John C Dorelli

List of Publications by Year
in descending order

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130	6,282	71102	76900
papers	citations	41 h-index	74 g-index

136	136	136	2182
all docs	docs citations	times ranked	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 measurements of magnetic reconnection in space. Science, 2016, 352, aaf2939.	12.6	545
3	Electron magnetic reconnection without ion coupling in Earthâ€™s turbulent magnetosheath. Nature, 2018, 557, 202-206.	27.8	263
4	Electron-scale dynamics of the diffusion region during symmetric magnetic reconnection in space. Science, 2018, 362, 1391-1395.	12.6	221
5	Detection of Small-Scale Structures in the Dissipation Regime of Solar-Wind Turbulence. Physical Review Letters, 2012, 109, 191101.	7.8	116
6	Lower hybrid waves in the ion diffusion and magnetospheric inflow regions. Journal of Geophysical Research: Space Physics, 2017, 122, 517-533.	2.4	108
7	Magnetospheric Multiscale observations of magnetic reconnection associated with Kelvinâ€Helmholtz waves. Geophysical Research Letters, 2016, 43, 5606-5615.	4.0	104
8	MMS observations of electronâ€scale filamentary currents in the reconnection exhaust and near the X line. Geophysical Research Letters, 2016, 43, 6060-6069.	4.0	99
9	Ionâ€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	Estimates of terms in Ohm's law during an encounter with an electron diffusion region. Geophysical Research Letters, 2016, 43, 5918-5925.	4.0	86
13	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
14	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
15	Observations of turbulence in a Kelvinâ€Helmholtz event on 8 September 2015 by the Magnetospheric Multiscale mission. Journal of Geophysical Research: Space Physics, 2016, 121, 11,021.	2.4	81
16	Plasma sheet formation during long period of northward IMF. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	78
17	Extended magnetohydrodynamics with embedded particleâ€inâ€cell simulation of Ganymede's magnetosphere. Journal of Geophysical Research: Space Physics, 2016, 121, 1273-1293.	2.4	78
18	Separator reconnection at Earth's dayside magnetopause under generic northward interplanetary magnetic field conditions. Journal of Geophysical Research, 2007, 112, n/a-n/a.	3.3	73

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19	Wave-particle energy exchange directly observed in a kinetic AlfvÃ©n-branch wave. Nature Communications, 2017, 8, 14719.	12.8	73
20	MMS Observation of Magnetic Reconnection in the Turbulent Magnetosheath. Journal of Geophysical Research: Space Physics, 2017, 122, 11,442.	2.4	73
21	Magnetic Reconnection, Turbulence, and Particle Acceleration: Observations in the Earth's Magnetotail. Geophysical Research Letters, 2018, 45, 3338-3347.	4.0	69
22	Electron energization and mixing observed by MMS in the vicinity of an electron diffusion region during magnetopause reconnection. Geophysical Research Letters, 2016, 43, 6036-6043.	4.0	67
23	Electron jet of asymmetric reconnection. Geophysical Research Letters, 2016, 43, 5571-5580.	4.0	66
24	On the generation and topology of flux transfer events. Journal of Geophysical Research, 2009, 114, .	3.3	58
25	Flux Pileup in Collisionless Magnetic Reconnection: Bursty Interaction of Large Flux Ropes. Physical Review Letters, 2011, 107, 025002.	7.8	56
26	In Situ Observation of Intermittent Dissipation at Kinetic Scales in the Earth's Magnetosheath. Astrophysical Journal Letters, 2018, 856, L19.	8.3	55
27	Energy Conversion and Collisionless Plasma Dissipation Channels in the Turbulent Magnetosheath Observed by the Magnetospheric Multiscale Mission. Astrophysical Journal, 2018, 862, 32.	4.5	55
28	Electron currents and heating in the ion diffusion region of asymmetric reconnection. Geophysical Research Letters, 2016, 43, 4691-4700.	4.0	53
29	Electron diffusion region during magnetopause reconnection with an intermediate guide field: Magnetospheric multiscale observations. Journal of Geophysical Research: Space Physics, 2017, 122, 5235-5246.	2.4	52
30	Electron Crescent Distributions as a Manifestation of Diamagnetic Drift in an Electronâ€Scale Current Sheet: Magnetospheric Multiscale Observations Using New 7.5Âms Fast Plasma Investigation Moments. Geophysical Research Letters, 2018, 45, 578-584.	4.0	52
31	Whistler-mediated magnetic reconnection in large systems: Magnetic flux pileup and the formation of thin current sheets. Journal of Geophysical Research, 2003, 108, .	3.3	51
32	Energy limits of electron acceleration in the plasma sheet during substorms: A case study with the Magnetospheric Multiscale (MMS) mission. Geophysical Research Letters, 2016, 43, 7785-7794.	4.0	51
33	Electron Heating at Kinetic Scales in Magnetosheath Turbulence. Astrophysical Journal, 2017, 836, 247.	4.5	50
34	Electron dynamics in a subprotonâ€gyroscale magnetic hole. Geophysical Research Letters, 2016, 43, 4112-4118.	4.0	49
35	Solar Wind Turbulence Studies Using MMS Fast Plasma Investigation Data. Astrophysical Journal, 2018, 866, 81.	4.5	48
36	Kinetic evidence of magnetic reconnection due to Kelvinâ€Helmholtz waves. Geophysical Research Letters, 2016, 43, 5635-5643.	4.0	47

