

Nigel Meredith

List of Publications by Year in descending order

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118
papers

11,583
citations

26610

56
h-index

27389

106
g-index

120
all docs

120
docs citations

120
times ranked

2214
citing authors

#	ARTICLE	IF	CITATIONS
1	Timescale for radiation belt electron acceleration by whistler mode chorus waves. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	561
2	Wave acceleration of electrons in the Van Allen radiation belts. <i>Nature</i> , 2005, 437, 227-230.	13.7	505
3	Substorm dependence of chorus amplitudes: Implications for the acceleration of electrons to relativistic energies. <i>Journal of Geophysical Research</i> , 2001, 106, 13165-13178.	3.3	456
4	Scattering by chorus waves as the dominant cause of diffuse auroral precipitation. <i>Nature</i> , 2010, 467, 943-946.	13.7	432
5	Timescales for radiation belt electron acceleration and loss due to resonant wave-particle interactions: 2. Evaluation for VLF chorus, ELF hiss, and electromagnetic ion cyclotron waves. <i>Journal of Geophysical Research</i> , 2007, 112, n/a-n/a.	3.3	391
6	Statistical analysis of relativistic electron energies for cyclotron resonance with EMIC waves observed on CRRES. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	380
7	Review of modeling of losses and sources of relativistic electrons in the outer radiation belt II: Local acceleration and loss. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2008, 70, 1694-1713.	0.6	368
8	Electron acceleration in the Van Allen radiation belts by fast magnetosonic waves. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	341
9	The unexpected origin of plasmaspheric hiss from discrete chorus emissions. <i>Nature</i> , 2008, 452, 62-66.	13.7	313
10	Substorm dependence of plasmaspheric hiss. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	281
11	Favored regions for chorus-driven electron acceleration to relativistic energies in the Earth's outer radiation belt. <i>Geophysical Research Letters</i> , 2003, 30, .	1.5	256
12	Energization of relativistic electrons in the presence of ULF power and MeV microbursts: Evidence for dual ULF and VLF acceleration. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	242
13	Evidence for chorus-driven electron acceleration to relativistic energies from a survey of geomagnetically disturbed periods. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	234
14	Global model of lower band and upper band chorus from multiple satellite observations. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	229
15	Slot region electron loss timescales due to plasmaspheric hiss and lightning-generated whistlers. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	228
16	Timescales for radiation belt electron acceleration and loss due to resonant wave-particle interactions: 1. Theory. <i>Journal of Geophysical Research</i> , 2007, 112, n/a-n/a.	3.3	211
17	Outer zone relativistic electron acceleration associated with substorm-enhanced whistler mode chorus. <i>Journal of Geophysical Research</i> , 2002, 107, SMP 29-1.	3.3	206
18	Review of modeling of losses and sources of relativistic electrons in the outer radiation belt I: Radial transport. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2008, 70, 1679-1693.	0.6	197

#	ARTICLE	IF	CITATIONS
19	Three-dimensional electron radiation belt simulations using the BAS Radiation Belt Model with new diffusion models for chorus, plasmaspheric hiss, and lightning-generated whistlers. <i>Journal of Geophysical Research: Space Physics</i> , 2014, 119, 268-289.	0.8	176
20	Electron scattering by whistler-mode ELF hiss in plasmaspheric plumes. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	175
21	Survey of magnetosonic waves and proton ring distributions in the Earth's inner magnetosphere. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	174
22	Model of the energization of outer-zone electrons by whistler-mode chorus during the October 9, 1990 geomagnetic storm. <i>Geophysical Research Letters</i> , 2002, 29, 27-1-27-4.	1.5	173
23	Origin of energetic electron precipitation >30 keV into the atmosphere. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	171
24	Energetic outer zone electron loss timescales during low geomagnetic activity. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	170
25	Diffuse auroral electron scattering by electron cyclotron harmonic and whistler mode waves during an isolated substorm. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	161
26	Global morphology and spectral properties of EMIC waves derived from CRRES observations. <i>Journal of Geophysical Research: Space Physics</i> , 2014, 119, 5328-5342.	0.8	161
27	Three-dimensional diffusion simulation of outer radiation belt electrons during the 9 October 1990 magnetic storm. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	160
28	Space weather impacts on satellites and forecasting the Earth's electron radiation belts with SPACECAST. <i>Space Weather</i> , 2013, 11, 169-186.	1.3	149
29	Radiation Belt Environment model: Application to space weather nowcasting. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	140
30	Evolution of energetic electron pitch angle distributions during storm time electron acceleration to megaelectronvolt energies. <i>Journal of Geophysical Research</i> , 2003, 108, SMP 11-1.	3.3	139
31	Relativistic electron loss timescales in the slot region. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	137
32	Survey of upper band chorus and ECH waves: Implications for the diffuse aurora. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	134
33	Electron losses from the radiation belts caused by EMIC waves. <i>Journal of Geophysical Research: Space Physics</i> , 2014, 119, 8820-8837.	0.8	132
34	Simulation of the outer radiation belt electrons near geosynchronous orbit including both radial diffusion and resonant interaction with Whistler-mode chorus waves. <i>Geophysical Research Letters</i> , 2005, 32, n/a-n/a.	1.5	131
35	Resonant scattering of plasma sheet electrons leading to diffuse auroral precipitation: 2. Evaluation for whistler mode chorus waves. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	128
36	Parameterization of radiation belt electron loss timescales due to interactions with chorus waves. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	122

