Manish Patel

List of Publications by Year
in descending order

88 papers	2,086 citations	218381 26 h-index	264894 42 g-index
99 all docs	99 docs citations	99 times ranked	1312 citing authors

#	Article	IF	Citations
1	The Atmospheric Chemistry Suite (ACS) of Three Spectrometers for the ExoMars 2016 Trace Gas Orbiter. Space Science Reviews, 2018, 214, 1.	3.7	119
2	No detection of methane on Mars from early ExoMars Trace Gas Orbiter observations. Nature, 2019, 568, 517-520.	13.7	111
3	Martian dust storm impact on atmospheric H2O and D/H observed by ExoMars Trace Gas Orbiter. Nature, 2019, 568, 521-525.	13.7	107
4	NOMAD, an Integrated Suite of Three Spectrometers for the ExoMars Trace Gas Mission: Technical Description, Science Objectives and Expected Performance. Space Science Reviews, 2018, 214, 1.	3.7	95
5	Water Vapor Vertical Profiles on Mars in Dust Storms Observed by TGO/NOMAD. Journal of Geophysical Research E: Planets, 2019, 124, 3482-3497.	1.5	88
6	Science objectives and performances of NOMAD, a spectrometer suite for the ExoMars TGO mission. Planetary and Space Science, 2015, 119, 233-249.	0.9	77
7	Transport processes induced by metastable boiling water under Martian surface conditions. Nature Geoscience, 2016, 9, 425-428.	5.4	65
8	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.	1.5	62
9	NOMAD spectrometer on the ExoMars trace gas orbiter mission: part 1â€"design, manufacturing and testing of the infrared channels. Applied Optics, 2015, 54, 8494.	2.1	58
10	The seasonal cycle of water vapour on Mars from assimilation of Thermal Emission Spectrometer data. Icarus, 2014, 237, 97-115.	1.1	47
11	In situ measurements of particle load and transport in dust devils. Icarus, 2011, 214, 766-772.	1.1	43
12	History and Applications of Dust Devil Studies. Space Science Reviews, 2016, 203, 5-37.	3.7	43
13	NOMAD spectrometer on the ExoMars trace gas orbiter mission: part 2â€"design, manufacturing, and testing of the ultraviolet and visible channel. Applied Optics, 2017, 56, 2771.	2.1	40
14	Martian water loss to space enhanced by regional dust storms. Nature Astronomy, 2021, 5, 1036-1042.	4.2	40
15	Field Measurements of Terrestrial and Martian Dust Devils. Space Science Reviews, 2016, 203, 39-87.	3.7	39
16	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.	1.5	39
17	OpenMARS: A global record of martian weather from 1999 to 2015. Planetary and Space Science, 2020, 188, 104962.	0.9	37
18	Transient HCl in the atmosphere of Mars. Science Advances, 2021, 7, .	4.7	37

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19	The radiative impact of water ice clouds from a reanalysis of Mars Climate Sounder data. Geophysical Research Letters, 2014, 41, 4471-4478.	1.5	36
20	Dust Devil Sediment Transport: From Lab to Field to Global Impact. Space Science Reviews, 2016, 203, 377-426.	3.7	35
21	Water induced sediment levitation enhances downslope transport on Mars. Nature Communications, 2017, 8, 1151.	5.8	33
22	Methane on Mars: New insights into the sensitivity of CH4 with the NOMAD/ExoMars spectrometer through its first in-flight calibration. Icarus, 2019, 321, 671-690.	1.1	32
23	Expected performances of the NOMAD/ExoMars instrument. Planetary and Space Science, 2016, 124, 94-104.	0.9	31
24	Water heavily fractionated as it ascends on Mars as revealed by ExoMars/NOMAD. Science Advances, 2021, 7, .	4.7	31
25	Experimental evidence for lava-like mud flows under Martian surface conditions. Nature Geoscience, 2020, 13, 403-407.	5.4	29
26	Experimental determination of photostability and fluorescenceâ€based detection of PAHs on the Martian surface. Meteoritics and Planetary Science, 2012, 47, 806-819.	0.7	28
27	Mass wasting triggered by seasonal CO₂ sublimation under Martian atmospheric conditions: Laboratory experiments. Geophysical Research Letters, 2016, 43, 12,363.	1.5	27
28	Comprehensive investigation of Mars methane and organics with ExoMars/NOMAD. Icarus, 2021, 357, 114266.	1.1	27
29	Optical and radiometric models of the NOMAD instrument part I: the UVIS channel. Optics Express, 2015, 23, 30028.	1.7	26
30	Optical and radiometric models of the NOMAD instrument part II: the infrared channels - SO and LNO. Optics Express, 2016, 24, 3790.	1.7	25
31	Surface Warming During the 2018/Mars Year 34 Global Dust Storm. Geophysical Research Letters, 2020, 47, e2019GL083936.	1.5	25
32	Degradation of microbial fluorescence biosignatures by solar ultraviolet radiation on Mars. International Journal of Astrobiology, 2014, 13, 112-123.	0.9	24
33	Enhanced water loss from the martian atmosphere during a regional-scale dust storm and implications for long-term water loss. Earth and Planetary Science Letters, 2021, 571, 117109.	1.8	22
34	Laboratory simulation of debris flows over sand dunes: Insights into gully-formation (Mars). Geomorphology, 2015, 231, 101-115.	1.1	21
35	A reanalysis of ozone on Mars from assimilation of SPICAM observations. Icarus, 2018, 302, 308-318.	1.1	20
36	Global analysis and forecasts of carbon monoxide on Mars. Icarus, 2019, 328, 232-245.	1.1	19

