

Cathryn Mitchell

List of Publications by Year in descending order

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117
papers

2,694
citations

201674

27
h-index

233421

45
g-index

124
all docs

124
docs citations

124
times ranked

1848
citing authors

#	ARTICLE	IF	CITATIONS
1	Consolidated Amateur Radio Signal Reports as Indicators of Intense Sporadic E Layers. Atmosphere, 2022, 13, 906.	2.3	4
2	Development of Space Weather Reasonable Worst-Case Scenarios for the UK National Risk Assessment. Space Weather, 2021, 19, e2020SW002593.	3.7	41
3	Rapid and Accurate Measurement of Polarization and Fading of Weak VHF Signals Obliquely Reflected From Sporadic-E Layers. IEEE Transactions on Antennas and Propagation, 2021, 69, 4033-4048.	5.1	6
4	A realistic simulation framework to evaluate ionospheric tomography. Advances in Space Research, 2020, 65, 891-901.	2.6	10
5	GPS loss of lock statistics over Brazil during the 24th solar cycle. Advances in Space Research, 2020, 66, 219-225.	2.6	10
6	Tomographic Imaging of Traveling Ionospheric Disturbances Using GNSS and Geostationary Satellite Observations. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027551.	2.4	7
7	Quality analysis of dual-frequency smartphone-based ionospheric TEC measurements: what can be achieved?. Annals of Geophysics, 2020, 63, .	1.0	3
8	On the Annual Asymmetry of High-Latitude Sporadic F. Space Weather, 2019, 17, 1618-1626.	3.7	6
9	Passive, continuous monitoring of carbon dioxide geostorage using muon tomography. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180059.	3.4	9
10	Measurement of Ionospheric Total Electron Content Using Single-Frequency Geostationary Satellite Observations. Radio Science, 2019, 54, 10-19.	1.6	14
11	Coordinated Ionospheric Reconstruction CubeSat Experiment (CIRCE) mission overview. , 2019, , .		6
12	Annual Occurrence Rates of Ionospheric Polar Cap Patches Observed Using Swarm. Journal of Geophysical Research: Space Physics, 2018, 123, 2327-2335.	2.4	36
13	Analysis of the Regional Ionosphere at Low Latitudes in Support of the Biomass ESA Mission. IEEE Transactions on Geoscience and Remote Sensing, 2018, 56, 6412-6424.	6.3	4
14	Horseshoes in the High-Latitude Ionosphere. Journal of Geophysical Research: Space Physics, 2018, 123, 5831-5849.	2.4	7
15	Identification of scintillation signatures on GPS signals originating from plasma structures detected with EISCAT incoherent scatter radar along the same line of sight. Journal of Geophysical Research: Space Physics, 2017, 122, 916-931.	2.4	28
16	Ionospheric data assimilation applied to HF geolocation in the presence of traveling ionospheric disturbances. Radio Science, 2017, 52, 829-840.	1.6	15
17	A multiresolution inversion for imaging the ionosphere. Journal of Geophysical Research: Space Physics, 2017, 122, 6799-6811.	2.4	11
18	GPS phase scintillation and auroral electrojet currents during geomagnetic storms of March 17, 2013 and 2015. , 2017, , .		1

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19	Polar cap plasma patch primary linear instability growth rates compared. Journal of Geophysical Research: Space Physics, 2016, 121, 3439-3451.	2.4	14
20	A comparison of the relative effect of the Earth's quasi-DC and AC electric field on gradient drift waves in large-scale plasma structures in the polar regions. Journal of Geophysical Research: Space Physics, 2016, 121, 9012-9019.	2.4	1
21	Three-dimensional modeling of high-latitude scintillation observations. Radio Science, 2016, 51, 1022-1029.	1.6	11
22	Imaging the topside ionosphere and plasmasphere with ionospheric tomography using COSMIC GPS TEC. Journal of Geophysical Research: Space Physics, 2016, 121, 817-831.	2.4	18
23	Ionospheric data assimilation and forecasting during storms. Journal of Geophysical Research: Space Physics, 2016, 121, 764-778.	2.4	51
24	Using sparse regularization for multi-resolution tomography of the ionosphere. Nonlinear Processes in Geophysics, 2015, 22, 613-624.	1.3	10
25	GPS phase scintillation at high latitudes during geomagnetic storms of 7â€“17 March 2012 â€“ Part 2: Interhemispheric comparison. Annales Geophysicae, 2015, 33, 657-670.	1.6	16
26	Multiresolution Tomography of Ionospheric Electron Density. , 2014, , .		0
27	System Design for Geosynchronous Synthetic Aperture Radar Missions. IEEE Transactions on Geoscience and Remote Sensing, 2014, 52, 7750-7763.	6.3	105
28	Improving the vertical electron density profile in ionospheric imaging at storm time: A case study on 25â€“27 September 2011. Journal of Geophysical Research: Space Physics, 2014, 119, 7963-7971.	2.4	6
29	Further observations of GPS satellite oscillator anomalies mimicking ionospheric phase scintillation. GPS Solutions, 2014, 18, 387-391.	4.3	11
30	Ionospheric imaging in Africa. Radio Science, 2014, 49, 19-27.	1.6	14
31	Ionospheric corrections for GPS time transfer. Radio Science, 2014, 49, 196-206.	1.6	19
32	Method to measure the Stokes parameters of GPS signals. Radio Science, 2014, 49, 7-18.	1.6	1
33	Robust ionospheric tomography using sparse regularization. , 2014, , .		2
34	Implementation of a new ionospheric model (ANIMo) into a three-dimensional variational analysis (3D-Var) for imaging and forecasting purposes. , 2014, , .		0
35	GPS phase scintillation associated with optical auroral emissions: First statistical results from the geographic South Pole. Journal of Geophysical Research: Space Physics, 2013, 118, 2490-2502.	2.4	45
36	Imaging space weather over Europe. Space Weather, 2013, 11, 69-78.	3.7	13

