnection. Journal of Geophysical Research: Space Physics, 2017, 122, 5277-5289.	2.4	21
74	Plasmas observed near local noon in Jupiter's magnetosphere with the Galileo spacecraft. Journal of Geophysical Research, 2004, 109, .	3.3	20
75	Strong current sheet at a magnetosheath jet: Kinetic structure and electron acceleration. Journal of Geophysical Research: Space Physics, 2016, 121, 9608-9618.	2.4	20
76	New Results From <i>Galileo</i>'s First Flyby of Ganymede: Reconnection-Driven Flows at the Low-Latitude Magnetopause Boundary, Crossing the Cusp, and Icy Ionospheric Escape. Geophysical Research Letters, 2018, 45, 3382-3392.	4.0	20
77	On the Ubiquity of Magnetic Reconnection Inside Flux Transfer Event-Like Structures at the Earth's Magnetopause. Geophysical Research Letters, 2020, 47, e2019GL086726.	4.0	20
78	Three-dimensional analyses of electric currents and pressure anisotropies in the plasma sheet. Journal of Geophysical Research, 2002, 107, SMP 10-1.	3.3	19
79	Electron-scale Vertical Current Sheets in a Bursty Bulk Flow in the Terrestrial Magnetotail. Astrophysical Journal Letters, 2019, 872, L26.	8.3	19
80	MMS Measurements of the Vlasov Equation: Probing the Electron Pressure Divergence Within Thin Current Sheets. Geophysical Research Letters, 2019, 46, 7862-7872.	4.0	19
81	Source distributions of substorm ions observed in the near-Earth magnetotail. Geophysical Research Letters, 1999, 26, 955-958.	4.0	18
82	Observations of density fluctuations in Earth's magnetosheath with Geotail and Wind spacecraft. Geophysical Research Letters, 1999, 26, 959-962.	4.0	17
83	Shift of the magnetopause reconnection line to the winter hemisphere under southward IMF conditions: Geotail and MMS observations. Geophysical Research Letters, 2016, 43, 5581-5588.	4.0	17
84	Systematic Uncertainties in Plasma Parameters Reported by the Fast Plasma Investigation on NASA's Magnetospheric Multiscale Mission. Journal of Geophysical Research: Space Physics, 2019, 124, 10345-10359.	2.4	16
85	MMS SITL Ground Loop: Automating the Burst Data Selection Process. Frontiers in Astronomy and Space Sciences, 2020, 7, 54.	2.8	16
86	Irregular, long-period boundary oscillations beyond $\sim 1/4$ 100 Re: GEOTAIL plasma observations. Geophysical Research Letters, 1994, 21, 2979-2982.	4.0	15
87	On the deviation from Maxwellian of the ion velocity distribution functions in the turbulent magnetosheath. Journal of Plasma Physics, 2020, 86, .	2.1	15
88	Structures in the terms of the Vlasov equation observed at Earth's magnetopause. Nature Physics, 2021, 17, 1056-1065.	16.7	15
89	Birkeland currents in the plasma sheet. Journal of Geophysical Research, 2003, 108, .	3.3	13
90	Magnetization of the plasma sheet. Journal of Geophysical Research, 2004, 109, .	3.3	12

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91	Observations of the Source Region of Whistler Mode Waves in Magnetosheath Mirror Structures. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027488.	2.4	12
92	GEOTAIL observations of anomalously low density plasma in the magnetosheath. <i>Geophysical Research Letters</i> , 2000, 27, 3781-3784.	4.0	10
93	Structure, force balance, and topology of Earth's magnetopause. <i>Science</i> , 2017, 356, 960-963.	12.6	10
94	On Multiple Hall-Current-Like Electron Currents and Tripolar Guide Magnetic Field Perturbations During Kelvin-Helmholtz Waves. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 1305-1324.	2.4	10
95	Extension of the Electron Diffusion Region in a Guide Field Magnetic Reconnection at Magnetopause. <i>Astrophysical Journal Letters</i> , 2020, 892, L5.	8.3	10
96	Magnetic Reconnection Inside a Flux Transfer Event-Like Structure in Magnetopause Kelvin-Helmholtz Waves. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027527.	2.4	10
