Maria T Zuber

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/8451047/publications.pdf

Version: 2024-02-01

149 papers	17,993 citations	9786 73 h-index	12597 132 g-index
151 all docs	151 docs citations	151 times ranked	6536 citing authors

#	Article	IF	Citations
1	The Psyche Topography and Geomorphology Investigation. Space Science Reviews, 2022, 218, 1.	8.1	4
2	Distinguishing the Origin of Asteroid (16) Psyche. Space Science Reviews, 2022, 218, 17.	8.1	13
3	Maximum Energies of Trapped Particles Around Magnetized Planets and Small Bodies. Geophysical Research Letters, 2022, 49, .	4.0	3
4	Investigating the Influences of Crustal Thickness and Temperature on the Uplift of Mantle Materials Beneath Large Impact Craters on the Moon. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006533.	3.6	3
5	Large impact cratering during lunar magma ocean solidification. Nature Communications, 2021, 12, 5433.	12.8	16
6	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
7	Observations, Meteorites, and Models: A Preflight Assessment of the Composition and Formation of (16) Psyche. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006296.	3.6	61
8	Nucleic Acid Sequencing Under Mars-Like Conditions. , 2019, , .		1
9	Searching for Lunar Horizon Glow With the Lunar Orbiter Laser Altimeter. Journal of Geophysical Research E: Planets, 2019, 124, 2728-2744.	3.6	6
10	Nucleic Acid Extraction and Sequencing from Low-Biomass Synthetic Mars Analog Soils forIn SituLife Detection. Astrobiology, 2019, 19, 1139-1152.	3.0	17
11	Slurry extrusion on Ceres from a convective mud-bearing mantle. Nature Geoscience, 2019, 12, 505-509.	12.9	42
12	Geodetic Evidence That Mercury Has A Solid Inner Core. Geophysical Research Letters, 2019, 46, 3625-3633.	4.0	80
13	Deep Structure of the Lunar South Poleâ€Aitken Basin. Geophysical Research Letters, 2019, 46, 5100-5106.	4.0	22
14	Variations in Martian Lithospheric Strength Based on Gravity/Topography Analysis. Journal of Geophysical Research E: Planets, 2019, 124, 3095-3118.	3.6	12
15	High-resolution shape model of Ceres from stereophotoclinometry using Dawn Imaging Data. Icarus, 2019, 319, 812-827.	2.5	51
16	Radial gravity anomalies associated with the ejecta of the Orientale basin. Icarus, 2019, 319, 444-458.	2.5	3
17	Solar system expansion and strong equivalence principle as seen by the NASA MESSENGER mission. Nature Communications, 2018, 9, 289.	12.8	81
18	Isostatic Compensation of the Lunar Highlands. Journal of Geophysical Research E: Planets, 2018, 123, 646-665.	3.6	10

#	Article	IF	Citations
19	Ring faults and ring dikes around the Orientale basin on the Moon. Icarus, 2018, 310, 1-20.	2.5	31
20	The Ceres gravity field, spin pole, rotation period and orbit from the Dawn radiometric tracking and optical data. Icarus, 2018, 299, 411-429.	2.5	65
21	Olivine-bearing lithologies on the Moon: Constraints on origins and transport mechanisms from M3 spectroscopy, radiative transfer modeling, and GRAIL crustal thickness. Icarus, 2018, 300, 287-304.	2.5	27
22	Orbit determination of the Lunar Reconnaissance Orbiter: Status after seven years. Planetary and Space Science, 2018, 162, 2-19.	1.7	39
23	Controls on the Formation of Lunar Multiring Basins. Journal of Geophysical Research E: Planets, 2018, 123, 3035-3050.	3.6	19
24	Sequencing nothing: Exploring failure modes of nanopore sensing and implications for life detection. Life Sciences in Space Research, 2018, 18, 80-86.	2.3	13
25	Constraints on Lunar Crustal Porosity From the Gravitational Signature of Impact Craters. Journal of Geophysical Research E: Planets, 2018, 123, 2281-2294.	3.6	8
26	CarrierSeq: a sequence analysis workflow for low-input nanopore sequencing. BMC Bioinformatics, 2018, 19, 108.	2.6	18
27	Reexamination of Early Lunar Chronology With GRAIL Data: Terranes, Basins, and Impact Fluxes. Journal of Geophysical Research E: Planets, 2018, 123, 1596-1617.	3.6	25
28	Detection and characterization of buried lunar craters with GRAIL data. Icarus, 2017, 289, 157-172.	2.5	25
29	Small-scale density variations in the lunar crust revealed by GRAIL. Icarus, 2017, 291, 107-123.	2.5	34
30	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
31	GRAIL gravity observations of the transition from complex crater to peak-ring basin on the Moon: Implications for crustal structure and impact basin formation. Icarus, 2017, 292, 54-73.	2.5	19
32	Ceres's obliquity history and its implications for the permanently shadowed regions. Geophysical Research Letters, 2017, 44, 2652-2661.	4.0	29
33	Constraints on Ceres' Internal Structure and Evolution From Its Shape and Gravity Measured by the Dawn Spacecraft. Journal of Geophysical Research E: Planets, 2017, 122, 2267-2293.	3.6	117
34	The interior structure of Ceres as revealed by surface topography. Earth and Planetary Science Letters, 2017, 476, 153-164.	4.4	117
35	Analysis of one-way laser ranging data to LRO, time transfer and clock characterization. Icarus, 2017, 283, 38-54.	2.5	12
36	Summary of the results from the lunar orbiter laser altimeter after seven years in lunar orbit. Icarus, 2017, 283, 70-91.	2.5	116

