

C M Ernst

List of Publications by Year in descending order

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Version: 2024-02-01

99
papers

6,706
citations

66343

42
h-index

60623

81
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102
all docs

102
docs citations

102
times ranked

3619
citing authors

#	ARTICLE	IF	CITATIONS
1	Deep Impact: Excavating Comet Tempel 1. <i>Science</i> , 2005, 310, 258-264.	12.6	728
2	The Pluto system: Initial results from its exploration by New Horizons. <i>Science</i> , 2015, 350, aad1815.	12.6	407
3	The Major-Element Composition of Mercury's Surface from MESSENGER X-ray Spectrometry. <i>Science</i> , 2011, 333, 1847-1850.	12.6	386
4	The geomorphology, color, and thermal properties of Ryugu: Implications for parent-body processes. <i>Science</i> , 2019, 364, 252.	12.6	313
5	Flood Volcanism in the Northern High Latitudes of Mercury Revealed by MESSENGER. <i>Science</i> , 2011, 333, 1853-1856.	12.6	225
6	The geology of Pluto and Charon through the eyes of New Horizons. <i>Science</i> , 2016, 351, 1284-1293.	12.6	219
7	The atmosphere of Pluto as observed by New Horizons. <i>Science</i> , 2016, 351, aad8866.	12.6	201
8	Bright and Dark Polar Deposits on Mercury: Evidence for Surface Volatiles. <i>Science</i> , 2013, 339, 296-300.	12.6	197
9	The Evolution of Mercury's Crust: A Global Perspective from MESSENGER. <i>Science</i> , 2009, 324, 613-618.	12.6	194
10	The distribution and origin of smooth plains on Mercury. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 891-907.	3.6	193
11	Shape of (101955) Bennu indicative of a rubble pile with internal stiffness. <i>Nature Geoscience</i> , 2019, 12, 247-252.	12.9	179
12	AIDA DART asteroid deflection test: Planetary defense and science objectives. <i>Planetary and Space Science</i> , 2018, 157, 104-115.	1.7	162
13	Sample collection from asteroid (162173) Ryugu by Hayabusa2: Implications for surface evolution. <i>Science</i> , 2020, 368, 654-659.	12.6	158
14	Hollows on Mercury: MESSENGER Evidence for Geologically Recent Volatile-Related Activity. <i>Science</i> , 2011, 333, 1856-1859.	12.6	136
15	Remote sensing evidence for an ancient carbon-bearing crust on Mercury. <i>Nature Geoscience</i> , 2016, 9, 273-276.	12.9	134
16	Evidence for Young Volcanism on Mercury from the Third MESSENGER Flyby. <i>Science</i> , 2010, 329, 668-671.	12.6	118
17	Asteroid Impact & Deflection Assessment mission: Kinetic impactor. <i>Planetary and Space Science</i> , 2016, 121, 27-35.	1.7	110
18	The Double Asteroid Redirection Test (DART): Planetary Defense Investigations and Requirements. <i>Planetary Science Journal</i> , 2021, 2, 173.	3.6	110

