Erwan M Mazarico

List of Publications by Year
in descending order

118 papers	7,819 citations	53794 45 h-index	51608 86 g-index
123 all docs	123 docs citations	123 times ranked	3864 citing authors

#	Article	IF	Citations
1	The Lunar Orbiter Laser Altimeter Investigation onÂtheÂLunar Reconnaissance Orbiter Mission. Space Science Reviews, 2010, 150, 209-241.	8.1	394
2	Gravity Field of the Moon from the Gravity Recovery and Interior Laboratory (GRAIL) Mission. Science, 2013, 339, 668-671.	12.6	389
3	Initial observations from the Lunar Orbiter Laser Altimeter (LOLA). Geophysical Research Letters, 2010, 37, .	4.0	356
4	A new lunar digital elevation model from the Lunar Orbiter Laser Altimeter and SELENE Terrain Camera. Icarus, 2016, 273, 346-355.	2.5	326
5	Gravity Field and Internal Structure of Mercury from MESSENGER. Science, 2012, 336, 214-217.	12.6	305
6	Hydrogen Mapping of the Lunar South Pole Using the LRO Neutron Detector Experiment LEND. Science, 2010, 330, 483-486.	12.6	265
7	Topography of the Northern Hemisphere of Mercury from MESSENGER Laser Altimetry. Science, 2012, 336, 217-220.	12.6	223
8	Illumination conditions of the lunar polar regions using LOLA topography. Icarus, 2011, 211, 1066-1081.	2.5	218
9	Global Distribution of Large Lunar Craters: Implications for Resurfacing and Impactor Populations. Science, 2010, 329, 1504-1507.	12.6	210
10	The curious case of Mercury's internal structure. Journal of Geophysical Research E: Planets, 2013, 118, 1204-1220.	3.6	210
11	Bright and Dark Polar Deposits on Mercury: Evidence for Surface Volatiles. Science, 2013, 339, 296-300.	12.6	197
12	Lunar interior properties from the GRAIL mission. Journal of Geophysical Research E: Planets, 2014, 119, 1546-1578.	3.6	185
13	Shape of (101955) Bennu indicative of a rubble pile with internal stiffness. Nature Geoscience, 2019, 12, 247-252.	12.9	179
14	Ancient Igneous Intrusions and Early Expansion of the Moon Revealed by GRAIL Gravity Gradiometry. Science, 2013, 339, 675-678.	12.6	177
15	Lunar impact basins revealed by Gravity Recovery and Interior Laboratory measurements. Science Advances, 2015, 1, e1500852.	10.3	173
16	Seasonal and static gravity field of Mars from MGS, Mars Odyssey and MRO radio science. Icarus, 2016, 272, 228-245.	2.5	172
17	Constraints on the volatile distribution within Shackleton crater at the lunar south pole. Nature, 2012, 486, 378-381.	27.8	159
18	GRGM900C: A degree 900 lunar gravity model from GRAIL primary and extended mission data. Geophysical Research Letters, 2014, 41, 3382-3389.	4.0	152

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19	Global surface slopes and roughness of the Moon from the Lunar Orbiter Laser Altimeter. Journal of Geophysical Research, 2011, 116, .	3.3	149
20	The dynamic geophysical environment of (101955) Bennu based on OSIRIS-REx measurements. Nature Astronomy, 2019, 3, 352-361.	10.1	132
21	Thermal Stability of Volatiles in the North Polar Region of Mercury. Science, 2013, 339, 300-303.	12.6	119
22	Evidence for surface water ice in the lunar polar regions using reflectance measurements from the Lunar Orbiter Laser Altimeter and temperature measurements from the Diviner Lunar Radiometer Experiment. Icarus, 2017, 292, 74-85.	2.5	119
23	Orbit determination of the Lunar Reconnaissance Orbiter. Journal of Geodesy, 2012, 86, 193-207.	3.6	117
24	Summary of the results from the lunar orbiter laser altimeter after seven years in lunar orbit. Icarus, 2017, 283, 70-91.	2.5	116
25	Farâ€ultraviolet reflectance properties of the Moon's permanently shadowed regions. Journal of Geophysical Research, 2012, 117, .	3.3	115
26	Lunar impact basins: Stratigraphy, sequence and ages from superposed impact crater populations measured from Lunar Orbiter Laser Altimeter (LOLA) data. Journal of Geophysical Research, 2012, 117, .	3.3	114
27	Highâ€'degree gravity models from GRAIL primary mission data. Journal of Geophysical Research E: Planets, 2013, 118, 1676-1698.	3.6	114
28	The gravity field, orientation, and ephemeris of Mercury from MESSENGER observations after three years in orbit. Journal of Geophysical Research E: Planets, 2014, 119, 2417-2436.	3.6	110
29	The global albedo of the Moon at 1064 nm from LOLA. Journal of Geophysical Research E: Planets, 2014, 119, 1665-1679.	3.6	96
30	Low-altitude magnetic field measurements by MESSENGER reveal Mercuryâ€™s ancient crustal field. Science, 2015, 348, 892-895.	12.6	89
31	Evidence for a low bulk crustal density for Mars from gravity and topography. Geophysical Research Letters, 2017, 44, 7686-7694.	4.0	82
32	Solar system expansion and strong equivalence principle as seen by the NASA MESSENGER mission. Nature Communications, 2018, 9, 289.	12.8	81
33	Digital terrain mapping by the OSIRIS-REx mission. Planetary and Space Science, 2020, 180, 104764.	1.7	81
34	Geodetic Evidence That Mercury Has A Solid Inner Core. Geophysical Research Letters, 2019, 46, 3625-3633.	4.0	80
35	Surface water-ice deposits in the northern shadowed regions of Ceres. Nature Astronomy, 2017, 1, .	10.1	70
36	Images of surface volatiles in Mercuryâ€™s polar craters acquired by the MESSENGER spacecraft. Geology, 2014, 42, 1051-1054.	4.4	67