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37	Electron Scattering by High-frequency Whistler Waves at Earthâ€™s Bow Shock. Astrophysical Journal Letters, 2017, 842, L11.	8.3	46
38	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
39	Magnetic reconnection and modification of the Hall physics due to cold ions at the magnetopause. Geophysical Research Letters, 2016, 43, 6705-6712.	4.0	45
40	Whistler mode waves and Hall fields detected by MMS during a dayside magnetopause crossing. Geophysical Research Letters, 2016, 43, 5943-5952.	4.0	44
41	Spacecraft Observations and Analytic Theory of Crescent-Shaped Electron Distributions in Asymmetric Magnetic Reconnection. Physical Review Letters, 2016, 117, 185101.	7.8	42
42	Incompressive Energy Transfer in the Earthâ€™s Magnetosheath: Magnetospheric Multiscale Observations. Astrophysical Journal, 2018, 866, 106.	4.5	42
43	Magnetospheric Multiscale mission observations of the outer electron diffusion region. Geophysical Research Letters, 2017, 44, 2049-2059.	4.0	41
44	Localized Oscillatory Energy Conversion in Magnetopause Reconnection. Geophysical Research Letters, 2018, 45, 1237-1245.	4.0	41
45	Spacecraft and Instrument Photoelectrons Measured by the Dual Electron Spectrometers on MMS. Journal of Geophysical Research: Space Physics, 2017, 122, 11,548.	2.4	39
46	Electron Bulk Acceleration and Thermalization at Earthâ€™s Quasiperpendicular Bow Shock. Physical Review Letters, 2018, 120, 225101.	7.8	38
47	Effects of Hall electric fields on the saturation of forced antiparallel magnetic field merging. Physics of Plasmas, 2003, 10, 3309-3314.	1.9	37
48	Finite gyroradius effects in the electron outflow of asymmetric magnetic reconnection. Geophysical Research Letters, 2016, 43, 6724-6733.	4.0	37
49	Pressure Tensor Elements Breaking the Frozen-In Law During Reconnection in Earthâ€™s Magnetotail. Physical Review Letters, 2019, 123, 225101.	7.8	37
50	A new look at driven magnetic reconnection at the terrestrial subsolar magnetopause. Journal of Geophysical Research, 2004, 109, .	3.3	36
51	Tracing magnetic separators and their dependence on IMF clock angle in global magnetospheric simulations. Journal of Geophysical Research: Space Physics, 2013, 118, 4998-5007.	2.4	36
52	The role of the Hall effect in the global structure and dynamics of planetary magnetospheres: Ganymede as a case study. Journal of Geophysical Research: Space Physics, 2015, 120, 5377-5392.	2.4	35
53	Cold ion demagnetization near the Xâ€line of magnetic reconnection. Geophysical Research Letters, 2016, 43, 6759-6767.	4.0	35
54	Signatures of complex magnetic topologies from multiple reconnection sites induced by Kelvinâ€Helmholtz instability. Journal of Geophysical Research: Space Physics, 2016, 121, 9926-9939.	2.4	35

