

David Crown

List of Publications by Year in descending order

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95
papers

6,725
citations

81900

39
h-index

60623

81
g-index

96
all docs

96
docs citations

96
times ranked

3189
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	Geologic history of Mars. <i>Earth and Planetary Science Letters</i> , 2010, 294, 185-203.	4.4	538
3	Mars: Review and analysis of volcanic eruption theory and relationships to observed landforms. <i>Reviews of Geophysics</i> , 1994, 32, 221.	23.0	313
4	Kilometer-scale roughness of Mars: Results from MOLA data analysis. <i>Journal of Geophysical Research</i> , 2000, 105, 26695-26711.	3.3	313
5	Northern lowlands of Mars: Evidence for widespread volcanic flooding and tectonic deformation in the Hesperian Period. <i>Journal of Geophysical Research</i> , 2002, 107, 3-1.	3.3	238
6	Morphologic and topographic analyses of debris aprons in the eastern Hellas region, Mars. <i>Icarus</i> , 2003, 163, 46-65.	2.5	154
7	Northern mid-latitude glaciation in the Late Amazonian period of Mars: Criteria for the recognition of debris-covered glacier and valley glacier landsystem deposits. <i>Earth and Planetary Science Letters</i> , 2010, 294, 306-320.	4.4	154
8	Comparison of "warm and wet" and "cold and icy" scenarios for early Mars in a 3D climate model. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 1201-1219.	3.6	153
9	Volcanic geology of Tyrrhena Patera, Mars. <i>Journal of Geophysical Research</i> , 1990, 95, 7133-7149.	3.3	152
10	Martian gullies in the southern mid-latitudes of Mars: Evidence for climate-controlled formation of young fluvial features based upon local and global topography. <i>Icarus</i> , 2007, 188, 315-323.	2.5	147
11	Generation of recent massive water floods at Cerberus Fossae, Mars by dike emplacement, cryospheric cracking, and confined aquifer groundwater release. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	143
12	Origin of the Medusae Fossae Formation, Mars: Insights from a synoptic approach. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	141
13	Volcanic geology of Hadriaca Patera and the eastern Hellas region of Mars. <i>Journal of Geophysical Research</i> , 1993, 98, 3431-3451.	3.3	136
14	Hollows on Mercury: MESSENGER Evidence for Geologically Recent Volatile-Related Activity. <i>Science</i> , 2011, 333, 1856-1859.	12.6	136
15	Mars: Thickness of the lithosphere from the tectonic response to volcanic loads. <i>Reviews of Geophysics</i> , 1985, 23, 61-92.	23.0	115
16	Spectral properties of plagioclase and pyroxene mixtures and the interpretation of lunar soil spectra. <i>Icarus</i> , 1987, 72, 492-506.	2.5	111
17	Modification of the dichotomy boundary on Mars by Amazonian mid-latitude regional glaciation. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	109
18	Geologic evolution of the east rim of the Hellas basin Mars. <i>Icarus</i> , 1992, 100, 1-25.	2.5	106

