C M Ernst

List of Publications by Year
in descending order

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99 papers	6,706 citations	76031 42 h-index	68831 81 g-index
102 all docs	102 docs citations	102 times ranked	3922 citing authors

#	Article	IF	Citations
1	Three-axial shape distributions of pebbles, cobbles and boulders smaller than a few meters on asteroid Ryugu. Icarus, 2022, 381, 115007.	1.1	1
2	Science Goals and Mission Concept for a Landed Investigation of Mercury. Planetary Science Journal, 2022, 3, 68.	1.5	2
3	Low surface strength of the asteroid Bennu inferred from impact ejecta deposit. Nature Geoscience, 2022, 15, 447-452.	5.4	19
4	Magma eruption ages and fluxes in the Rembrandt and Caloris interior plains on Mercury: Implications for the north-south smooth plains asymmetry. Icarus, 2022, 382, 115034.	1.1	2
5	The ESA Hera Mission: Detailed Characterization of the DART Impact Outcome and of the Binary Asteroid (65803) Didymos. Planetary Science Journal, 2022, 3, 160.	1.5	82
6	Fundamental and Interdisciplinary Questions Drive the Scientific Exploration of Mercury. , 2021, 53, .		0
7	Mission Roles: Status, Issues, and Recommendations for the Planetary Science and Astrobiology Decadal Committee Consideration. , 2021, 53, .		0
8	Science Opportunities offered by Mercuryâ€™s Ice-Bearing Polar Deposits. , 2021, 53, .		0
9	Mercury Lander: A New-Frontiers-Class Planetary Mission Concept Design. , 2021, , .		0
10	Mercuryâ€™s Low Reflectance Material â€" Evidence for Graphite Flotation in a Magma Ocean?. , 2021, 53, .		0
11	Strength In Diversity: Small Bodies as the Most Important Objects in Planetary Sciences. , 2021, 53, .		0
12	Persephone: A Pluto-system Orbiter and Kuiper Belt Explorer. Planetary Science Journal, 2021, 2, 75.	1.5	7
13	Validation of Stereophotoclinometric Shape Models of Asteroid (101955) Bennu during the OSIRIS-REx Mission. Planetary Science Journal, 2021, 2, 82.	1.5	17
14	Morphometry and Temperature of Simple Craters in Mercuryâ€™s Northern Hemisphere: Implications for Stability of Water Ice. Planetary Science Journal, 2021, 2, 97.	1.5	3
15	Geologic History and Crater Morphology of Asteroid (162173) Ryugu. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006572.	1.5	10
16	Science Goals and Objectives for the Dragonfly Titan Rotorcraft Relocatable Lander. Planetary Science Journal, 2021, 2, 130.	1.5	80
17	The Double Asteroid Redirection Test (DART): Planetary Defense Investigations and Requirements. Planetary Science Journal, 2021, 2, 173.	1.5	110
18	MEGANE investigations of Phobos and the Small Body Mapping Tool. Earth, Planets and Space, 2021, 73, 217.	0.9	4

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19	Digital terrain mapping by the OSIRIS-REx mission. Planetary and Space Science, 2020, 180, 104764.	0.9	81
20	The Morphometry of Impact Craters on Bennu. Geophysical Research Letters, 2020, 47, e2020GL089672.	1.5	20
21	Sample collection from asteroid (162173) Ryugu by Hayabusa2: Implications for surface evolution. Science, 2020, 368, 654-659.	6.0	158
22	Impact modeling for the Double Asteroid Redirection Test (DART) mission. International Journal of Impact Engineering, 2020, 142, 103528.	2.4	18
23	Using dust shed from asteroids as microsamples to link remote measurements with meteorite classes. Meteoritics and Planetary Science, 2019, 54, 2046-2066.	0.7	4
24	Revolutionizing Our Understanding of the Solar System via Sample Return from Mercury. Space Science Reviews, 2019, 215, 1.	3.7	10
25	The thickness of radar-bright deposits in Mercury's northern hemisphere from individual Mercury Laser Altimeter tracks. Icarus, 2019, 323, 40-45.	1.1	10
26	Boulder size and shape distributions on asteroid Ryugu. Icarus, 2019, 331, 179-191.	1.1	107
27	Shape of (101955) Bennu indicative of a rubble pile with internal stiffness. Nature Geoscience, 2019, 12, 247-252.	5.4	179
28	The geomorphology, color, and thermal properties of Ryugu: Implications for parent-body processes. Science, 2019, 364, 252.	6.0	313
29	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.	1.1	26
30	The JHUAPL Planetary Impact Lab (PIL): Capabilities and initial results. , 2019, , .		1
31	Impact Modeling for the Double Asteroid Redirection Test Mission. , 2019, , .		0
32	AIDA DART asteroid deflection test: Planetary defense and science objectives. Planetary and Space Science, 2018, 157, 104-115.	0.9	162
33	Global Distribution and Spectral Properties of Lowâ€Reflectance Material on Mercury. Geophysical Research Letters, 2018, 45, 2945-2953.	1.5	41
34	The Surface Roughness of Large Craters on Mercury. Journal of Geophysical Research E: Planets, 2018, 123, 1581-1595.	1.5	4
35	Asteroid Ryugu before the Hayabusa2 encounter. Progress in Earth and Planetary Science, 2018, 5, .	1.1	39
36	The Geologic History of Mercury. , 2018, , 144-175.		10