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37	Origins of plasmaspheric hiss. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	118
38	Energetic electron precipitation during high-speed solar wind stream driven storms. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	110
39	Three-dimensional test simulations of the outer radiation belt electron dynamics including electron-chorus resonant interactions. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	109
40	Modeling the propagation characteristics of chorus using CRRES suprathermal electron fluxes. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	108
41	Evidence for acceleration of outer zone electrons to relativistic energies by whistler mode chorus. <i>Annales Geophysicae</i> , 2002, 20, 967-979.	0.6	100
42	Evolution of electron pitch angle distributions following injection from the plasma sheet. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	99
43	The temporal evolution of electron distributions and associated wave activity following substorm injections in the inner magnetosphere. <i>Journal of Geophysical Research</i> , 2000, 105, 12907-12917.	3.3	89
44	Phase space density analysis of the outer radiation belt energetic electron dynamics. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	88
45	Resonant scattering of plasma sheet electrons leading to diffuse auroral precipitation: 1. Evaluation for electrostatic electron cyclotron harmonic waves. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	86
46	Refilling of the slot region between the inner and outer electron radiation belts during geomagnetic storms. <i>Journal of Geophysical Research</i> , 2007, 112, n/a-n/a.	3.3	82
47	Radiation belt electron precipitation into the atmosphere: Recovery from a geomagnetic storm. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	75
48	Ray tracing of penetrating chorus and its implications for the radiation belts. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	70
49	A new diffusion matrix for whistler mode chorus waves. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 6302-6318.	0.8	70
50	Quasi-linear simulations of inner radiation belt electron pitch angle and energy distributions. <i>Geophysical Research Letters</i> , 2016, 43, 2381-2388.	1.5	70
51	Low-altitude measurements of 2-6 MeV electron trapping lifetimes at 1.5 L to 2.5. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	68
52	Global Model of Plasmaspheric Hiss From Multiple Satellite Observations. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 4526-4541.	0.8	68
53	The relativistic electron response in the outer radiation belt during magnetic storms. <i>Annales Geophysicae</i> , 2002, 20, 957-965.	0.6	66
54	Evaluation of whistler mode chorus amplification during an injection event observed on CRRES. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	66