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37	ExoMars TGO/NOMADâ€UVIS Vertical Profiles of Ozone: 1. Seasonal Variation and Comparison to Water. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006837.	1.5	18
38	Radiative transfer modelling of dust devils. Icarus, 2013, 223, 1-10.	1.1	17
39	The retrieval of optical properties from terrestrial dust devil vortices. Icarus, 2014, 231, 385-393.	1.1	16
40	Numerical modelling of the transport of trace gases including methane in the subsurface of Mars. Icarus, 2015, 250, 587-594.	1.1	16
41	Downslope sediment transport by boiling liquid water under Mars-like conditions: experiments and potential implications for Martian gullies. Geological Society Special Publication, 2019, 467, 373-410.	0.8	16
42	Asymmetric Impacts on Marsâ€™ Polar Vortices From an Equinoctial Global Dust Storm. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006774.	1.5	16
43	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.	1.5	15
44	The Deuterium Isotopic Ratio of Water Released From the Martian Caps as Measured With TGO/NOMAD. Geophysical Research Letters, 2022, 49, .	1.5	15
45	Defining Multiple Characteristic Raman Bands of Î±-Amino Acids as Biomarkers for Planetary Missions Using a Statistical Method. Origins of Life and Evolution of Biospheres, 2016, 46, 323-346.	0.8	14
46	ExoMars Atmospheric Mars Entry and Landing Investigations and Analysis (AMELIA). Space Science Reviews, 2019, 215, 1.	3.7	14
47	The UV surface habitability of Proxima <i>b</i>: first experiments revealing probable life survival to stellar flares. Monthly Notices of the Royal Astronomical Society: Letters, 2020, 494, L69-L74.	1.2	14
48	ExoMars TGO/NOMADâ€UVIS Vertical Profiles of Ozone: 2. The Highâ€Altitude Layers of Atmospheric Ozone. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006834.	1.5	14
49	Analysing the consistency of martian methane observations by investigation of global methane transport. Icarus, 2015, 257, 23-32.	1.1	13
50	Investigations of the Mars Upper Atmosphere with ExoMars Trace Gas Orbiter. Space Science Reviews, 2018, 214, 1.	3.7	13
51	Detection of green line emission in the dayside atmosphere of Mars from NOMAD-TGO observations. Nature Astronomy, 2020, 4, 1049-1052.	4.2	13
52	Clastic patterned ground in Lomonosov crater, Mars: examining fracture controlled formation mechanisms. Icarus, 2017, 295, 125-139.	1.1	12
53	Modelled isotopic fractionation and transient diffusive release of methane from potential subsurface sources on Mars. Icarus, 2017, 281, 240-247.	1.1	12
54	CO ₂ sublimation in Martian gullies: laboratory experiments at varied slope angle and regolith grain sizes. Geological Society Special Publication, 2019, 467, 343-371.	0.8	12

