

Matthew P Golombeck

List of Publications by Year in descending order

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123
papers

12,288
citations

20759

60
h-index

24915

109
g-index

133
all docs

133
docs citations

133
times ranked

4302
citing authors

#	ARTICLE	IF	CITATIONS
1	Mars Orbiter Laser Altimeter: Experiment summary after the first year of global mapping of Mars. <i>Journal of Geophysical Research</i> , 2001, 106, 23689-23722.	3.3	1,344
2	Stratigraphy and sedimentology of a dry to wet eolian depositional system, Burns formation, Meridiani Planum, Mars. <i>Earth and Planetary Science Letters</i> , 2005, 240, 11-72.	1.8	496
3	Ancient Geodynamics and Global-Scale Hydrology on Mars. <i>Science</i> , 2001, 291, 2587-2591.	6.0	453
4	The Spirit Rover's Athena Science Investigation at Gusev Crater, Mars. <i>Science</i> , 2004, 305, 794-799.	6.0	404
5	The rayed crater Zunil and interpretations of small impact craters on Mars. <i>Icarus</i> , 2005, 176, 351-381.	1.1	335
6	Primary centers and secondary concentrations of tectonic activity through time in the western hemisphere of Mars. <i>Journal of Geophysical Research</i> , 2001, 106, 20563-20585.	3.3	294
7	Mineralogic and compositional properties of Martian soil and dust: Results from Mars Pathfinder. <i>Journal of Geophysical Research</i> , 2000, 105, 1721-1755.	3.3	274
8	Initial results from the InSight mission on Mars. <i>Nature Geoscience</i> , 2020, 13, 183-189.	5.4	274
9	Overview of the Mars Pathfinder Mission and Assessment of Landing Site Predictions. <i>Science</i> , 1997, 278, 1743-1748.	6.0	268
10	Wind-driven particle mobility on Mars: Insights from Mars Exploration Rover observations at "El Dorado" and surroundings at Gusev Crater. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	255
11	Overview of the Spirit Mars Exploration Rover Mission to Gusev Crater: Landing site to Backstay Rock in the Columbia Hills. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	238
12	SEIS: Insight's Seismic Experiment for Internal Structure of Mars. <i>Space Science Reviews</i> , 2019, 215, 12.	3.7	238
13	Aeolian processes at the Mars Exploration Rover Meridiani Planum landing site. <i>Nature</i> , 2005, 436, 58-61.	13.7	233
14	Characterization and petrologic interpretation of olivine-rich basalts at Gusev Crater, Mars. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	227
15	Selection of the Mars Science Laboratory Landing Site. <i>Space Science Reviews</i> , 2012, 170, 641-737.	3.7	216
16	Erosion rates at the Mars Exploration Rover landing sites and long-term climate change on Mars. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	215
17	Constraints on the shallow elastic and anelastic structure of Mars from InSight seismic data. <i>Nature Geoscience</i> , 2020, 13, 213-220.	5.4	207
18	Two Years at Meridiani Planum: Results from the Opportunity Rover. <i>Science</i> , 2006, 313, 1403-1407.	6.0	188

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19	Ancient Aqueous Environments at Endeavour Crater, Mars. <i>Science</i> , 2014, 343, 1248097.	6.0	176
20	Localization and Physical Properties Experiments Conducted by Spirit at Gusev Crater. <i>Science</i> , 2004, 305, 821-824.	6.0	166
21	Erosion rates on Mars and implications for climate change: Constraints from the Pathfinder landing site. <i>Journal of Geophysical Research</i> , 2000, 105, 1841-1853.	3.3	163
22	The atmosphere of Mars as observed by InSight. <i>Nature Geoscience</i> , 2020, 13, 190-198.	5.4	161
23	Selection of the Mars Exploration Rover landing sites. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	155
24	Soils of Eagle Crater and Meridiani Planum at the Opportunity Rover Landing Site. <i>Science</i> , 2004, 306, 1723-1726.	6.0	153
25	Pancam Multispectral Imaging Results from the Spirit Rover at Gusev Crater. <i>Science</i> , 2004, 305, 800-806.	6.0	153
26	Size-frequency distributions of rocks on Mars and Earth analog sites: Implications for future landed missions. <i>Journal of Geophysical Research</i> , 1997, 102, 4117-4129.	3.3	151
27	Selection of the InSight Landing Site. <i>Space Science Reviews</i> , 2017, 211, 5-95.	3.7	150
28	Overview of the Opportunity Mars Exploration Rover Mission to Meridiani Planum: Eagle Crater to Purgatory Ripple. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	149
29	Nature and origin of the hematite-bearing plains of Terra Meridiani based on analyses of orbital and Mars Exploration rover data sets. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	144
30	Exploration of Victoria Crater by the Mars Rover Opportunity. <i>Science</i> , 2009, 324, 1058-1061.	6.0	141
31	Tectonic evolution of Mars. <i>Journal of Geophysical Research</i> , 1979, 84, 7934-7939.	3.3	136
32	Planet-wide sand motion on Mars. <i>Geology</i> , 2012, 40, 31-34.	2.0	136
33	Active dust devils in Gusev crater, Mars: Observations from the Mars Exploration Rover Spirit. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	133
34	Localization and Physical Property Experiments Conducted by Opportunity at Meridiani Planum. <i>Science</i> , 2004, 306, 1730-1733.	6.0	130
35	Physical properties of the Mars Exploration Rover landing sites as inferred from Mini-TES-derived thermal inertia. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	128
36	Overview of the Mars Pathfinder Mission: Launch through landing, surface operations, data sets, and science results. <i>Journal of Geophysical Research</i> , 1999, 104, 8523-8553.	3.3	121

