

Clare E J Watt

List of Publications by Year in descending order

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91
papers

2,242
citations

201674

27
h-index

276875

41
g-index

101
all docs

101
docs citations

101
times ranked

1461
citing authors

#	ARTICLE	IF	CITATIONS
1	Evolution and characteristics of global Pc5 ULF waves during a high solar wind speed interval. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	131
2	The Global Statistical Response of the Outer Radiation Belt During Geomagnetic Storms. <i>Geophysical Research Letters</i> , 2018, 45, 3783-3792.	4.0	66
3	On the origins and timescales of geoeffective IMF. <i>Space Weather</i> , 2016, 14, 406-432.	3.7	65
4	Electron Trapping in Shear Alfvén Waves that Power the Aurora. <i>Physical Review Letters</i> , 2009, 102, 045002.	7.8	63
5	Near-Earth initiation of a terrestrial substorm. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	60
6	Timing and localization of ionospheric signatures associated with substorm expansion phase onset. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	58
7	Self-consistent electron acceleration due to inertial Alfvén wave pulses. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	53
8	Optical characterization of the growth and spatial structure of a substorm onset arc. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	53
9	Contrasting the responses of three different ground-based instruments to energetic electron precipitation. <i>Radio Science</i> , 2012, 47, .	1.6	53
10	Statistical characterization of the growth and spatial scales of the substorm onset arc. <i>Journal of Geophysical Research: Space Physics</i> , 2015, 120, 8503-8516.	2.4	52
11	Equatorial observations of drift mirror mode waves in the dawnside magnetosphere. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	50
12	In situ spatiotemporal measurements of the detailed azimuthal substructure of the substorm current wedge. <i>Journal of Geophysical Research: Space Physics</i> , 2014, 119, 927-946.	2.4	49
13	Control of ULF Wave Accessibility to the Inner Magnetosphere by the Convection of Plasma Density. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 1086-1099.	2.4	47
14	Ion-acoustic resistivity in plasmas with similar ion and electron temperatures. <i>Geophysical Research Letters</i> , 2002, 29, 4-1.	4.0	46
15	A direct examination of the dynamics of dipolarization fronts using MMS. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 4335-4347.	2.4	44
16	Energy deposition in the ionosphere through a global field line resonance. <i>Annales Geophysicae</i> , 2007, 25, 2529-2539.	1.6	42
17	Kinetic simulations of electron response to shear Alfvén waves in magnetospheric plasmas. <i>Physics of Plasmas</i> , 2004, 11, 1277-1284.	1.9	41
18	Wavelet-based ULF wave diagnosis of substorm expansion phase onset. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	40

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19	What effect do substorms have on the content of the radiation belts?. Journal of Geophysical Research: Space Physics, 2016, 121, 6292-6306.	2.4	40
20	Anomalous resistivity in non-Maxwellian plasmas. Journal of Geophysical Research, 2003, 108, .	3.3	37
21	Inertial Alfvén waves and acceleration of electrons in nonuniform magnetic fields. Geophysical Research Letters, 2006, 33, .	4.0	37
22	The Role of Localized Compressional Ultra-low Frequency Waves in Energetic Electron Precipitation. Journal of Geophysical Research: Space Physics, 2018, 123, 1900-1914.	2.4	36
23	Statistical azimuthal structuring of the substorm onset arc: Implications for the onset mechanism. Geophysical Research Letters, 2017, 44, 2078-2087.	4.0	35
24	The Development of a Space Climatology: 1. Solar Wind Magnetosphere Coupling as a Function of Timescale and the Effect of Data Gaps. Space Weather, 2019, 17, 133-156.	3.7	35
25	ULF Wave Activity in the Magnetosphere: Resolving Solar Wind Interdependencies to Identify Driving Mechanisms. Journal of Geophysical Research: Space Physics, 2018, 123, 2745-2771.	2.4	34
26	Anomalous resistivity and the nonlinear evolution of the ion-acoustic instability. Journal of Geophysical Research, 2006, 111, .	3.3	33
27	Do magnetospheric shear Alfvén waves generate sufficient electron energy flux to power the aurora?. Journal of Geophysical Research, 2010, 115, .	3.3	33
28	Using the cold plasma dispersion relation and whistler mode waves to quantify the antenna sheath impedance of the Van Allen Probes EFW instrument. Journal of Geophysical Research: Space Physics, 2016, 121, 4590-4606.	2.4	33
29	ULF Wave Driven Radial Diffusion During Geomagnetic Storms: A Statistical Analysis of Van Allen Probes Observations. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA029024.	2.4	30
30	Self-consistent formation of a 0.5 cyclotron frequency gap in magnetospheric whistler mode waves. Journal of Geophysical Research: Space Physics, 2017, 122, 8166-8180.	2.4	29
31	Space climate and space weather over the past 400 years: 1. The power input to the magnetosphere. Journal of Space Weather and Space Climate, 2017, 7, A25.	3.3	29
32	Space climate and space weather over the past 400 years: 2. Proxy indicators of geomagnetic storm and substorm occurrence. Journal of Space Weather and Space Climate, 2018, 8, A12.	3.3	27
33	Variability of Quasilinear Diffusion Coefficients for Plasmaspheric Hiss. Journal of Geophysical Research: Space Physics, 2019, 124, 8488-8506.	2.4	27
34	Electron Diffusion and Advection During Nonlinear Interactions With Whistler Mode Waves. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028793.	2.4	27
35	A diagnosis of the plasma waves responsible for the explosive energy release of substorm onset. Nature Communications, 2018, 9, 4806.	12.8	25
36	Particle-in-Cell Experiments Examine Electron Diffusion by Whistler Mode Waves: 2. Quasilinear and Nonlinear Dynamics. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA027949.	2.4	25

