Armin KleinbÃ¶hl

List of Publications by Year
in descending order

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	Eight-year climatology of dust optical depth on Mars. Icarus, 2015, 251, 65-95.	2.5	316
2	The 2009 edition of the GEISA spectroscopic database. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 2395-2445.	2.3	306
3	The Detection of Large HNO3-Containing Particles in the Winter Arctic Stratosphere. Science, 2001, 291, 1026-1031.	12.6	279
4	Mars Climate Sounder limb profile retrieval of atmospheric temperature, pressure, and dust and water ice opacity. Journal of Geophysical Research, 2009, 114, .	3.3	220
5	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. Journal of Geophysical Research, 2010, 115, .	3.3	183
6	Martian Year 34 Column Dust Climatology from Mars Climate Sounder Observations: Reconstructed Maps and Model Simulations. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006111.	3.6	137
7	Interannual similarity in the Martian atmosphere during the dust storm season. Geophysical Research Letters, 2016, 43, 6111-6118.	4.0	121
8	Hydrogen escape from Mars enhanced by deep convection in dust storms. Nature Astronomy, 2018, 2, 126-132.	10.1	112
9	Chemical depletion of Arctic ozone in winter 1999/2000. Journal of Geophysical Research, 2002, 107, SOL 18-1.	3.3	95
10	Thermal tides in the Martian middle atmosphere as seen by the Mars Climate Sounder. Journal of Geophysical Research, 2009, 114, .	3.3	94
11	A single-scattering approximation for infrared radiative transfer in limb geometry in the Martian atmosphere. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 1568-1580.	2.3	84
12	The semidiurnal tide in the middle atmosphere of Mars. Geophysical Research Letters, 2013, 40, 1952-1959.	4.0	77
13	Carbon dioxide snow clouds on Mars: South polar winter observations by the Mars Climate Sounder. Journal of Geophysical Research, 2012, 117, .	3.3	74
14	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
15	Variability of the martian seasonal CO2 cap extent over eight Mars Years. Icarus, 2015, 251, 164-180.	2.5	72
16	Intense polar temperature inversion in the middle atmosphere on Mars. Nature Geoscience, 2008, 1, 745-749.	12.9	71
17	Validation of the Aura Microwave Limb Sounder ClO measurements. Journal of Geophysical Research, 2008, 113, .	3.3	69
18	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. Journal of Geophysical Research, 2011, 116, .	3.3	64

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19	Widespread Shallow Water Ice on Mars at High Latitudesand Midlatitudes. Geophysical Research Letters, 2019, 46, 14290-14298.	4.0	59
20	Mars Climate Sounder Observation of Mars' 2018 Global Dust Storm. Geophysical Research Letters, 2020, 47, e2019GL083931.	4.0	59
21	Mars' south polar hood as observed by the Mars Climate Sounder. Journal of Geophysical Research, 2010, 115, .	3.3	58
22	Two-dimensional radiative transfer for the retrieval of limb emission measurements in the martian atmosphere. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 187, 511-522.	2.3	55
23	Vertical distribution of dust in the Martian atmosphere during northern spring and summer: High-altitude tropical dust maximum at northern summer solstice. Journal of Geophysical Research, 2011, 116, .	3.3	53
24	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. Journal of Geophysical Research, 2011, 116, .	3.3	52
25	Diurnal Variations of Dust During the 2018 Global Dust Storm Observed by the Mars Climate Sounder. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006115.	3.6	52
26	Water ice clouds over the Martian tropics during northern summer. Geophysical Research Letters, 2010, 37, .	4.0	51
27	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
28	Mars' north polar hood as observed by the Mars Climate Sounder. Journal of Geophysical Research, 2011, 116, .	3.3	50
29	Discovery of a widespread lowâ€latitude diurnal CO₂ frost cycle on Mars. Journal of Geophysical Research E: Planets, 2016, 121, 1174-1189.	3.6	50
30	Methane on Mars and Habitability: Challenges and Responses. Astrobiology, 2018, 18, 1221-1242.	3.0	50
31	Odin/SMR limb observations of stratospheric trace gases: Validation of N2O. Journal of Geophysical Research, 2005, 110, .	3.3	46
32	Phoenix and MRO coordinated atmospheric measurements. Journal of Geophysical Research, 2010, 115, .	3.3	40
33	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
34	Martian water loss to space enhanced by regional dust storms. Nature Astronomy, 2021, 5, 1036-1042.	10.1	40
35	Seasonal and diurnal variability of detached dust layers in the tropical Martian atmosphere. Journal of Geophysical Research E: Planets, 2014, 119, 1748-1774.	3.6	39
36	Extreme detached dust layers near Martian volcanoes: Evidence for dust transport by mesoscale circulations forced by high topography. Geophysical Research Letters, 2015, 42, 3730-3738.	4.0	36