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55	Magnetic Reconnection at a Thin Current Sheet Separating Two Interlaced Flux Tubes at the Earth's Magnetopause. Journal of Geophysical Research: Space Physics, 2018, 123, 1779-1793.	2.4	35
56	The calculation of moment uncertainties from velocity distribution functions with random errors. Journal of Geophysical Research: Space Physics, 2015, 120, 6633-6645.	2.4	34
57	Separator reconnection at the magnetopause for predominantly northward and southward IMF: Techniques and results. Journal of Geophysical Research: Space Physics, 2016, 121, 140-156.	2.4	34
58	The substructure of a flux transfer event observed by the MMS spacecraft. Geophysical Research Letters, 2016, 43, 9434-9443.	4.0	33
59	Observation of highâ€frequency electrostatic waves in the vicinity of the reconnection ion diffusion region by the spacecraft of the Magnetospheric Multiscale (MMS) mission. Geophysical Research Letters, 2016, 43, 4808-4815.	4.0	32
60	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. Journal of Geophysical Research: Space Physics, 2017, 122, 12,236.	2.4	31
61	The geometric factor of electrostatic plasma analyzers: A case study from the Fast Plasma Investigation for the Magnetospheric Multiscale mission. Review of Scientific Instruments, 2012, 83, 033303.	1.3	30
62	Transient, smallâ€scale fieldâ€aligned currents in the plasma sheet boundary layer during storm time substorms. Geophysical Research Letters, 2016, 43, 4841-4849.	4.0	30
63	A telescopic and microscopic examination of acceleration in the June 2015 geomagnetic storm: Magnetospheric Multiscale and Van Allen Probes study of substorm particle injection. Geophysical Research Letters, 2016, 43, 6051-6059.	4.0	30
64	Lower-Hybrid Drift Waves Driving Electron Nongyrotropic Heating and Vortical Flows in a Magnetic Reconnection Layer. Physical Review Letters, 2020, 125, 025103.	7.8	29
65	Decay of mesoscale flux transfer events during quasiâ€continuous spatially extended reconnection at the magnetopause. Geophysical Research Letters, 2016, 43, 4755-4762.	4.0	28
66	Ion Kinetics in a Hot Flow Anomaly: MMS Observations. Geophysical Research Letters, 2018, 45, 11,520.	4.0	28
67	Electron Scattering by Low-frequency Whistler Waves at Earthâ€™s Bow Shock. Astrophysical Journal, 2019, 886, 53.	4.5	28
68	Thin current sheets and loss of equilibrium: Three-dimensional theory and simulations. Journal of Geophysical Research, 2004, 109, .	3.3	27
69	Reconstruction of the electron diffusion region observed by the Magnetospheric Multiscale spacecraft: First results. Geophysical Research Letters, 2017, 44, 4566-4574.	4.0	27
70	Largeâ€Scale Survey of the Structure of the Dayside Magnetopause by MMS. Journal of Geophysical Research: Space Physics, 2018, 123, 2018-2033.	2.4	27
71	The Properties of Lion Roars and Electron Dynamics in Mirror Mode Waves Observed by the Magnetospheric MultiScale Mission. Journal of Geophysical Research: Space Physics, 2018, 123, 93-103.	2.4	26
72	Electron Bernstein waves driven by electron crescents near the electron diffusion region. Nature Communications, 2020, 11, 141.	12.8	26