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37	Rock size-frequency distributions on Mars and implications for Mars Exploration Rover landing safety and operations. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	117
38	Geology of the Gusev cratered plains from the Spirit rover traverse. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	114
39	COMPRESSIONAL STRUCTURES ON MARS. <i>Annual Review of Earth and Planetary Sciences</i> , 2004, 32, 435-464.	4.6	110
40	Geology of the InSight landing site on Mars. <i>Nature Communications</i> , 2020, 11, 1014.	5.8	107
41	Opportunity Mars Rover mission: Overview and selected results from Purgatory ripple to traverses to Endeavour crater. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	106
42	Assessment of Mars Exploration Rover landing site predictions. <i>Nature</i> , 2005, 436, 44-48.	13.7	101
43	Results of the Imager for Mars Pathfinder windsock experiment. <i>Journal of Geophysical Research</i> , 2000, 105, 24547-24562.	3.3	96
44	Selection of the Mars Pathfinder landing site. <i>Journal of Geophysical Research</i> , 1997, 102, 3967-3988.	3.3	91
45	Atmospheric Science with InSight. <i>Space Science Reviews</i> , 2018, 214, 1.	3.7	88
46	Pre-mission InSights on the Interior of Mars. <i>Space Science Reviews</i> , 2019, 215, 1.	3.7	85
47	A Prediction of Mars Seismicity from Surface Faulting. <i>Science</i> , 1992, 258, 979-981.	6.0	84
48	Sedimentary textures formed by aqueous processes, Erebus crater, Meridiani Planum, Mars. <i>Geology</i> , 2006, 34, 1085.	2.0	84
49	Surficial Deposits at Gusev Crater Along Spirit Rover Traverses. <i>Science</i> , 2004, 305, 807-810.	6.0	82
50	Small crater modification on Meridiani Planum and implications for erosion rates and climate change on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 2522-2547.	1.5	80
51	Planned Products of the Mars Structure Service for the InSight Mission to Mars. <i>Space Science Reviews</i> , 2017, 211, 611-650.	3.7	80
52	Geology and Physical Properties Investigations by the InSight Lander. <i>Space Science Reviews</i> , 2018, 214, 1.	3.7	77
53	Constraints on ripple migration at Meridiani Planum from Opportunity and HiRISE observations of fresh craters. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	73
54	Size-frequency distributions of rocks on the northern plains of Mars with special reference to Phoenix landing surfaces. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	70

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55	Areally Extensive Surface Bedrock Exposures on Mars: Many Are Clastic Rocks, Not Lavas. <i>Geophysical Research Letters</i> , 2018, 45, 1767-1777.	1.5	68
56	Crustal and time-varying magnetic fields at the InSight landing site on Mars. <i>Nature Geoscience</i> , 2020, 13, 199-204.	5.4	68
57	Mars Exploration Program 2007 Phoenix landing site selection and characteristics. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	64
58	The science process for selecting the landing site for the 2020 Mars rover. <i>Planetary and Space Science</i> , 2018, 164, 106-126.	0.9	64
59	The Rotation and Interior Structure Experiment on the InSight Mission to Mars. <i>Space Science Reviews</i> , 2018, 214, 1.	3.7	64
60	Crater gradation in Gusev crater and Meridiani Planum, Mars. <i>Journal of Geophysical Research</i> , 2006, 111, n/a-n/a.	3.3	63
61	Near Surface Stratigraphy and Regolith Production in Southwestern Elysium Planitia, Mars: Implications for Hesperian-Amazonian Terrains and the InSight Lander Mission. <i>Space Science Reviews</i> , 2017, 211, 147-190.	3.7	57
62	Assessment of Mars Pathfinder landing site predictions. <i>Journal of Geophysical Research</i> , 1999, 104, 8585-8594.	3.3	56
63	High concentrations of manganese and sulfur in deposits on Murray Ridge, Endeavour Crater, Mars. <i>American Mineralogist</i> , 2016, 101, 1389-1405.	0.9	55
64	Distribution of rocks on the Gusev Plains and on Husband Hill, Mars. <i>Geophysical Research Letters</i> , 2006, 33, .	1.5	50
65	The Color Cameras on the InSight Lander. <i>Space Science Reviews</i> , 2018, 214, 1.	3.7	50
66	Modeling of Ground Deformation and Shallow Surface Waves Generated by Martian Dust Devils and Perspectives for Near-Surface Structure Inversion. <i>Space Science Reviews</i> , 2017, 211, 501-524.	3.7	49
67	Impact-Seismic Investigations of the InSight Mission. <i>Space Science Reviews</i> , 2018, 214, 1.	3.7	48
68	InSight Constraints on the Global Character of the Martian Crust. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	1.5	45
69	Degradation of Victoria crater, Mars. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	44
70	The Marsquake Service: Securing Daily Analysis of SEIS Data and Building the Martian Seismicity Catalogue for InSight. <i>Space Science Reviews</i> , 2018, 214, 1.	3.7	41
71	Gone with the wind: Eolian erasure of the Mars Rover tracks. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	40
72	The shallow structure of Mars at the InSight landing site from inversion of ambient vibrations. <i>Nature Communications</i> , 2021, 12, 6756.	5.8	40

