Catherine L Johnson

List of Publications by Year
in descending order

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83 papers	7,451 citations	66343 42 h-index	64796 79 g-index
84 all docs	84 docs citations	84 times ranked	4431 citing authors

#	Article	IF	Citations
1	The Lunar Geophysical Network Landing Sites Science Rationale. Planetary Science Journal, 2022, 3, 40.	3.6	7
2	Science Goals and Mission Concept for a Landed Investigation of Mercury. Planetary Science Journal, 2022, 3, 68.	3.6	2
3	Investigation of magnetic field signals during vortex-induced pressure drops at InSight. Planetary and Space Science, 2022, 217, 105487.	1.7	3
4	InSight Constraints on the Global Character of the Martian Crust. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	45
5	The Martian Crustal Magnetic Field. Frontiers in Astronomy and Space Sciences, 2022, 9, .	2.8	9
6	Geological and geophysical constraints on Itokawaâ€™s past spin periods. Icarus, 2021, 357, 114265.	2.5	2
7	Thickness and structure of the martian crust from InSight seismic data. Science, 2021, 373, 438-443.	12.6	140
8	Mercury's Northern Rise Coreâ€Field Magnetic Anomaly. Geophysical Research Letters, 2021, 48, e2021GL094695.	4.0	9
9	Thermal evolution of Mercury with a volcanic heat-pipe flux: Reconciling early volcanism, tectonism, and magnetism. Science Advances, 2021, 7, eabh2482.	10.3	5
10	Bifurcated Current Sheets in Mercuryâ€™s Magnetotail: Observations and Implications. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029417.	2.4	1
11	Fault Structure and Origin of Compressional Tectonic Features Within the Smooth Plains on Mercury. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006183.	3.6	7
12	Observations of Extreme ICME Ram Pressure Compressing Mercuryâ€™s Dayside Magnetosphere to the Surface. Astrophysical Journal, 2020, 889, 184.	4.5	22
13	The atmosphere of Mars as observed by InSight. Nature Geoscience, 2020, 13, 190-198.	12.9	161
14	Crustal and time-varying magnetic fields at the InSight landing site on Mars. Nature Geoscience, 2020, 13, 199-204.	12.9	68
15	Dependence of the Interplanetary Magnetic Field on Heliocentric Distance at 0.3â€“1.7ÂAU: A Sixâ€Spacecraft Study. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027139.	2.4	4
16	Initial results from the InSight mission on Mars. Nature Geoscience, 2020, 13, 183-189.	12.9	274
17	Transitional impact craters on the Moon: Insight into the effect of target lithology on the impact cratering process. Meteoritics and Planetary Science, 2019, 54, 573-591.	1.6	16
18	Modeling Windâ€Driven Ionospheric Dynamo Currents at Mars: Expectations for InSight Magnetic Field Measurements. Geophysical Research Letters, 2019, 46, 5083-5091.	4.0	20

