

Armin Kleinböhl

List of Publications by Year in descending order

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Version: 2024-02-01

72
papers

3,917
citations

109321

35
h-index

123424

61
g-index

72
all docs

72
docs citations

72
times ranked

2308
citing authors

#	ARTICLE	IF	CITATIONS
1	Water vapor saturation and ice cloud occurrence in the atmosphere of Mars. <i>Planetary and Space Science</i> , 2022, 212, 105390.	1.7	8
2	Mars Climate Sounder Observations of Gravity-wave Activity throughout Mars's Lower Atmosphere. <i>Planetary Science Journal</i> , 2022, 3, 57.	3.6	9
3	Mars's emitted energy and seasonal energy imbalance. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2121084119.	7.1	2
4	Pre- and Post-entry, Descent and Landing Assessment of the Martian Atmosphere for the Mars 2020 Rover. <i>Planetary Science Journal</i> , 2022, 3, 147.	3.6	4
5	Aerosols and Tides in the Martian Tropics During Southern Hemisphere Spring Equinox From Mars Climate Sounder Data. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006776.	3.6	5
6	Observations of Ubiquitous Nighttime Temperature Inversions in Mars' Tropics After Large-scale Dust Storms. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL092651.	4.0	8
7	Asymmetric Impacts on Mars's Polar Vortices From an Equinoctial Global Dust Storm. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006774.	3.6	16
8	Martian water loss to space enhanced by regional dust storms. <i>Nature Astronomy</i> , 2021, 5, 1036-1042.	10.1	40
9	MOSAIC: A Satellite Constellation to Enable Groundbreaking Mars Climate System Science and Prepare for Human Exploration. <i>Planetary Science Journal</i> , 2021, 2, 211.	3.6	6
10	Mars Climate Sounder Observation of Mars' 2018 Global Dust Storm. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL083931.	4.0	59
11	Diurnal Variations of Dust During the 2018 Global Dust Storm Observed by the Mars Climate Sounder. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006115.	3.6	52
12	Rapid Expansion and Evolution of a Regional Dust Storm in the Acidalia Corridor During the Initial Growth Phase of the Martian Global Dust Storm of 2018. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL084317.	4.0	18
13	Solar Tides in the Middle and Upper Atmosphere of Mars. <i>Journal of Geophysical Research: Space Physics</i> , 2020, 125, e2020JA028140.	2.4	27
14	Asymmetries in Snowfall, Emissivity, and Albedo of Mars' Seasonal Polar Caps: Mars Climate Sounder Observations. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006150.	3.6	19
15	The Holy Grail: A road map for unlocking the climate record stored within Mars's polar layered deposits. <i>Planetary and Space Science</i> , 2020, 184, 104841.	1.7	30
16	Impact of Gravity Waves on the Middle Atmosphere of Mars: A Non-orographic Gravity Wave Parameterization Based on Global Climate Modeling and MCS Observations. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2018JE005873.	3.6	23
17	A multiannual record of gravity wave activity in Mars's lower atmosphere from on-planet observations by the Mars Climate Sounder. <i>Icarus</i> , 2020, 341, 113630.	2.5	36
18	Martian Year 34 Column Dust Climatology from Mars Climate Sounder Observations: Reconstructed Maps and Model Simulations. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006111.	3.6	137

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19	Solar Occultation FTIR Spectrometry at Mars for Trace Gas Detection: A Sensitivity Study. <i>Earth and Space Science</i> , 2019, 6, 836-860.	2.6	3
20	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. <i>Icarus</i> , 2019, 328, 246-273.	2.5	40
21	The Ensemble Mars Atmosphere Reanalysis System (EMARS) Version 1.0. <i>Geoscience Data Journal</i> , 2019, 6, 137-150.	4.4	29
22	Widespread Shallow Water Ice on Mars at High Latitudes and Midlatitudes. <i>Geophysical Research Letters</i> , 2019, 46, 14290-14298.	4.0	59
23	Hydrogen escape from Mars enhanced by deep convection in dust storms. <i>Nature Astronomy</i> , 2018, 2, 126-132.	10.1	112
24	Investigations of the Mars Upper Atmosphere with ExoMars Trace Gas Orbiter. <i>Space Science Reviews</i> , 2018, 214, 1.	8.1	13
25	Buildup of Abiotic Oxygen and Ozone in Moist Atmospheres of Temperate Terrestrial Exoplanets and Its Impact on the Spectral Fingerprint in Transit Observations. <i>Astrophysical Journal</i> , 2018, 862, 92.	4.5	13
26	Methane on Mars and Habitability: Challenges and Responses. <i>Astrobiology</i> , 2018, 18, 1221-1242.	3.0	50
27	Thermal Structure and Composition. , 2017, , 42-75.		19
28	The Vertical Dust Profile Over Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 2779-2792.	3.6	22
29	Two-dimensional radiative transfer for the retrieval of limb emission measurements in the martian atmosphere. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2017, 187, 511-522.	2.3	55
30	Interannual similarity in the Martian atmosphere during the dust storm season. <i>Geophysical Research Letters</i> , 2016, 43, 6111-6118.	4.0	121
31	Discovery of a widespread low-latitude diurnal CO ₂ frost cycle on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 1174-1189.	3.6	50
32	Extreme detached dust layers near Martian volcanoes: Evidence for dust transport by mesoscale circulations forced by high topography. <i>Geophysical Research Letters</i> , 2015, 42, 3730-3738.	4.0	36
33	Variability of the martian seasonal CO ₂ cap extent over eight Mars Years. <i>Icarus</i> , 2015, 251, 164-180.	2.5	72
34	Eight-year climatology of dust optical depth on Mars. <i>Icarus</i> , 2015, 251, 65-95.	2.5	316
35	No widespread dust in the middle atmosphere of Mars from Mars Climate Sounder observations. <i>Icarus</i> , 2015, 261, 118-121.	2.5	36
36	Temperatures and aerosol opacities of the Mars atmosphere at aphelion: Validation and inter-comparison of limb sounding profiles from MRO/MCS and MGS/TES. <i>Icarus</i> , 2015, 251, 26-49.	2.5	16

