R Todd Clancy

List of Publications by Year
in descending order

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71 papers	6,901 citations	101543 36 h-index	155660 55 g-index
75 all docs	75 docs citations	75 times ranked	2996 citing authors

#	Article	IF	Citations
1	Context Camera Investigation on board the Mars Reconnaissance Orbiter. Journal of Geophysical Research, 2007, 112, .	3.3	953
2	Mars Global Surveyor Thermal Emission Spectrometer experiment: Investigation description and surface science results. Journal of Geophysical Research, 2001, 106, 23823-23871.	3.3	903
3	Compact Reconnaissance Imaging Spectrometer for Mars (CRISM) on Mars Reconnaissance Orbiter (MRO). Journal of Geophysical Research, 2007, 112, .	3.3	796
4	An intercomparison of ground-based millimeter, MGS TES, and Viking atmospheric temperature measurements: Seasonal and interannual variability of temperatures and dust loading in the global Mars atmosphere. Journal of Geophysical Research, 2000, 105, 9553-9571.	3.3	340
5	A Photochemical Model of the Martian Atmosphere. Icarus, 1994, 111, 124-150.	2.5	330
6	CRISM multispectral summary products: Parameterizing mineral diversity on Mars from reflectance. Journal of Geophysical Research, 2007, 112, .	3.3	304
7	Mars aerosol studies with the MGS TES emission phase function observations: Optical depths, particle sizes, and ice cloud types versus latitude and solar longitude. Journal of Geophysical Research, 2003, 108, .	3.3	253
8	Constraints on the size of Martian aerosols from Thermal Emission Spectrometer observations. Journal of Geophysical Research, 2003, 108, .	3.3	203
9	Wavelength dependence of dust aerosol single scattering albedo as observed by the Compact Reconnaissance Imaging Spectrometer. Journal of Geophysical Research, 2009, 114, .	3.3	196
10	A new model for Mars atmospheric dust based upon analysis of ultraviolet through infrared observations from Mariner 9, Viking, and Phobos. Journal of Geophysical Research, 1995, 100, 5251.	3.3	175
11	Constraints on dust aerosols from the Mars Exploration Rovers using MGS overflights and Mini-TES. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	159
12	Compact Reconnaissance Imaging Spectrometer observations of water vapor and carbon monoxide. Journal of Geophysical Research, 2009, 114, .	3.3	137
13	Heterogeneous chemistry in the atmosphere of Mars. Nature, 2008, 454, 971-975.	27.8	130
14	Martian dust storm impact on atmospheric H2O and D/H observed by ExoMars Trace Gas Orbiter. Nature, 2019, 568, 521-525.	27.8	107
15	Annual (perihelion-aphelion) cycles in the photochemical behavior of the global Mars atmosphere. Journal of Geophysical Research, 1996, 101, 12785-12790.	3.3	89
16	Sulfur chemistry in the Venus mesosphere from SO2 and SO microwave spectra. Icarus, 2010, 208, 49-60.	2.5	88
17	Water Vapor Vertical Profiles on Mars in Dust Storms Observed by TGO/NOMAD. Journal of Geophysical Research E: Planets, 2019, 124, 3482-3497.	3.6	88
18	Extension of atmospheric dust loading to high altitudes during the 2001 Mars dust storm: MGS TES limb observations. Icarus, 2010, 207, 98-109.	2.5	87

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19	Mars Reconnaissance Orbiter Mars Color Imager (MARCI): Instrument description, calibration, and performance. Journal of Geophysical Research, 2009, 114, .	3.3	79
20	Vertical distribution of dust and water ice aerosols from CRISM limbâ€geometry observations. Journal of Geophysical Research E: Planets, 2013, 118, 321-334.	3.6	74
21	The Mars Dust Cycle. , 2017, , 295-337.		70
22	CO2ice clouds in the upper atmosphere of Mars. Geophysical Research Letters, 1998, 25, 489-492.	4.0	68
23	Mars equatorial mesospheric clouds: Global occurrence and physical properties from Mars Global Surveyor Thermal Emission Spectrometer and Mars Orbiter Camera limb observations. Journal of Geophysical Research, 2007, 112, .	3.3	66
24	Explanation for the Increase in Highâ€Altitude Water on Mars Observed by NOMAD During the 2018 Global Dust Storm. Geophysical Research Letters, 2020, 47, e2019GL084354.	4.0	62
25	Mars Color Imager (MARCI) on the Mars Climate Orbiter. Journal of Geophysical Research, 2001, 106, 17651-17672.	3.3	61
26	Thermal structure and CO distribution for the Venus mesosphere/lower thermosphere: 2001â€“2009 inferior conjunction sub-millimeter CO absorption line observations. Icarus, 2012, 217, 779-793.	2.5	59
27	Climate, weather, and north polar observations from the Mars Reconnaissance Orbiter Mars Color Imager. Icarus, 2008, 194, 501-512.	2.5	58
28	Vertical profiles of Mars 1.27ÂÂµm O 2 dayglow from MRO CRISM limb spectra: Seasonal/global behaviors, comparisons to LMDGCM simulations, and a global definition for Mars water vapor profiles. Icarus, 2017, 293, 132-156.	2.5	58
29	First detection of Mars atmospheric hydroxyl: CRISM Near-IR measurement versus LMD GCM simulation of OH Meinel band emission in the Mars polar winter atmosphere. Icarus, 2013, 226, 272-281.	2.5	54
30	Extensive MRO CRISM observations of 1.27 Î¼m O₂ airglow in Mars polar night and their comparison to MRO MCS temperature profiles and LMD GCM simulations. Journal of Geophysical Research, 2012, 117, .	3.3	51
31	Daily global mapping of Mars ozone column abundances with MARCI UV band imaging. Icarus, 2016, 266, 112-133.	2.5	50
32	Mars ozone measurements near the 1995 aphelion: Hubble space telescope ultraviolet spectroscopy with the faint object spectrograph. Journal of Geophysical Research, 1996, 101, 12777-12783.	3.3	45
33	Mapping water ice clouds on Mars with MRO/MARCI. Icarus, 2019, 332, 24-49.	2.5	45
34	Observations of HCl altitude dependence and temporal variation in the 70â€“100 km mesosphere of Venus. Icarus, 2012, 220, 618-626.	2.5	41
35	On the origin of perennial water ice at the south pole of Mars: A precessionâ€controlled mechanism?. Journal of Geophysical Research, 2007, 112, .	3.3	40
36	The distribution, composition, and particle properties of Mars mesospheric aerosols: An analysis of CRISM visible/near-IR limb spectra with context from near-coincident MCS and MARCI observations. Icarus, 2019, 328, 246-273.	2.5	40

