Ashwin R Vasavada

List of Publications by Year
in descending order

88	11,165	36691 53	56606 87
papers	citations	h-index	g-index

88	88	88	6721
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Mars Science Laboratory Mission and Science Investigation. Space Science Reviews, 2012, 170, 5-56.	3.7	650
2	Mineralogy of a Mudstone at Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1243480.	6.0	508
3	Marsâ€™ Surface Radiation Environment Measured with the Mars Science Laboratoryâ€™s Curiosity Rover. Science, 2014, 343, 1244797.	6.0	475
4	Deposition, exhumation, and paleoclimate of an ancient lake deposit, Gale crater, Mars. Science, 2015, 350, aac7575.	6.0	471
5	Cassini Imaging of Jupiter's Atmosphere, Satellites, and Rings. Science, 2003, 299, 1541-1547.	6.0	405
6	Diviner Lunar Radiometer Observations of Cold Traps in the Moonâ€™s South Polar Region. Science, 2010, 330, 479-482.	6.0	385
7	Volatile, Isotope, and Organic Analysis of Martian Fines with the Mars Curiosity Rover. Science, 2013, 341, 1238937.	6.0	367
8	X-ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest at Gale Crater. Science, 2013, 341, 1238932.	6.0	327
9	Abundance and Isotopic Composition of Gases in the Martian Atmosphere from the Curiosity Rover. Science, 2013, 341, 263-266.	6.0	327
10	Martian Fluvial Conglomerates at Gale Crater. Science, 2013, 340, 1068-1072.	6.0	326
11	Volatile and Organic Compositions of Sedimentary Rocks in Yellowknife Bay, Gale Crater, Mars. Science, 2014, 343, 1245267.	6.0	323
12	The Lunar Reconnaissance Orbiter Diviner Lunar Radiometer Experiment. Space Science Reviews, 2010, 150, 125-160.	3.7	309
13	Curiosity at Gale Crater, Mars: Characterization and Analysis of the Rocknest Sand Shadow. Science, 2013, 341, 1239505.	6.0	280
14	Transient liquid water and water activity at Gale crater on Mars. Nature Geoscience, 2015, 8, 357-361.	5.4	277
15	Jovian atmospheric dynamics: an update afterGalileoandCassini. Reports on Progress in Physics, 2005, 68, 1935-1996.	8.1	276
16	Lunar surface rock abundance and regolith fines temperatures derived from LRO Diviner Radiometer data. Journal of Geophysical Research, 2011, 116, .	3.3	235
17	Lunar equatorial surface temperatures and regolith properties from the Diviner Lunar Radiometer Experiment. Journal of Geophysical Research, 2012, 117, .	3.3	229
18	Background levels of methane in Marsâ€™ atmosphere show strong seasonal variations. Science, 2018, 360, 1093-1096.	6.0	224

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19	Soil Diversity and Hydration as Observed by ChemCam at Gale Crater, Mars. Science, 2013, 341, 1238670.	6.0	215
20	Redox stratification of an ancient lake in Gale crater, Mars. Science, 2017, 356, .	6.0	209
21	Global Regolith Thermophysical Properties of the Moon From the Diviner Lunar Radiometer Experiment. Journal of Geophysical Research E: Planets, 2017, 122, 2371-2400.	1.5	193
22	Mineralogy, provenance, and diagenesis of a potassic basaltic sandstone on Mars: CheMin Xâ€ray diffraction of the Windjana sample (Kimberley area, Gale Crater). Journal of Geophysical Research E: Planets, 2016, 121, 75-106.	1.5	159
23	The Modern Near-Surface Martian Climate: A Review of In-situ Meteorological Data from Viking to Curiosity. Space Science Reviews, 2017, 212, 295-338.	3.7	153
24	Galileo's First Images of Jupiter and the Galilean Satellites. Science, 1996, 274, 377-385.	6.0	152
25	Clay mineral diversity and abundance in sedimentary rocks of Gale crater, Mars. Science Advances, 2018, 4, eaar3330.	4.7	150
26	Large wind ripples on Mars: A record of atmospheric evolution. Science, 2016, 353, 55-58.	6.0	144
27	Ancient Martian aeolian processes and palaeomorphology reconstructed from the Stimson formation on the lower slope of Aeolis Mons, Gale crater, Mars. Sedimentology, 2018, 65, 993-1042.	1.6	143
28	Mars Science Laboratory Observations of the 2018/Mars Year 34 Global Dust Storm. Geophysical Research Letters, 2019, 46, 71-79.	1.5	138
29	The Petrochemistry of Jake_M: A Martian Mugearite. Science, 2013, 341, 1239463.	6.0	134
30	ChemCam activities and discoveries during the nominal mission of the Mars Science Laboratory in Gale crater, Mars. Journal of Analytical Atomic Spectrometry, 2016, 31, 863-889.	1.6	134
31	Winds measured by the Rover Environmental Monitoring Station (REMS) during the Mars Science Laboratory (MSL) rover's Bagnold Dunes Campaign and comparison with numerical modeling using MarsWRF. Icarus, 2017, 291, 203-231.	1.1	119
32	Curiosity's rover environmental monitoring station: Overview of the first 100 sols. Journal of Geophysical Research E: Planets, 2014, 119, 1680-1688.	1.5	112
33	Cassini Imaging Science: Initial Results on Saturn's Atmosphere. Science, 2005, 307, 1243-1247.	6.0	107
34	Galileo Imaging of Jupiter's Atmosphere: The Great Red Spot, Equatorial Region, and White Ovals. Icarus, 1998, 135, 265-275.	1.1	106
35	An interval of high salinity in ancient Gale crater lake on Mars. Nature Geoscience, 2019, 12, 889-895.	5.4	105
36	Overview of the Mars Science Laboratory mission: Bradbury Landing to Yellowknife Bay and beyond. Journal of Geophysical Research E: Planets, 2014, 119, 1134-1161.	1.5	104