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37	A comparison of the effects of initializing different thermosphere-ionosphere model fields on storm time plasma density forecasts. <i>Journal of Geophysical Research: Space Physics</i> , 2013, 118, 7329-7337.	2.4	22
38	Comparison of temporal fluctuations in the total electron content estimates from EISCAT and GPS along the same line of sight. <i>Annales Geophysicae</i> , 2013, 31, 745-753.	1.6	5
39	An interhemispheric comparison of GPS phase scintillation with auroral emission observed at the South Pole and from the DMSP satellite. <i>Annals of Geophysics</i> , 2013, 56, .	1.0	10
40	GPS scintillations and total electron content climatology in the southern low, middle and high latitude regions. <i>Annals of Geophysics</i> , 2013, 56, .	1.0	15
41	Measuring GNSS ionospheric total electron content at Concordia, and application to L-band radiometers. <i>Annals of Geophysics</i> , 2013, 56, .	1.0	2
42	Towards adapting a normal patient database for SPECT brain perfusion imaging. <i>Inverse Problems</i> , 2012, 28, 065001.	2.0	4
43	GPS satellite oscillator faults mimicking ionospheric phase scintillation. <i>GPS Solutions</i> , 2012, 16, 477-482.	4.3	9
44	Analysis of diurnal double maxima observed above Italy during 1975-1991. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2012, 89, 67-75.	1.6	3
45	New method for tracking the movement of ionospheric plasma. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	2
46	The use of ionosondes in GPS ionospheric tomography at low latitudes. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	17
47	Ionospheric scintillation over Antarctica during the storm of 5-6 April 2010. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	45
48	A study of L-band scintillations and total electron content at an equatorial station, Lagos, Nigeria. <i>Radio Science</i> , 2012, 47, .	1.6	19
49	A 12year comparison of MIDAS and IRI 2007 ionospheric Total Electron Content. <i>Advances in Space Research</i> , 2012, 49, 1348-1355.	2.6	20
50	Statistical analysis of travelling ionospheric disturbances using TEC observations from geostationary satellites. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2012, 74, 64-80.	1.6	22
51	Imaging of 3D plasmaspheric electron density using GPS to LEO satellite differential phase observations. <i>Radio Science</i> , 2011, 46, .	1.6	19
52	Bipolar climatology of GPS ionospheric scintillation at solar minimum. <i>Radio Science</i> , 2011, 46, .	1.6	114
53	Isolating the multipath component in GNSS signal-to-noise data and locating reflecting objects. <i>Radio Science</i> , 2011, 46, .	1.6	32
54	GPS tomography in the polar cap: comparison with ionosondes and in situ spacecraft data. <i>GPS Solutions</i> , 2011, 15, 79-87.	4.3	8

