Sonal Jain

List of Publications by Year
in descending order

80 papers	2,472 citations	201674 27 h-index	214800 47 g-index
84 all docs	84 docs citations	84 times ranked	1321 citing authors

#	Article	IF	Citations
1	Thermal structure of Marsâ€™ middle and upper atmospheres: Understanding the impacts of dynamics and solar forcing. Icarus, 2023, 393, 114703.	2.5	16
2	MAVEN/IUVS observations of CÂI 156.1Ânm and 165.7Ânm dayglow: Direct detection of carbon and implications on photochemical escape. Icarus, 2022, 371, 114664.	2.5	2
3	The Emirates Mars Mission. Space Science Reviews, 2022, 218, 4.	8.1	29
4	Discrete Aurora on the Nightside of Mars: Occurrence Location and Probability. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	6
5	Empirically Determined Auroral Electron Events at Marsâ€"MAVEN Observations. Geophysical Research Letters, 2022, 49, .	4.0	8
6	Discrete Aurora at Mars: Dependence on Upstream Solar Wind Conditions. Journal of Geophysical Research: Space Physics, 2022, 127, .	2.4	7
7	Observations and Modeling of Martian Auroras. Space Science Reviews, 2022, 218, .	8.1	1
8	Observations of Atmospheric Tides in the Middle and Upper Atmosphere of Mars From MAVEN and MRO. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	3
9	Another one derives the dust: Ultraviolet dust aerosol properties retrieved from MAVEN/IUVS data. Icarus, 2022, 387, 115177.	2.5	4
10	Laboratory Study of the Cameron Bands, the First Negative Bands, and Fourth Positive Bands in the Middle Ultraviolet 180â€"280Ânm by Electron Impact Upon CO. Journal of Geophysical Research E: Planets, 2021, 126, .	3.6	7
11	Estimate of the D/H Ratio in the Martian Upper Atmosphere from the Low Spectral Resolution Mode of MAVEN/IUVS. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006814.	3.6	6
12	Forbidden atomic oxygen emissions in the martian dayside upper atmosphere. Icarus, 2021, 359, 114330.	2.5	4
13	Martian water loss to space enhanced by regional dust storms. Nature Astronomy, 2021, 5, 1036-1042.	10.1	40
14	Discrete Aurora on Mars: Spectral Properties, Vertical Profiles, and Electron Energies. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029495.	2.4	12
15	Discrete Aurora on Mars: Insights Into Their Distribution and Activity From MAVEN/IUVS Observations. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029428.	2.4	20
16	Emirates Mars Mission Characterization of Mars Atmosphere Dynamics and Processes. Space Science Reviews, 2021, 217, .	8.1	23
17	The Emirates Mars Ultraviolet Spectrometer (EMUS) for the EMM Mission. Space Science Reviews, 2021, 217, 1.	8.1	17
18	Effect of the 2018 Martian Global Dust Storm on the CO₂ Density in the Lower Nightside Thermosphere Observed From MAVEN/IUVS Lymanâ€Alpha Absorption. Geophysical Research Letters, 2020, 47, e2019GL082889.	4.0	13

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19	Martian Thermospheric Warming Associated With the Planet Encircling Dust Event of 2018. Geophysical Research Letters, 2020, 47, e2019GL085302.	4.0	34
20	Mars's Twilight Cloud Band: A New Cloud Feature Seen During the Mars Year 34 Global Dust Storm. Geophysical Research Letters, 2020, 47, e2019GL084997.	4.0	16
21	Two-dimensional model for the martian exosphere: Applications to hydrogen and deuterium Lyman Î± observations. Icarus, 2020, 339, 113573.	2.5	8
22	Vertical Propagation of Wave Perturbations in the Middle Atmosphere on Mars by MAVEN/IUVS. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006481.	3.6	18
23	Martian Oxygen and Hydrogen Upper Atmospheres Responding to Solar and Dust Storm Drivers: Hisaki Space Telescope Observations. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006500.	3.6	6
24	Seasonal and Latitudinal Variations of Dayside N₂/CO₂ Ratio in the Martian Thermosphere Derived From MAVEN IUVS Observations. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006378.	3.6	8
25	Imaging of Martian Circulation Patterns and Atmospheric Tides Through MAVEN/IUVS Nightglow Observations. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027318.	2.4	13
26	LyÎ± Observations of Comet C/2013 A1 (Siding Spring) Using MAVEN IUVS Echelle. Astronomical Journal, 2020, 160, 10.	4.7	3
27	A Warm Layer in the Nightside Mesosphere of Mars. Geophysical Research Letters, 2020, 47, e2019GL085646.	4.0	9
28	Airglow remote sensing of the seasonal variation of the Martian upper atmosphere: MAVEN limb observations and model comparison. Icarus, 2020, 341, 113666.	2.5	11
29	Invertedâ€V Electron Acceleration Events Concurring With Localized Auroral Observations at Mars by MAVEN. Geophysical Research Letters, 2020, 47, e2020GL087414.	4.0	26
30	Detection of Mesospheric CO₂ Ice Clouds on Mars in Southern Summer. Geophysical Research Letters, 2019, 46, 7962-7971.	4.0	13
31	MAVENâ€IUVS Observations of the CO₂⁺ UV Doublet and CO Cameron Bands in the Martian Thermosphere: Aeronomy, Seasonal, and Latitudinal Distribution. Journal of Geophysical Research: Space Physics, 2019, 124, 5816-5827.	2.4	18
32	Characteristics of Mars UV Dayglow Emissions From Atomic Oxygen at 130.4 and 135.6 nm: MAVEN/IUVS Limb Observations and Modeling. Journal of Geophysical Research: Space Physics, 2019, 124, 4809-4832.	2.4	12
33	Localized Ionization Hypothesis for Transient Ionospheric Layers. Journal of Geophysical Research: Space Physics, 2019, 124, 4870-4880.	2.4	19
34	Seasonal Variability of Deuterium in the Upper Atmosphere of Mars. Journal of Geophysical Research: Space Physics, 2019, 124, 2152-2164.	2.4	13
35	Detection of the Nitric Oxide Dayglow on Mars by MAVEN/IUVS. Journal of Geophysical Research E: Planets, 2019, 124, 1226-1237.	3.6	13
36	Atmospheric Tides at High Latitudes in the Martian Upper Atmosphere Observed by MAVEN and MRO. Journal of Geophysical Research: Space Physics, 2019, 124, 2943-2953.	2.4	24