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19	Lunar floor-fractured craters: Classification, distribution, origin and implications for magmatism and shallow crustal structure. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	99
20	Calderas on Mars: characteristics, structure, and associated flank deformation. <i>Geological Society Special Publication</i> , 1996, 110, 307-348.	1.3	92
21	Glaciation in the Late Noachian Icy Highlands: Ice accumulation, distribution, flow rates, basal melting, and top-down melting rates and patterns. <i>Planetary and Space Science</i> , 2015, 106, 82-98.	1.7	86
22	The climate history of early Mars: insights from the Antarctic McMurdo Dry Valleys hydrologic system. <i>Antarctic Science</i> , 2014, 26, 774-800.	0.9	84
23	The Circum-Hellas Volcanic Province, Mars: Overview. <i>Planetary and Space Science</i> , 2009, 57, 895-916.	1.7	83
24	Sequestered glacial ice contribution to the global Martian water budget: Geometric constraints on the volume of remnant, midlatitude debris-covered glaciers. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 2188-2196.	3.6	78
25	Lunar floor-fractured craters as magmatic intrusions: Geometry, modes of emplacement, associated tectonic and volcanic features, and implications for gravity anomalies. <i>Icarus</i> , 2015, 248, 424-447.	2.5	71
26	The role of arcuate ridges and gullies in the degradation of craters in the Newton Basin region of Mars. <i>Icarus</i> , 2005, 178, 465-486.	2.5	68
27	Volcanism on Io: New insights from global geologic mapping. <i>Icarus</i> , 2011, 214, 91-112.	2.5	67
28	A recent ice age on Mars: Evidence for climate oscillations from regional layering in mid-latitude mantling deposits. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	63
29	Styles and timing of volatile-driven activity in the eastern Hellas region of Mars. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	56
30	Lunar floor-fractured craters: Evidence for viscous relaxation of crater topography. <i>Journal of Geophysical Research</i> , 1981, 86, 9537-9552.	3.3	55
31	Heat transfer in volcano-ice interactions on Mars: synthesis of environments and implications for processes and landforms. <i>Annals of Glaciology</i> , 2007, 45, 1-13.	1.4	54
32	Surface characteristics and degradational history of debris aprons in the Tempe Terra/Mareotis fossae region of Mars. <i>Icarus</i> , 2005, 179, 24-42.	2.5	51
33	Block size distributions on silicic lava flow surfaces: Implications for emplacement conditions. <i>Bulletin of the Geological Society of America</i> , 1998, 110, 1258-1267.	3.3	50
34	Evolution of Occator Crater on (1) Ceres. <i>Astronomical Journal</i> , 2017, 153, 112.	4.7	50
35	Pitted terrains on (1) Ceres and implications for shallow subsurface volatile distribution. <i>Geophysical Research Letters</i> , 2017, 44, 6570-6578.	4.0	48
36	Tyrhena Patera: Geologic history derived from <i>Mars Express</i> High Resolution Stereo Camera. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	42

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37	Degradation of mid-latitude craters on Mars. <i>Icarus</i> , 2009, 200, 77-95.	2.5	42
38	Heat transfer and melting in subglacial basaltic volcanic eruptions: implications for volcanic deposit morphology and meltwater volumes. <i>Geological Society Special Publication</i> , 2002, 202, 5-26.	1.3	40
39	Volcano-ice interactions in the Arsia Mons tropical mountain glacier deposits. <i>Icarus</i> , 2014, 237, 315-339.	2.5	40
40	Pahoehoe toe dimensions, morphology, and branching relationships at Mauna Ulu, Kilauea Volcano, Hawai'i. <i>Bulletin of Volcanology</i> , 1999, 61, 288-305.	3.0	39
41	Mars: a review and synthesis of general environments and geological settings of magma-H ₂ O interactions. <i>Geological Society Special Publication</i> , 2002, 202, 27-57.	1.3	39
42	Hadriaca Patera: Insights into its volcanic history from Mars Express High Resolution Stereo Camera. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	38
43	The Martian hydrologic system: Multiple recharge centers at large volcanic provinces and the contribution of snowmelt to outflow channel activity. <i>Planetary and Space Science</i> , 2007, 55, 315-332.	1.7	38
44	Alba Patera, Mars: Topography, structure, and evolution of a unique late Hesperian-early Amazonian shield volcano. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	37
45	Formation of a terraced fan deposit in Coprates Catena, Mars. <i>Icarus</i> , 2006, 184, 436-451.	2.5	33
46	Formation and mantling ages of lobate debris aprons on Mars: Insights from categorized crater counts. <i>Planetary and Space Science</i> , 2015, 111, 83-99.	1.7	33
47	A Global Inventory of Ice-Related Morphological Features on Dwarf Planet Ceres: Implications for the Evolution and Current State of the Cryosphere. <i>Journal of Geophysical Research E: Planets</i> , 2019, 124, 1650-1689.	3.6	33
48	Surface unit characterization of the Mauna Ulu flow field, Kilauea Volcano, Hawai'i, using integrated field and remote sensing analyses. <i>Journal of Volcanology and Geothermal Research</i> , 2004, 135, 169-193.	2.1	30
49	The unique radar properties of silicic lava domes. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	28
50	Morphologic and thermophysical characteristics of lava flows southwest of Arsia Mons, Mars. <i>Journal of Volcanology and Geothermal Research</i> , 2017, 342, 13-28.	2.1	28
51	Extension and uplift at Alba Patera, Mars: Insights from MOLA observations and loading models. <i>Journal of Geophysical Research</i> , 2001, 106, 23769-23809.	3.3	27
52	Headward growth of chasmata by volatile outbursts, collapse, and drainage: Evidence from Ganges chaos, Mars. <i>Geophysical Research Letters</i> , 2006, 33, n/a-n/a.	4.0	27
53	Sources of water for the outflow channels on Mars: Implications of the Late Noachian icey highlands-model for melting and groundwater recharge on the Tharsis rise. <i>Planetary and Space Science</i> , 2015, 108, 54-65.	1.7	26
54	The geology of the occator quadrangle of dwarf planet Ceres: Floor-fractured craters and other geomorphic evidence of cryomagmatism. <i>Icarus</i> , 2018, 316, 128-139.	2.5	26

