Nancy Chabot

List of Publications by Year
in descending order

90 papers	3,669 citations	136950 32 h-index	138484 58 g-index
96 all docs	96 docs citations	96 times ranked	2114 citing authors

#	Article	IF	Citations
1	Flood Volcanism in the Northern High Latitudes of Mercury Revealed by MESSENGER. Science, 2011, 333, 1853-1856.	12.6	225
2	Iron meteorites: Crystallization, thermal history, parent bodies, and origin. Chemie Der Erde, 2009, 69, 293-325.	2.0	216
3	The Evolution of Mercuryâ€™s Crust: A Global Perspective from MESSENGER. Science, 2009, 324, 613-618.	12.6	194
4	AIDA DART asteroid deflection test: Planetary defense and science objectives. Planetary and Space Science, 2018, 157, 104-115.	1.7	162
5	Modeling fractional crystallization of group IVB iron meteorites. Geochimica Et Cosmochimica Acta, 2008, 72, 2198-2216.	3.9	136
6	Hollows on Mercury: MESSENGER Evidence for Geologically Recent Volatile-Related Activity. Science, 2011, 333, 1856-1859.	12.6	136
7	The parameterization of solid metalâ€liquid metal partitioning of siderophile elements. Meteoritics and Planetary Science, 2003, 38, 1425-1436.	1.6	128
8	Core formation in the Earth and Moon: new experimental constraints from V, Cr, and Mn. Geochimica Et Cosmochimica Acta, 2003, 67, 2077-2091.	3.9	113
9	The Double Asteroid Redirection Test (DART): Planetary Defense Investigations and Requirements. Planetary Science Journal, 2021, 2, 173.	3.6	110
10	Sulfur contents of the parental metallic cores of magmatic iron meteorites. Geochimica Et Cosmochimica Acta, 2004, 68, 3607-3618.	3.9	102
11	Mercury's hollows: Constraints on formation and composition from analysis of geological setting and spectral reflectance. Journal of Geophysical Research E: Planets, 2013, 118, 1013-1032.	3.6	97
12	Conditions of core formation in the earth: Constraints from Nickel and Cobalt partitioning. Geochimica Et Cosmochimica Acta, 2005, 69, 2141-2151.	3.9	96
13	Orbital multispectral mapping of Mercury with the MESSENGER Mercury Dual Imaging System: Evidence for the origins of plains units and low-reflectance material. Icarus, 2015, 254, 287-305.	2.5	95
14	An experimental test of Henry's Law in solid metalâ€liquid metal systems with implications for iron meteorites. Meteoritics and Planetary Science, 2003, 38, 181-196.	1.6	86
15	The ESA Hera Mission: Detailed Characterization of the DART Impact Outcome and of the Binary Asteroid (65803) Didymos. Planetary Science Journal, 2022, 3, 160.	3.6	82
16	Evolution of Asteroidal Cores. , 2006, , 747-772.		81
17	Group IVA irons: New constraints on the crystallization and cooling history of an asteroidal core with a complex history. Geochimica Et Cosmochimica Acta, 2011, 75, 6821-6843.	3.9	76
18	Experimental constraints on Mercury's core composition. Earth and Planetary Science Letters, 2014, 390, 199-208.	4.4	73

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19	Potassium solubility in metal: the effects of composition at 15 kbar and 1900Â°C on partitioning between iron alloys and silicate melts. Earth and Planetary Science Letters, 1999, 172, 323-335.	4.4	71
20	Moderately and slightly siderophile element constraints on the depth and extent of melting in early Mars. Meteoritics and Planetary Science, 2011, 46, 157-176.	1.6	69
21	The influence of carbon on trace element partitioning behavior. Geochimica Et Cosmochimica Acta, 2006, 70, 1322-1335.	3.9	67
22	Images of surface volatiles in Mercuryâ€™s polar craters acquired by the MESSENGER spacecraft. Geology, 2014, 42, 1051-1054.	4.4	67
23	Calibration, Projection, and Final Image Products of MESSENGERâ€™s Mercury Dual Imaging System. Space Science Reviews, 2018, 214, 1.	8.1	53
24	Stratigraphy of the Caloris basin, Mercury: Implications for volcanic history and basin impact melt. Icarus, 2015, 250, 413-429.	2.5	49
25	The Feâ€“C system at 5GPa and implications for Earthâ€™s core. Geochimica Et Cosmochimica Acta, 2008, 72, 4146-4158.	3.9	48
26	Areas of permanent shadow in Mercury's south polar region ascertained by MESSENGER orbital imaging. Geophysical Research Letters, 2012, 39, .	4.0	43
27	The Chemical Composition of Mercury. , 2018, , 30-51.		43
28	Crystallization of magmatic iron meteorites: The effects of phosphorus and liquid immiscibility. Meteoritics and Planetary Science, 2000, 35, 807-816.	1.6	41
29	Comparison of areas in shadow from imaging and altimetry in the north polar region of Mercury and implications for polar ice deposits. Icarus, 2016, 280, 158-171.	2.5	40
30	Investigating Mercury's South Polar Deposits: Arecibo Radar Observations and Highâ€Resolution Determination of Illumination Conditions. Journal of Geophysical Research E: Planets, 2018, 123, 666-681.	3.6	37
31	Craters hosting radarâ€bright deposits in Mercury's north polar region: Areas of persistent shadow determined from MESSENGER images. Journal of Geophysical Research E: Planets, 2013, 118, 26-36.	3.6	36
32	The ironâ€“nickelâ€“phosphorus system: Effects on the distribution of trace elements during the evolution of iron meteorites. Geochimica Et Cosmochimica Acta, 2009, 73, 2674-2691.	3.9	35
33	An investigation of the behavior of Cu and Cr during iron meteorite crystallization. Meteoritics and Planetary Science, 2009, 44, 505-519.	1.6	34
34	Experimental determination of partitioning in the Feâ€Ni system for applications to modeling meteoritic metals. Meteoritics and Planetary Science, 2017, 52, 1133-1145.	1.6	34
35	DART mission determination of momentum transfer: Model of ejecta plume observations. Icarus, 2020, 352, 113989.	2.5	34
36	Imaging Mercury's polar deposits during MESSENGER's lowâ€altitude campaign. Geophysical Research Letters, 2016, 43, 9461-9468.	4.0	31