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37	Illumination conditions at the lunar south pole using high resolution Digital Terrain Models from LOLA. Icarus, 2014, 243, 78-90.	2.5	65
38	LU60645GT and MA132843GT catalogues of Lunar and Martian impact craters developed using a Crater Shape-based interpolation crater detection algorithm for topography data. Planetary and Space Science, 2012, 60, 236-247.	1.7	59
39	Hemispherical differences in the shape and topography of asteroid (101955) Bennu. Science Advances, 2020, 6, .	10.3	57
40	Ground and In-Flight Calibration of the OSIRIS-REx Camera Suite. Space Science Reviews, 2020, 216, 12.	8.1	57
41	Illumination conditions at the lunar poles: Implications for future exploration. Planetary and Space Science, 2018, 162, 170-178.	1.7	53
42	The permanently shadowed regions of dwarf planet Ceres. Geophysical Research Letters, 2016, 43, 6783-6789.	4.0	52
43	Heterogeneous mass distribution of the rubble-pile asteroid (101955) Bennu. Science Advances, 2020, 6, .	10.3	50
44	Testing lunar permanently shadowed regions for water ice: LEND results from LRO. Journal of Geophysical Research, 2012, 117, .	3.3	49
45	Improved LOLA elevation maps for south pole landing sites: Error estimates and their impact on illumination conditions. Planetary and Space Science, 2021, 203, 105119.	1.7	48
46	Detection of the lunar body tide by the Lunar Orbiter Laser Altimeter. Geophysical Research Letters, 2014, 41, 2282-2288.	4.0	45
47	GLGMâ€3: A degreeâ€150 lunar gravity model from the historical tracking data of NASA Moon orbiters. Journal of Geophysical Research, 2010, 115, .	3.3	42
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.	2.5	40
49	Deep-seated thrust faults bound the Mare Crisium lunar mascon. Earth and Planetary Science Letters, 2015, 427, 183-190.	4.4	39
50	Orbit determination of the Lunar Reconnaissance Orbiter: Status after seven years. Planetary and Space Science, 2018, 162, 2-19.	1.7	39
51	Gravity field of the Orientale basin from the Gravity Recovery and Interior Laboratory Mission. Science, 2016, 354, 438-441.	12.6	38
52	Highâ€Resolution Gravity Field Models from GRAIL Data and Implications for Models of the Density Structure of the Moon's Crust. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006086.	3.6	38
53	The lowâ€degree shape of Mercury. Geophysical Research Letters, 2015, 42, 6951-6958.	4.0	36
54	The age of lunar south circumpolar craters Haworth, Shoemaker, Faustini, and Shackleton: Implications for regional geology, surface processes, and volatile sequestration. Icarus, 2015, 255, 70-77.	2.5	36