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37	No widespread dust in the middle atmosphere of Mars from Mars Climate Sounder observations. Icarus, 2015, 261, 118-121.	2.5	36
38	A multiannual record of gravity wave activity in Marsâ€™s lower atmosphere from on-planet observations by the Mars Climate Sounder. Icarus, 2020, 341, 113630.	2.5	36
39	The Holy Grail: A road map for unlocking the climate record stored within Marsâ€™ polar layered deposits. Planetary and Space Science, 2020, 184, 104841.	1.7	30
40	The Ensemble Mars Atmosphere Reanalysis System (EMARS) Version 1.0. Geoscience Data Journal, 2019, 6, 137-150.	4.4	29
41	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. Icarus, 2014, 243, 91-103.	2.5	28
42	Ozone depletion observed by the Airborne Submillimeter Radiometer (ASUR) during the Arctic winter 1999/2000. Journal of Geophysical Research, 2002, 107, SOL 19-1.	3.3	27
43	Validation of the Atmospheric Chemistry Experiment by noncoincident MkIV balloon profiles. Journal of Geophysical Research, 2011, 116, .	3.3	27
44	Solar Tides in the Middle and Upper Atmosphere of Mars. Journal of Geophysical Research: Space Physics, 2020, 125, e2020JA028140.	2.4	27
45	On the stratospheric chemistry of hydrogen cyanide. Geophysical Research Letters, 2006, 33, .	4.0	26
46	Vortexwide denitrification of the Arctic polar stratosphere in winter 1999/2000 determined by remote observations. Journal of Geophysical Research, 2002, 107, SOL 48-1-SOL 48-11.	3.3	23
47	Impact of Gravity Waves on the Middle Atmosphere of Mars: A Nonâ€Orographic Gravity Wave Parameterization Based on Global Climate Modeling and MCS Observations. Journal of Geophysical Research E: Planets, 2020, 125, e2018JE005873.	3.6	23
48	The Vertical Dust Profile Over Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2017, 122, 2779-2792.	3.6	22
49	Denitrification in the Arctic mid-winter 2004/2005 observed by airborne submillimeter radiometry. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	21
50	Thermal Structure and Composition. , 2017, , 42-75.		19
51	Asymmetries in Snowfall, Emissivity, and Albedo of Mars' Seasonal Polar Caps: Mars Climate Sounder Observations. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006150.	3.6	19
52	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. Geophysical Research Letters, 2020, 47, e2019GL084317.	4.0	18
53	Characterization of middleâ€atmosphere polar warming at Mars. Journal of Geophysical Research E: Planets, 2013, 118, 161-178.	3.6	16
54	Temperatures and aerosol opacities of the Mars atmosphere at aphelion: Validation and inter-comparison of limb sounding profiles from MRO/MCS and MGS/TES. Icarus, 2015, 251, 26-49.	2.5	16

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55	Asymmetric Impacts on Marsâ€™ Polar Vortices From an Equinoctial Global Dust Storm. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006774.	3.6	16
56	Infrared measurements of atmospheric CH3CN. Geophysical Research Letters, 2005, 32, .	4.0	15
57	Using gas-phase nitric acid as an indicator of PSC composition. Journal of Geophysical Research, 2002, 107, SOL 8-1.	3.3	13
58	Rapid meridional transport of tropical airmasses to the Arctic during the major stratospheric warming in January 2003. Atmospheric Chemistry and Physics, 2005, 5, 1291-1299.	4.9	13
59	Investigations of the Mars Upper Atmosphere with ExoMars Trace Gas Orbiter. Space Science Reviews, 2018, 214, 1.	8.1	13
60	Buildup of Abiotic Oxygen and Ozone in Moist Atmospheres of Temperate Terrestrial Exoplanets and Its Impact on the Spectral Fingerprint in Transit Observations. Astrophysical Journal, 2018, 862, 92.	4.5	13
61	Mars Climate Sounder Observations of Gravity-wave Activity throughout Marsâ€™s Lower Atmosphere. Planetary Science Journal, 2022, 3, 57.	3.6	9
62	Observations of Ubiquitous Nighttime Temperature Inversions in Mars' Tropics After Largeâ€Scale Dust Storms. Geophysical Research Letters, 2021, 48, e2021GL092651.	4.0	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	Expected performance of the Superconducting Submillimeter-Wave Limb Emission Sounder compared with aircraft data. Radio Science, 2005, 40, n/a-n/a.	1.6	7
65	Trajectory studies of large HNO3-containing PSC particles in the Arctic: Evidence for the role of NAT. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	6
66	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
67	Aerosols and Tides in the Martian Tropics During Southern Hemisphere Spring Equinox From Mars Climate Sounder Data. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006776.	3.6	5
68	Pre- and Post-entry, Descent and Landing Assessment of the Martian Atmosphere for the Mars 2020 Rover. Planetary Science Journal, 2022, 3, 147.	3.6	4
69	Aircraft measurements and model simulations of stratospheric ozone and N2O: implications for chemistry and transport processes in the models. Journal of Atmospheric Chemistry, 2010, 66, 41-64.	3.2	3
70	Solar Occultation FTIR Spectrometry at Mars for Trace Gas Detection: A Sensitivity Study. Earth and Space Science, 2019, 6, 836-860.	2.6	3
71	Marsâ€™ emitted energy and seasonal energy imbalance. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2121084119.	7.1	2
72	Constraints for the photolysis rate and the equilibrium constant of ClOâ€dimer from airborne and balloonâ€borne measurements of chlorine compounds. Journal of Geophysical Research D: Atmospheres, 2014, 119, 6916-6937.	3.3	1