Catherine Johnson

List of Publications by Year
in descending order

113 papers	8,326 citations	50276 46 h-index	46799 89 g-index
118 all docs	118 docs citations	118 times ranked	4685 citing authors

#	Article	IF	Citations
1	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
2	Internal Structure and Early Thermal Evolution of Mars from Mars Global Surveyor Topography and Gravity. Science, 2000, 287, 1788-1793.	12.6	518
3	Gravity Field and Internal Structure of Mercury from MESSENGER. Science, 2012, 336, 214-217.	12.6	305
4	The Global Magnetic Field of Mercury from MESSENGER Orbital Observations. Science, 2011, 333, 1859-1862.	12.6	301
5	Initial results from the InSight mission on Mars. Nature Geoscience, 2020, 13, 183-189.	12.9	274
6	SEIS: Insightâ€™s Seismic Experiment for Internal Structure of Mars. Space Science Reviews, 2019, 215, 12.	8.1	238
7	Topography of the Northern Hemisphere of Mercury from MESSENGER Laser Altimetry. Science, 2012, 336, 217-220.	12.6	223
8	The curious case of Mercury's internal structure. Journal of Geophysical Research E: Planets, 2013, 118, 1204-1220.	3.6	210
9	Constraints on the shallow elastic and anelastic structure of Mars from InSight seismic data. Nature Geoscience, 2020, 13, 213-220.	12.9	207
10	The Structure of Mercury's Magnetic Field from MESSENGER's First Flyby. Science, 2008, 321, 82-85.	12.6	194
11	Mercury's magnetopause and bow shock from MESSENGER Magnetometer observations. Journal of Geophysical Research: Space Physics, 2013, 118, 2213-2227.	2.4	182
12	Shape of (101955) Bennu indicative of a rubble pile with internal stiffness. Nature Geoscience, 2019, 12, 247-252.	12.9	179
13	The OSIRISâ€REx target asteroid (101955) Bennu: Constraints on its physical, geological, and dynamical nature from astronomical observations. Meteoritics and Planetary Science, 2015, 50, 834-849.	1.6	168
14	The atmosphere of Mars as observed by InSight. Nature Geoscience, 2020, 13, 190-198.	12.9	161
15	Thickness and structure of the martian crust from InSight seismic data. Science, 2021, 373, 438-443.	12.6	140
16	The dynamic geophysical environment of (101955) Bennu based on OSIRIS-REx measurements. Nature Astronomy, 2019, 3, 352-361.	10.1	132
17	Lowâ€degree structure in Mercury's planetary magnetic field. Journal of Geophysical Research, 2012, 117, .	3.3	131
18	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

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19	Mercuryâ€™s magnetospheric magnetic field after the first two MESSENGER flybys. Icarus, 2010, 209, 23-39.	2.5	110
20	MESSENGER observations of Mercury's magnetic field structure. Journal of Geophysical Research, 2012, 117, .	3.3	109
21	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
22	InSight Auxiliary Payload Sensor Suite (APSS). Space Science Reviews, 2019, 215, 1.	8.1	104
23	The OSIRIS-REx Laser Altimeter (OLA) Investigation and Instrument. Space Science Reviews, 2017, 212, 899-924.	8.1	97
24	Low-altitude magnetic field measurements by MESSENGER reveal Mercuryâ€™s ancient crustal field. Science, 2015, 348, 892-895.	12.6	89
25	Observations of Mercury's northern cusp region with MESSENGER's Magnetometer. Geophysical Research Letters, 2012, 39, .	4.0	86
26	MESSENGER observations of a fluxâ€transferâ€event shower at Mercury. Journal of Geophysical Research, 2012, 117, .	3.3	85
27	Pre-mission InSights on the Interior of Mars. Space Science Reviews, 2019, 215, 1.	8.1	85
28	Features on Venus generated by plate boundary processes. Journal of Geophysical Research, 1992, 97, 13533-13544.	3.3	82
29	Evolution of the Tharsis region of Mars: insights from magnetic field observations. Earth and Planetary Science Letters, 2005, 230, 241-254.	4.4	81
30	Digital terrain mapping by the OSIRIS-REx mission. Planetary and Space Science, 2020, 180, 104764.	1.7	81
31	PSV10: A Global Data Set for 0â€“10 Ma Timeâ€Averaged Field and Paleosecular Variation Studies. Geochemistry, Geophysics, Geosystems, 2018, 19, 1533-1558.	2.5	70
32	Crustal and time-varying magnetic fields at the InSight landing site on Mars. Nature Geoscience, 2020, 13, 199-204.	12.9	68
33	Shallow seismic activity and young thrust faults on the Moon. Nature Geoscience, 2019, 12, 411-417.	12.9	64
34	Paleomagnetic field properties at high southern latitude. Geochemistry, Geophysics, Geosystems, 2009, 10, .	2.5	63
35	Timing of the martian dynamo: New constraints for a core field 4.5 and 3.7 Ga ago. Science Advances, 2020, 6, eaba0513.	10.3	62
36	Lunar paleointensity measurements: Implications for lunar magnetic evolution. Physics of the Earth and Planetary Interiors, 2008, 168, 71-87.	1.9	60