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55	GPS scintillation and TEC gradients at equatorial latitudes in April 2006. <i>Advances in Space Research</i> , 2011, 47, 1750-1757.	2.6	38
56	The use of ionospheric tomography and elevation masks to reduce the overall error in single-frequency GPS timing applications. <i>Advances in Space Research</i> , 2011, 47, 276-288.	2.6	13
57	Demonstration of the use of the Doppler Orbitography and Radio positioning Integrated by Satellite (DORIS) measurements to validate GPS ionospheric imaging. <i>Advances in Space Research</i> , 2011, 48, 500-506.	2.6	5
58	Tomographic imaging of the equatorial and low-latitude ionosphere over central-eastern Brazil. <i>Earth, Planets and Space</i> , 2011, 63, 129-138.	2.5	16
59	A motion-compensated cone-beam CT using electrical impedance tomography imaging. <i>Physiological Measurement</i> , 2011, 32, 19-34.	2.1	10
60	The use of GLONASS data in ionospheric imaging over the Antarctic. , 2011, , .		0
61	Interhemispheric comparison of GPS phase scintillation at high latitudes during the magnetic-cloud-induced geomagnetic storm of 5â€“7 April 2010. <i>Annales Geophysicae</i> , 2011, 29, 2287-2304.	1.6	45
62	A dual modality of cone beam CT and electrical impedance tomography for lung imaging. <i>Journal of Physics: Conference Series</i> , 2010, 224, 012026.	0.4	1
63	Comparison of 4D tomographic mapping versus thin-shell approximation for ionospheric delay corrections for single-frequency GPS receivers over North America. <i>GPS Solutions</i> , 2010, 14, 279-291.	4.3	8
64	New iterative cone beam CT reconstruction software: Parameter optimisation and convergence study. <i>Computer Methods and Programs in Biomedicine</i> , 2010, 100, 166-174.	4.7	10
65	Image-model coupling: application to an ionospheric storm. <i>Nonlinear Processes in Geophysics</i> , 2010, 17, 361-369.	1.3	1
66	High-latitude ionospheric response to co-rotating interaction region- and coronal mass ejection-driven geomagnetic storms revealed by GPS tomography and ionosondes. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2010, 466, 3391-3408.	2.1	11
67	Scintillationâ€producing Fresnelâ€scale irregularities associated with the regions of steepest TEC gradients adjacent to the equatorial ionization anomaly. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	47
68	Turbulent times in the northern polar ionosphere?. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	13
69	A three-dimensional time-dependent algorithm for ionospheric imaging using GPS. <i>Annals of Geophysics</i> , 2010, 46, .	1.0	51
70	FOUR-DIMENSIONAL ELECTRICAL CAPACITANCE TOMOGRAPHY IMAGING USING EXPERIMENTAL DATA. <i>Progress in Electromagnetics Research</i> , 2009, 90, 171-186.	4.4	137
71	Image-model coupling: a simple information theoretic perspective for image sequences. <i>Nonlinear Processes in Geophysics</i> , 2009, 16, 197-210.	1.3	1
72	Ionospheric delay corrections for single-frequency GPS receivers over Europe using tomographic mapping. <i>GPS Solutions</i> , 2009, 13, 141-151.	4.3	37

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73	Imaging of the Antarctic ionosphere: Experimental results. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2009, 71, 1757-1765.	1.6	12
74	Detrend effect on the scalograms of GPS power scintillation. <i>Advances in Space Research</i> , 2009, 43, 1740-1748.	2.6	13
75	Correlation between scintillation indices and gradient drift wave amplitudes in the northern polar ionosphere. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	16
76	Ionospheric response to the corotating interaction regionâ€“driven geomagnetic storm of October 2002. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	13
77	Medical imaging and physiological modelling: linking physics and biology. <i>BioMedical Engineering OnLine</i> , 2009, 8, 1.	2.7	39
78	Imaging of fast moving electron-density structures in the polar cap. <i>Annals of Geophysics</i> , 2009, 50, .	1.0	19
79	GPS scintillation over the European Arctic during the November 2004 storms. <i>GPS Solutions</i> , 2008, 12, 281-287.	4.3	26
80	Dynamics of high-latitude patches and associated small-scale irregularities during the October and November 2003 storms. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2008, 70, 879-888.	1.6	58
81	Probing the high latitude ionosphere from ground-based observations: The state of current knowledge and capabilities during IPY (2007â€“2009). <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2008, 70, 2293-2308.	1.6	23
82	Ionization dynamics during storms of the recent Solar Maximum. <i>Geophysical Monograph Series</i> , 2008, , 83-90.	0.1	1
83	History, current state, and future directions of ionospheric imaging. <i>Reviews of Geophysics</i> , 2008, 46, .	23.0	210
84	GPS scintillation in the high arctic associated with an auroral arc. <i>Space Weather</i> , 2008, 6, .	3.7	56
85	Ionospheric storm time dynamics as seen by GPS tomography and in situ spacecraft observations. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	25
86	A multi-diagnostic approach to understanding high-latitude plasma transport during the Halloween 2003 storm. <i>Annales Geophysicae</i> , 2008, 26, 2739-2747.	1.6	15
87	Wavelet analysis of GPS amplitude scintillation: A case study. <i>Radio Science</i> , 2007, 42, n/a-n/a.	1.6	33
88	Four-dimensional GPS imaging of space weather storms. <i>Space Weather</i> , 2007, 5, n/a-n/a.	3.7	53
89	Ionospheric imaging at mid-latitudes using both GPS and ionosondes. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2007, 69, 817-825.	1.6	3
90	Space-Plasma Imaging â€” Past, Present and Future. <i>Series on Iraq War and Its Consequences</i> , 2007, , 93-108.	0.1	0