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19	Revolutionizing Our Understanding of the Solar System via Sample Return from Mercury. Space Science Reviews, 2019, 215, 1.	8.1	10
20	Distribution of Areal Strain on Mercury: Insights Into the Interaction of Volcanism and Global Contraction. Geophysical Research Letters, 2019, 46, 608-615.	4.0	3
21	The thickness of radar-bright deposits in Mercury's northern hemisphere from individual Mercury Laser Altimeter tracks. Icarus, 2019, 323, 40-45.	2.5	10
22	Shallow seismic activity and young thrust faults on the Moon. Nature Geoscience, 2019, 12, 411-417.	12.9	64
23	Mercury: Inside the Iron Planet. Elements, 2019, 15, 21-26.	0.5	6
24	The global surface roughness of 25143 Itokawa. Icarus, 2019, 325, 141-152.	2.5	13
25	Mercuryâ€™s Internal Magnetic Field. , 2018, , 114-143.		12
26	Structure and Configuration of Mercuryâ€™s Magnetosphere. , 2018, , 430-460.		7
27	The Mars 2020 Candidate Landing Sites: A Magnetic Field Perspective. Earth and Space Science, 2018, 5, 410-424.	2.6	12
28	Statistical study of ICME effects on Mercury's magnetospheric boundaries and northern cusp region from MESSENGER. Journal of Geophysical Research: Space Physics, 2017, 122, 4960-4975.	2.4	24
29	A Dynamic Model of Mercury's Magnetospheric Magnetic Field. Geophysical Research Letters, 2017, 44, 10147-10154.	4.0	30
30	MESSENGER observations of induced magnetic fields in Mercury's core. Geophysical Research Letters, 2016, 43, 2436-2444.	4.0	51
31	Morphometry of impact craters on Mercury from MESSENGER altimetry and imaging. Icarus, 2016, 271, 180-193.	2.5	37
32	A whole new Mercury: MESSENGER reveals a dynamic planet at the last frontier of the inner solar system. Journal of Geophysical Research E: Planets, 2016, 121, 2349-2362.	3.6	13
33	The lowâ€degree shape of Mercury. Geophysical Research Letters, 2015, 42, 6951-6958.	4.0	36
34	Improving solar wind modeling at Mercury: Incorporating transient solar phenomena into the WSAâ€ENLIL model with the Cone extension. Journal of Geophysical Research: Space Physics, 2015, 120, 5667-5685.	2.4	16
35	Modular model for Mercury's magnetospheric magnetic field confined within the average observed magnetopause. Journal of Geophysical Research: Space Physics, 2015, 120, 4503-4518.	2.4	59
36	Low-altitude magnetic field measurements by MESSENGER reveal Mercuryâ€™s ancient crustal field. Science, 2015, 348, 892-895.	12.6	89

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37	Constraints on the secular variation of Mercury's magnetic field from the combined analysis of MESSENGER and Mariner 10 data. Geophysical Research Letters, 2014, 41, 6627-6634.	4.0	23
38	Mercuryâ€™s Weather-Beaten Surface: Understanding Mercury in the Context of Lunar and Asteroidal Space Weathering Studies. Space Science Reviews, 2014, 181, 121-214.	8.1	108
39	Steadyâ€state fieldâ€aligned currents at Mercury. Geophysical Research Letters, 2014, 41, 7444-7452.	4.0	55
40	Mercury's surface magnetic field determined from protonâ€reflection magnetometry. Geophysical Research Letters, 2014, 41, 4463-4470.	4.0	39
41	MESSENGER observations of Mercury's dayside magnetosphere under extreme solar wind conditions. Journal of Geophysical Research: Space Physics, 2014, 119, 8087-8116.	2.4	125
42	Solar wind forcing at Mercury: WSAâ€ENLIL model results. Journal of Geophysical Research: Space Physics, 2013, 118, 45-57.	2.4	46
43	Mercury's magnetopause and bow shock from MESSENGER Magnetometer observations. Journal of Geophysical Research: Space Physics, 2013, 118, 2213-2227.	2.4	182
44	The curious case of Mercury's internal structure. Journal of Geophysical Research E: Planets, 2013, 118, 1204-1220.	3.6	210
45	A magnetic disturbance index for Mercury's magnetic field derived from MESSENGER Magnetometer data. Geochemistry, Geophysics, Geosystems, 2013, 14, 3875-3886.	2.5	39
46	Topographic characterization of lunar complex craters. Geophysical Research Letters, 2013, 40, 38-42.	4.0	48
47	Gravity Field and Internal Structure of Mercury from MESSENGER. Science, 2012, 336, 214-217.	12.6	305
48	Topography of the Northern Hemisphere of Mercury from MESSENGER Laser Altimetry. Science, 2012, 336, 217-220.	12.6	223
49	MESSENGER observations of a fluxâ€transferâ€event shower at Mercury. Journal of Geophysical Research, 2012, 117, .	3.3	85
50	Characteristics of the plasma distribution in Mercury's equatorial magnetosphere derived from MESSENGER Magnetometer observations. Journal of Geophysical Research, 2012, 117, .	3.3	23
51	Observations of Mercury's northern cusp region with MESSENGER's Magnetometer. Geophysical Research Letters, 2012, 39, .	4.0	86
52	Lowâ€degree structure in Mercury's planetary magnetic field. Journal of Geophysical Research, 2012, 117, .	3.3	131
53	MESSENGER observations of Mercury's magnetic field structure. Journal of Geophysical Research, 2012, 117, .	3.3	109
54	Farside explorer: unique science from a mission to the farside of the moon. Experimental Astronomy, 2012, 33, 529-585.	3.7	52