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37	Lithospheric flexure on Venus. Geophysical Journal International, 1994, 119, 627-647.	2.4	59
38	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
39	Hemispherical differences in the shape and topography of asteroid (101955) Bennu. Science Advances, 2020, 6, .	10.3	57
40	A conceptual model for the relationship between coronae and large-scale mantle dynamics on Venus. Journal of Geophysical Research, 2003, 108, .	3.3	56
41	Persistently anomalous Pacific geomagnetic fields. Geophysical Research Letters, 1998, 25, 1011-1014.	4.0	55
42	Steadyâ€state fieldâ€aligned currents at Mercury. Geophysical Research Letters, 2014, 41, 7444-7452.	4.0	55
43	Moon meteoritic seismic hum: Steady state prediction. Journal of Geophysical Research, 2009, 114, .	3.3	53
44	Paleomagnetism of the southwestern U.S.A. recorded by 0-5 Ma igneous rocks. Geochemistry, Geophysics, Geosystems, 2003, 4, .	2.5	51
45	MESSENGER observations of induced magnetic fields in Mercury's core. Geophysical Research Letters, 2016, 43, 2436-2444.	4.0	51
46	Heterogeneous mass distribution of the rubble-pile asteroid (101955) Bennu. Science Advances, 2020, 6, .	10.3	50
47	Topographic characterization of lunar complex craters. Geophysical Research Letters, 2013, 40, 38-42.	4.0	48
48	Solar wind forcing at Mercury: WSAâ€ENLIL model results. Journal of Geophysical Research: Space Physics, 2013, 118, 45-57.	2.4	46
49	InSight Constraints on the Global Character of the Martian Crust. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	45
50	Temporal and spatial properties of some deep moonquake clusters. Journal of Geophysical Research, 2007, 112, .	3.3	39
51	A magnetic disturbance index for Mercury's magnetic field derived from MESSENGER Magnetometer data. Geochemistry, Geophysics, Geosystems, 2013, 14, 3875-3886.	2.5	39
52	Mercury's surface magnetic field determined from protonâ€reflection magnetometry. Geophysical Research Letters, 2014, 41, 4463-4470.	4.0	39
53	Plasma pressure in Mercury's equatorial magnetosphere derived from MESSENGER Magnetometer observations. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	38
54	A magmatic loading model for coronae on Venus. Journal of Geophysical Research, 2007, 112, .	3.3	37

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55	Planetary Seismology. , 2015, , 65-120.		37
56	New events discovered in the Apollo lunar seismic data. Journal of Geophysical Research, 2005, 110, .	3.3	36
57	The lowâ€degree shape of Mercury. Geophysical Research Letters, 2015, 42, 6951-6958.	4.0	36
58	Global shape modeling using the OSIRIS-REx scanning Laser Altimeter. Planetary and Space Science, 2019, 177, 104688.	1.7	32
59	Investigation of scattering in lunar seismic coda. Journal of Geophysical Research, 2012, 117, .	3.3	31
60	A Dynamic Model of Mercury's Magnetospheric Magnetic Field. Geophysical Research Letters, 2017, 44, 10147-10154.	4.0	30
61	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
62	Disk-resolved photometric modeling and properties of asteroid (101955) Bennu. Icarus, 2021, 357, 113724.	2.5	29
63	Paleosecular variation and the average geomagnetic field at Â±20Â° latitude. Geochemistry, Geophysics, Geosystems, 2006, 7, n/a-n/a.	2.5	28
64	Constraints on deep moonquake focal mechanisms through analyses of tidal stress. Journal of Geophysical Research, 2009, 114, .	3.3	28
65	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
66	Characteristics of the plasma distribution in Mercury's equatorial magnetosphere derived from MESSENGER Magnetometer observations. Journal of Geophysical Research, 2012, 117, .	3.3	23
67	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
68	Vortexâ€Dominated Aeolian Activity at InSight's Landing Site, Part 1: Multiâ€Instrument Observations, Analysis, and Implications. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006757.	3.6	23
69	Observations of Extreme ICME Ram Pressure Compressing Mercuryâ€™s Dayside Magnetosphere to the Surface. Astrophysical Journal, 2020, 889, 184.	4.5	22
70	A New Magnetic Field Activity Proxy for Mars From MAVEN Data. Geophysical Research Letters, 2018, 45, 5899-5907.	4.0	20
71	Modeling Windâ€Driven Ionospheric Dynamo Currents at Mars: Expectations for InSight Magnetic Field Measurements. Geophysical Research Letters, 2019, 46, 5083-5091.	4.0	20
72	The Morphometry of Impact Craters on Bennu. Geophysical Research Letters, 2020, 47, e2020GL089672.	4.0	20