#	Article	IF	Citations
37	The laser ranging experiment of the Lunar Reconnaissance Orbiter: Five years of operations and data analysis. Icarus, 2017, 283, 55-69.	2.5	23
38	Thicknesses of mare basalts on the Moon from gravity and topography. Journal of Geophysical Research E: Planets, 2016, 121, 854-870.	3.6	51
39	A partially differentiated interior for (1) Ceres deduced from its gravity field and shape. Nature, 2016, 537, 515-517.	27.8	169
40	Dawn arrives at Ceres: Exploration of a small, volatile-rich world. Science, 2016, 353, 1008-1010.	12.6	178
41	Interactions between complex craters and the lunar crust: Analysis using GRAIL data. Journal of Geophysical Research E: Planets, 2016, 121, 1488-1497.	3.6	12
42	Subsurface morphology and scaling of lunar impact basins. Journal of Geophysical Research E: Planets, 2016, 121, 1695-1712.	3.6	37
43	Identification of buried lunar impact craters from GRAIL data and implications for the nearside maria. Geophysical Research Letters, 2016, 43, 2445-2455.	4.0	56
44	Formation of the Orientale lunar multiring basin. Science, 2016, 354, 441-444.	12.6	78
45	Gravity field of the Orientale basin from the Gravity Recovery and Interior Laboratory Mission. Science, 2016, 354, 438-441.	12.6	38
46	Lunar phase function at 1064Ânm from Lunar Orbiter Laser Altimeter passive and active radiometry. Icarus, 2016, 273, 96-113.	2.5	19
47	Gravitational search for cryptovolcanism on the Moon: Evidence for large volumes of early igneous activity. Icarus, 2016, 273, 284-295.	2.5	27
48	Seasonal and static gravity field of Mars from MGS, Mars Odyssey and MRO radio science. Icarus, 2016, 272, 228-245.	2.5	172
49	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
50	A new lunar digital elevation model from the Lunar Orbiter Laser Altimeter and SELENE Terrain Camera. Icarus, 2016, 273, 346-355.	2.5	326
51	The lowâ€degree shape of Mercury. Geophysical Research Letters, 2015, 42, 6951-6958.	4.0	36
52	Preimpact porosity controls the gravity signature of lunar craters. Geophysical Research Letters, 2015, 42, 9711-9716.	4.0	50
53	The fractured Moon: Production and saturation of porosity in the lunar highlands from impact cratering. Geophysical Research Letters, 2015, 42, 6939-6944.	4.0	63
54	First <scp>MESSENGER</scp> orbital observations of Mercury's librations. Geophysical Research Letters, 2015, 42, 7881-7889.	4.0	44