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73	Magnetic Reconnection Inside a Flux Rope Induced by Kelvinâ€Helmholtz Vortices. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027665.	2.4	26
74	Energy partitioning constraints at kinetic scales in low-Î² turbulence. Physics of Plasmas, 2018, 25, .	1.9	25
75	Electron magnetohydrodynamic simulations of magnetic island coalescence. Physics of Plasmas, 2001, 8, 4010-4019.	1.9	23
76	Defining and identifying three-dimensional magnetic reconnection in resistive magnetohydrodynamic simulations of Earthâ€™s magnetosphere. Physics of Plasmas, 2008, 15, 056504.	1.9	23
77	Smallâ€Scale Flux Transfer Events Formed in the Reconnection Exhaust Region Between Two X Lines. Journal of Geophysical Research: Space Physics, 2018, 123, 8473-8488.	2.4	23
78	Electron Vorticity Indicative of the Electron Diffusion Region of Magnetic Reconnection. Geophysical Research Letters, 2019, 46, 6287-6296.	4.0	23
79	Electron heat flow in the solar corona: Implications of non-Maxwellian velocity distributions, the solar gravitational field, and Coulomb collisions. Journal of Geophysical Research, 2003, 108, .	3.3	22
80	Magnetospheric Multiscale Mission observations and nonâ€force free modeling of a flux transfer event immersed in a superâ€AlfvÃ©nic flow. Geophysical Research Letters, 2016, 43, 6070-6077.	4.0	22
81	Electron heat flow carried by Kappa Distributions in the solar corona. Geophysical Research Letters, 1999, 26, 3537-3540.	4.0	21
82	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
83	MMS Observations of Beta-dependent Constraints on Ion Temperature Anisotropy in Earthâ€™s Magnetosheath. Astrophysical Journal, 2018, 866, 25.	4.5	21
84	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
85	Spacecraft Observations of Oblique Electron Beams Breaking the Frozen-In Law During Asymmetric Reconnection. Physical Review Letters, 2018, 120, 055101.	7.8	20
86	New Results From Galileo's First Flyby of Ganymede: Reconnectionâ€Driven Flows at the Lowâ€Latitude Magnetopause Boundary, Crossing the Cusp, and Icy Ionospheric Escape. Geophysical Research Letters, 2018, 45, 3382-3392.	4.0	20
87	Decomposition of plasma kinetic entropy into position and velocity space and the use of kinetic entropy in particle-in-cell simulations. Physics of Plasmas, 2019, 26, .	1.9	20
88	On the Ubiquity of Magnetic Reconnection Inside Flux Transfer Eventâ€Like Structures at the Earth's Magnetopause. Geophysical Research Letters, 2020, 47, e2019GL086726.	4.0	20
89	Twoâ€scale ion meandering caused by the polarization electric field during asymmetric reconnection. Geophysical Research Letters, 2016, 43, 7831-7839.	4.0	19
90	Wave Phenomena and Beamâ€Plasma Interactions at the Magnetopause Reconnection Region. Journal of Geophysical Research: Space Physics, 2018, 123, 1118-1133.	2.4	19

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91	Ionâ€Scale Kinetic AlfvÃ©n Turbulence: MMS Measurements of the AlfvÃ©n Ratio in the Magnetosheath. Geophysical Research Letters, 2018, 45, 7974-7984.	4.0	19
92	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
93	MMS Observations of Intense Whistler Waves Within Earth's Supercritical Bow Shock: Source Mechanism andÂImpact on Shock Structure and Plasma Transport. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027290.	2.4	19
94	Structure and Dissipation Characteristics of an Electron Diffusion Region Observed by MMS During a Rapid, Normalâ€Incidence Magnetopause Crossing. Journal of Geophysical Research: Space Physics, 2017, 122, 11,901.	2.4	18
95	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
96	Simultaneous Remote Observations of Intense Reconnection Effects by DMSP and MMS Spacecraft During a Storm Time Substorm. Journal of Geophysical Research: Space Physics, 2017, 122, 10891-10909.	2.4	17
97	Crescentâ€Shaped Electron Distributions at the Nonreconnecting Magnetopause: Magnetospheric Multiscale Observations. Geophysical Research Letters, 2019, 46, 3024-3032.	4.0	17
98	Plasma Density Estimates From Spacecraft Potential Using MMS Observations in the Dayside Magnetosphere. Journal of Geophysical Research: Space Physics, 2018, 123, 2620-2629.	2.4	16
99	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
100	On the deviation from Maxwellian of the ion velocity distribution functions in the turbulentÂmagnetosheath. Journal of Plasma Physics, 2020, 86, .	2.1	15
101	Structures in the terms of the Vlasov equation observed at Earthâ€™s magnetopause. Nature Physics, 2021, 17, 1056-1065.	16.7	15
102	Study of the spacecraft potential under active control and plasma density estimates during the MMS commissioning phase. Geophysical Research Letters, 2016, 43, 4858-4864.	4.0	13
103	Ion demagnetization in the magnetopause current layer observed by MMS. Geophysical Research Letters, 2016, 43, 4850-4857.	4.0	12
104	Performance of a spaceâ€based wavelet compressor for plasma count data on the MMS Fast Plasma Investigation. Journal of Geophysical Research: Space Physics, 2017, 122, 765-779.	2.4	12
105	Statistical Survey of Collisionless Dissipation in the Terrestrial Magnetosheath. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA029000.	2.4	12
106	Ionâ€scale structure in Mercury's magnetopause reconnection diffusion region. Geophysical Research Letters, 2016, 43, 5935-5942.	4.0	11
107	Electron Dynamics Within the Electron Diffusion Region of Asymmetric Reconnection. Journal of Geophysical Research: Space Physics, 2018, 123, 146-162.	2.4	10
108	Magnetic Reconnection Inside a Flux Transfer Eventâ€Like Structure in Magnetopause Kelvinâ€Helmholtz Waves. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027527.	2.4	10