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37	UV Study of the Fourth Positive Band System of CO and O <scp>i</scp> 135.6Ânm From Electron Impact on CO and CO₂. Journal of Geophysical Research: Space Physics, 2019, 124, 2954-2977.	2.4	12
38	Proton Aurora on Mars: A Dayside Phenomenon Pervasive in Southern Summer. Journal of Geophysical Research: Space Physics, 2019, 124, 10533-10548.	2.4	24
39	UV Dayglow Variability on Mars: Simulation With a Global Climate Model and Comparison With SPICAM/MEx Data. Journal of Geophysical Research E: Planets, 2018, 123, 1934-1952.	3.6	13
40	Mars H Escape Rates Derived From MAVEN/IUVS Lyman Alpha Brightness Measurements and Their Dependence on Model Assumptions. Journal of Geophysical Research E: Planets, 2018, 123, 2192-2210.	3.6	42
41	The Impact of Comet Siding Spring's Meteors on the Martian Atmosphere and Ionosphere. Journal of Geophysical Research E: Planets, 2018, 123, 2613-2627.	3.6	14
42	The O(¹S) 297.2â€nm Dayglow Emission: A Tracer of CO₂ Density Variations in the Martian Lower Thermosphere. Journal of Geophysical Research E: Planets, 2018, 123, 3119-3132.	3.6	14
43	Global Aurora on Mars During the September 2017 Space Weather Event. Geophysical Research Letters, 2018, 45, 7391-7398.	4.0	44
44	Loss of the Martian atmosphere to space: Present-day loss rates determined from MAVEN observations and integrated loss through time. Icarus, 2018, 315, 146-157.	2.5	216
45	Discovery of a proton aurora at Mars. Nature Astronomy, 2018, 2, 802-807.	10.1	50
46	September 2017 Solar Flare Event: Rapid Heating of the Martian Neutral Upper Atmosphere From the Xâ€Class Flare as Observed by MAVEN. Geophysical Research Letters, 2018, 45, 8803-8810.	4.0	26
47	Martian Electron Temperatures in the Subsolar Region: MAVEN Observations Compared to a Oneâ€Dimensional Model. Journal of Geophysical Research: Space Physics, 2018, 123, 5960-5973.	2.4	21
48	Significant Space Weather Impact on the Escape of Hydrogen From Mars. Geophysical Research Letters, 2018, 45, 8844-8852.	4.0	29
49	Martian Thermospheric Response to an X8.2 Solar Flare on 10 September 2017 as Seen by MAVEN/IUVS. Geophysical Research Letters, 2018, 45, 7312-7319.	4.0	24
50	The Mars Topside Ionosphere Response to the X8.2 Solar Flare of 10 September 2017. Geophysical Research Letters, 2018, 45, 8005-8013.	4.0	38
51	MAVEN/IUVS Stellar Occultation Measurements of Mars Atmospheric Structure and Composition. Journal of Geophysical Research E: Planets, 2018, 123, 1449-1483.	3.6	56
52	Variability of D and H in the Martian upper atmosphere observed with the MAVEN IUVS echelle channel. Journal of Geophysical Research: Space Physics, 2017, 122, 2336-2344.	2.4	64
53	Martian mesospheric cloud observations by IUVS on MAVEN: Thermal tides coupled to the upper atmosphere. Geophysical Research Letters, 2017, 44, 4709-4715.	4.0	23
54	Detection of a persistent meteoric metal layer in the Martian atmosphere. Nature Geoscience, 2017, 10, 401-404.	12.9	52