#	Article	IF	Citations
55	Lunar impact basins revealed by Gravity Recovery and Interior Laboratory measurements. Science Advances, 2015, 1, e1500852.	10.3	173
56	Excavation of the lunar mantle by basin-forming impact events on the Moon. Earth and Planetary Science Letters, 2015, 409, 243-251.	4.4	64
57	Deep-seated thrust faults bound the Mare Crisium lunar mascon. Earth and Planetary Science Letters, 2015, 427, 183-190.	4.4	39
58	Magnetic field modeling for Mercury using dynamo models with a stable layer and laterally variable heat flux. Icarus, 2015, 260, 263-268.	2.5	30
59	Support of longâ€wavelength topography on Mercury inferred from MESSENGER measurements of gravity and topography. Journal of Geophysical Research E: Planets, 2015, 120, 287-310.	3.6	48
60	The global albedo of the Moon at 1064 nm from LOLA. Journal of Geophysical Research E: Planets, 2014, 119, 1665-1679.	3.6	96
61	Gravity field expansion in ellipsoidal harmonic and polyhedral internal representations applied to Vesta. Icarus, 2014, 240, 118-132.	2.5	48
62	The tidalâ€“rotational shape of the Moon and evidence for polar wander. Nature, 2014, 512, 181-184.	27.8	55
63	GRAIL gravity constraints on the vertical and lateral density structure of the lunar crust. Geophysical Research Letters, 2014, 41, 5771-5777.	4.0	126
64	Structure and evolution of the lunar Procellarum region as revealed by GRAIL gravity data. Nature, 2014, 514, 68-71.	27.8	85
65	The Vesta gravity field, spin pole and rotation period, landmark positions, and ephemeris from the Dawn tracking and optical data. Icarus, 2014, 240, 103-117.	2.5	98
66	Highâ€resolution lunar gravity fields from the GRAIL Primary and Extended Missions. Geophysical Research Letters, 2014, 41, 1452-1458.	4.0	103
67	Constraints on Vestaâ€™s interior structure using gravity and shape models from the Dawn mission. Icarus, 2014, 240, 146-160.	2.5	55
68	The formation of lunar mascon basins from impact to contemporary form. Journal of Geophysical Research E: Planets, 2014, 119, 2378-2397.	3.6	57
69	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
70	Lunar interior properties from the GRAIL mission. Journal of Geophysical Research E: Planets, 2014, 119, 1546-1578.	3.6	185
71	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
72	GRGM900C: A degree 900 lunar gravity model from GRAIL primary and extended mission data. Geophysical Research Letters, 2014, 41, 3382-3389.	4.0	152

#	Article	IF	Citations
73	The Scientific Measurement System of the Gravity Recovery and Interior Laboratory (GRAIL) Mission. Space Science Reviews, 2013, 178, 25-55.	8.1	32
74	Gravity Recovery and Interior Laboratory (GRAIL): Mapping the Lunar Interior from Crust to Core. Space Science Reviews, 2013, 178, 3-24.	8.1	128
75	Effects of Hydrothermal Cooling and Magma Injection on Mid-Ocean Ridge Temperature Structure, Deformation, and Axial Morphology. Geophysical Monograph Series, 2013, , 151-165.	0.1	3
76	Asymmetric Distribution of Lunar Impact Basins Caused by Variations in Target Properties. Science, 2013, 342, 724-726.	12.6	103
77	Ancient Igneous Intrusions and Early Expansion of the Moon Revealed by GRAIL Gravity Gradiometry. Science, 2013, 339, 675-678.	12.6	177
78	Gravity Field of the Moon from the Gravity Recovery and Interior Laboratory (GRAIL) Mission. Science, 2013, 339, 668-671.	12.6	389
79	The Crust of the Moon as Seen by GRAIL. Science, 2013, 339, 671-675.	12.6	726
80	Lunar topographic roughness maps from Lunar Orbiter Laser Altimeter (LOLA) data: Scale dependence and correlation with geologic features and units. Icarus, 2013, 226, 52-66.	2.5	90
81	Crustal thickness and support of topography on Venus. Journal of Geophysical Research E: Planets, 2013, 118, 859-875.	3.6	86
82	The Origin of Lunar Mascon Basins. Science, 2013, 340, 1552-1555.	12.6	174
83	Free space laser communication experiments from Earth to the Lunar Reconnaissance Orbiter in lunar orbit. Optics Express, 2013, 21, 1865.	3.4	63
84	Highâ€'degree gravity models from GRAIL primary mission data. Journal of Geophysical Research E: Planets, 2013, 118, 1676-1698.	3.6	114
85	The curious case of Mercury's internal structure. Journal of Geophysical Research E: Planets, 2013, 118, 1204-1220.	3.6	210
86	The JPL lunar gravity field to spherical harmonic degree 660 from the GRAIL Primary Mission. Journal of Geophysical Research E: Planets, 2013, 118, 1415-1434.	3.6	143
87	Gravity Field and Internal Structure of Mercury from MESSENGER. Science, 2012, 336, 214-217.	12.6	305
88	Constraints on the volatile distribution within Shackleton crater at the lunar south pole. Nature, 2012, 486, 378-381.	27.8	159
89	Topography of the Northern Hemisphere of Mercury from MESSENGER Laser Altimetry. Science, 2012, 336, 217-220.	12.6	223
90	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