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37	Semi-annual, annual and Universal Time variations in the magnetosphere and in geomagnetic activity: 2. Response to solar wind power input and relationships with solar wind dynamic pressure and magnetospheric flux transport. <i>Journal of Space Weather and Space Climate</i> , 2020, 10, 30.	3.3	24
38	Ultralow-frequency modulation of whistler-mode wave growth. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	23
39	Field line resonances as a trigger and a tracer for substorm onset. <i>Journal of Geophysical Research: Space Physics</i> , 2014, 119, 5343-5363.	2.4	23
40	Determining the Mode, Frequency, and Azimuthal Wave Number of ULF Waves During a HSS and Moderate Geomagnetic Storm. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 6457-6477.	2.4	23
41	Electron acceleration due to inertial Alfvén waves in a non-Maxwellian plasma. <i>Journal of Geophysical Research</i> , 2007, 112, n/a-n/a.	3.3	22
42	The correlation of ULF waves and auroral intensity before, during and after substorm expansion phase onset. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	22
43	Increases in plasma sheet temperature with solar wind driving during substorm growth phases. <i>Geophysical Research Letters</i> , 2014, 41, 8713-8721.	4.0	22
44	A New Approach to Constructing Models of Electron Diffusion by EMIC Waves in the Radiation Belts. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL088976.	4.0	22
45	On the nature of ULF wave power during nightside auroral activations and substorms: 2. Temporal evolution. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	21
46	Accurately characterizing the importance of wave-particle interactions in radiation belt dynamics: The pitfalls of statistical wave representations. <i>Journal of Geophysical Research: Space Physics</i> , 2016, 121, 7895-7899.	2.4	21
47	How Do Ultra-Low Frequency Waves Access the Inner Magnetosphere During Geomagnetic Storms?. <i>Geophysical Research Letters</i> , 2019, 46, 10699-10709.	4.0	20
48	Comparison of the open-closed separatrix in a global magnetospheric simulation with observations: The role of the ring current. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	19
49	On the Variability of EMIC Waves and the Consequences for the Relativistic Electron Radiation Belt Population. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2021JA029754.	2.4	19
50	Alfvén Wave Acceleration of Auroral Electrons in Warm Magnetospheric Plasma. <i>Geophysical Monograph Series</i> , 2013, , 251-260.	0.1	18
51	Self-consistent wave-particle interactions in dispersive scale long-period field-line resonances. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	17
52	The parameterization of wave-particle interactions in the Outer Radiation Belt. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 9545-9551.	2.4	17
53	The Development of a Space Climatology: 3. Models of the Evolution of Distributions of Space Weather Variables With Timescale. <i>Space Weather</i> , 2019, 17, 180-209.	3.7	17
54	Constructing the frequency and wave normal distribution of whistler-mode wave power. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 1984-1991.	2.4	16