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37	Initial results from radio occultation measurements with the Mars Reconnaissance Orbiter: A nocturnal mixed layer in the tropics and comparisons with polar profiles from the Mars Climate Sounder. <i>Icarus</i> , 2014, 243, 91-103.	2.5	28
38	Constraints for the photolysis rate and the equilibrium constant of ClO dimer from airborne and balloonborne measurements of chlorine compounds. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 6916-6937.	3.3	1
39	Seasonal and diurnal variability of detached dust layers in the tropical Martian atmosphere. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 1748-1774.	3.6	39
40	The semidiurnal tide in the middle atmosphere of Mars. <i>Geophysical Research Letters</i> , 2013, 40, 1952-1959.	4.0	77
41	Vertical distribution of dust and water ice aerosols from CRISM limb geometry observations. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 321-334.	3.6	74
42	Characterization of middle atmosphere polar warming at Mars. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 161-178.	3.6	16
43	Extensive MRO CRISM observations of $1.27 \mu\text{m}$ O_2 airglow in Mars polar night and their comparison to MRO MCS temperature profiles and LMD GCM simulations. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	51
44	Carbon dioxide snow clouds on Mars: South polar winter observations by the Mars Climate Sounder. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	74
45	Validation of the Atmospheric Chemistry Experiment by noncoincident MkIV balloon profiles. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	27
46	The vertical distribution of dust in the Martian atmosphere during northern spring and summer: Observations by the Mars Climate Sounder and analysis of zonal average vertical dust profiles. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	64
47	Vertical distribution of dust in the Martian atmosphere during northern spring and summer: High-altitude tropical dust maximum at northern summer solstice. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	53
48	Mars' north polar hood as observed by the Mars Climate Sounder. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	50
49	Structure and dynamics of the Martian lower and middle atmosphere as observed by the Mars Climate Sounder: 2. Implications of the thermal structure and aerosol distributions for the mean meridional circulation. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	52
50	The 2009 edition of the GEISA spectroscopic database. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2011, 112, 2395-2445.	2.3	306
51	A single-scattering approximation for infrared radiative transfer in limb geometry in the Martian atmosphere. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2011, 112, 1568-1580.	2.3	84
52	Aircraft measurements and model simulations of stratospheric ozone and N ₂ O: implications for chemistry and transport processes in the models. <i>Journal of Atmospheric Chemistry</i> , 2010, 66, 41-64.	3.2	3
53	Phoenix and MRO coordinated atmospheric measurements. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	40
54	Mars' south polar hood as observed by the Mars Climate Sounder. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	58

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55	Water ice clouds over the Martian tropics during northern summer. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	51
56	Structure and dynamics of the Martian lower and middle atmosphere as observed by the Mars Climate Sounder: Seasonal variations in zonal mean temperature, dust, and water ice aerosols. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	183
57	Mars Climate Sounder limb profile retrieval of atmospheric temperature, pressure, and dust and water ice opacity. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	220
58	Thermal tides in the Martian middle atmosphere as seen by the Mars Climate Sounder. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	94
59	Intense polar temperature inversion in the middle atmosphere on Mars. <i>Nature Geoscience</i> , 2008, 1, 745-749.	12.9	71
60	Validation of the Aura Microwave Limb Sounder ClO measurements. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	69
61	On the stratospheric chemistry of hydrogen cyanide. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	26
62	Rapid meridional transport of tropical airmasses to the Arctic during the major stratospheric warming in January 2003. <i>Atmospheric Chemistry and Physics</i> , 2005, 5, 1291-1299.	4.9	13
63	Odin/SMR limb observations of stratospheric trace gases: Validation of N ₂ O. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	46
64	Expected performance of the Superconducting Submillimeter-Wave Limb Emission Sounder compared with aircraft data. <i>Radio Science</i> , 2005, 40, n/a-n/a.	1.6	7
65	Denitrification in the Arctic mid-winter 2004/2005 observed by airborne submillimeter radiometry. <i>Geophysical Research Letters</i> , 2005, 32, n/a-n/a.	4.0	21
66	Infrared measurements of atmospheric CH ₃ CN. <i>Geophysical Research Letters</i> , 2005, 32, .	4.0	15
67	Trajectory studies of large HNO ₃ -containing PSC particles in the Arctic: Evidence for the role of NAT. <i>Geophysical Research Letters</i> , 2004, 31, n/a-n/a.	4.0	6
68	Chemical depletion of Arctic ozone in winter 1999/2000. <i>Journal of Geophysical Research</i> , 2002, 107, SOL 18-1.	3.3	95
69	Ozone depletion observed by the Airborne Submillimeter Radiometer (ASUR) during the Arctic winter 1999/2000. <i>Journal of Geophysical Research</i> , 2002, 107, SOL 19-1.	3.3	27
70	Using gas-phase nitric acid as an indicator of PSC composition. <i>Journal of Geophysical Research</i> , 2002, 107, SOL 8-1.	3.3	13
71	Vortexwide denitrification of the Arctic polar stratosphere in winter 1999/2000 determined by remote observations. <i>Journal of Geophysical Research</i> , 2002, 107, SOL 48-1-SOL 48-11.	3.3	23
72	The Detection of Large HNO ₃ -Containing Particles in the Winter Arctic Stratosphere. <i>Science</i> , 2001, 291, 1026-1031.	12.6	279