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55	Mapping the structure and depth of lava tubes using ground penetrating radar. <i>Geophysical Research Letters</i> , 2005, 32, .	4.0	25
56	Firn densification in a Late Noachian "icy highlands" Mars: Implications for ice sheet evolution and thermal response. <i>Icarus</i> , 2015, 253, 243-255.	2.5	25
57	Morphology, stratigraphy, and surface roughness properties of Venesian lava flow fields. <i>Journal of Geophysical Research</i> , 2002, 107, 9-1.	3.3	24
58	Geologic mapping of the Urvara and Yalode Quadrangles of Ceres. <i>Icarus</i> , 2018, 316, 167-190.	2.5	23
59	Observations of industrial sulfur flows: Implications for Io. <i>Icarus</i> , 1990, 84, 374-402.	2.5	21
60	Mantle and gully associations along the walls of Dao and Harmakhis Valles, Mars. <i>Geophysical Research Letters</i> , 2005, 32, .	4.0	21
61	Late Noachian fluvial erosion on Mars: Cumulative water volumes required to carve the valley networks and grain size of bed-sediment. <i>Planetary and Space Science</i> , 2015, 117, 429-435.	1.7	21
62	Lava heating and loading of ice sheets on early Mars: Predictions for meltwater generation, groundwater recharge, and resulting landforms. <i>Icarus</i> , 2016, 271, 237-264.	2.5	20
63	Downflow width behavior of Martian and terrestrial lava flows. <i>Journal of Geophysical Research</i> , 1999, 104, 8473-8488.	3.3	18
64	Millochau crater, Mars: Infilling and erosion of an ancient highland impact crater. <i>Icarus</i> , 2005, 175, 335-359.	2.5	18
65	Watershed modeling in the Tyrrhena Terra region of Mars. <i>Journal of Geophysical Research</i> , 2010, 115, .	3.3	18
66	Geologic mapping of the Amirani "Gish Bar region of Io: Implications for the global geologic mapping of Io. <i>Icarus</i> , 2007, 186, 204-217.	2.5	17
67	Secondary chaotic terrain formation in the higher outflow channels of southern circum-Chryse, Mars. <i>Icarus</i> , 2011, 213, 150-194.	2.5	17
68	Large-scale lava-ice interactions on Mars: Investigating its role during Late Amazonian Central Elysium Planitia volcanism and the formation of Athabasca Valles. <i>Planetary and Space Science</i> , 2018, 158, 96-109.	1.7	17
69	Geological mapping of the Ac-10 Rongo Quadrangle of Ceres. <i>Icarus</i> , 2018, 316, 140-153.	2.5	16
70	Glaciovolcanism in the Tharsis volcanic province of Mars: Implications for regional geology and hydrology. <i>Planetary and Space Science</i> , 2019, 169, 45-69.	1.7	13
71	Formation of outflow channels on Mars: Testing the origin of Reull Vallis in Hesperia Planum by large-scale lava-ice interactions and top-down melting. <i>Icarus</i> , 2018, 305, 56-79.	2.5	12
72	Zumba crater, Daedalia Planum, Mars: Geologic investigation of a young, rayed impact crater and its secondary field. <i>Icarus</i> , 2016, 269, 75-90.	2.5	10