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37	Analysis of MESSENGER highâ€resolution images of Mercury's hollows and implications for hollow formation. Journal of Geophysical Research E: Planets, 2016, 121, 1798-1813.	3.6	30
38	Shock melts in QUE 94411, Hammadah al Hamra 237, and Bencubbin: Remains of the missing matrix?. Meteoritics and Planetary Science, 2005, 40, 1377-1391.	1.6	27
39	Phase-ratio images of the surface of Mercury: Evidence for differences in sub-resolution texture. Icarus, 2014, 242, 142-148.	2.5	27
40	Mercuryâ€™s global color mosaic: An update from MESSENGERâ€™s orbital observations. Icarus, 2015, 257, 477-488.	2.5	27
41	Crystallization of magmatic iron meteorites: The role of mixing in the molten core. Meteoritics and Planetary Science, 1999, 34, 235-246.	1.6	26
42	The effect of Ni on element partitioning during iron meteorite crystallization. Meteoritics and Planetary Science, 2007, 42, 1735-1750.	1.6	26
43	Effect of silicon on trace element partitioning in ironâ€bearing metallic melts. Meteoritics and Planetary Science, 2010, 45, 1243-1257.	1.6	26
44	Measuring the Elemental Composition of Phobos: The Marsâ€moon Exploration with GAmma rays and NEutrons (MEGANE) Investigation for the Martian Moons eXploration (MMX) Mission. Earth and Space Science, 2019, 6, 2605-2623.	2.6	26
45	An experimental study of silver and palladium partitioning between solid and liquid metal, with applications to iron meteorites. Meteoritics and Planetary Science, 1997, 32, 637-645.	1.6	24
46	A benchmarking and sensitivity study of the full two-body gravitational dynamics of the DART mission target, binary asteroid 65803 Didymos. Icarus, 2020, 349, 113849.	2.5	24
47	Examining the Potential Contribution of the Hokusai Impact to Water Ice on Mercury. Journal of Geophysical Research E: Planets, 2018, 123, 2628-2646.	3.6	23
48	In-flight performance of MESSENGER's Mercury Dual Imaging System. Proceedings of SPIE, 2009, , .	0.8	22
49	Photometric correction of Mercury's global color mosaic. Planetary and Space Science, 2011, 59, 1873-1887.	1.7	22
50	Mercury's spectrophotometric properties: Update from the Mercury Dual Imaging System observations during the third MESSENGER flyby. Planetary and Space Science, 2011, 59, 1853-1872.	1.7	22
51	Science operation plan of Phobos and Deimos from the MMX spacecraft. Earth, Planets and Space, 2021, 73, .	2.5	22
52	Heavy iron isotope composition of iron meteorites explained by core crystallization. Nature Geoscience, 2020, 13, 611-615.	12.9	18
53	Impact modeling for the Double Asteroid Redirection Test (DART) mission. International Journal of Impact Engineering, 2020, 142, 103528.	5.0	18
54	Constraining the thickness of polar ice deposits on Mercury using the Mercury Laser Altimeter and small craters in permanently shadowed regions. Icarus, 2018, 305, 139-148.	2.5	17

