Paul Withers

List of Publications by Year
in descending order

125 papers	3,805 citations	117625 34 h-index	138484 58 g-index
126 all docs	126 docs citations	126 times ranked	1938 citing authors

#	Article	IF	Citations
1	The ionosphere of Mars from solar minimum to solar maximum: Dayside electron densities from MAVEN and Mars Global Surveyor radio occultations. Icarus, 2023, 393, 114508.	2.5	7
2	The Martian ionosphere at solar minimum: Empirical model validation using MAVEN ROSE data. Icarus, 2023, 393, 114609.	2.5	0
3	Martian nonmigrating atmospheric tides in the thermosphere and ionosphere at solar minimum. Icarus, 2023, 393, 114767.	2.5	2
4	Assessment of the feasibility of space-based stellar occultation observations of Uranus and Neptune. Planetary and Space Science, 2022, 213, 105431.	1.7	1
5	Jupiter's Enigmatic Ionosphere: Electron Density Profiles From the Pioneer, Voyager, and Galileo Radio Occultation Experiments. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	3
6	Electron Densities in the Ionosphere of Mars: Comparison of MAVEN/ROSE and MAVEN/LPW Measurements. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	2
7	Ganymede's Ionosphere Observed by a Dualâ€Frequency Radio Occultation With Juno. Geophysical Research Letters, 2022, 49, .	4.0	9
8	Comparison of the Effects of Regional and Global Dust Storms on the Composition of the Ionized Species of the Martian Upper Atmosphere Using MAVEN. Remote Sensing, 2022, 14, 2594.	4.0	1
9	Jupiter's Temperature Structure: A Reassessment of the Voyager Radio Occultation Measurements. Planetary Science Journal, 2022, 3, 159.	3.6	11
10	Two Years of Observations of the Io Plasma Torus by Juno Radio Occultations: Results From Perijoves 1 to 15. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028710.	2.4	7
11	Response of Mars's Topside Ionosphere to Changing Solar Activity and Comparisons to Venus. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028913.	2.4	4
12	Quick-look estimates of ionospheric properties from radio occultation data. Advances in Space Research, 2021, 68, 2038-2049.	2.6	1
13	Observations of Gravity Waves in the Middle Atmosphere of Mars. Astronomical Journal, 2021, 161, 280.	4.7	4
14	The Vertical Extent of Enhanced Densities in Cuspâ€Like Regions of the Ionosphere of Mars. Journal of Geophysical Research: Space Physics, 2021, 126, e2020JA028499.	2.4	0
15	A theoretical assessment of the feasibility of potential Lunar Reconnaissance Orbiter radio occultation observations of the lunar ionosphere. Advances in Space Research, 2021, 67, 4099-4109.	2.6	3
16	Effects of the June 2018 Global Dust Storm on the Atmospheric Composition of the Martian Upper Atmosphere as Observed by MAVEN. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006868.	3.6	7
17	On the horizontal currents over the Martian magnetic cusp. Advances in Space Research, 2021, 68, 3218-3224.	2.6	0
18	MOSAIC: A Satellite Constellation to Enable Groundbreaking Mars Climate System Science and Prepare for Human Exploration. Planetary Science Journal, 2021, 2, 211.	3.6	6