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55	â€œPancakeâ€ electron distributions in the outer radiation belts. <i>Journal of Geophysical Research</i> , 1999, 104, 12431-12444.	3.3	64
56	Modeling the wave power distribution and characteristics of plasmaspheric hiss. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	61
57	Ground-based transmitter signals observed from space: Ducted or nonducted?. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	60
58	The influence of wave-particle interactions on relativistic electron dynamics during storms. <i>Geophysical Monograph Series</i> , 2005, , 101-112.	0.1	56
59	Global statistical evidence for chorus as the embryonic source of plasmaspheric hiss. <i>Geophysical Research Letters</i> , 2013, 40, 2891-2896.	1.5	56
60	Chorus-driven resonant scattering of diffuse auroral electrons in nondipolar magnetic fields. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	55
61	Diffuse auroral scattering by whistler mode chorus waves: Dependence on wave normal angle distribution. <i>Journal of Geophysical Research</i> , 2011, 116, n/a-n/a.	3.3	53
62	Wave-particle interactions in the equatorial source region of whistler-mode emissions. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	51
63	Global Model of Whistler Mode Chorus in the Near-Equatorial Region ($ \lambda < 18^\circ$). <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087311.	1.5	47
64	A 30-Year Simulation of the Outer Electron Radiation Belt. <i>Space Weather</i> , 2018, 16, 1498-1522.	1.3	46
65	Extreme relativistic electron fluxes at geosynchronous orbit: Analysis of GOES > 2 MeV electrons. <i>Space Weather</i> , 2015, 13, 170-184.	1.3	44
66	An Investigation of VLF Transmitter Wave Power in the Inner Radiation Belt and Slot Region. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 5246-5259.	0.8	40
67	Modeling the effects of radial diffusion and plasmaspheric hiss on outer radiation belt electrons. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	39
68	Global model of low-frequency chorus ($f_{LHR} < f < 0.1 f_{ce}$) from multiple satellite observations. <i>Geophysical Research Letters</i> , 2014, 41, 280-286.	1.5	39
69	Ground observations of chorus following geomagnetic storms. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	37
70	Spacecraft surface charging induced by severe environments at geosynchronous orbit. <i>Space Weather</i> , 2018, 16, 89-106.	1.3	37
71	Mechanisms for the acceleration of radiation belt electrons. <i>Geophysical Monograph Series</i> , 2006, , 151-173.	0.1	36
72	Plasmaspheric hiss overview and relation to chorus. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2009, 71, 1636-1646.	0.6	36

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73	Effects of VLF Transmitter Waves on the Inner Belt and Slot Region. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 5260-5277.	0.8	33
74	Radiation Effects on Satellites During Extreme Space Weather Events. <i>Space Weather</i> , 2018, 16, 1216-1226.	1.3	32
75	Beagle 2: A proposed exobiology lander for ESA's 2003 Mars Express mission. <i>Advances in Space Research</i> , 1999, 23, 1925-1928.	1.2	30
76	Differences in ground-observed chorus in geomagnetic storms with and without enhanced relativistic electron fluxes. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	30
77	Comment on "On the origin of whistler mode radiation in the plasmasphere" by Green et al.. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	30
78	Simulating the Earth's radiation belts: Internal acceleration and continuous losses to the magnetopause. <i>Journal of Geophysical Research: Space Physics</i> , 2014, 119, 7444-7463.	0.8	27
79	Variability of Quasilinear Diffusion Coefficients for Plasmaspheric Hiss. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 8488-8506.	0.8	27
80	Particle-in-Cell Experiments Examine Electron Diffusion by Whistler Mode Waves: 2. Quasilinear and Nonlinear Dynamics. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2020JA027949.	0.8	25
81	Longitudinal and seasonal variations in plasmaspheric electron density: Implications for electron precipitation. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	24
82	Realistic Worst Case for a Severe Space Weather Event Driven by a Fast Solar Wind Stream. <i>Space Weather</i> , 2018, 16, 1202-1215.	1.3	23
83	Role of the plasmopause in dictating the ground accessibility of ELF/VLF chorus. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	22
84	Forecasting the Earth's radiation belts and modelling solar energetic particle events: Recent results from SPACECAST. <i>Journal of Space Weather and Space Climate</i> , 2013, 3, A20.	1.1	22
85	Three-dimensional stochastic modeling of radiation belts in adiabatic invariant coordinates. <i>Journal of Geophysical Research: Space Physics</i> , 2014, 119, 7615-7635.	0.8	22
86	A New Approach to Constructing Models of Electron Diffusion by EMIC Waves in the Radiation Belts. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL088976.	1.5	22
87	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.	0.8	19
88	Extreme energetic electron fluxes in low Earth orbit: Analysis of POES >30 and >100 , and >300 keV electrons. <i>Space Weather</i> , 2016, 14, 136-150.	1.3	18
89	Statistical Investigation of the Frequency Dependence of the Chorus Source Mechanism of Plasmaspheric Hiss. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL092725.	1.5	17
90	Comparing Electron Precipitation Fluxes Calculated From Pitch Angle Diffusion Coefficients to LEO Satellite Observations. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2020JA028410.	0.8	17