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55	Partitioning behavior at 9GPa in the Feâ€“S system and implications for planetary evolution. Earth and Planetary Science Letters, 2011, 305, 425-434.	4.4	16
56	A revised trapped melt model for iron meteorites applied to the IIIAB group. Meteoritics and Planetary Science, 2022, 57, 200-227.	1.6	15
57	Analysis of Lunar Lineaments: Far Side and Polar Mapping. Icarus, 2000, 147, 301-308.	2.5	12
58	Phobos and Deimos. , 2015, , .		12
59	The effect of oxygen as a light element in metallic liquids on partitioning behavior. Meteoritics and Planetary Science, 2015, 50, 530-546.	1.6	11
60	New Illumination and Temperature Constraints of Mercuryâ€™s Volatile Polar Deposits. Planetary Science Journal, 2020, 1, 57.	3.6	11
61	Arecibo S-band Radar Characterization of Local-scale Heterogeneities within Mercuryâ€™s North Polar Deposits. Planetary Science Journal, 2022, 3, 62.	3.6	11
62	Revolutionizing Our Understanding of the Solar System via Sample Return from Mercury. Space Science Reviews, 2019, 215, 1.	8.1	10
63	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
64	Chemical study of group IIIF iron meteorites and the potentially related pallasites Zinder and Northwest Africa 1911. Geochimica Et Cosmochimica Acta, 2022, 323, 202-219.	3.9	10
65	Mercuryâ€™s Polar Deposits. , 2018, , 346-370.		9
66	MERLIN: Mars-Moon Exploration, Reconnaissance and Landed Investigation. Acta Astronautica, 2014, 93, 475-482.	3.2	8
67	Methodology for finding and evaluating safe landing sites on small bodies. Planetary and Space Science, 2016, 134, 71-81.	1.7	8
68	Analytical protocols for Phobos regolith samples returned by the Martian Moons eXploration (MMX) mission. Earth, Planets and Space, 2021, 73, 120.	2.5	8
69	WÃ¼stite in the fusion crust of Almahata Sitta sulfideâ€metal assemblage <scp>MS</scp>â€166: Evidence for oxygen in metallic melts. Meteoritics and Planetary Science, 2013, 48, 730-743.	1.6	7
70	IVA iron meteorites as late-stage crystallization products affected by multiple collisional events. Geochimica Et Cosmochimica Acta, 2022, 331, 1-17.	3.9	7
71	Iron and Stony-iron Meteorites: Evidence for the Formation, Crystallization, and Early Impact Histories of Differentiated Planetesimals. , 2017, , 136-158.		5
72	The Main-belt Asteroid and NEO Tour with Imaging and Spectroscopy (MANTIS). , 2016, , .		4

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73	Using dust shed from asteroids as microsamples to link remote measurements with meteorite classes. Meteoritics and Planetary Science, 2019, 54, 2046-2066.	1.6	4
74	Experimental partitioning of trace elements into schreibersite with applications to <scp>IIG</scp> iron meteorites. Meteoritics and Planetary Science, 2020, 55, 726-743.	1.6	4
75	MEGANE investigations of Phobos and the Small Body Mapping Tool. Earth, Planets and Space, 2021, 73, 217.	2.5	4
76	AMBASSADOR: Asteroid sample return mission to 7 Iris. Acta Astronautica, 1999, 45, 415-422.	3.2	3
77	Near-Earth Object Characterization Priorities and Considerations for Planetary Defense. , 2021, 53, .		3
78	Morphometry and Temperature of Simple Craters in Mercuryâ€™s Northern Hemisphere: Implications for Stability of Water Ice. Planetary Science Journal, 2021, 2, 97.	3.6	3
79	Science Goals and Mission Concept for a Landed Investigation of Mercury. Planetary Science Journal, 2022, 3, 68.	3.6	2
80	Mars-Moons Exploration, Reconnaissance, and Landed Investigation (MERLIN). , 2016, , .		1
81	Cryogenic Comet Sample Return. , 2021, 53, .		1
82	Remembering Mike Drake. Meteoritics and Planetary Science, 2015, 50, 523-529.	1.6	0
83	Fundamental and Interdisciplinary Questions Drive the Scientific Exploration of Mercury. , 2021, 53, .		0
84	One the Case For Landed Mercury Science. , 2021, 53, .		0
85	Science Opportunities offered by Mercuryâ€™s Ice-Bearing Polar Deposits. , 2021, 53, .		0
86	Mercury Lander: A New-Frontiers-Class Planetary Mission Concept Design. , 2021, , .		0
87	Collaborative Actions to Enable Richer and More Complex Planetary Science Mission Data. , 2021, 53, .		0
88	Mercuryâ€™s Low Reflectance Material â€” Evidence for Graphite Flotation in a Magma Ocean?. , 2021, 53, .		0
89	The case for landed Mercury science. Experimental Astronomy, 0, , 1.	3.7	0
90	Impact Modeling for the Double Asteroid Redirection Test Mission. , 2019, , .		0