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55	Plasma pressure in Mercury's equatorial magnetosphere derived from MESSENGER Magnetometer observations. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	38
56	The Global Magnetic Field of Mercury from MESSENGER Orbital Observations. Science, 2011, 333, 1859-1862.	12.6	301
57	Mercuryâ€™s magnetospheric magnetic field after the first two MESSENGER flybys. Icarus, 2010, 209, 23-39.	2.5	110
58	The Magnetic Field of Mercury. Space Science Reviews, 2010, 152, 307-339.	8.1	94
59	Observations and Models of the Long-Term Evolution ofÂEarthâ€™s Magnetic Field. Space Science Reviews, 2010, 155, 337-370.	8.1	71
60	Accommodation of lithospheric shortening on Mercury from altimetric profiles of ridges and lobate scarps measured during MESSENGER flybys 1 and 2. Icarus, 2010, 209, 247-255.	2.5	29
61	The equatorial shape and gravity field of Mercury from MESSENGER flybys 1 and 2. Icarus, 2010, 209, 88-100.	2.5	43
62	Observations and Models of the Long-Term Evolution ofÂEarthâ€™s Magnetic Field. Space Sciences Series of ISSI, 2010, , 337-370.	0.0	0
63	Lunar tectonics. , 2009, , 121-182.		13
64	Modeling Mercury's internal magnetic field with smooth inversions. Earth and Planetary Science Letters, 2009, 285, 328-339.	4.4	41
65	Moon meteoritic seismic hum: Steady state prediction. Journal of Geophysical Research, 2009, 114, .	3.3	53
66	The Magnetic Field of Mercury. Space Sciences Series of ISSI, 2009, , 307-339.	0.0	2
67	The Structure of Mercury's Magnetic Field from MESSENGER's First Flyby. Science, 2008, 321, 82-85.	12.6	194
68	A magmatic loading model for coronae on Venus. Journal of Geophysical Research, 2007, 112, .	3.3	37
69	New Perspectives on Ancient Mars. Science, 2005, 307, 1214-1220.	12.6	265
70	Evolution of the Tharsis region of Mars: insights from magnetic field observations. Earth and Planetary Science Letters, 2005, 230, 241-254.	4.4	81
71	Paleomagnetism of the southwestern U.S.A. recorded by 0-5 Ma igneous rocks. Geochemistry, Geophysics, Geosystems, 2003, 4, .	2.5	51
72	GEOPHYSICS: Mapping Long-Term Changes in Earth's Magnetic Field. Science, 2003, 300, 2044-2045.	12.6	19

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73	Mars Orbiter Laser Altimeter: Experiment summary after the first year of global mapping of Mars. Journal of Geophysical Research, 2001, 106, 23689-23722.	3.3	1,344
74	Global geomagnetic field models for the past 3000 years: transient or permanent flux lobes?. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2000, 358, 991-1008.	3.4	95
75	Internal Structure and Early Thermal Evolution of Mars from Mars Global Surveyor Topography and Gravity. Science, 2000, 287, 1788-1793.	12.6	518
76	Anisotropic paleosecular variation models: implications for geomagnetic field observables. Physics of the Earth and Planetary Interiors, 1999, 115, 35-51.	1.9	76
77	40Ar/39Ar ages and paleomagnetism of SÃ£o Miguel lavas, Azores. Earth and Planetary Science Letters, 1998, 160, 637-649.	4.4	100
78	Persistently anomalous Pacific geomagnetic fields. Geophysical Research Letters, 1998, 25, 1011-1014.	4.0	55
79	Observations of the North Polar Region of Mars from the Mars Orbiter Laser Altimeter. , 1998, 282, 2053-2060.		231
80	The time-averaged geomagnetic field: global and regional biases for 0-5 Ma. Geophysical Journal International, 1997, 131, 643-666.	2.4	151
81	Driving Forces for Limited Tectonics on Venus. Icarus, 1997, 129, 232-244.	2.5	49
82	The time-averaged geomagnetic field as recorded by lava flows over the past 5 Myr. Geophysical Journal International, 1995, 122, 489-519.	2.4	146
83	Lithospheric flexure on Venus. Geophysical Journal International, 1994, 119, 627-647.	2.4	59