97	Galileo observations of the motions of ion and electron plasmas in the magnetotail. <i>Geophysical Research Letters</i> , 1993, 20, 1771-1774.	4.0	9
98	Characteristics of Minor Ions and Electrons in Flux Transfer Events Observed by the Magnetospheric Multiscale Mission. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2020JA027778.	2.4	8
99	Observations of the Magnetosheath near the Nominal Tail Axis during the Geomagnetic Storm of January 25, 1993. <i>Journal of Geomagnetism and Geoelectricity</i> , 1996, 48, 577-588.	0.9	8
100	Direct detection of the current in a magnetotail flux rope. <i>Geophysical Research Letters</i> , 1995, 22, 2697-2700.	4.0	7
101	Observations of a current pulse in the near-Earth plasma sheet associated with a substorm onset. <i>Geophysical Research Letters</i> , 1997, 24, 967-970.	4.0	7
102	Pressure anisotropy and By in the magnetotail current sheet. <i>Geophysical Monograph Series</i> , 2000, , 323-330.	0.1	7
103	Geotail observations of magnetospheric midtail during an extended period of strongly northward interplanetary magnetic field. <i>Geophysical Research Letters</i> , 2002, 29, 15-1.	4.0	7
104	Determination of Particle Sources for a Geotail Distribution Function Observed on May 23, 1995. <i>Geophysical Monograph Series</i> , 2013, , 297-312.	0.1	7
105	Four-Spacecraft Measurements of the Shape and Dimensionality of Magnetic Structures in the Near-Earth Plasma Environment. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 6850-6868.	2.4	7
106	On the Transition Between the Inner and Outer Plasma Sheet in the Earth's Magnetotail. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027561.	2.4	7
107	Latitudinal Dependence of the Kelvin-Helmholtz Instability and Beta Dependence of Vortex-Induced High-Guide Field Magnetic Reconnection. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027333.	2.4	7
108	Conjunction of tail satellites for substorm study: ISTP event of 1997 January 2. <i>Geophysical Research Letters</i> , 2000, 27, 1831-1834.	4.0	4

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109	Observations of plasma injection into the ring current during substorm expansive phase. Journal of Geophysical Research, 2002, 107, SMP 5-1.	3.3	4
110	Geotail Observations of Current Systems in the Plasma Sheet. Geophysical Monograph Series, 2013, , 201-211.	0.1	4
111	Modeling Magnetotail Ion Distributions with Global Magnetohydrodynamic and Ion Trajectory Calculations. Geophysical Monograph Series, 2013, , 291-296.	0.1	4
112	Cross-tail magnetic flux ropes as observed by the GEOTAIL spacecraft. Geophysical Research Letters, 1995, 22, 1193-1196.	4.0	3
113	Neural Network Repair of Lossy Compression Artifacts in the September 2015 to March 2016 Duration of the MMS/FPI Data Set. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027181.	2.4	2
114	Advances in the Physics of Earth's Magnetotail. Geophysical Monograph Series, 0, , 167-180.	0.1	1
115	Large-Scale Dynamics of the Magnetospheric Boundary: Comparisons between Global MHD Simulation Results and ISTP Observations. Geophysical Monograph Series, 2013, , 247-260.	0.1	1
116	Physically Accurate Large Dynamic Range Pseudo Moments for the MMS Fast Plasma Investigation. Earth and Space Science, 2018, 5, 503-515.	2.6	1
117	Three Solar Irradiance Proxies for Aperture Photoelectron Detections in Topâ€ˆESAs Coated With Ebonolâ€ˆ. Journal of Geophysical Research: Space Physics, 2021, 126, .	2.4	1
118	Production of Negative Hydrogen Ions Within the MMS Fast Plasma Investigation Due to Solar Wind Bombardment. Journal of Geophysical Research: Space Physics, 2018, 123, 6161-6170.	2.4	0
119	Statistical Study on Electron and Ion Temperatures in the Nearâ€ˆEarth Reconnection and Magnetic Pileup Regions. Geophysical Research Letters, 2019, 46, 14223-14229.	4.0	0