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55	Global maps of lunar neutron fluxes from the LEND instrument. Journal of Geophysical Research, 2012, 117, .	3.3	35
56	Improved calibration of reflectance data from the LRO Lunar Orbiter Laser Altimeter (LOLA) and implications for space weathering. Icarus, 2016, 273, 315-328.	2.5	34
57	Coordinates of anthropogenic features on the Moon. Icarus, 2017, 283, 92-103.	2.5	34
58	Small-scale density variations in the lunar crust revealed by GRAIL. Icarus, 2017, 291, 107-123.	2.5	34
59	Ceres's obliquity history and its implications for the permanently shadowed regions. Geophysical Research Letters, 2017, 44, 2652-2661.	4.0	29
60	Mercuryâ€™s Internal Structure. , 2018, , 85-113.		26
61	Volatile interactions with the lunar surface. Chemie Der Erde, 2022, 82, 125858.	2.0	26
62	Geodetic constraints from multi-beam laser altimeter crossovers. Journal of Geodesy, 2010, 84, 343-354.	3.6	25
63	The laser ranging experiment of the Lunar Reconnaissance Orbiter: Five years of operations and data analysis. Icarus, 2017, 283, 55-69.	2.5	23
64	Dynamical Evolution of Simulated Particles Ejected From Asteroid Bennu. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006229.	3.6	23
65	Effects of Self-Shadowing on Nonconservative Force Modeling for Mars-Orbiting Spacecraft. Journal of Spacecraft and Rockets, 2009, 46, 662-669.	1.9	22
66	Framework for Coordinated Efforts in the Exploration of Volatiles in the South Polar Region of the Moon. Planetary Science Journal, 2021, 2, 103.	3.6	22
67	Improved nearside gravity field of the Moon by localizing the power law constraint. Geophysical Research Letters, 2009, 36, .	4.0	19
68	Lunar phase function at 1064Ânm from Lunar Orbiter Laser Altimeter passive and active radiometry. Icarus, 2016, 273, 96-113.	2.5	19
69	The Putative Cerean Exosphere. Astrophysical Journal, 2017, 850, 85.	4.5	19
70	Advanced illumination modeling for data analysis and calibration. Application to the Moon. Advances in Space Research, 2018, 62, 3214-3228.	2.6	19
71	Ice in Micro Cold Traps on Mercury: Implications for Age and Origin. Journal of Geophysical Research E: Planets, 2018, 123, 2178-2191.	3.6	19
72	The Determination of the Rotational State and Interior Structure of Venus with VERITAS. Planetary Science Journal, 2021, 2, 220.	3.6	18

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73	Martian exospheric density using Mars Odyssey radio tracking data. Journal of Geophysical Research, 2007, 112, .	3.3	17
74	Observation of atmospheric tides in the Martian exosphere using Mars Reconnaissance Orbiter radio tracking data. Geophysical Research Letters, 2008, 35, .	4.0	17
75	New analysis of Lunar Prospector radio tracking data brings the nearside gravity field of the Moon with an unprecedented resolution. Icarus, 2011, 215, 455-459.	2.5	17
76	Characterization of the morphometry of impact craters hosting polar deposits in Mercury's north polar region. Journal of Geophysical Research, 2012, 117, .	3.3	17
77	Simulated recovery of Europa's global shape and tidal Love numbers from altimetry and radio tracking during a dedicated flyby tour. Geophysical Research Letters, 2015, 42, 3166-3173.	4.0	17
78	Effects of Space Weathering and Porosity on the Farâ€UV Reflectance of Amundsen Crater. Journal of Geophysical Research E: Planets, 2019, 124, 823-836.	3.6	16
79	Internal rubble properties of asteroid (101955) Bennu. Icarus, 2021, 370, 114665.	2.5	15
80	Evidence for the sequestration of hydrogen-bearing volatiles towards the Moonâ€™s southern pole-facing slopes. Icarus, 2015, 255, 88-99.	2.5	14
81	An Integrated Traverse Planner and Analysis Tool for Planetary Exploration. , 2010, , .		13
82	Highâ€resolution local gravity model of the south pole of the Moon from GRAIL extended mission data. Geophysical Research Letters, 2014, 41, 3367-3374.	4.0	12
83	Analysis of one-way laser ranging data to LRO, time transfer and clock characterization. Icarus, 2017, 283, 38-54.	2.5	12
84	Demonstration of orbit determination for the Lunar Reconnaissance Orbiter using one-way laser ranging data. Planetary and Space Science, 2016, 129, 32-46.	1.7	11
85	New Illumination and Temperature Constraints of Mercuryâ€™s Volatile Polar Deposits. Planetary Science Journal, 2020, 1, 57.	3.6	11
86	Arecibo S-band Radar Characterization of Local-scale Heterogeneities within Mercuryâ€™s North Polar Deposits. Planetary Science Journal, 2022, 3, 62.	3.6	11
87	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
88	First two-way laser ranging to a lunar orbiter: infrared observations from the Grasse station to LROâ€™s retro-reflector array. Earth, Planets and Space, 2020, 72, .	2.5	10
89	Evaluation of Recent Measurements of Mercuryâ€™s Moments of Inertia and Tides Using a Comprehensive Markov Chain Monte Carlo Method. Planetary Science Journal, 2022, 3, 37.	3.6	10
90	Atmospheric Density During the Aerobraking of Mars Odyssey from Radio Tracking Data. Journal of Spacecraft and Rockets, 2007, 44, 1165-1171.	1.9	9