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55	Semi-annual, annual and Universal Time variations in the magnetosphere and in geomagnetic activity: 3. Modelling. <i>Journal of Space Weather and Space Climate</i> , 2020, 10, 61.	3.3	16
56	Weak Turbulence and Quasilinear Diffusion for Relativistic Wave-Particle Interactions Via a Markov Approach. <i>Frontiers in Astronomy and Space Sciences</i> , 2022, 8, .	2.8	16
57	Comprehensive ground-based and in situ observations of substorm expansion phase onset. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	15
58	Electron acceleration and parallel electric fields due to kinetic Alfvén waves in plasma with similar thermal and Alfvén speeds. <i>Advances in Space Research</i> , 2008, 42, 964-969.	2.6	14
59	Particle-in-cell Experiments Examine Electron Diffusion by Whistler-mode Waves: 1. Benchmarking With a Cold Plasma. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 8893-8912.	2.4	12
60	The Development of a Space Climatology: 2. The Distribution of Power Input Into the Magnetosphere on a 3-Hourly Timescale. <i>Space Weather</i> , 2019, 17, 157-179.	3.7	12
61	Forecasting GOES 15 >2-MeV Electron Fluxes From Solar Wind Data and Geomagnetic Indices. <i>Space Weather</i> , 2020, 18, e2019SW002416.	3.7	12
62	Temporal evolution and electric potential structure of the auroral acceleration region from multispacecraft measurements. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	11
63	A Framework for Understanding and Quantifying the Loss and Acceleration of Relativistic Electrons in the Outer Radiation Belt During Geomagnetic Storms. <i>Space Weather</i> , 2020, 18, e2020SW002477.	3.7	11
64	Inner Magnetospheric ULF Waves: The Occurrence and Distribution of Broadband and Discrete Wave Activity. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2020JA027887.	2.4	10
65	Accounting for Variability in ULF Wave Radial Diffusion Models. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2019JA027254.	2.4	10
66	Data-Driven Classification of Coronal Hole and Streamer Belt Solar Wind. <i>Solar Physics</i> , 2020, 295, 1.	2.5	10
67	Reply to comment by K. Liou and Y. L. Zhang on "Wavelet-based ULF wave diagnosis of substorm expansion phase onset". <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	9
68	Alfvén: magnetosphere-ionosphere connection explorers. <i>Experimental Astronomy</i> , 2012, 33, 445-489.	3.7	9
69	Capturing Uncertainty in Magnetospheric Ultralow Frequency Wave Models. <i>Space Weather</i> , 2019, 17, 599-618.	3.7	9
70	Drift Orbit Bifurcations and Cross-Field Transport in the Outer Radiation Belt: Global MHD and Integrated Test-Particle Simulations. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2021JA029802.	2.4	9
71	The Implications of Temporal Variability in Wave-Particle Interactions in Earth's Radiation Belts. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL089962.	4.0	9
72	Using ultra-low frequency waves and their characteristics to diagnose key physics of substorm onset. <i>Geoscience Letters</i> , 2017, 4, 23.	3.3	8

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73	On the Magnetospheric ULF Wave Counterpart of Substorm Onset. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027573.	2.4	8
74	Parallel electric fields associated with inertial Alfvén waves. Planetary and Space Science, 2007, 55, 714-721.	1.7	7
75	Whistler mode wave growth and propagation in the prenoon magnetosphere. Journal of Geophysical Research, 2012, 117, .	3.3	7
76	Determining the Temporal and Spatial Coherence of Plasmaspheric Hiss Waves in the Magnetosphere. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028635.	2.4	7
77	Determining the Global Scale Size of Chorus Waves in the Magnetosphere. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029569.	2.4	6
78	Theoretical aspects of kinetic and inertial scale dispersive Alfvén waves in Earth's magnetosphere. Geophysical Monograph Series, 2006, , 91-108.	0.1	5
79	Comment on "Formation of substorm Pi2: A coherent response to auroral streamers and currents" by Y. Nishimura et al.. Journal of Geophysical Research: Space Physics, 2013, 118, 3488-3496.	2.4	5
80	Automated determination of auroral breakup during the substorm expansion phase using all-sky imager data. Journal of Geophysical Research: Space Physics, 2014, 119, 1414-1427.	2.4	5
81	Random Forest Model of Ultralow-Frequency Magnetospheric Wave Power. Earth and Space Science, 2020, 7, e2020EA001274.	2.6	5
82	Cross-Coherence of the Outer Radiation Belt During Storms and the Role of the Plasmapause. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029308.	2.4	5
83	DK-1D: a drift-kinetic simulation tool for modelling the shear Alfvén wave and its interaction with collisionless plasma. Plasma Physics and Controlled Fusion, 2008, 50, 074008.	2.1	4
84	Diagnosing the Time-Dependent Nature of Magnetosphere-Ionosphere Coupling via ULF Waves at Substorm Onset. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028573.	2.4	4
85	Pro-L * Probabilistic L * Mapping Tool for Ground Observations. Space Weather, 2021, 19, e2020SW002602.	3.7	3
86	Evidence of Alfvénic Activity in Jupiter's Mid-to-High Latitude Magnetosphere. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	3
87	Comment on "Role of dispersive Alfvén waves in generating parallel electric fields along the Jupiter fluxtube" by S. T. Jones and Y. Su. Journal of Geophysical Research, 2009, 114, .	3.3	2
88	Constraining the Location of the Outer Boundary of Earth's Outer Radiation Belt. Earth and Space Science, 2021, 8, e2020EA001610.	2.6	2
89	A global view of storms and substorms. Astronomy and Geophysics, 2019, 60, 3.13-3.19.	0.2	1
90	Vlasov simulations of ion-acoustic waves. , 0, , .		0

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91	Reply to comment by F. Mottez on "Do magnetospheric shear Alfvén waves generate sufficient electron energy flux to power the aurora?", Journal of Geophysical Research: Space Physics, 2013, 118, 5800-5802.	2.4	0