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109	A simple GPU-accelerated two-dimensional MUSCL-Hancock solver for ideal magnetohydrodynamics. Journal of Computational Physics, 2014, 259, 444-460.	3.8	8
110	Parallel electron heating in the magnetospheric inflow region. Geophysical Research Letters, 2017, 44, 4384-4392.	4.0	8
111	The spherical tearing mode. Geophysical Research Letters, 2004, 31, .	4.0	7
112	Quantifying the effect of non-Larmor motion of electrons on the pressure tensor. Physics of Plasmas, 2018, 25, .	1.9	7
113	Fourâ€Spacecraft Measurements of the Shape and Dimensionality of Magnetic Structures in the Nearâ€Earth Plasma Environment. Journal of Geophysical Research: Space Physics, 2019, 124, 6850-6868.	2.4	7
114	Latitudinal Dependence of the Kelvinâ€Helmholtz Instability and Beta Dependence of Vortexâ€Induced Highâ€Guide Field Magnetic Reconnection. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027333.	2.4	7
115	A Study of the Solar Wind Ion and Electron Measurements From the Magnetospheric Multiscale Mission's Fast Plasma Investigation. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029784.	2.4	7
116	On the role of system size in Hall MHD magnetic reconnection. Physics of Plasmas, 2018, 25, 022103.	1.9	6
117	Does the Solar Wind Electric Field Control the Reconnection Rate at Earth's Subsolar Magnetopause?. Journal of Geophysical Research: Space Physics, 2019, 124, 2668-2681.	2.4	6
118	Mission Oriented Support and Theory (MOST) for MMSâ€”the Goddard Space Flight Center/University of California Los Angeles Interdisciplinary Science Program. Space Science Reviews, 2016, 199, 689-719.	8.1	5
119	The parameterization of microchannel-plate-based detection systems. Journal of Geophysical Research: Space Physics, 2016, 121, 10,005-10,018.	2.4	4
120	Recommendations to Advance Space Trusted Autonomy. , 2021, , .		4
121	The Solar Wind at (16) Psyche: Predictions for a Metal World. Astrophysical Journal, 2022, 927, 202.	4.5	4
122	Is Quadrupole Structure of Out-of-Plane Magnetic Field Evidence for Hall Reconnection?. AIP Conference Proceedings, 2011, , .	0.4	3
123	MMS Observations of Reconnection at Dayside Magnetopause Crossings During Transitions of the Solar Wind to Subâ€AlfvÃ©nic Flow. Journal of Geophysical Research: Space Physics, 2017, 122, 9934-9951.	2.4	3
124	Fast Plasma Investigation for Magnetospheric Multiscale. , 2017, , 329-404.		3
125	Magnetotail reconnection asymmetries in an ion-scale, Earth-like magnetosphere. Annales Geophysicae, 2021, 39, 991-1003.	1.6	3
126	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

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127	Automatic Identification and New Observations of Ion Energy Dispersion Events in the Cusp Ionosphere. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	2
128	Thick escaping magnetospheric ion layer in magnetopause reconnection with MMS observations. Geophysical Research Letters, 2016, 43, 6028-6035.	4.0	1
129	Physically Accurate Large Dynamic Range Pseudo Moments for the MMS Fast Plasma Investigation. Earth and Space Science, 2018, 5, 503-515.	2.6	1
130	Mission Oriented Support and Theory (MOST) for MMSâ€"the Goddard Space Flight Center/University of California Los Angeles Interdisciplinary Science Program. , 2017, , 687-717.		0