

# 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	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
2	Music of the spheres. <i>Astronomy and Geophysics</i> , 2022, 63, 1.38-1.40.	0.1	0
3	Electron Diffusion by Magnetosonic Waves in the Earth's Radiation Belts. <i>Journal of Geophysical Research: Space Physics</i> , 2022, 127, .	0.8	3
4	Statistical Comparison of Electron Loss and Enhancement in the Outer Radiation Belt During Storms. <i>Journal of Geophysical Research: Space Physics</i> , 2022, 127, .	0.8	3
5	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
6	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
7	Interplanetary Shock-Induced Magnetopause Motion: Comparison Between Theory and Global Magnetohydrodynamic Simulations. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL092554.	1.5	10
8	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
9	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
10	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
11	Multi-Parameter Chorus and Plasmaspheric Hiss Wave Models. <i>Journal of Geophysical Research: Space Physics</i> , 2021, 126, e2020JA028403.	0.8	10
12	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
13	Particle-in-Cell Experiments Examine Electron Diffusion by Whistler-Mode Waves: 2. Quasi-Linear and Nonlinear Dynamics. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2020JA027949.	0.8	25
14	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
15	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
16	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
17	Variability of Quasilinear Diffusion Coefficients for Plasmaspheric Hiss. <i>Journal of Geophysical Research: Space Physics</i> , 2019, 124, 8488-8506.	0.8	27
18	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

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19	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
20	Turning the sounds of space into art. <i>Astronomy and Geophysics</i> , 2019, 60, 2.18-2.21.	0.1	2
21	Spacecraft surface charging induced by severe environments at geosynchronous orbit. <i>Space Weather</i> , 2018, 16, 89-106.	1.3	37
22	Spacecraft Charging Related Risk of Floating Connector Pins. <i>IEEE Transactions on Plasma Science</i> , 2018, 46, 201-206.	0.6	4
23	Global Model of Plasmaspheric Hiss From Multiple Satellite Observations. <i>Journal of Geophysical Research: Space Physics</i> , 2018, 123, 4526-4541.	0.8	68
24	A 30-Year Simulation of the Outer Electron Radiation Belt. <i>Space Weather</i> , 2018, 16, 1498-1522.	1.3	46
25	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
26	Radiation Effects on Satellites During Extreme Space Weather Events. <i>Space Weather</i> , 2018, 16, 1216-1226.	1.3	32
27	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
28	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
29	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
30	Extreme energetic electron fluxes in low Earth orbit: Analysis of POES $>30$ , $>100$ , and $>300$ keV electrons. <i>Space Weather</i> , 2016, 14, 136-150.	1.3	18
31	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
32	Wave-Driven Diffusion in Radiation Belt Dynamics. , 2016, , 217-243.		6
33	Extreme relativistic electron fluxes at geosynchronous orbit: Analysis of GOES $>2$ MeV electrons. <i>Space Weather</i> , 2015, 13, 170-184.	1.3	44
34	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
35	Global model of low-frequency chorus ( $<sub>LHR</sub>$ &lt; $<sub>ce</sub>$ ) from multiple satellite observations. <i>Geophysical Research Letters</i> , 2014, 41, 280-286.	1.5	39
36	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

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37	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
38	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
39	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
40	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
41	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
42	Global statistical evidence for chorus as the embryonic source of plasmaspheric hiss. <i>Geophysical Research Letters</i> , 2013, 40, 2891-2896.	1.5	56
43	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
44	A new diffusion matrix for whistler mode chorus waves. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 6302-6318.	0.8	70
45	Global model of lower band and upper band chorus from multiple satellite observations. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	229
46	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
47	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
48	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
49	Energetic electron precipitation during high-speed solar wind stream driven storms. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	110
50	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
51	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
52	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
53	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
54	Scattering by chorus waves as the dominant cause of diffuse auroral precipitation. <i>Nature</i> , 2010, 467, 943-946.	13.7	432