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55	Nitric oxide nightglow and Martian mesospheric circulation from MAVEN/IUVS observations and LMDâ€MGCM predictions. Journal of Geophysical Research: Space Physics, 2017, 122, 5782-5797.	2.4	36
56	The structure and variability of Mars dayside thermosphere from MAVEN NGIMS and IUVS measurements: Seasonal and solar activity trends in scale heights and temperatures. Journal of Geophysical Research: Space Physics, 2017, 122, 1296-1313.	2.4	124
57	The Variability of Atmospheric Deuterium Brightness at Mars: Evidence for Seasonal Dependence. Journal of Geophysical Research: Space Physics, 2017, 122, 10,811.	2.4	15
58	Simultaneous observations of atmospheric tides from combined in situ and remote observations at Mars from the MAVEN spacecraft. Journal of Geophysical Research E: Planets, 2016, 121, 594-607.	3.6	48
59	Comparison of the Martian thermospheric density and temperature from IUVS/MAVEN data and general circulation modeling. Geophysical Research Letters, 2016, 43, 3095-3104.	4.0	34
60	Ultraviolet observations of the hydrogen coma of comet C/2013 A1 (Siding Spring) by MAVEN/IUVS. Geophysical Research Letters, 2015, 42, 8803-8809.	4.0	11
61	MAVEN IUVS observations of the aftermath of the Comet Siding Spring meteor shower on Mars. Geophysical Research Letters, 2015, 42, 4755-4761.	4.0	56
62	Nonmigrating tides in the Martian atmosphere as observed by MAVEN IUVS. Geophysical Research Letters, 2015, 42, 9057-9063.	4.0	43
63	Retrieval of CO₂ and N₂ in the Martian thermosphere using dayglow observations by IUVS on MAVEN. Geophysical Research Letters, 2015, 42, 9040-9049.	4.0	43
64	Study of the Martian cold oxygen corona from the Oâ€‰I 130.4â€‰nm by IUVS/MAVEN. Geophysical Research Letters, 2015, 42, 9031-9039.	4.0	21
65	The structure and variability of Mars upper atmosphere as seen in MAVEN/IUVS dayglow observations. Geophysical Research Letters, 2015, 42, 9023-9030.	4.0	95
66	Threeâ€dimensional structure in the Mars H corona revealed by IUVS on MAVEN. Geophysical Research Letters, 2015, 42, 9001-9008.	4.0	67
67	MAVEN IUVS observation of the hot oxygen corona at Mars. Geophysical Research Letters, 2015, 42, 9009-9014.	4.0	77
68	New observations of molecular nitrogen in the Martian upper atmosphere by IUVS on MAVEN. Geophysical Research Letters, 2015, 42, 9050-9056.	4.0	41
69	Probing the Martian atmosphere with MAVEN/IUVS stellar occultations. Geophysical Research Letters, 2015, 42, 9064-9070.	4.0	42
70	MAVEN observations of the response of Mars to an interplanetary coronal mass ejection. Science, 2015, 350, aad0210.	12.6	166
71	Discovery of diffuse aurora on Mars. Science, 2015, 350, aad0313.	12.6	98
72	Early MAVEN Deep Dip campaign reveals thermosphere and ionosphere variability. Science, 2015, 350, aad0459.	12.6	90

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73	Production of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mrow><mml:msub><mml:mrow><mml:mi mathvariant="normal">N</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml: Vegardâ€“Kaplan and Lymanâ€“Birgeâ€“Hopfield emissions on Pluto. Icarus, 2015, 246, 285-290.	2.5	5
74	CO Cameron band and UV doublet emissions in the dayglow of Venus: Role of CO in the Cameron band production. Journal of Geophysical Research: Space Physics, 2013, 118, 3660-3671.	2.4	11
75	Calculations of N2 triplet states vibrational populations and band emissions in venusian dayglow. Icarus, 2012, 217, 752-758.	2.5	10
76	Production of N2 Vegardâ€“Kaplan and other triplet band emissions in the dayglow of Titan. Icarus, 2012, 218, 989-1005.	2.5	13
77	Impact of solar EUV flux on CO Cameron band and CO2+ UV doublet emissions in the dayglow of Mars. Planetary and Space Science, 2012, 63-64, 110-122.	1.7	27
78	Model calculation of N₂Vegard-Kaplan band emissions in Martian dayglow. Journal of Geophysical Research, 2011, 116, .	3.3	23
79	Monte Carlo model of electron energy degradation in a CO₂ atmosphere. Journal of Geophysical Research, 2009, 114, .	3.3	32
80	Correction to â€œMonte Carlo model of electron energy degradation in a CO₂ atmosphereâ€. Journal of Geophysical Research, 2009, 114, .	3.3	0