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73	The Shape of Mercury's Magnetopause: The Picture From MESSENGER Magnetometer Observations and Future Prospects for BepiColombo. Journal of Geophysical Research: Space Physics, 2020, 125, e2019JA027544.	2.4	20
74	Low surface strength of the asteroid Bennu inferred from impact ejecta deposit. Nature Geoscience, 2022, 15, 447-452.	12.9	19
75	Globalâ€scale external magnetic fields at Mars measured at satellite altitude. Journal of Geophysical Research E: Planets, 2017, 122, 1243-1257.	3.6	18
76	Absence of a long-lived lunar paleomagnetosphere. Science Advances, 2021, 7, .	10.3	18
77	A comparison of magnetic overshoots at the bow shocks of Mercury and Saturn. Journal of Geophysical Research: Space Physics, 2013, 118, 4381-4390.	2.4	17
78	Validation of Stereophotoclinometric Shape Models of Asteroid (101955) Bennu during the OSIRIS-REx Mission. Planetary Science Journal, 2021, 2, 82.	3.6	17
79	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
80	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
81	The Origin of Observed Magnetic Variability for a Sol on Mars From InSight. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006505.	3.6	15
82	Internal rubble properties of asteroid (101955) Bennu. Icarus, 2021, 370, 114665.	2.5	15
83	A high-resolution normal albedo map of asteroid (101955) Bennu. Icarus, 2021, 355, 114133.	2.5	14
84	The Formation of Terraces on Asteroid (101955) Bennu. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	14
85	A simple physical model for deep moonquake occurrence times. Physics of the Earth and Planetary Interiors, 2010, 182, 152-160.	1.9	13
86	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
87	The global surface roughness of 25143 Itokawa. Icarus, 2019, 325, 141-152.	2.5	13
88	Mercuryâ€™s Internal Magnetic Field. , 2018, , 114-143.		12
89	The Mars 2020 Candidate Landing Sites: A Magnetic Field Perspective. Earth and Space Science, 2018, 5, 410-424.	2.6	12
90	Evidence for a Locally Thinned Lithosphere Associated With Recent Volcanism at Aramaiti Corona, Venus. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006783.	3.6	12

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91	Magnetic mineralogy of the Mercurian lithosphere. Journal of Geophysical Research E: Planets, 2016, 121, 2225-2238.	3.6	11
92	Revolutionizing Our Understanding of the Solar System via Sample Return from Mercury. Space Science Reviews, 2019, 215, 1.	8.1	10
93	Geophysical Observations of Phobos Transits by InSight. Geophysical Research Letters, 2020, 47, e2020GL089099.	4.0	10
94	Geologic Context of the OSIRIS-REx Sample Site from High-resolution Topography and Imaging. Planetary Science Journal, 2022, 3, 75.	3.6	10
95	Mercury's Northern Rise Coreâ€Field Magnetic Anomaly. Geophysical Research Letters, 2021, 48, e2021GL094695.	4.0	9
96	The Martian Crustal Magnetic Field. Frontiers in Astronomy and Space Sciences, 2022, 9, .	2.8	9
97	Modeling seismic energy propagation in highly scattering environments. Journal of Geophysical Research E: Planets, 2015, 120, 515-537.	3.6	8
98	Structure and Configuration of Mercuryâ€™s Magnetosphere. , 2018, , 430-460.		7
99	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
100	The Lunar Geophysical Network Landing Sites Science Rationale. Planetary Science Journal, 2022, 3, 40.	3.6	7
101	Mercury: Inside the Iron Planet. Elements, 2019, 15, 21-26.	0.5	6
102	Effects of lateral variations in megaregolith thickness on predicted lunar seismic signals. Geophysical Research Letters, 2015, 42, 10,171.	4.0	5
103	Thermal evolution of Mercury with a volcanic heat-pipe flux: Reconciling early volcanism, tectonism, and magnetism. Science Advances, 2021, 7, eabh2482.	10.3	5
104	Space Weather Observations With InSight. Geophysical Research Letters, 2021, 48, e2021GL095432.	4.0	5
105	Natural Orthogonal Component Analysis of Daily Magnetic Variations at the Martian Surface: InSight Observations. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	5
106	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
107	Regional Photometric Modeling of Asteroid (101955) Bennu. Planetary Science Journal, 2021, 2, 124.	3.6	4
108	PHOTOGRAMMETRIC PROCESSING OF OSIRIS-REX IMAGES OF ASTEROID (101955) BENNU. ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 0, V-3-2020, 587-594.	0.0	4

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109	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
110	Investigation of magnetic field signals during vortex-induced pressure drops at InSight. Planetary and Space Science, 2022, 217, 105487.	1.7	3
111	Science Goals and Mission Concept for a Landed Investigation of Mercury. Planetary Science Journal, 2022, 3, 68.	3.6	2
112	Bifurcated Current Sheets in Mercuryâ€™s Magnetotail: Observations and Implications. Journal of Geophysical Research: Space Physics, 2021, 126, e2021JA029417.	2.4	1
113	Mercury sample return to revolutionize our understanding of the solar system. , 2021, 53, .		0