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55	Origin of energetic electron precipitation >30 keV into the atmosphere. Journal of Geophysical Research, 2010, 115, .	3.3	171
56	Wave-particle interactions in the equatorial source region of whistler-mode emissions. Journal of Geophysical Research, 2010, 115, .	3.3	51
57	Role of the plasmopause in dictating the ground accessibility of ELF/VLF chorus. Journal of Geophysical Research, 2010, 115, .	3.3	22
58	Correction to "Radiation belt electron precipitation into the atmosphere: Recovery from a geomagnetic storm". Journal of Geophysical Research, 2010, 115, .	3.3	1
59	Plasmaspheric hiss overview and relation to chorus. Journal of Atmospheric and Solar-Terrestrial Physics, 2009, 71, 1636-1646.	0.6	36
60	Survey of upper band chorus and ECH waves: Implications for the diffuse aurora. Journal of Geophysical Research, 2009, 114, .	3.3	134
61	Three-dimensional diffusion simulation of outer radiation belt electrons during the 9 October 1990 magnetic storm. Journal of Geophysical Research, 2009, 114, .	3.3	160
62	Relativistic electron loss timescales in the slot region. Journal of Geophysical Research, 2009, 114, .	3.3	137
63	Review of modeling of losses and sources of relativistic electrons in the outer radiation belt II: Local acceleration and loss. Journal of Atmospheric and Solar-Terrestrial Physics, 2008, 70, 1694-1713.	0.6	368
64	Review of modeling of losses and sources of relativistic electrons in the outer radiation belt I: Radial transport. Journal of Atmospheric and Solar-Terrestrial Physics, 2008, 70, 1679-1693.	0.6	197
65	The unexpected origin of plasmaspheric hiss from discrete chorus emissions. Nature, 2008, 452, 62-66.	13.7	313
66	Radiation Belt Environment model: Application to space weather nowcasting. Journal of Geophysical Research, 2008, 113, .	3.3	140
67	Ground-based transmitter signals observed from space: Ducted or nonducted?. Journal of Geophysical Research, 2008, 113, .	3.3	60
68	Electron scattering by whistler-mode ELF hiss in plasmaspheric plumes. Journal of Geophysical Research, 2008, 113, .	3.3	175
69	Three-dimensional test simulations of the outer radiation belt electron dynamics including electron-chorus resonant interactions. Journal of Geophysical Research, 2008, 113, .	3.3	109
70	Survey of magnetosonic waves and proton ring distributions in the Earth's inner magnetosphere. Journal of Geophysical Research, 2008, 113, .	3.3	174
71	Evaluation of whistler mode chorus amplification during an injection event observed on CRRES. Journal of Geophysical Research, 2008, 113, .	3.3	66
72	Low-altitude measurements of ~6 MeV electron trapping lifetimes at 1.5 $\leq$ L $\leq$ 2.5. Geophysical Research Letters, 2007, 34, .	1.5	68

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73	Parameterization of radiation belt electron loss timescales due to interactions with chorus waves. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	122
74	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
75	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
76	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
77	Modeling the propagation characteristics of chorus using CRRES suprathermal electron fluxes. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	108
78	Ray tracing of penetrating chorus and its implications for the radiation belts. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	70
79	Electron acceleration in the Van Allen radiation belts by fast magnetosonic waves. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	341
80	Modeling the effects of radial diffusion and plasmaspheric hiss on outer radiation belt electrons. <i>Geophysical Research Letters</i> , 2007, 34, .	1.5	39
81	Radiation belt electron precipitation into the atmosphere: Recovery from a geomagnetic storm. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	75
82	Slot region electron loss timescales due to plasmaspheric hiss and lightning-generated whistlers. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	228
83	Longitudinal and seasonal variations in plasmaspheric electron density: Implications for electron precipitation. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	24
84	Studies of the substorm on March 12, 1991: 1. Structure of substorm activity and auroral ions. <i>Cosmic Research</i> , 2007, 45, 27-38.	0.2	1
85	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
86	Mechanisms for the acceleration of radiation belt electrons. <i>Geophysical Monograph Series</i> , 2006, , 151-173.	0.1	36
87	Phase space density analysis of the outer radiation belt energetic electron dynamics. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	88
88	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
89	Energetic outer zone electron loss timescales during low geomagnetic activity. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	170
90	Origins of plasmaspheric hiss. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	118

