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	In situ measurements of the physical characteristics of Titan's environment. Nature, 2005, 438, 785-791.	27.8	620
2	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
3	A review of observed variability in the dayside ionosphere of Mars. Advances in Space Research, 2009, 44, 277-307.	2.6	192
4	Effects of Solar Flares on the Ionosphere of Mars. Science, 2006, 311, 1135-1138.	12.6	147
5	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
6	Early MAVEN Deep Dip campaign reveals thermosphere and ionosphere variability. Science, 2015, 350, aad0459.	12.6	90
7	Mars Global Surveyor and Mars Odyssey Accelerometer observations of the Martian upper atmosphere during aerobraking. Geophysical Research Letters, 2006, 33, .	4.0	84
8	Observations of the nightside ionosphere of Mars by the Mars Express Radio Science Experiment (MaRS). Journal of Geophysical Research, 2012, 117, .	3.3	75
9	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
10	Atmospheric entry profiles from the Mars Exploration Rovers Spirit and Opportunity. Icarus, 2006, 185, 133-142.	2.5	70
11	Ionospheric characteristics above Martian crustal magnetic anomalies. Geophysical Research Letters, 2005, 32, .	4.0	69
12	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
13	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
14	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
15	The composition of Mars' topside ionosphere: Effects of hydrogen. Journal of Geophysical Research: Space Physics, 2013, 118, 2681-2693.	2.4	61
16	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
17	A sporadic layer in the Venus lower ionosphere of meteoric origin. Geophysical Research Letters, 2009, 36, .	4.0	53
18	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

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19	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
20	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
21	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
22	Analysis of entry accelerometer data: A case study of Mars Pathfinder. Planetary and Space Science, 2003, 51, 541-561.	1.7	42
23	A clear view of the multifaceted dayside ionosphere of Mars. Geophysical Research Letters, 2012, 39, .	4.0	42
24	Ionopauseâ€like density gradients in the Martian ionosphere: A first look with MAVEN. Geophysical Research Letters, 2015, 42, 8885-8893.	4.0	42
25	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
26	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
27	Prediction of uncertainties in atmospheric properties measured by radio occultation experiments. Advances in Space Research, 2010, 46, 58-73.	2.6	39
28	Total electron content in the Mars ionosphere: Temporal studies and dependence on solar EUV flux. Journal of Geophysical Research, 2010, 115, .	3.3	38
29	Numerical simulations of the ionosphere of Mars during a solar flare. Journal of Geophysical Research, 2012, 117, .	3.3	38
30	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
31	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
32	A new semiempirical model of the peak electron density of the Martian ionosphere. Geophysical Research Letters, 2013, 40, 5361-5365.	4.0	37
33	Observations of thermal tides in the middle atmosphere of Mars by the SPICAM instrument. Journal of Geophysical Research, 2011, 116, .	3.3	35
34	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
35	First Ionospheric Results From the MAVEN Radio Occultation Science Experiment (ROSE). Journal of Geophysical Research: Space Physics, 2018, 123, 4171-4180.	2.4	35
36	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

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37	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
38	Attenuation of radio signals by the ionosphere of Mars: Theoretical development and application to MARSIS observations. Radio Science, 2011, 46, .	1.6	32
39	The dependence of peak electron density in the ionosphere of Mars on solar irradiance. Geophysical Research Letters, 2013, 40, 1960-1964.	4.0	28
40	Variations in peak electron densities in the ionosphere of Mars over a full solar cycle. Icarus, 2015, 251, 5-11.	2.5	27
41	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
42	Day-side ionospheric conductivities at Mars. Planetary and Space Science, 2010, 58, 1139-1151.	1.7	26
43	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
44	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
45	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
46	The MAVEN Radio Occultation Science Experiment (ROSE). Space Science Reviews, 2020, 216, 1.	8.1	26
47	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
48	Observations of atmospheric tides on Mars at the season and latitude of the Phoenix atmospheric entry. Geophysical Research Letters, 2010, 37, .	4.0	22
49	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
50	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
51	Changes in the thermosphere and ionosphere of Mars from Viking to MAVEN. Geophysical Research Letters, 2015, 42, 9071-9079.	4.0	20
52	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
53	Localized Ionization Hypothesis for Transient Ionospheric Layers. Journal of Geophysical Research: Space Physics, 2019, 124, 4870-4880.	2.4	19
54	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