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73	Surface Properties of the Mars Science Laboratory Candidate Landing Sites: Characterization from Orbit and Predictions. <i>Space Science Reviews</i> , 2012, 170, 739-773.	3.7	37
74	Context of ancient aqueous environments on Mars from in situ geologic mapping at Endeavour Crater. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 538-569.	1.5	37
75	Preparing for InSight: An Invitation to Participate in a Blind Test for Martian Seismicity. <i>Seismological Research Letters</i> , 2017, 88, 1290-1302.	0.8	37
76	Martian surface properties from joint analysis of orbital, Earth-based, and surface observations. , 2008, , 468-498.		35
77	Presentâ€Day Mars' Seismicity Predicted From 3â€ Thermal Evolution Models of Interior Dynamics. <i>Geophysical Research Letters</i> , 2018, 45, 2580-2589.	1.5	35
78	Location and Setting of the Mars InSight Lander, Instruments, and Landing Site. <i>Earth and Space Science</i> , 2020, 7, e2020EA001248.	1.1	34
79	<i>In situ</i> observations of the physical properties of the Martian surface. , 2008, , 451-467.		33
80	Assessment of InSight Landing Site Predictions. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2020JE006502.	1.5	32
81	Rayleigh Wave Ellipticity Modeling and Inversion for Shallow Structure at the Proposed InSight Landing Site in Elysium Planitia, Mars. <i>Space Science Reviews</i> , 2017, 211, 339-382.	3.7	31
82	Centers of tectonic activity in the eastern hemisphere of Mars. <i>Icarus</i> , 2008, 195, 537-546.	1.1	30
83	Degradation of 100â€mâ€Scale Rocky Ejecta Craters at the InSight Landing Site on Mars and Implications for Surface Processes and Erosion Rates in the Hesperian and Amazonian. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 2732-2759.	1.5	27
84	MARTIAN CLIMATE:A Message from Warmer Times. <i>Science</i> , 1999, 283, 1470-1471.	6.0	25
85	Analysis of MOLA data for the Mars Exploration Rover landing sites. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	25
86	The size-frequency and areal distribution of rock clasts at the Spirit landing site, Gusev Crater, Mars. <i>Geophysical Research Letters</i> , 2005, 32, .	1.5	24
87	An Impact Crater Origin for the InSight Landing Site at Homestead Hollow, Mars: Implications for Near Surface Stratigraphy, Surface Processes, and Erosion Rates. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006333.	1.5	24
88	The InSight-HP3 mole on Mars: Lessons learned from attempts to penetrate to depth in the Martian soil. <i>Advances in Space Research</i> , 2022, 69, 3140-3163.	1.2	24
89	Vortexâ€Dominated Aeolian Activity at InSight's Landing Site, Part 1: Multiâ€Instrument Observations, Analysis, and Implications. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006757.	1.5	23
90	Thermal Conductivity of the Martian Soil at the InSight Landing Site From HP³ Active Heating Experiments. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2021JE006861.	1.5	23