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19	Boulder size and shape distributions on asteroid Ryugu. <i>Icarus</i> , 2019, 331, 179-191.	2.5	107
20	Mercury's hollows: Constraints on formation and composition from analysis of geological setting and spectral reflectance. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 1013-1032.	3.6	97
21	Orbital multispectral mapping of Mercury with the MESSENGER Mercury Dual Imaging System: Evidence for the origins of plains units and low-reflectance material. <i>Icarus</i> , 2015, 254, 287-305.	2.5	95
22	The Deep Impact oblique impact cratering experiment. <i>Icarus</i> , 2007, 190, 295-333.	2.5	89
23	Exposure of spectrally distinct material by impact craters on Mercury: Implications for global stratigraphy. <i>Icarus</i> , 2010, 209, 210-223.	2.5	82
24	The ESA Hera Mission: Detailed Characterization of the DART Impact Outcome and of the Binary Asteroid (65803) Didymos. <i>Planetary Science Journal</i> , 2022, 3, 160.	3.6	82
25	Digital terrain mapping by the OSIRIS-REx mission. <i>Planetary and Space Science</i> , 2020, 180, 104764.	1.7	81
26	Science Goals and Objectives for the Dragonfly Titan Rotorcraft Relocatable Lander. <i>Planetary Science Journal</i> , 2021, 2, 130.	3.6	80
27	The small satellites of Pluto as observed by New Horizons. <i>Science</i> , 2016, 351, aae0030.	12.6	78
28	Expectations for Crater Size and Photometric Evolution from the Deep Impact Collision. <i>Space Science Reviews</i> , 2005, 117, 207-239.	8.1	73
29	Block distributions on Itokawa. <i>Icarus</i> , 2014, 229, 181-189.	2.5	71
30	Images of surface volatiles in Mercury's polar craters acquired by the MESSENGER spacecraft. <i>Geology</i> , 2014, 42, 1051-1054.	4.4	67
31	Pluto's interaction with its space environment: Solar wind, energetic particles, and dust. <i>Science</i> , 2016, 351, aad9045.	12.6	60
32	Evidence from MESSENGER for sulfur- and carbon-driven explosive volcanism on Mercury. <i>Geophysical Research Letters</i> , 2016, 43, 3653-3661.	4.0	57
33	The transition from complex crater to peak-ring basin on Mercury: New observations from MESSENGER flyby data and constraints on basin formation models. <i>Planetary and Space Science</i> , 2011, 59, 1932-1948.	1.7	54
34	Calibration, Projection, and Final Image Products of MESSENGER's Mercury Dual Imaging System. <i>Space Science Reviews</i> , 2018, 214, 1.	8.1	53
35	Physical constraints on impact melt properties from Lunar Reconnaissance Orbiter Camera images. <i>Icarus</i> , 2012, 219, 665-675.	2.5	51
36	Stratigraphy of the Caloris basin, Mercury: Implications for volcanic history and basin impact melt. <i>Icarus</i> , 2015, 250, 413-429.	2.5	49

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37	The stratigraphy and history of Mars' northern lowlands through mineralogy of impact craters: A comprehensive survey. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 1824-1854.	3.6	49
38	Evolution of the Deep Impact flash: Implications for the nucleus surface based on laboratory experiments. <i>Icarus</i> , 2007, 190, 334-344.	2.5	47
39	A comparison of rayed craters on the Moon and Mercury. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 2247-2261.	3.6	47
40	The Deep Impact oblique impact cratering experiment. <i>Icarus</i> , 2007, 191, 84-122.	2.5	46
41	The apparent lack of lunar-like swirls on Mercury: Implications for the formation of lunar swirls and for the agent of space weathering. <i>Icarus</i> , 2010, 209, 239-246.	2.5	46
42	Areas of permanent shadow in Mercury's south polar region ascertained by MESSENGER orbital imaging. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	43
43	Global Distribution and Spectral Properties of Low-Reflectance Material on Mercury. <i>Geophysical Research Letters</i> , 2018, 45, 2945-2953.	4.0	41
44	Comparison of areas in shadow from imaging and altimetry in the north polar region of Mercury and implications for polar ice deposits. <i>Icarus</i> , 2016, 280, 158-171.	2.5	40
45	Asteroid Ryugu before the Hayabusa2 encounter. <i>Progress in Earth and Planetary Science</i> , 2018, 5, .	3.0	39
46	Deformation associated with ghost craters and basins in volcanic smooth plains on Mercury: Strain analysis and implications for plains evolution. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	37
47	Insights into the subsurface structure of the Caloris basin, Mercury, from assessments of mechanical layering and changes in long-wavelength topography. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 2030-2044.	3.6	37
48	Morphometry of impact craters on Mercury from MESSENGER altimetry and imaging. <i>Icarus</i> , 2016, 271, 180-193.	2.5	37
49	Craters hosting radar-bright deposits in Mercury's north polar region: Areas of persistent shadow determined from MESSENGER images. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 26-36.	3.6	36
50	The origin of graben and ridges in Rachmaninoff, Raditladi, and Mozart basins, Mercury. <i>Journal of Geophysical Research E: Planets</i> , 2013, 118, 47-58.	3.6	36
51	The low-degree shape of Mercury. <i>Geophysical Research Letters</i> , 2015, 42, 6951-6958.	4.0	36
52	Modeling impact outcomes for the Double Asteroid Redirection Test (DART) mission. <i>Procedia Engineering</i> , 2017, 204, 116-123.	1.2	35
53	Extension and contraction within volcanically buried impact craters and basins on Mercury. <i>Geology</i> , 2012, 40, 1123-1126.	4.4	34
54	Recent tectonic activity on Mercury revealed by small thrust fault scarps. <i>Nature Geoscience</i> , 2016, 9, 743-747.	12.9	31