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55	First Detection and Thermal Characterization of Terminator CO₂Ice Clouds With ExoMars/NOMAD. Geophysical Research Letters, 2021, 48, .	1.5	12
56	On the link between martian total ozone and potential vorticity. Icarus, 2017, 282, 104-117.	1.1	11
57	The climatology of carbon monoxide on Mars as observed by NOMAD nadir-geometry observations. Icarus, 2021, 362, 114404.	1.1	11
58	Seismic constraints from a Mars impact experiment using InSight and Perseverance. Nature Astronomy, 2022, 6, 59-64.	4.2	9
59	The vertical transport of methane from different potential emission types on Mars. Geophysical Research Letters, 2017, 44, 8611-8620.	1.5	8
60	The formation of araneiforms by carbon dioxide venting and vigorous sublimation dynamics under martian atmospheric pressure. Scientific Reports, 2021, 11, 6445.	1.6	8
61	First Observation of the Oxygen 630Ânm Emission in the Martian Dayglow. Geophysical Research Letters, 2021, 48, e2020GL092334.	1.5	8
62	Enhanced Superâ€Rotation Before and During the 2018 Martian Global Dust Storm. Geophysical Research Letters, 2021, 48, e2021GL094634.	1.5	8
63	A Global and Seasonal Perspective of Martian Water Vapor From ExoMars/NOMAD. Journal of Geophysical Research E: Planets, 2021, 126, .	1.5	8
64	Calibration of NOMAD on ESA's ExoMars Trace Gas Orbiter: Part 1 â€" The Solar Occultation channel. Planetary and Space Science, 2022, 218, 105411.	0.9	8
65	Regional heat flow and subsurface temperature patterns at Elysium Planitia and Oxia Planum areas, Mars. Icarus, 2021, 353, 113379.	1.1	7
66	Probing the Atmospheric Cl Isotopic Ratio on Mars: Implications for Planetary Evolution and Atmospheric Chemistry. Geophysical Research Letters, 2021, 48, e2021GL092650.	1.5	7
67	Variations in Vertical CO/CO₂ Profiles in the Martian Mesosphere and Lower Thermosphere Measured by the ExoMars TGO/NOMAD: Implications of Variations in Eddy Diffusion Coefficient. Geophysical Research Letters, 2022, 49, .	1.5	7
68	Planetâ€Wide Ozone Destruction in the Middle Atmosphere on Mars During Global Dust Storm. Geophysical Research Letters, 2022, 49, .	1.5	7
69	Mud flow levitation on Mars: Insights from laboratory simulations. Earth and Planetary Science Letters, 2020, 545, 116406.	1.8	6
70	A CaSSIS and HiRISE map of the Clay-bearing Unit at the ExoMars 2022 landing site in Oxia Planum. Planetary and Space Science, 2022, 214, 105429.	0.9	6
71	Vertical Aerosol Distribution and Mesospheric Clouds From ExoMars UVIS. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	6
72	Density and Temperature of the Upper Mesosphere and Lower Thermosphere of Mars Retrieved From the OI 557.7Ânm Dayglow Measured by TGO/NOMAD. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	6

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73	Martian CO₂ Ice Observation at High Spectral Resolution With ExoMars/TGO NOMAD. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	5
74	Calibration of the NOMAD-UVIS data. Planetary and Space Science, 2022, 218, 105504.	0.9	5
75	The distribution of putative periglacial landforms on the martian northern plains. Icarus, 2018, 314, 133-148.	1.1	4
76	The transfer of unsterilized material from Mars to Phobos: Laboratory tests, modelling and statistical evaluation. Life Sciences in Space Research, 2019, 23, 112-134.	1.2	4
77	Upper limits for phosphine (PH₃) in the atmosphere of Mars. Astronomy and Astrophysics, 2021, 649, L1.	2.1	4
78	Calibration of NOMAD on ExoMars Trace Gas Orbiter: Part 3 - LNO validation and instrument stability. Planetary and Space Science, 2022, 218, 105399.	0.9	4
79	The Interlayer Regions of Sheet Silicates as a Favorable Habitat for Endolithic Microorganisms. Geomicrobiology Journal, 2015, 32, 530-537.	1.0	3
80	Removal of straylight from ExoMars NOMAD-UVIS observations. Planetary and Space Science, 2022, 218, 105432.	0.9	3
81	Calibration of NOMAD on ESA's ExoMars Trace Gas Orbiter: Part 2 â€“ The Limb, Nadir and Occultation (LNO) channel. Planetary and Space Science, 2021, , 105410.	0.9	3
82	Polarimetry as a tool to find and characterise habitable planets orbiting white dwarfs. Proceedings of the International Astronomical Union, 2014, 10, 325-332.	0.0	2
83	Machine learning for automatic identification of new minor species. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 259, 107361.	1.1	2
84	The Mars Oxygen Visible Dayglow: A Martian Year of NOMAD/UVIS Observations. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	2
85	Aeolian abrasion of rocks as a mechanism to produce methane in the Martian atmosphere. Scientific Reports, 2019, 9, 8229.	1.6	1
86	History and Applications of Dust Devil Studies. Space Sciences Series of ISSI, 2017, , 5-37.	0.0	1
87	Field Measurements of Terrestrial and Martian Dust Devils. Space Sciences Series of ISSI, 2017, , 39-87.	0.0	1
88	Towards astrobiological experimental approaches to study planetary UV surface environments. Proceedings of the International Astronomical Union, 2018, 14, 222-226.	0.0	0