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91	Mercuryâ€™s Crust and Lithosphere: Structure and Mechanics. , 2018, , 52-84.		9
92	Deriving Mercury Geodetic Parameters With Altimetric Crossovers From the Mercury Laser Altimeter (MLA). Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006683.	3.6	9
93	Small and lightweight laser retro-reflector arrays for lunar landers. Applied Optics, 2019, 58, 9259.	1.8	9
94	Recovery of Bennuâ€™s orientation for the OSIRIS-REx mission: implications for the spin state accuracy and geolocation errors. Journal of Geodesy, 2017, 91, 1141-1161.	3.6	8
95	Trilogy, a planetary geodesy mission concept for measuring the expansion of the solar system. Planetary and Space Science, 2018, 153, 127-133.	1.7	8
96	Improving the geometry of Kaguya extended mission data through refined orbit determination using laser altimetry. Icarus, 2020, 336, 113454.	2.5	8
97	Meteoroid Bombardment of Lunar Poles. Astrophysical Journal, 2020, 894, 114.	4.5	8
98	The spectral radiance of indirectly illuminated surfaces in regions of permanent shadow on the Moon. Acta Astronautica, 2021, 180, 25-34.	3.2	7
99	Estimation of Crust and Lithospheric Properties for Mercury from High-resolution Gravity and Topography. Planetary Science Journal, 2022, 3, 145.	3.6	7
100	Geological context of potential landing site of the Luna-Glob mission. Solar System Research, 2014, 48, 391-402.	0.7	6
101	Orbit Determination of the Dawn Spacecraft with Radiometric and Image Data. Journal of Spacecraft and Rockets, 2015, 52, 1331-1337.	1.9	6
102	In-flight characterization of the lunar orbiter laser altimeter instrument pointing and far-field pattern. Applied Optics, 2018, 57, 7702.	1.8	6
103	Searching for Lunar Horizon Glow With the Lunar Orbiter Laser Altimeter. Journal of Geophysical Research E: Planets, 2019, 124, 2728-2744.	3.6	6
104	Small All-Range Lidar for Asteroid and Comet Core Missions. Sensors, 2021, 21, 3081.	3.8	6
105	Erosion of Volatiles by Micrometeoroid Bombardment on Ceres and Comparison to the Moon and Mercury. Planetary Science Journal, 2021, 2, 85.	3.6	6
106	Mass and Shape Determination of (101955) Bennu Using Differenced Data from Multiple OSIRIS-REx Mission Phases. Planetary Science Journal, 2021, 2, 219.	3.6	6
107	Seeing the Missing Half. Science, 2009, 323, 885-887.	12.6	5
108	Geodetic investigations of the mission concept MAGIC to reveal Callisto's internal structure. Acta Astronautica, 2022, 195, 68-76.	3.2	5

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109	Long-term variability of CO₂and O in the Mars upper atmosphere from MRO radio science data. Journal of Geophysical Research E: Planets, 2015, 120, 849-868.	3.6	4
110	Optical Gravimetry mass measurement performance for small body flyby missions. Planetary and Space Science, 2021, 205, 105289.	1.7	4
111	Improved force modeling on Mars-Orbiting spacecraft. , 2008, , .		3
112	A theoretical assessment of the feasibility of potential Lunar Reconnaissance Orbiter radio occultation observations of the lunar ionosphere. Advances in Space Research, 2021, 67, 4099-4109.	2.6	3
113	Small PN-Code Lidar for Asteroid and Comet Missionsâ€"Receiver Processing and Performance Simulations. Remote Sensing, 2021, 13, 2282.	4.0	3
114	Improved Determination of Europa's Longâ€Wavelength Topography Using Stellar Occultations. Earth and Space Science, 2021, 8, e2020EA001586.	2.6	2
115	Building Lunar Maps for Terrain Relative Navigation and Hazard Detection Applications. , 2022, , .		2
116	Global scale lunar sample return using projectiles launched from a low-flying spacecraft. Advances in Space Research, 2007, 39, 627-635.	2.6	1
117	The case for landed Mercury science. Experimental Astronomy, 0, , 1.	3.7	0
118	Optical characterization of laser retroreflector arrays for lunar landers. Applied Optics, 2020, 59, 5020.	1.8	0