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37	Strong Variability of Martian Water Ice Clouds During Dust Storms Revealed From ExoMars Trace Gas Orbiter/NOMAD. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006250.	3.6	39
38	First measurements of ClO in the Venus atmosphere â€“ Altitude dependence and temporal variation. Icarus, 2018, 313, 15-24.	2.5	35
39	Upper Neutral Atmosphere and Ionosphere. , 2017, , 433-463.		33
40	The Global Circulation. , 2017, , 229-294.		31
41	Microwave spectra of terrestrial mesospheric CO. Journal of Geophysical Research, 1982, 87, 5009-5014.	3.3	27
42	Circulation of the Venus upper mesosphere/lower thermosphere: Doppler wind measurements from 2001â€“2009 inferior conjunction, sub-millimeter CO absorption line observations. Icarus, 2012, 217, 794-812.	2.5	27
43	Preliminary results from POAM II: Stratospheric ozone at high northern latitudes. Geophysical Research Letters, 1995, 22, 2733-2736.	4.0	24
44	Mars Clouds. , 2017, , 76-105.		24
45	The Water Cycle. , 2017, , 338-373.		24
46	Radiative Process: Techniques and Applications. , 2017, , 106-171.		21
47	Thermal Structure and Composition. , 2017, , 42-75.		19
48	Venus's winds and temperatures during the MESSENGER's flyby: An approximation to a threeâ€dimensional instantaneous state of the atmosphere. Geophysical Research Letters, 2017, 44, 3907-3915.	4.0	18
49	Atmospheric Photochemistry. , 2017, , 405-432.		18
50	Solar Wind Interaction and Atmospheric Escape. , 2017, , 464-496.		18
51	Valles Marineris cloud trails. Journal of Geophysical Research, 2009, 114, .	3.3	15
52	Annual Appearance of Hydrogen Chloride on Mars and a Striking Similarity With the Water Vapor Vertical Distribution Observed by TGO/NOMAD. Geophysical Research Letters, 2021, 48, e2021GL092506.	4.0	15
53	The Martian Planetary Boundary Layer. , 2017, , 172-202.		14
54	Investigations of the Mars Upper Atmosphere with ExoMars Trace Gas Orbiter. Space Science Reviews, 2018, 214, 1.	8.1	13

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55	First Detection and Thermal Characterization of Terminator CO₂Ice Clouds With ExoMars/NOMAD. Geophysical Research Letters, 2021, 48, .	4.0	12
56	Explaining NOMAD D/H Observations by Cloudâ€Induced Fractionation of Water Vapor on Mars. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	11
57	Understanding Mars and Its Atmosphere. , 2017, , 3-19.		10
58	Diurnal observations of HCl altitude variation in the 70â€“100Âkm mesosphere of Venus. Icarus, 2017, 290, 156-161.	2.5	9
59	The Early Mars Climate System. , 2017, , 526-568.		9
60	Mars perihelion cloud trails as revealed by MARCI: Mesoscale topographically focused updrafts and gravity wave forcing of high altitude clouds. Icarus, 2021, 362, 114411.	2.5	9
61	Doppler winds mapped around the lower thermospheric terminator of Venus: 2012 solar transit observations from the James Clerk Maxwell Telescope. Icarus, 2015, 254, 233-258.	2.5	8
62	Recent Climate Variations. , 2017, , 497-525.		8
63	Water vapor saturation and ice cloud occurrence in the atmosphere of Mars. Planetary and Space Science, 2022, 212, 105390.	1.7	8
64	Planetâ€Wide Ozone Destruction in the Middle Atmosphere on Mars During Global Dust Storm. Geophysical Research Letters, 2022, 49, .	4.0	7
65	HDO in the mesosphere: Observation and modeling of novel isotopic variability. Journal of Geophysical Research, 2003, 108, .	3.3	6
66	Mesospheric observations and modeling of the Zeeman split 233.9 GHz18O16O Line. Geophysical Research Letters, 1997, 24, 1631-1634.	4.0	5
67	Mesoscale Meteorology. , 2017, , 203-228.		5
68	The CO2 Cycle. , 2017, , 374-404.		5
69	History of Mars Atmosphere Observations. , 2017, , 20-41.		4
70	Mesospheric chemistry of vibrationally excited O₃ from diurnal microwave measurements of O₃(Î½₁), O₃(Î½₂), O₃(Î½₃), and O₃(ground state). Journal of Geophysical Research, 2010, 115, .	3.3	1
71	Mars Next Orbiter Science Analysis Group (NEX-SAG): White Paper Report to the 2023-2032 Planetary Sciences and Astrobiology Decadal Survey. , 2021, 53, .		1