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91	Image and Data Processing for InSight Lander Operations and Science. <i>Space Science Reviews</i> , 2019, 215, 1.	3.7	22
92	Soil Thermophysical Properties Near the InSight Lander Derived From 50 Sols of Radiometer Measurements. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2021JE006859.	1.5	22
93	Analysis of Local Slopes at the InSight Landing Site on Mars. <i>Space Science Reviews</i> , 2017, 211, 109-133.	3.7	21
94	Evidence for crustal seismic anisotropy at the InSight lander site. <i>Earth and Planetary Science Letters</i> , 2022, 593, 117654.	1.8	21
95	Degradation of <i>Homestead Hollow</i> at the <i>InSight</i> Landing Site Based on the Distribution and Properties of Local Deposits. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2019JE006350.	1.5	20
96	Vortex-Dominated Aeolian Activity at InSight's Landing Site, Part 2: Local Meteorology, Transport Dynamics, and Model Analysis. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006514.	1.5	19
97	Analyzing Low Frequency Seismic Events at Cerberus Fossae as Long Period Volcanic Quakes. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006518.	1.5	19
98	Characteristics of terrestrial basaltic rock populations: Implications for Mars lander and rover science and safety. <i>Icarus</i> , 2016, 274, 50-72.	1.1	17
99	In Situ and Orbital Stratigraphic Characterization of the InSight Landing Site—A Type Example of a Regolith-Covered Lava Plain on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	1.5	17
100	Recently Formed Crater Clusters on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2019, 124, 958-969.	1.5	15
101	Mars tectonics. , 2009, , 183-232.		13
102	Near Surface Properties of Martian Regolith Derived From InSight HP ³ RAD Temperature Observations During Phobos Transits. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL093542.	1.5	13
103	Rock Size-Frequency Distributions at the InSight Landing Site, Mars. <i>Earth and Space Science</i> , 2021, 8, .	1.1	12
104	Crater Morphometry on the Mafic Floor Unit at Jezero Crater, Mars: Comparisons to a Known Basaltic Lava Plain at the InSight Landing Site. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089607.	1.5	11
105	Influence of Body Waves, Instrumentation Resonances, and Prior Assumptions on Rayleigh Wave Ellipticity Inversion for Shallow Structure at the InSight Landing Site. <i>Space Science Reviews</i> , 2018, 214, 1.	3.7	10
106	Comparison of InSight <i>Homestead</i> Hollow to Hollows at the Spirit Landing Site. <i>Journal of Geophysical Research E: Planets</i> , 2020, 125, e2020JE006435.	1.5	10
107	Radar-Derived Properties of the InSight Landing Site in Western Elysium Planitia on Mars. <i>Space Science Reviews</i> , 2017, 211, 135-146.	3.7	9
108	Seismic constraints from a Mars impact experiment using InSight and Perseverance. <i>Nature Astronomy</i> , 2022, 6, 59-64.	4.2	9

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109	Event and conditions that produced the iron meteorite Block Island on Mars. Journal of Geophysical Research, 2010, 115, .	3.3	8
110	PLANETARY SCIENCE: The Surface of Mars: Not Just Dust and Rocks. Science, 2003, 300, 2043-2044.	6.0	7
111	Geology and Geochemistry of Noachian Bedrock and Alteration Events, Meridiani Planum, Mars: MER Opportunity Observations. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006915.	1.5	6
112	SURFACE ALTERATION FROM LANDING INSIGHT ON MARS AND ITS IMPLICATIONS FOR SHALLOW REGOLITH STRUCTURE. , 2019, , .		5
113	AN IMPACT ORIGIN FOR HOMESTEAD HOLLOW, THE LANDING LOCATION OF THE INSIGHT LANDER ON MARS. , 2019, , .		4
114	Degradation of Endeavour Crater Based on Orbital and Roverâ€Based Observations in Combination With Landscape Evolution Modeling. Journal of Geophysical Research E: Planets, 2019, 124, 1472-1494.	1.5	3
115	Finding SEIS North on Mars: Comparisons Between SEIS Sundial, Inertial and Imaging Measurements and Consequences for Seismic Analysis. Earth and Space Science, 2021, 8, e2020EA001286.	1.1	3
116	Color Properties at the Mars InSight Landing Site. Earth and Space Science, 2021, 8, e2020EA001336.	1.1	3
117	Degradation at the<i>InSight</i> Landing Site,<i>Homestead Hollow</i>, Mars: Constraints From Rock Heights and Shapes. Earth and Space Science, 2022, 9, .	1.1	3
118	GEOLOGY OF THE INSIGHT LANDING SITE, MARS. , 2019, , .		2
119	Questions to Heaven. Astronomy and Geophysics, 2021, 62, 6.22-6.25.	0.1	2
120	Rock size-frequency distributions on Mars and implications for Mars Exploration Rover landing safety and operations. , 2003, .		1
121	EOLIAN BEDFORMS IN THE REGION SURROUNDING THE INSIGHT LANDING SITE, MARS. , 2019, , .		1
122	AEOLIAN CHANGE DETECTION FROM THE INSIGHT LANDER. , 2019, , .		1
123	MODIFICATION OF HOMESTEAD HOLLOW AT THE INSIGHT LANDING SITE. , 2019, , .		1