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19	Where Is the Io Plasma Torus? A Comparison of Observations by Juno Radio Occultations to Predictions From Jovian Magnetic Field Models. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027633.	2.4	9
20	Effects of the 10 September 2017 Solar Flare on the Density and Composition of the Thermosphere of Mars. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028518.	2.4	5
21	How to Process Radio Occultation Data: 2. From Time Series of Twoâ€Way, Singleâ€Frequency Frequency Residuals to Vertical Profiles of Ionospheric Properties. Radio Science, 2020, 55, e2019RS007046.	1.6	16
22	MarCO Radio Occultation: How the First Interplanetary Cubesat Can Help Improve Future Missions. , 2020, , .		2
23	Are Sporadic Plasma Layers at 90Âkm in the Mars Ionosphere Produced by Solar Energetic Particle Events. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028120.	2.4	2
24	Tidal Wave-Driven Variability in the Mars Ionosphere-Thermosphere System. Atmosphere, 2020, 11, 521.	2.3	14
25	Revised predictions of uncertainties in atmospheric properties measured by radio occultation experiments. Advances in Space Research, 2020, 66, 2466-2475.	2.6	6
26	The ionosphere of Venus: Strongest control by photo-chemical-equilibrium in the solar system, with implications for exospheric temperatures. Icarus, 2020, 349, 113870.	2.5	2
27	MAVEN ROSE Observations of the Response of the Martian Ionosphere to Dust Storms. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027083.	2.4	22
28	Dependence of Dayside Electron Densities at Venus on Solar Irradiance. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027167.	2.4	3
29	Constantly forming sporadic E-like layers and rifts in the Martian ionosphere and their implications for Earth. Nature Astronomy, 2020, 4, 486-491.	10.1	14
30	The MAVEN Radio Occultation Science Experiment (ROSE). Space Science Reviews, 2020, 216, 1.	8.1	26
31	Recovery and Validation of Mars Ionospheric Electron Density Profiles from Viking Orbiter Radio Occultation Observations. Planetary Science Journal, 2020, 1, 14.	3.6	3
32	Recovery and Validation of Venus Ionospheric Electron Density Profiles from Pioneer Venus Orbiter Radio Occultation Observations. Planetary Science Journal, 2020, 1, 78.	3.6	2
33	Recovery and Validation of Venus Neutral Atmospheric Profiles from Pioneer Venus Orbiter Radio Occultation Observations. Planetary Science Journal, 2020, 1, 79.	3.6	1
34	Extremely High Plasma Densities in the Mars Ionosphere Associated With Cuspâ€Like Magnetic Fields. Journal of Geophysical Research: Space Physics, 2019, 124, 6029-6046.	2.4	8
35	Variations in the Density Distribution of the Io Plasma Torus as Seen by Radio Occultations on Juno Perijoves 3, 6, and 8. Journal of Geophysical Research: Space Physics, 2019, 124, 5200-5221.	2.4	8
36	Localized Ionization Hypothesis for Transient Ionospheric Layers. Journal of Geophysical Research: Space Physics, 2019, 124, 4870-4880.	2.4	19

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37	Mars's Dayside Upper Ionospheric Composition Is Affected by Magnetic Field Conditions. Journal of Geophysical Research: Space Physics, 2019, 124, 3100-3109.	2.4	26
38	Exoplanet transits with next-generation radio telescopes. Monthly Notices of the Royal Astronomical Society, 2019, 484, 648-658.	4.4	10
39	ExoMars Atmospheric Mars Entry and Landing Investigations and Analysis (AMELIA). Space Science Reviews, 2019, 215, 1.	8.1	14
40	Cassini Radio Occultation Observations of Titan's Ionosphere: The Complete Set of Electron Density Profiles. Journal of Geophysical Research: Space Physics, 2019, 124, 643-660.	2.4	12
41	First Ionospheric Results From the MAVEN Radio Occultation Science Experiment (ROSE). Journal of Geophysical Research: Space Physics, 2018, 123, 4171-4180.	2.4	35
42	Atomic oxygen ions as ionospheric biomarkers on exoplanets. Nature Astronomy, 2018, 2, 287-291.	10.1	9
43	Thermospheric Expansion Associated With Dust Increase in the Lower Atmosphere on Mars Observed by MAVEN/NGIMS. Geophysical Research Letters, 2018, 45, 2901-2910.	4.0	27
44	Distribution of Plasma in the Io Plasma Torus as Seen by Radio Occultation During <i>Juno</i> Perijove 1. Journal of Geophysical Research: Space Physics, 2018, 123, 6207-6222.	2.4	19
45	Loss of the Martian atmosphere to space: Present-day loss rates determined from MAVEN observations and integrated loss through time. Icarus, 2018, 315, 146-157.	2.5	216
46	A Sporadic Topside Layer in the Ionosphere of Mars From Analysis of MGS Radio Occultation Data. Journal of Geophysical Research: Space Physics, 2018, 123, 883-900.	2.4	10
47	Mars Initial Reference Ionosphere (MIRI) Model: Updates and Validations Using MAVEN, MEX, and MRO Data Sets. Journal of Geophysical Research: Space Physics, 2018, 123, 5674-5683.	2.4	12
48	MARSIS Observations of Fieldâ€Aligned Irregularities and Ducted Radio Propagation in the Martian Ionosphere. Journal of Geophysical Research: Space Physics, 2018, 123, 6251-6263.	2.4	2
49	The Mars Topside Ionosphere Response to the X8.2 Solar Flare of 10 September 2017. Geophysical Research Letters, 2018, 45, 8005-8013.	4.0	38
50	Implications of MAVEN's planetographic coordinate system for comparisons to other recent Mars orbital missions. Journal of Geophysical Research: Space Physics, 2017, 122, 802-807.	2.4	8
51	Radio occultations of the Io plasma torus by <i>Juno</i> are feasible. Journal of Geophysical Research: Space Physics, 2017, 122, 1731-1750.	2.4	17
52	Occultations of Astrophysical Radio Sources as Probes of Planetary Environments: A Case Study of Jupiter and Possible Applications to Exoplanets. Astrophysical Journal, 2017, 836, 114.	4.5	10
53	MAVEN observations of dayside peak electron densities in the ionosphere of Mars. Journal of Geophysical Research: Space Physics, 2017, 122, 891-906.	2.4	33
54	History of Mars Atmosphere Observations. , 2017, , 20-41.		4