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37	Low Upper Limit to Methane Abundance on Mars. Science, 2013, 342, 355-357.	6.0	103
38	Chemistry, mineralogy, and grain properties at Namib and High dunes, Bagnold dune field, Gale crater, Mars: A synthesis of Curiosity rover observations. Journal of Geophysical Research E: Planets, 2017, 122, 2510-2543.	1.5	95
39	Diagenetic silica enrichment and lateâ€stage groundwater activity in Gale crater, Mars. Geophysical Research Letters, 2017, 44, 4716-4724.	1.5	87
40	Cassini imaging of Saturn: Southern hemisphere winds and vortices. Journal of Geophysical Research, 2006, 111, .	3.3	83
41	Mars Science Laboratory Curiosity Rover Megaripple Crossings up to Sol 710 in Gale Crater. Journal of Field Robotics, 2017, 34, 495-518.	3.2	82
42	The meteorology of Gale Crater as determined from Rover Environmental Monitoring Station observations and numerical modeling. Part II: Interpretation. Icarus, 2016, 280, 114-138.	1.1	81
43	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.	1.5	80
44	Lightning on Jupiter observed in the line by the Cassini imaging science subsystem. Icarus, 2004, 172, 24-36.	1.1	76
45	Thermophysical properties along Curiosity's traverse in Gale crater, Mars, derived from the REMS ground temperature sensor. Icarus, 2017, 284, 372-386.	1.1	74
46	Evidence for a Diagenetic Origin of Vera Rubin Ridge, Gale Crater, Mars: Summary and Synthesis of Curiosity's Exploration Campaign. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006527.	1.5	69
47	Diviner Lunar Radiometer Observations of the LCROSS Impact. Science, 2010, 330, 477-479.	6.0	68
48	Surface dust redistribution on Mars as observed by the Mars Global Surveyor and Viking orbiters. Journal of Geophysical Research, 2006, 111, .	3.3	67
49	Observations and preliminary science results from the first 100 sols of MSL Rover Environmental Monitoring Station ground temperature sensor measurements at Gale Crater. Journal of Geophysical Research E: Planets, 2014, 119, 745-770.	1.5	67
50	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.	1.1	66
51	Geologic overview of the Mars Science Laboratory rover mission at the Kimberley, Gale crater, Mars. Journal of Geophysical Research E: Planets, 2017, 122, 2-20.	1.5	60
52	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.	3.3	59
53	Assessment of Environments for Mars Science Laboratory Entry, Descent, and Surface Operations. Space Science Reviews, 2012, 170, 793-835.	3.7	58
54	Curiosity's Mission of Exploration at Gale Crater, Mars. Elements, 2015, 11, 19-26.	0.5	55