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91	Extreme relativistic electron fluxes in the Earth's outer radiation belt: Analysis of INTEGRAL IREM data. <i>Space Weather</i> , 2017, 15, 917-933.	1.3	16
92	Comparative study of outer-zone relativistic electrons observed by Akebono and CRRES. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	15
93	Effect of plasma density on diffusion rates due to wave particle interactions with chorus and plasmaspheric hiss: extreme event analysis. <i>Annales Geophysicae</i> , 2014, 32, 1059-1071.	0.6	14
94	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.	0.8	12
95	Effects of energy and pitch angle mixed diffusion on radiation belt electrons. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2011, 73, 785-795.	0.6	10
96	Extreme internal charging currents in medium Earth orbit: Analysis of SURF plate currents on Giove-A. <i>Space Weather</i> , 2016, 14, 578-591.	1.3	10
97	Interplanetary Shock-Induced Magnetopause Motion: Comparison Between Theory and Global Magnetohydrodynamic Simulations. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL092554.	1.5	10
98	Multi-Parameter Chorus and Plasmaspheric Hiss Wave Models. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2020JA028403.	0.8	10
99	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.	0.8	9
100	The Implications of Temporal Variability in Wave-Particle Interactions in Earth's Radiation Belts. <i>Geophysical Research Letters</i> , 2021, 48, e2020GL089962.	1.5	9
101	The anomalous behaviour of C2 in P/Borrelly 1987p. <i>Monthly Notices of the Royal Astronomical Society</i> , 1989, 240, 647-655.	1.6	7
102	The Contribution of Compressional Magnetic Pumping to the Energization of the Earth's Outer Electron Radiation Belt During High-Speed Stream-Driven Storms. <i>Journal of Geophysical Research: Space Physics</i> , 2017, 122, 12,072.	0.8	7
103	Wave-Driven Diffusion in Radiation Belt Dynamics. , 2016, , 217-243.		6
104	Temporal evolution of substorm-enhanced whistler-mode waves: Relationship between space-based observations, ground-based observations, and energetic electrons. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	5
105	Cross-Coherence of the Outer Radiation Belt During Storms and the Role of the Plasmopause. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2021JA029308.	0.8	5
106	Attention-Based Machine Vision Models and Techniques for Solar Wind Speed Forecasting Using Solar EUV Images. <i>Space Weather</i> , 2022, 20, .	1.3	5
107	Active Precipitation of Radiation Belt Electrons using Rocket Exhaust Driven Amplification (REDA) of Man-Made Whistlers. <i>Journal of Geophysical Research: Space Physics</i> , 0, , .	0.8	5
108	Studies of substorm on March 12, 1991: 2. Auroral electrons. Acceleration, injection, and dynamics. <i>Cosmic Research</i> , 2007, 45, 89-96.	0.2	4

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109	Spacecraft Charging Related Risk of Floating Connector Pins. IEEE Transactions on Plasma Science, 2018, 46, 201-206.	0.6	4
110	Electron Diffusion by Magnetosonic Waves in the Earth's Radiation Belts. Journal of Geophysical Research: Space Physics, 2022, 127, .	0.8	3
111	Statistical Comparison of Electron Loss and Enhancement in the Outer Radiation Belt During Storms. Journal of Geophysical Research: Space Physics, 2022, 127, .	0.8	3
112	Comparison of ion structures in comets halley and giacobini-zinner. Planetary and Space Science, 1987, 35, 299-311.	0.9	2
113	Turning the sounds of space into art. Astronomy and Geophysics, 2019, 60, 2.18-2.21.	0.1	2
114	Networking ground-based images of comet Halley during the Giotto encounter. Eos, 1986, 67, 1385-1387.	0.1	1
115	Studies of the substorm on March 12, 1991: 1. Structure of substorm activity and auroral ions. Cosmic Research, 2007, 45, 27-38.	0.2	1
116	Correction to "Radiation belt electron precipitation into the atmosphere: Recovery from a geomagnetic storm". Journal of Geophysical Research, 2010, 115, .	3.3	1
117	Gas coma of comet Giacobini-Zinner: Emission from grains. Advances in Space Research, 1989, 9, 213-216.	1.2	0
118	Music of the spheres. Astronomy and Geophysics, 2022, 63, 1.38-1.40.	0.1	0