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55	MAVEN Observations of the Effects of Crustal Magnetic Fields on Electron Density and Temperature in the Martian Dayside Ionosphere. Geophysical Research Letters, 2017, 44, 10812-10821.	4.0	42
56	Trimetric Imaging of the Martian Ionosphere Using a CubeSat Constellation. , 2017, , .		0
57	Simultaneous observations of atmospheric tides from combined in situ and remote observations at Mars from the MAVEN spacecraft. Journal of Geophysical Research E: Planets, 2016, 121, 594-607.	3.6	48
58	On the feasibility of detecting the ionospheric effects of solar energetic particle events at Mars using spacecraft-spacecraft radio links. Radio Science, 2016, 51, 352-364.	1.6	0
59	Comparative aeronomy: Molecular ionospheres at Earth and Mars. Journal of Geophysical Research: Space Physics, 2016, 121, 10,269-10,288.	2.4	7
60	Electron densities in the ionosphere of Mars: A comparison of MARSIS and radio occultation measurements. Journal of Geophysical Research: Space Physics, 2016, 121, 10,241.	2.4	6
61	Mars Express 10 years at Mars: Observations by the Mars Express Radio Science Experiment (MaRS). Planetary and Space Science, 2016, 127, 44-90.	1.7	50
62	Atmospheric studies from the Mars Science Laboratory Entry, Descent and Landing atmospheric structure reconstruction. Planetary and Space Science, 2016, 120, 15-23.	1.7	21
63	The morphology of the topside ionosphere of Mars under different solar wind conditions: Results of a multi-instrument observing campaign by Mars Express in 2010. Planetary and Space Science, 2016, 120, 24-34.	1.7	12
64	Response of the Mars ionosphere to solar flares: Analysis of MGS radio occultation data. Journal of Geophysical Research: Space Physics, 2015, 120, 9805-9825.	2.4	26
65	Changes in the thermosphere and ionosphere of Mars from Viking to MAVEN. Geophysical Research Letters, 2015, 42, 9071-9079.	4.0	20
66	An observational study of the influence of solar zenith angle on properties of the M1 layer of the Mars ionosphere. Journal of Geophysical Research: Space Physics, 2015, 120, 1299-1310.	2.4	41
67	Ionopauseâ€like density gradients in the Martian ionosphere: A first look with MAVEN. Geophysical Research Letters, 2015, 42, 8885-8893.	4.0	42
68	Interpreting Mars ionospheric anomalies over crustal magnetic field regions using a 2â€D ionospheric model. Journal of Geophysical Research: Space Physics, 2015, 120, 766-777.	2.4	46
69	An empirical model of the extreme ultraviolet solar spectrum as a function of <i>F</i>_{10.7}. Journal of Geophysical Research: Space Physics, 2015, 120, 6779-6794.	2.4	26
70	Recovery and validation of Mars ionospheric electron density profiles from Mariner 9. Earth, Planets and Space, 2015, 67, .	2.5	16
71	Numerical simulations of the influence of solar zenith angle on properties of the M1 layer of the Mars ionosphere. Journal of Geophysical Research: Space Physics, 2015, 120, 6707-6721.	2.4	10
72	Comparison of model predictions for the composition of the ionosphere of Mars to MAVEN NGIMS data. Geophysical Research Letters, 2015, 42, 8966-8976.	4.0	25