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55	Lunar cold spots: Granular flow features and extensive insulating materials surrounding young craters. Icarus, 2014, 231, 221-231.	1.1	54
56	The meteorology of Gale crater as determined from rover environmental monitoring station observations and numerical modeling. Part I: Comparison of model simulations with observations. Icarus, 2016, 280, 103-113.	1.1	54
57	Brine-driven destruction of clay minerals in Gale crater, Mars. Science, 2021, 373, 198-204.	6.0	52
58	Saturn's south polar vortex compared to other large vortices in the Solar System. Icarus, 2009, 202, 240-248.	1.1	50
59	The Bagnold Dunes in Southern Summer: Active Sediment Transport on Mars Observed by the Curiosity Rover. Geophysical Research Letters, 2018, 45, 8853-8863.	1.5	50
60	A surface gravity traverse on Mars indicates low bedrock density at Gale crater. Science, 2019, 363, 535-537.	6.0	49
61	Surface energy budget and thermal inertia at Gale Crater: Calculations from groundâ€based measurements. Journal of Geophysical Research E: Planets, 2014, 119, 1822-1838.	1.5	46
62	Terrain physical properties derived from orbital data and the first 360 sols of Mars Science Laboratory Curiosity rover observations in Gale Crater. Journal of Geophysical Research E: Planets, 2014, 119, 1322-1344.	1.5	43
63	Effects of the MY34/2018 Global Dust Storm as Measured by MSL REMS in Gale Crater. Journal of Geophysical Research E: Planets, 2019, 124, 1899-1912.	1.5	40
64	The Thermophysical Properties of the Bagnold Dunes, Mars: Groundâ€Truthing Orbital Data. Journal of Geophysical Research E: Planets, 2018, 123, 1307-1326.	1.5	34
65	A Rock Record of Complex Aeolian Bedforms in a Hesperian Desert Landscape: The Stimson Formation as Exposed in the Murray Buttes, Gale Crater, Mars. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006554.	1.5	34
66	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.	1.2	28
67	Reconstruction of Atmospheric Properties from Mars Science Laboratory Entry, Descent, and Landing. Journal of Spacecraft and Rockets, 2014, 51, 1062-1075.	1.3	27
68	Synergistic Ground and Orbital Observations of Iron Oxides on Mt. Sharp and Vera Rubin Ridge. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006294.	1.5	27
69	The Curiosity Rover's Exploration of Glen Torridon, Gale Crater, Mars: An Overview of the Campaign and Scientific Results. Journal of Geophysical Research E: Planets, 2023, 128, .	1.5	27
70	Mission Overview and Scientific Contributions from the Mars Science Laboratory Curiosity Rover After Eight Years of Surface Operations. Space Science Reviews, 2022, 218, 14.	3.7	25
71	Uniaxial Compressive Strengths of Rocks Drilled at Gale Crater, Mars. Geophysical Research Letters, 2018, 45, 108-116.	1.5	23
72	Abiotic Input of Fixed Nitrogen by Bolide Impacts to Gale Crater During the Hesperian: Insights From the Mars Science Laboratory. Journal of Geophysical Research E: Planets, 2019, 124, 94-113.	1.5	23

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73	A Review of the Phyllosilicates in Gale Crater as Detected by the CheMin Instrument on the Mars Science Laboratory, Curiosity Rover. Minerals (Basel, Switzerland), 2021, 11, 847.	0.8	23
74	Day-night differences in Mars methane suggest nighttime containment at Gale crater. Astronomy and Astrophysics, 2021, 650, A166.	2.1	22
75	Evidence for Fluctuating Wind in Shaping an Ancient Martian Dune Field: The Stimson Formation at the Greenheugh Pediment, Gale Crater. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	17
76	The Surface Energy Budget at Gale Crater During the First 2500 Sols of the Mars Science Laboratory Mission. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006804.	1.5	16
77	Selfâ€reliant rovers for increased mission productivity. Journal of Field Robotics, 2020, 37, 1171-1196.	3.2	15
78	The global vortex analysis of Jupiter and Saturn based on Cassini Imaging Science Subsystem. Icarus, 2014, 242, 122-129.	1.1	13
79	Transient atmospheric effects of the landing of the Mars Science Laboratory rover: The emission and dissipation of dust and carbazic acid. Advances in Space Research, 2016, 58, 1066-1092.	1.2	12
80	Origin and composition of three heterolithic boulder- and cobble-bearing deposits overlying the Murray and Stimson formations, Gale Crater, Mars. Icarus, 2020, 350, 113897.	1.1	11
81	CRISMâ€Based High Spatial Resolution Thermal Inertia Mapping Along Curiosity's Traverses in Gale Crater. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	11
82	Vortices in Saturn's Northern Hemisphere (2008â€“2015) observed by Cassini ISS. Journal of Geophysical Research E: Planets, 2016, 121, 1814-1826.	1.5	9
83	Advective Fluxes in the Martian Regolith as a Mechanism Driving Methane and Other Trace Gas Emissions to the Atmosphere. Geophysical Research Letters, 2020, 47, e2019GL085694.	1.5	9
84	Ancient Winds, Waves, and Atmosphere in Gale Crater, Mars, Inferred From Sedimentary Structures and Wave Modeling. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	7
85	Curiosity Mars methane measurements are not confused by ozone. Astronomy and Astrophysics, 2020, 641, L3.	2.1	6
86	A look back, part II: The drilling campaign of the Curiosity rover during the Mars Science Laboratory's second and third martian years. Icarus, 2020, 350, 113885.	1.1	4
87	Thermal Forcing of the Nocturnal Near Surface Environment by Martian Water Ice Clouds. Journal of Geophysical Research E: Planets, 2021, 126, .	1.5	3
88	Mars Science Laboratory. , 2022, , 1-5.		0