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37	Mercuryâ€™s Hollows. , 2018, , 324-345.		12
38	Examining the Potential Contribution of the Hokusai Impact to Water Ice on Mercury. Journal of Geophysical Research E: Planets, 2018, 123, 2628-2646.	1.5	23
39	Calibration, Projection, and Final Image Products of MESSENGERâ€™s Mercury Dual Imaging System. Space Science Reviews, 2018, 214, 1.	3.7	53
40	The surface roughness of Mercury from the Mercury Laser Altimeter: Investigating the effects of volcanism, tectonism, and impact cratering. Journal of Geophysical Research E: Planets, 2017, 122, 1372-1390.	1.5	17
41	The stratigraphy and history of Mars' northern lowlands through mineralogy of impact craters: A comprehensive survey. Journal of Geophysical Research E: Planets, 2017, 122, 1824-1854.	1.5	49
42	Modeling impact outcomes for the Double Asteroid Redirection Test (DART) mission. Procedia Engineering, 2017, 204, 116-123.	1.2	35
43	The Role of Target Heterogeneity in Impact Crater Formation: Numerical Results. Procedia Engineering, 2017, 204, 421-428.	1.2	3
44	Evidence from MESSENGER for sulfurâ€•and carbonâ€‘driven explosive volcanism on Mercury. Geophysical Research Letters, 2016, 43, 3653-3661.	1.5	57
45	Morphometry of impact craters on Mercury from MESSENGER altimetry and imaging. Icarus, 2016, 271, 180-193.	1.1	37
46	Recent tectonic activity on Mercury revealed by small thrust fault scarps. Nature Geoscience, 2016, 9, 743-747.	5.4	31
47	Mars-Moons Exploration, Reconnaissance, and Landed Investigation (MERLIN). , 2016, , .		1
48	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.	1.1	40
49	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.	1.5	30
50	The Main-belt Asteroid and NEO Tour with Imaging and Spectroscopy (MANTIS). , 2016, , .		4
51	Methodology for finding and evaluating safe landing sites on small bodies. Planetary and Space Science, 2016, 134, 71-81.	0.9	8
52	Imaging Mercury's polar deposits during MESSENGER's lowâ€altitude campaign. Geophysical Research Letters, 2016, 43, 9461-9468.	1.5	31
53	The atmosphere of Pluto as observed by New Horizons. Science, 2016, 351, aad8866.	6.0	201
54	Plutoâ€™s interaction with its space environment: Solar wind, energetic particles, and dust. Science, 2016, 351, aad9045.	6.0	60

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55	The small satellites of Pluto as observed by New Horizons. Science, 2016, 351, aae0030.	6.0	78
56	The geology of Pluto and Charon through the eyes of New Horizons. Science, 2016, 351, 1284-1293.	6.0	219
57	Asteroid Impact & Deflection Assessment mission: Kinetic impactor. Planetary and Space Science, 2016, 121, 27-35.	0.9	110
58	Remote sensing evidence for an ancient carbon-bearing crust on Mercury. Nature Geoscience, 2016, 9, 273-276.	5.4	134
59	The lowâ€degree shape of Mercury. Geophysical Research Letters, 2015, 42, 6951-6958.	1.5	36
60	Mercuryâ€™s global color mosaic: An update from MESSENGERâ€™s orbital observations. Icarus, 2015, 257, 477-488.	1.1	27
61	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.	1.1	95
62	The Pluto system: Initial results from its exploration by New Horizons. Science, 2015, 350, aad1815.	6.0	407
63	Knob heights within circum-Caloris geologic units on Mercury: Interpretations of the geologic history of the region. Earth and Planetary Science Letters, 2015, 430, 542-550.	1.8	4
64	Stratigraphy of the Caloris basin, Mercury: Implications for volcanic history and basin impact melt. Icarus, 2015, 250, 413-429.	1.1	49
65	Improved techniques for sizeâ€“frequency distribution analysis in the planetary sciences: Application to blocks on 25143 Itokawa. Icarus, 2015, 247, 77-80.	1.1	10
66	Phase-ratio images of the surface of Mercury: Evidence for differences in sub-resolution texture. Icarus, 2014, 242, 142-148.	1.1	27
67	Origin and flatness of ponds on asteroid 433 Eros. Meteoritics and Planetary Science, 2014, 49, 1735-1748.	0.7	16
68	Block distributions on Itokawa. Icarus, 2014, 229, 181-189.	1.1	71
69	Images of surface volatiles in Mercuryâ€™s polar craters acquired by the MESSENGER spacecraft. Geology, 2014, 42, 1051-1054.	2.0	67
70	Bright and Dark Polar Deposits on Mercury: Evidence for Surface Volatiles. Science, 2013, 339, 296-300.	6.0	197
71	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.	1.5	36
72	The origin of graben and ridges in Rachmaninoff, Raditladi, and Mozart basins, Mercury. Journal of Geophysical Research E: Planets, 2013, 118, 47-58.	1.5	36