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73	Electromagnetic mirrors in the sky: Accessible applications of Maxwell's equations. American Journal of Physics, 2015, 83, 506-512.	0.7	2
74	Science Enhancements by the MAVEN Participating Scientists. Space Science Reviews, 2015, 195, 319-355.	8.1	1
75	Variations in peak electron densities in the ionosphere of Mars over a full solar cycle. Icarus, 2015, 251, 5-11.	2.5	27
76	Early MAVEN Deep Dip campaign reveals thermosphere and ionosphere variability. Science, 2015, 350, aad0459.	12.6	90
77	Trajectory and atmospheric structure from entry probes: Feasibility study of a real-time reconstruction technique using a radio link. Planetary and Space Science, 2015, 117, 345-355.	1.7	2
78	Characterization of the lower layer in the dayside Venus ionosphere and comparisons with Mars. Planetary and Space Science, 2015, 117, 146-158.	1.7	15
79	Predictions of electron temperatures in the Mars ionosphere and their effects on electron densities. Geophysical Research Letters, 2014, 41, 2681-2686.	4.0	15
80	Predictions of the effects of Mars's encounter with comet C/2013 A1 (Siding Spring) upon metal species in its ionosphere. Geophysical Research Letters, 2014, 41, 6635-6643.	4.0	10
81	How to process radio occultation data: 1. From time series of frequency residuals to vertical profiles of atmospheric and ionospheric properties. Planetary and Space Science, 2014, 101, 77-88.	1.7	38
82	The dayside ionospheres of Mars and Venus: Comparing a one-dimensional photochemical model with MaRS (Mars Express) and VeRa (Venus Express) observations. Icarus, 2014, 233, 66-82.	2.5	47
83	Numerical simulations of ion and electron temperatures in the ionosphere of Mars: Multiple ions and diurnal variations. Icarus, 2014, 227, 78-88.	2.5	60
84	Landing spacecraft on Mars and other planets: An opportunity to apply introductory physics. American Journal of Physics, 2013, 81, 565-569.	0.7	12
85	Variability in ionospheric total electron content at Mars. Planetary and Space Science, 2013, 86, 117-129.	1.7	16
86	A smoothing technique for improving atmospheric reconstruction for planetary entry probes. Planetary and Space Science, 2013, 79-80, 52-55.	1.7	3
87	Meteoric ion layers in the ionospheres of venus and mars: Early observations and consideration of the role of meteor showers. Advances in Space Research, 2013, 52, 1207-1216.	2.6	12
88	An observational study of the response of the upper atmosphere of Mars to lower atmospheric dust storms. Icarus, 2013, 225, 378-389.	2.5	68
89	The composition of Mars' topside ionosphere: Effects of hydrogen. Journal of Geophysical Research: Space Physics, 2013, 118, 2681-2693.	2.4	61
90	A new semiempirical model of the peak electron density of the Martian ionosphere. Geophysical Research Letters, 2013, 40, 5361-5365.	4.0	37