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91	The influence of wave-particle interactions on relativistic electron dynamics during storms. Geophysical Monograph Series, 2005, , 101-112.	0.1	56
92	Wave acceleration of electrons in the Van Allen radiation belts. Nature, 2005, 437, 227-230.	13.7	505
93	Comparative study of outer-zone relativistic electrons observed by Akebono and CRRES. Journal of Geophysical Research, 2005, 110, .	3.3	15
94	Timescale for radiation belt electron acceleration by whistler mode chorus waves. Journal of Geophysical Research, 2005, 110, .	3.3	561
95	Simulation of the outer radiation belt electrons near geosynchronous orbit including both radial diffusion and resonant interaction with Whistler-mode chorus waves. Geophysical Research Letters, 2005, 32, n/a-n/a.	1.5	131
96	Ground observations of chorus following geomagnetic storms. Journal of Geophysical Research, 2004, 109, .	3.3	37
97	Substorm dependence of plasmaspheric hiss. Journal of Geophysical Research, 2004, 109, .	3.3	281
98	Temporal evolution of substorm-enhanced whistler-mode waves: Relationship between space-based observations, ground-based observations, and energetic electrons. Journal of Geophysical Research, 2004, 109, .	3.3	5
99	Differences in ground-observed chorus in geomagnetic storms with and without enhanced relativistic electron fluxes. Journal of Geophysical Research, 2004, 109, .	3.3	30
100	Evolution of energetic electron pitch angle distributions during storm time electron acceleration to megaelectronvolt energies. Journal of Geophysical Research, 2003, 108, SMP 11-1.	3.3	139
101	Statistical analysis of relativistic electron energies for cyclotron resonance with EMIC waves observed on CRRES. Journal of Geophysical Research, 2003, 108, .	3.3	380
102	Diffuse auroral electron scattering by electron cyclotron harmonic and whistler mode waves during an isolated substorm. Journal of Geophysical Research, 2003, 108, .	3.3	161
103	Evidence for chorus-driven electron acceleration to relativistic energies from a survey of geomagnetically disturbed periods. Journal of Geophysical Research, 2003, 108, .	3.3	234
104	Energization of relativistic electrons in the presence of ULF power and MeV microbursts: Evidence for dual ULF and VLF acceleration. Journal of Geophysical Research, 2003, 108, .	3.3	242
105	Favored regions for chorus-driven electron acceleration to relativistic energies in the Earth's outer radiation belt. Geophysical Research Letters, 2003, 30, .	1.5	256
106	Outer zone relativistic electron acceleration associated with substorm-enhanced whistler mode chorus. Journal of Geophysical Research, 2002, 107, SMP 29-1.	3.3	206
107	Model of the energization of outer-zone electrons by whistler-mode chorus during the October 9, 1990 geomagnetic storm. Geophysical Research Letters, 2002, 29, 27-1-27-4.	1.5	173
108	The relativistic electron response in the outer radiation belt during magnetic storms. Annales Geophysicae, 2002, 20, 957-965.	0.6	66

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109	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
110	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
111	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
112	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
113	“Pancake” electron distributions in the outer radiation belts. <i>Journal of Geophysical Research</i> , 1999, 104, 12431-12444.	3.3	64
114	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
115	Gas coma of comet Giacobini-Zinner: Emission from grains. <i>Advances in Space Research</i> , 1989, 9, 213-216.	1.2	0
116	Comparison of ion structures in comets halley and giacobini-zinner. <i>Planetary and Space Science</i> , 1987, 35, 299-311.	0.9	2
117	Networking ground-based images of comet Halley during the Giotto encounter. <i>Eos</i> , 1986, 67, 1385-1387.	0.1	1
118	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