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55	Imaging Mercury's polar deposits during MESSENGER's low-altitude campaign. <i>Geophysical Research Letters</i> , 2016, 43, 9461-9468.	4.0	31
56	Analysis of MESSENGER high-resolution images of Mercury's hollows and implications for hollow formation. <i>Journal of Geophysical Research E: Planets</i> , 2016, 121, 1798-1813.	3.6	30
57	Phase-ratio images of the surface of Mercury: Evidence for differences in sub-resolution texture. <i>Icarus</i> , 2014, 242, 142-148.	2.5	27
58	Mercury's global color mosaic: An update from MESSENGER's orbital observations. <i>Icarus</i> , 2015, 257, 477-488.	2.5	27
59	Measuring the Elemental Composition of Phobos: The Mars Moon Exploration with GAMMA rays and NEUTRONS (MEGANE) Investigation for the Martian Moons eXploration (MMX) Mission. <i>Earth and Space Science</i> , 2019, 6, 2605-2623.	2.6	26
60	Modeling of the vapor release from the LCROSS impact: 2. Observations from LAMP. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	23
61	Examining the Potential Contribution of the Hokusai Impact to Water Ice on Mercury. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 2628-2646.	3.6	23
62	In-flight performance of MESSENGER's Mercury Dual Imaging System. <i>Proceedings of SPIE</i> , 2009, , .	0.8	22
63	The role of ricochet impacts on impact vaporization. <i>International Journal of Impact Engineering</i> , 2006, 33, 771-780.	5.0	21
64	The Morphometry of Impact Craters on Bennu. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089672.	4.0	20
65	Eminescu impact structure: Insight into the transition from complex crater to peak-ring basin on Mercury. <i>Planetary and Space Science</i> , 2011, 59, 1949-1959.	1.7	19
66	Low surface strength of the asteroid Bennu inferred from impact ejecta deposit. <i>Nature Geoscience</i> , 2022, 15, 447-452.	12.9	19
67	Impact modeling for the Double Asteroid Redirection Test (DART) mission. <i>International Journal of Impact Engineering</i> , 2020, 142, 103528.	5.0	18
68	Measurement of the radius of Mercury by radio occultation during the MESSENGER flybys. <i>Planetary and Space Science</i> , 2011, 59, 1925-1931.	1.7	17
69	The surface roughness of Mercury from the Mercury Laser Altimeter: Investigating the effects of volcanism, tectonism, and impact cratering. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 1372-1390.	3.6	17
70	Validation of Stereophotoclinometric Shape Models of Asteroid (101955) Bennu during the OSIRIS-REx Mission. <i>Planetary Science Journal</i> , 2021, 2, 82.	3.6	17
71	Origin and flatness of ponds on asteroid 433 Eros. <i>Meteoritics and Planetary Science</i> , 2014, 49, 1735-1748.	1.6	16
72	Mercury's Hollows. , 2018, , 324-345.		12