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91	The dependence of peak electron density in the ionosphere of Mars on solar irradiance. Geophysical Research Letters, 2013, 40, 1960-1964.	4.0	28
92	A clear view of the multifaceted dayside ionosphere of Mars. Geophysical Research Letters, 2012, 39, .	4.0	42
93	Empirical Estimates of Martian Surface Pressure in Support of the Landing of Mars Science Laboratory. Space Science Reviews, 2012, 170, 837-860.	8.1	17
94	Numerical simulations of the ionosphere of Mars during a solar flare. Journal of Geophysical Research, 2012, 117, .	3.3	38
95	Numerical simulation of the effects of a solar energetic particle event on the ionosphere of Mars. Journal of Geophysical Research, 2012, 117, .	3.3	35
96	Observations of the nightside ionosphere of Mars by the Mars Express Radio Science Experiment (MaRS). Journal of Geophysical Research, 2012, 117, .	3.3	75
97	How do meteoroids affect Venus's and Mars's ionospheres?. Eos, 2012, 93, 337-338.	0.1	4
98	Attenuation of radio signals by the ionosphere of Mars: Theoretical development and application to MARSIS observations. Radio Science, 2011, 46, .	1.6	32
99	Ionospheric response to the X-class solar flare on 7 September 2005. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	33
100	Observations of thermal tides in the middle atmosphere of Mars by the SPICAM instrument. Journal of Geophysical Research, 2011, 116, .	3.3	35
101	Modeling Mars' ionosphere with constraints from same-day observations by Mars Global Surveyor and Mars Express. Journal of Geophysical Research, 2011, 116, n/a-n/a.	3.3	72
102	Day-side ionospheric conductivities at Mars. Planetary and Space Science, 2010, 58, 1139-1151.	1.7	26
103	Trajectory and atmospheric structure from entry probes: Demonstration of a real-time reconstruction technique using a simple direct-to-Earth radio link. Planetary and Space Science, 2010, 58, 2044-2049.	1.7	3
104	Prediction of uncertainties in atmospheric properties measured by radio occultation experiments. Advances in Space Research, 2010, 46, 58-73.	2.6	39
105	Using satellites to probe extrasolar planet formation. Proceedings of the International Astronomical Union, 2010, 6, .	0.0	2
106	Observations of atmospheric tides on Mars at the season and latitude of the Phoenix atmospheric entry. Geophysical Research Letters, 2010, 37, .	4.0	22
107	Total electron content in the Mars ionosphere: Temporal studies and dependence on solar EUV flux. Journal of Geophysical Research, 2010, 115, .	3.3	38
108	A review of observed variability in the dayside ionosphere of Mars. Advances in Space Research, 2009, 44, 277-307.	2.6	192

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109	A sporadic layer in the Venus lower ionosphere of meteoric origin. Geophysical Research Letters, 2009, 36, .	4.0	53
110	The P/Halley Stream: Meteor Showers on Earth, Venus and Mars. Earth, Moon and Planets, 2008, 102, 125-131.	0.6	9
111	Reconstruction of the trajectory of the Huygens probe using the Huygens Atmospheric Structure Instrument (HASI). Planetary and Space Science, 2008, 56, 586-600.	1.7	11
112	Theoretical models of ionospheric electrodynamics and plasma transport. Journal of Geophysical Research, 2008, 113, .	3.3	14
113	Interplanetary Space Weather and Its Planetary Connection. Space Weather, 2008, 6, n/a-n/a.	3.7	4
114	Physical characteristics and occurrence rates of meteoric plasma layers detected in the Martian ionosphere by the Mars Global Surveyor Radio Science Experiment. Journal of Geophysical Research, 2008, 113, .	3.3	66
115	The dust trail complex of comet 79P/du Toit-Hartley and meteor outbursts at Mars. Astronomy and Astrophysics, 2007, 471, 321-329.	5.1	11
116	A technique to determine the mean molecular mass of a planetary atmosphere using pressure and temperature measurements made by an entry probe: Demonstration using Huygens data. Planetary and Space Science, 2007, 55, 1959-1963.	1.7	0
117	Mars Global Surveyor and Mars Odyssey Accelerometer observations of the Martian upper atmosphere during aerobraking. Geophysical Research Letters, 2006, 33, .	4.0	84
118	Reconstructing the weather on Mars at the time of the MERs and Beagle 2 landings. Geophysical Research Letters, 2006, 33, .	4.0	11
119	Atmospheric entry profiles from the Mars Exploration Rovers Spirit and Opportunity. Icarus, 2006, 185, 133-142.	2.5	70
120	Effects of Solar Flares on the Ionosphere of Mars. Science, 2006, 311, 1135-1138.	12.6	147
121	Response of peak electron densities in the martian ionosphere to day-to-day changes in solar flux due to solar rotation. Planetary and Space Science, 2005, 53, 1401-1418.	1.7	63
122	In situ measurements of the physical characteristics of Titan's environment. Nature, 2005, 438, 785-791.	27.8	620
123	Ionospheric characteristics above Martian crustal magnetic anomalies. Geophysical Research Letters, 2005, 32, .	4.0	69
124	The effects of topographically-controlled thermal tides in the martian upper atmosphere as seen by the MGS accelerometer. Icarus, 2003, 164, 14-32.	2.5	109
125	Analysis of entry accelerometer data: A case study of Mars Pathfinder. Planetary and Space Science, 2003, 51, 541-561.	1.7	42