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91	GPS interfrequency biases and total electron content errors in ionospheric imaging over Europe. <i>Radio Science</i> , 2006, 41, n/a-n/a.	1.6	14
92	A study into the errors in vertical total electron content mapping using GPS data. <i>Radio Science</i> , 2006, 41, n/a-n/a.	1.6	12
93	Observations of the F region height redistribution in the storm-time ionosphere over Europe and the USA using GPS imaging. <i>Geophysical Research Letters</i> , 2006, 33, n/a-n/a.	4.0	19
94	A simulation study into constructing of the sample space for ionospheric imaging. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 2005, 67, 1085-1091.	1.6	14
95	Use of radio-occultation data for ionospheric imaging during the April 2002 disturbances. <i>GPS Solutions</i> , 2005, 9, 156-163.	4.3	15
96	Simultaneous observations of the main trough using GPS imaging and the EISCAT radar. <i>Annales Geophysicae</i> , 2005, 23, 753-757.	1.6	11
97	GPS TEC and scintillation measurements from the polar ionosphere during the October 2003 storm. <i>Geophysical Research Letters</i> , 2005, 32, n/a-n/a.	4.0	147
98	Electron density profiles determined from tomographic reconstruction of total electron content obtained from GPS dual frequency data: first results from the South African network of dual frequency GPS receiver stations. <i>Advances in Space Research</i> , 2004, 34, 2049-2055.	2.6	15
99	A comparison of techniques for mapping total electron content over Europe using GPS signals. <i>Radio Science</i> , 2004, 39, n/a-n/a.	1.6	24
100	Ionospheric electron concentration imaging using GPS over the USA during the storm of July 2000. <i>Geophysical Research Letters</i> , 2004, 31, n/a-n/a.	4.0	67
101	The Use of GPS Measurements for Water Vapor Determination. <i>Bulletin of the American Meteorological Society</i> , 2003, 84, 1249-1258.	3.3	28
102	Verification of CHAMP Radio-Occultation Observations in the Ionosphere Using MIDAS. , 2003, , 545-550.		4
103	Imaging of near-Earth space plasma. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2002, 360, 2805-2818.	3.4	6
104	Validation of electron density profiles derived from oblique ionograms over the United Kingdom. <i>Radio Science</i> , 2001, 36, 1149-1156.	1.6	10
105	Application of radio tomographic imaging to HF oblique incidence ray tracing. <i>Radio Science</i> , 2001, 36, 1591-1598.	1.6	15
106	Multi-instrument probing of the polar ionosphere under steady northward IMF. <i>Annales Geophysicae</i> , 2000, 18, 90-98.	1.6	10
107	<i>>Letter to the Editor:</i><i>> First complementary observations by ionospheric tomography, the EISCAT Svalbard radar and the CUTLASS HF radar. <i>Annales Geophysicae</i> , 1998, 16, 1519-1522.	1.6	2
108	Ionospheric effects of magnetopause reconnection observed using ionospheric tomography. <i>Geophysical Research Letters</i> , 1998, 25, 293-296.	4.0	30

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109	A comparison of reconstruction techniques used in ionospheric tomography. <i>Radio Science</i> , 1998, 33, 1767-1779.	1.6	38
110	Two-dimensional mapping of the plasma density in the upper atmosphere with computerized ionospheric tomography (CIT). <i>Physics of Plasmas</i> , 1998, 5, 2010-2021.	1.9	54
111	Imaging of electron density troughs by tomographic techniques. <i>Radio Science</i> , 1997, 32, 1607-1621.	1.6	55
112	Determination of the vertical electron-density profile in ionospheric tomography: experimental results. <i>Annales Geophysicae</i> , 1997, 15, 747-752.	1.6	33
113	The effects of receiver location in two-station experimental ionospheric tomography. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 1997, 59, 1411-1415.	1.6	11
114	The correction for the satellite-receiver longitude difference in ionospheric tomography. <i>Journal of Atmospheric and Solar-Terrestrial Physics</i> , 1997, 59, 2077-2087.	1.6	8
115	EISCAT verification in the development of ionospheric tomography. <i>Annales Geophysicae</i> , 1996, 14, 1413-1421.	1.6	17
116	EISCAT verification in the development of ionospheric tomography. <i>Annales Geophysicae</i> , 1996, 14, 1413.	1.6	7
117	ANIMO – A New Ionospheric Model. <i>Ionospheric Modeling for Ionospheric Imaging and Forecasting Purposes.</i> , 0, , .		1