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73	Improved techniques for size-frequency distribution analysis in the planetary sciences: Application to blocks on 25143 Itokawa. <i>Icarus</i> , 2015, 247, 77-80.	2.5	10
74	The Geologic History of Mercury. , 2018, , 144-175.		10
75	Revolutionizing Our Understanding of the Solar System via Sample Return from Mercury. <i>Space Science Reviews</i> , 2019, 215, 1.	8.1	10
76	The thickness of radar-bright deposits in Mercury's northern hemisphere from individual Mercury Laser Altimeter tracks. <i>Icarus</i> , 2019, 323, 40-45.	2.5	10
77	Geologic History and Crater Morphology of Asteroid (162173) Ryugu. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006572.	3.6	10
78	Methodology for finding and evaluating safe landing sites on small bodies. <i>Planetary and Space Science</i> , 2016, 134, 71-81.	1.7	8
79	Persephone: A Pluto-system Orbiter and Kuiper Belt Explorer. <i>Planetary Science Journal</i> , 2021, 2, 75.	3.6	7
80	Evolution of the Deep Impact flash: Implications for the nucleus surface based on laboratory experiments. <i>Icarus</i> , 2007, 191, 123-133.	2.5	5
81	Knob heights within circum-Caloris geologic units on Mercury: Interpretations of the geologic history of the region. <i>Earth and Planetary Science Letters</i> , 2015, 430, 542-550.	4.4	4
82	The Main-belt Asteroid and NEO Tour with Imaging and Spectroscopy (MANTIS). , 2016, , .		4
83	The Surface Roughness of Large Craters on Mercury. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 1581-1595.	3.6	4
84	Using dust shed from asteroids as microsamples to link remote measurements with meteorite classes. <i>Meteoritics and Planetary Science</i> , 2019, 54, 2046-2066.	1.6	4
85	MEGANE investigations of Phobos and the Small Body Mapping Tool. <i>Earth, Planets and Space</i> , 2021, 73, 217.	2.5	4
86	The Role of Target Heterogeneity in Impact Crater Formation: Numerical Results. <i>Procedia Engineering</i> , 2017, 204, 421-428.	1.2	3
87	Morphometry and Temperature of Simple Craters in Mercury's Northern Hemisphere: Implications for Stability of Water Ice. <i>Planetary Science Journal</i> , 2021, 2, 97.	3.6	3
88	Science Goals and Mission Concept for a Landed Investigation of Mercury. <i>Planetary Science Journal</i> , 2022, 3, 68.	3.6	2
89	Magma eruption ages and fluxes in the Rembrandt and Caloris interior plains on Mercury: Implications for the north-south smooth plains asymmetry. <i>Icarus</i> , 2022, 382, 115034.	2.5	2
90	Mars-Moons Exploration, Reconnaissance, and Landed Investigation (MERLIN). , 2016, , .		1

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91	The JHUAPL Planetary Impact Lab (PIL): Capabilities and initial results. , 2019, , .		1
92	Three-axial shape distributions of pebbles, cobbles and boulders smaller than a few meters on asteroid Ryugu. Icarus, 2022, 381, 115007.	2.5	1
93	Fundamental and Interdisciplinary Questions Drive the Scientific Exploration of Mercury. , 2021, 53, .		0
94	Mission Roles: Status, Issues, and Recommendations for the Planetary Science and Astrobiology Decadal Committee Consideration. , 2021, 53, .		0
95	Science Opportunities offered by Mercury's Ice-Bearing Polar Deposits. , 2021, 53, .		0
96	Mercury Lander: A New-Frontiers-Class Planetary Mission Concept Design. , 2021, , .		0
97	Mercury's Low Reflectance Material " Evidence for Graphite Flotation in a Magma Ocean?. , 2021, 53, .		0
98	Strength In Diversity: Small Bodies as the Most Important Objects in Planetary Sciences. , 2021, 53, .		0
99	Impact Modeling for the Double Asteroid Redirection Test Mission. , 2019, , .		0