Michael A Mischna

List of Publications by Year
in descending order

80 papers	8,029 citations	87888 38 h-index	76900 74 g-index
84 all docs	84 docs citations	84 times ranked	4906 citing authors

#	Article	IF	Citations
1	Martian Dust. , 2022, , 637-666.		6
2	Changing spatial distribution of water flow charts major change in Marsâ€™s greenhouse effect. Science Advances, 2022, 8, .	10.3	7
3	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
4	Large eddy simulations of the Martian convective boundary layer: Towards developing a new planetary boundary layer scheme. Atmospheric Research, 2021, 250, 105381.	4.1	12
5	Warm early Mars surface enabled by high-altitude water ice clouds. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	23
6	Strong seasonal and regional variations in the evaporation rate of liquid water on Mars. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006867.	3.6	2
7	Interâ€annual, seasonal and regional variations in the Martian convective boundary layer derived from GCM simulations with a semiâ€interactive dust transport model. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006965.	3.6	3
8	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
9	Mars Methane Sources in Northwestern Gale Crater Inferred From Back Trajectory Modeling. Earth and Space Science, 2021, 8, e2021EA001915.	2.6	8
10	Thermal Forcing of the Nocturnal Near Surface Environment by Martian Water Ice Clouds. Journal of Geophysical Research E: Planets, 2021, 126, .	3.6	3
11	The role of atmospheric pressure on Mars surface properties and early Mars climate modeling. Icarus, 2020, 342, 113496.	2.5	7
12	Methane release on Early Mars by atmospheric collapse and atmospheric reinflation. Planetary and Space Science, 2020, 181, 104820.	1.7	12
13	Replication of the historic record of martian global dust storm occurrence in an atmospheric general circulation model. Icarus, 2019, 317, 197-208.	2.5	12
14	Report of the Joint Workshop on Induced Special Regions. Life Sciences in Space Research, 2019, 23, 50-59.	2.3	3
15	An initial assessment of the impact of postulated orbit-spin coupling on Mars dust storm variability in fully interactive dust simulations. Icarus, 2019, 317, 649-668.	2.5	20
16	Mars Science Laboratory Dynamic Albedo of Neutrons passive mode data and results from sols 753 to 1292: Pahrump Hills to Naukluft Plateau. Icarus, 2019, 330, 75-90.	2.5	4
17	Atmospheric transport of subsurface, sporadic, time-varying methane releases on Mars. Icarus, 2019, 325, 39-54.	2.5	7
18	The next frontier for planetary and human exploration. Nature Astronomy, 2019, 3, 116-120.	10.1	39

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19	Effect of Mars Atmospheric Loss on Snow Melt Potential in a 3.5â€‰Gyr Mars Climate Evolution Model. Journal of Geophysical Research E: Planets, 2018, 123, 794-806.	3.6	13
20	The sensitivity of solsticial pauses to atmospheric ice and dust in the MarsWRF General Circulation Model. Icarus, 2018, 311, 23-34.	2.5	40
21	Results from the dynamic albedo of neutrons (DAN) passive mode experiment: Yellowknife Bay to Amargosa Valley (Sols 201â€“753). Icarus, 2018, 299, 513-537.	2.5	7
22	Methane on Mars and Habitability: Challenges and Responses. Astrobiology, 2018, 18, 1221-1242.	3.0	50
23	O2 solubility in Martian near-surface environments and implications for aerobic life. Nature Geoscience, 2018, 11, 905-909.	12.9	57
24	Observed diurnal variations in Mars Science Laboratory Dynamic Albedo of Neutrons passive mode data. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2018, 892, 70-83.	1.6	0
25	Orbital (Climatic) Forcing and Its Imprint on the Global Landscape. , 2018, , 3-48.		4
26	Selection of the InSight Landing Site. Space Science Reviews, 2017, 211, 5-95.	8.1	150
27	Orbit-spin coupling and the interannual variability of global-scale dust storm occurrence on Mars. Planetary and Space Science, 2017, 139, 37-50.	1.7	10
28	Low Hesperian P _{CO2} constrained from in situ mineralogical analysis at Gale Crater, Mars. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 2166-2170.	7.1	59
29	Methane bursts as a trigger for intermittent lake-forming climates on post-Noachian Mars. Nature Geoscience, 2017, 10, 737-740.	12.9	49
30	Numerical modeling of orbit-spin coupling accelerations in a Mars general circulation model: Implications for global dust storm activity. Planetary and Space Science, 2017, 141, 45-72.	1.7	9
31	Recent Climate Variations. , 2017, , 497-525.		8
32	The Vertical Dust Profile Over Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2017, 122, 2779-2792.	3.6	22
33	Hydrogen and chlorine abundances in the Kimberley formation of Gale crater measured by the DAN instrument on board the Mars Science Laboratory Curiosity rover. Journal of Geophysical Research E: Planets, 2016, 121, 836-845.	3.6	23
34	Large wind ripples on Mars: A record of atmospheric evolution. Science, 2016, 353, 55-58.	12.6	144
35	The origin and implications of clay minerals from Yellowknife Bay, Gale crater, Mars. American Mineralogist, 2015, 100, 824-836.	1.9	122
36	Observational evidence of a suppressed planetary boundary layer in northern Gale Crater, Mars as seen by the Navcam instrument onboard the Mars Science Laboratory rover. Icarus, 2015, 249, 129-142.	2.5	66