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55	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
56	Variability in ionospheric total electron content at Mars. Planetary and Space Science, 2013, 86, 117-129.	1.7	16
57	Recovery and validation of Mars ionospheric electron density profiles from Mariner 9. Earth, Planets and Space, 2015, 67, .	2.5	16
58	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
59	Predictions of electron temperatures in the Mars ionosphere and their effects on electron densities. Geophysical Research Letters, 2014, 41, 2681-2686.	4.0	15
60	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
61	Theoretical models of ionospheric electrodynamics and plasma transport. Journal of Geophysical Research, 2008, 113, .	3.3	14
62	ExoMars Atmospheric Mars Entry and Landing Investigations and Analysis (AMELIA). Space Science Reviews, 2019, 215, 1.	8.1	14
63	Tidal Wave-Driven Variability in the Mars Ionosphere-Thermosphere System. Atmosphere, 2020, 11, 521.	2.3	14
64	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
65	Landing spacecraft on Mars and other planets: An opportunity to apply introductory physics. American Journal of Physics, 2013, 81, 565-569.	0.7	12
66	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
67	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
68	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
69	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
70	Reconstructing the weather on Mars at the time of the MERs and Beagle 2 landings. Geophysical Research Letters, 2006, 33, .	4.0	11
71	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
72	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

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73	Jupiter's Temperature Structure: A Reassessment of the Voyager Radio Occultation Measurements. Planetary Science Journal, 2022, 3, 159.	3.6	11
74	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
75	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
76	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
77	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
78	Exoplanet transits with next-generation radio telescopes. Monthly Notices of the Royal Astronomical Society, 2019, 484, 648-658.	4.4	10
79	The P/Halley Stream: Meteor Showers on Earth, Venus and Mars. Earth, Moon and Planets, 2008, 102, 125-131.	0.6	9
80	Atomic oxygen ions as ionospheric biomarkers on exoplanets. Nature Astronomy, 2018, 2, 287-291.	10.1	9
81	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
82	Ganymede's Ionosphere Observed by a Dualâ€Frequency Radio Occultation With Juno. Geophysical Research Letters, 2022, 49, .	4.0	9
83	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
84	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
85	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
86	Comparative aeronomy: Molecular ionospheres at Earth and Mars. Journal of Geophysical Research: Space Physics, 2016, 121, 10,269-10,288.	2.4	7
87	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
88	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
89	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
90	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

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91	Revised predictions of uncertainties in atmospheric properties measured by radio occultation experiments. Advances in Space Research, 2020, 66, 2466-2475.	2.6	6
92	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
93	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
94	Interplanetary Space Weather and Its Planetary Connection. Space Weather, 2008, 6, n/a-n/a.	3.7	4
95	How do meteoroids affect Venus's and Mars's ionospheres?. Eos, 2012, 93, 337-338.	0.1	4
96	History of Mars Atmosphere Observations. , 2017, , 20-41.		4
97	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
98	Observations of Gravity Waves in the Middle Atmosphere of Mars. Astronomical Journal, 2021, 161, 280.	4.7	4
99	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
100	A smoothing technique for improving atmospheric reconstruction for planetary entry probes. Planetary and Space Science, 2013, 79-80, 52-55.	1.7	3
101	Dependence of Dayside Electron Densities at Venus on Solar Irradiance. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027167.	2.4	3
102	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
103	Recovery and Validation of Mars Ionospheric Electron Density Profiles from Viking Orbiter Radio Occultation Observations. Planetary Science Journal, 2020, 1, 14.	3.6	3
104	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
105	Using satellites to probe extrasolar planet formation. Proceedings of the International Astronomical Union, 2010, 6, .	0.0	2
106	Electromagnetic mirrors in the sky: Accessible applications of Maxwell's equations. American Journal of Physics, 2015, 83, 506-512.	0.7	2
107	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
108	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

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109	MarCO Radio Occultation: How the First Interplanetary Cubesat Can Help Improve Future Missions. , 2020, , .		2
110	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
111	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
112	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
113	Martian nonmigrating atmospheric tides in the thermosphere and ionosphere at solar minimum. Icarus, 2023, 393, 114767.	2.5	2
114	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
115	Science Enhancements by the MAVEN Participating Scientists. Space Science Reviews, 2015, 195, 319-355.	8.1	1
116	Quick-look estimates of ionospheric properties from radio occultation data. Advances in Space Research, 2021, 68, 2038-2049.	2.6	1
117	Recovery and Validation of Venus Neutral Atmospheric Profiles from Pioneer Venus Orbiter Radio Occultation Observations. Planetary Science Journal, 2020, 1, 79.	3.6	1
118	Assessment of the feasibility of space-based stellar occultation observations of Uranus and Neptune. Planetary and Space Science, 2022, 213, 105431.	1.7	1
119	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
120	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
121	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
122	Trimetric Imaging of the Martian Ionosphere Using a CubeSat Constellation. , 2017, , .		0
123	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
124	The Martian ionosphere at solar minimum: Empirical model validation using MAVEN ROSE data. Icarus, 2023, 393, 114609.	2.5	0
125	On the horizontal currents over the Martian magnetic cusp. Advances in Space Research, 2021, 68, 3218-3224.	2.6	0