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73	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.	1.5	97
74	A comparison of rayed craters on the Moon and Mercury. Journal of Geophysical Research E: Planets, 2013, 118, 2247-2261.	1.5	47
75	The distribution and origin of smooth plains on Mercury. Journal of Geophysical Research E: Planets, 2013, 118, 891-907.	1.5	193
76	Insights into the subsurface structure of the Caloris basin, Mercury, from assessments of mechanical layering and changes in longâ€wavelength topography. Journal of Geophysical Research E: Planets, 2013, 118, 2030-2044.	1.5	37
77	Extension and contraction within volcanically buried impact craters and basins on Mercury. Geology, 2012, 40, 1123-1126.	2.0	34
78	Deformation associated with ghost craters and basins in volcanic smooth plains on Mercury: Strain analysis and implications for plains evolution. Journal of Geophysical Research, 2012, 117, .	3.3	37
79	Areas of permanent shadow in Mercury's south polar region ascertained by MESSENGER orbital imaging. Geophysical Research Letters, 2012, 39, .	1.5	43
80	Modeling of the vapor release from the LCROSS impact: 2. Observations from LAMP. Journal of Geophysical Research, 2012, 117, .	3.3	23
81	Physical constraints on impact melt properties from Lunar Reconnaissance Orbiter Camera images. Icarus, 2012, 219, 665-675.	1.1	51
82	Hollows on Mercury: MESSENGER Evidence for Geologically Recent Volatile-Related Activity. Science, 2011, 333, 1856-1859.	6.0	136
83	The Major-Element Composition of Mercuryâ€™s Surface from MESSENGER X-ray Spectrometry. Science, 2011, 333, 1847-1850.	6.0	386
84	Flood Volcanism in the Northern High Latitudes of Mercury Revealed by MESSENGER. Science, 2011, 333, 1853-1856.	6.0	225
85	Eminescu impact structure: Insight into the transition from complex crater to peak-ring basin on Mercury. Planetary and Space Science, 2011, 59, 1949-1959.	0.9	19
86	The transition from complex crater to peak-ring basin on Mercury: New observations from MESSENGER flyby data and constraints on basin formation models. Planetary and Space Science, 2011, 59, 1932-1948.	0.9	54
87	Measurement of the radius of Mercury by radio occultation during the MESSENGER flybys. Planetary and Space Science, 2011, 59, 1925-1931.	0.9	17
88	The apparent lack of lunar-like swirls on Mercury: Implications for the formation of lunar swirls and for the agent of space weathering. Icarus, 2010, 209, 239-246.	1.1	46
89	Exposure of spectrally distinct material by impact craters on Mercury: Implications for global stratigraphy. Icarus, 2010, 209, 210-223.	1.1	82
90	Evidence for Young Volcanism on Mercury from the Third MESSENGER Flyby. Science, 2010, 329, 668-671.	6.0	118

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91	In-flight performance of MESSENGER's Mercury Dual Imaging System. Proceedings of SPIE, 2009, , .	0.8	22
92	The Evolution of Mercuryâ€™s Crust: A Global Perspective from MESSENGER. Science, 2009, 324, 613-618.	6.0	194
93	Evolution of the Deep Impact flash: Implications for the nucleus surface based on laboratory experiments. Icarus, 2007, 190, 334-344.	1.1	47
94	Evolution of the Deep Impact flash: Implications for the nucleus surface based on laboratory experiments. Icarus, 2007, 191, 123-133.	1.1	5
95	The Deep Impact oblique impact cratering experiment. Icarus, 2007, 190, 295-333.	1.1	89
96	The Deep Impact oblique impact cratering experiment. Icarus, 2007, 191, 84-122.	1.1	46
97	The role of ricochet impacts on impact vaporization. International Journal of Impact Engineering, 2006, 33, 771-780.	2.4	21
98	Deep Impact: Excavating Comet Tempel 1. Science, 2005, 310, 258-264.	6.0	728
99	Expectations for Crater Size and Photometric Evolution from the Deep Impact Collision. Space Science Reviews, 2005, 117, 207-239.	3.7	73