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37	Martian atmospheric collapse: Idealized GCM studies. Icarus, 2015, 250, 553-569.	2.5	35
38	Data processing of the active neutron experiment DAN for a Martian regolith investigation. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 789, 114-127.	1.6	24
39	Atmospheric movies acquired at the Mars Science Laboratory landing site: Cloud morphology, frequency and significance to the Gale Crater water cycle and Phoenix mission results. Advances in Space Research, 2015, 55, 2217-2238.	2.6	28
40	Transient liquid water and water activity at Gale crater on Mars. Nature Geoscience, 2015, 8, 357-361.	12.9	277
41	Deposition, exhumation, and paleoclimate of an ancient lake deposit, Gale crater, Mars. Science, 2015, 350, aac7575.	12.6	471
42	Water equivalent hydrogen estimates from the first 200 sols of Curiosityâ€™s traverse (Bradbury) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 experiment. Icarus, 2015, 262, 102-123.	2.5	16
43	Mars methane detection and variability at Gale crater. Science, 2015, 347, 415-417.	12.6	373
44	Mars Science Laboratory relative humidity observations: Initial results. Journal of Geophysical Research E: Planets, 2014, 119, 2132-2147.	3.6	75
45	Curiosity's rover environmental monitoring station: Overview of the first 100 sols. Journal of Geophysical Research E: Planets, 2014, 119, 1680-1688.	3.6	112
46	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	12.6	323
47	A Habitable Fluvio-Lacustrine Environment at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1242777.	12.6	687
48	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	12.6	508
49	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	12.6	475
50	In Situ Radiometric and Exposure Age Dating of the Martian Surface. Science, 2014, 343, 1247166.	12.6	224
51	Elemental Geochemistry of Sedimentary Rocks at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1244734.	12.6	246
52	Water and chlorine content in the Martian soil along the first 1900 m of the Curiosity rover traverse as estimated by the DAN instrument. Journal of Geophysical Research E: Planets, 2014, 119, 1579-1596.	3.6	52
53	Local variations of bulk hydrogen and chlorineâ€equivalent neutron absorption content measured at the contact between the Sheepbed and Gillespie Lake units in Yellowknife Bay, Gale Crater, using the DAN instrument onboard Curiosity. Journal of Geophysical Research E: Planets, 2014, 119, 1259-1275.	3.6	33
54	Studying of water consent in Marsâ€™ gale crater: The first results of the DAN experiment on the NASA curiosity rover. Doklady Physics, 2014, 59, 126-128.	0.7	3

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55	Preliminary interpretation of the REMS pressure data from the first 100 sols of the MSL mission. Journal of Geophysical Research E: Planets, 2014, 119, 440-453.	3.6	80
56	Pressure observations by the Curiosity rover: Initial results. Journal of Geophysical Research E: Planets, 2014, 119, 82-92.	3.6	84
57	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	12.6	327
58	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	12.6	280
59	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.	12.6	327
60	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	12.6	367
61	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	12.6	326
62	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	12.6	215
63	Low Upper Limit to Methane Abundance on Mars. Science, 2013, 342, 355-357.	12.6	103
64	Effects of obliquity and water vapor/trace gas greenhouses in the early martian climate. Journal of Geophysical Research E: Planets, 2013, 118, 560-576.	3.6	68
65	Neutron background environment measured by the Mars Science Laboratory's Dynamic Albedo of Neutrons instrument during the first 100 sols. Journal of Geophysical Research E: Planets, 2013, 118, 2400-2412.	3.6	28
66	Assessment of Environments for Mars Science Laboratory Entry, Descent, and Surface Operations. Space Science Reviews, 2012, 170, 793-835.	8.1	58
67	Development of a fast, accurate radiative transfer model for the Martian atmosphere, past and present. Journal of Geophysical Research, 2012, 117, .	3.3	50
68	The Ashima/MIT Mars GCM and argon in the martian atmosphere. Icarus, 2012, 218, 1043-1070.	2.5	30
69	Demonstration of ensemble data assimilation for Mars using DART, MarsWRF, and radiance observations from MGS TES. Journal of Geophysical Research, 2011, 116, .	3.3	28
70	Atmospheric modeling of Mars methane surface releases. Planetary and Space Science, 2011, 59, 227-237.	1.7	54
71	Use of evolutionary computation for isolating surface emissions from orbit. , 2009, , .		0
72	Fate of SO₂ in the ancient Martian atmosphere: Implications for transient greenhouse warming. Journal of Geophysical Research, 2009, 114, .	3.3	34

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73	Sulfurâ€induced greenhouse warming on early Mars. Journal of Geophysical Research, 2008, 113, .	3.3	86
74	WindCam and MSPI: two cloud and aerosol instrument concepts derived from Terra/MISR heritage. Proceedings of SPIE, 2008, , .	0.8	6
75	A reanalysis of water abundances in the Martian atmosphere at high obliquity. Geophysical Research Letters, 2005, 32, .	4.0	34
76	Long-term evolution of transient liquid water on Mars. Journal of Geophysical Research, 2005, 110, n/a-n/a.	3.3	75
77	On the orbital forcing of Martian water and CO2cycles: A general circulation model study with simplified volatile schemes. Journal of Geophysical Research, 2003, 108, .	3.3	217
78	Influence of Carbon Dioxide Clouds on Early Martian Climate. Icarus, 2000, 145, 546-554.	2.5	162
79	Synoptic measurements of Martian winds using the Hubble Space Telescope. Geophysical Research Letters, 1998, 25, 611-614.	4.0	13
80	Transient liquid water and water activity at Gale crater on Mars. , 0, .		2