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73	What can thermal infrared remote sensing of terrestrial volcanoes tell us about processes past and present on Mars?. <i>Journal of Volcanology and Geothermal Research</i> , 2016, 311, 198-216.	2.1	10
74	Volcanism on Mars. , 2015, , 717-728.		9
75	Ice-rich landforms of the southern mid-latitudes of Mars: A case study in Nereidum Montes. <i>Icarus</i> , 2021, 355, 114170.	2.5	9
76	Assessing the formation of valley networks on a cold early Mars: Predictions for erosion rates and channel morphology. <i>Icarus</i> , 2019, 321, 216-231.	2.5	8
77	The Oldest Highlands of Mars May Be Massive Dust Fallout Deposits. <i>Scientific Reports</i> , 2020, 10, 10347.	3.3	7
78	The geology of the Nawish quadrangle of Ceres: The rim of an ancient basin. <i>Icarus</i> , 2018, 316, 114-127.	2.5	6
79	Geology of the northeastern flank of Apollinaris Mons, Mars: Constraints on the erosional history from morphology, topography, and crater populations. <i>Icarus</i> , 2019, 333, 385-403.	2.5	6
80	A simplified two-component model for the lateral growth of pahoehoe lobes. <i>Journal of Volcanology and Geothermal Research</i> , 2006, 157, 331-342.	2.1	5
81	Satellite-Based Thermophysical Analysis of Volcaniclastic Deposits: A Terrestrial Analog for Mantled Lava Flows on Mars. <i>Remote Sensing</i> , 2016, 8, 152.	4.0	5
82	The Unusual Thermophysical and Surface Properties of the Daedalia Planum Lava Flows. <i>Journal of Geophysical Research E: Planets</i> , 2019, 124, 1945-1959.	3.6	5
83	Martian volcanism: Current state of knowledge and known unknowns. <i>Chemie Der Erde</i> , 2022, 82, 125886.	2.0	3
84	Distribution and Morphology of Lava Tube Systems on the Western Flank of Alba Mons, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	3.6	3
85	Volcanic Caves as Priority Sites for Astrobiology Science. , 2021, 53, .		2
86	UPDATE ON THE GLOBAL GEOLOGIC MAP OF CERES FROM NASAâ€™S DAWN MISSION. , 2016, , .		2
87	THE HAMO-BASED GLOBAL GEOLOGIC MAP OF CERES FROM NASAâ€™S DAWN MISSION. , 2017, , .		2
88	Planetology: Sulphur and volcanism on Io. <i>Nature</i> , 1986, 322, 593-594.	27.8	1
89	Color and Morphology of Lava Flows on Io. <i>Icarus</i> , 2000, 148, 407-418.	2.5	0
90	The Circum-Hellas Province. , 2021, , 92-120.		0

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91	The Tharsis Province. , 2021, , 36-68.		0
92	Areography. , 2021, , 20-35.		0
93	The Importance of Field Studies for Closing Key Knowledge Gaps in Planetary Science. , 2021, 53, .		0
94	Planetary Geologic Mapping. , 2021, 53, .		0
95	Igneous composition. , 2021, , 162-189.		0