#	Article	IF	Citations
91	The transition from complex craters to multiâ€ring basins on the Moon: Quantitative geometric properties from Lunar Reconnaissance Orbiter Lunar Orbiter Laser Altimeter (LOLA) data. Journal of Geophysical Research, 2012, 117, .	3.3	40
92	Large impact basins on Mercury: Global distribution, characteristics, and modification history from MESSENGER orbital data. Journal of Geophysical Research, 2012, 117, .	3.3	68
93	Dawn at Vesta: Testing the Protoplanetary Paradigm. Science, 2012, 336, 684-686.	12.6	422
94	Vestaâ€™s Shape and Morphology. Science, 2012, 336, 687-690.	12.6	222
95	Global maps of lunar neutron fluxes from the LEND instrument. Journal of Geophysical Research, 2012, 117, .	3.3	35
96	Orbit determination of the Lunar Reconnaissance Orbiter. Journal of Geodesy, 2012, 86, 193-207.	3.6	117
97	Global surface slopes and roughness of the Moon from the Lunar Orbiter Laser Altimeter. Journal of Geophysical Research, 2011, 116, .	3.3	149
98	Chondrites as samples of differentiated planetesimals. Earth and Planetary Science Letters, 2011, 305, 1-10.	4.4	247
99	The transition from complex crater to peak-ring basin on the Moon: New observations from the Lunar Orbiter Laser Altimeter (LOLA) instrument. Icarus, 2011, 214, 377-393.	2.5	74
100	Mars high resolution gravity fields from MRO, Mars seasonal gravity, and other dynamical parameters. Icarus, 2011, 211, 401-428.	2.5	308
101	Illumination conditions of the lunar polar regions using LOLA topography. Icarus, 2011, 211, 1066-1081.	2.5	218
102	The Dawn Gravity Investigation at Vesta and Ceres. , 2011, , 461-486.		3
103	Global Distribution of Large Lunar Craters: Implications for Resurfacing and Impactor Populations. Science, 2010, 329, 1504-1507.	12.6	210
104	The Lunar Reconnaissance Orbiter Laser Ranging Investigation. Space Science Reviews, 2010, 150, 63-80.	8.1	91
105	The Lunar Orbiter Laser Altimeter Investigation onÂtheÂLunar Reconnaissance Orbiter Mission. Space Science Reviews, 2010, 150, 209-241.	8.1	394
106	Initial observations from the Lunar Orbiter Laser Altimeter (LOLA). Geophysical Research Letters, 2010, 37, .	4.0	356
107	Elliptical structure of the lunar South Pole-Aitken basin. Icarus, 2009, 204, 399-408.	2.5	127
108	Could Pantheon Fossae be the result of the Apollodorus crater-forming impact within the Caloris basin, Mercury?. Earth and Planetary Science Letters, 2009, 285, 320-327.	4.4	27

#	Article	IF	Citations
109	The Borealis basin and the origin of the martian crustal dichotomy. Nature, 2008, 453, 1212-1215.	27.8	285
110	Mars North Polar Deposits: Stratigraphy, Age, and Geodynamical Response. Science, 2008, 320, 1182-1185.	12.6	271
111	Sulfurâ€induced greenhouse warming on early Mars. Journal of Geophysical Research, 2008, 113, .	3.3	86
112	The Radio Frequency Subsystem and Radio Science on the MESSENGER Mission. Space Science Reviews, 2007, 131, 557-571.	8.1	33
113	Thickness of the Martian crust: Improved constraints from geoid-to-topography ratios. Journal of Geophysical Research, 2004, 109, .	3.3	205
114	Depth, distribution, and density of CO2deposition on Mars. Journal of Geophysical Research, 2004, 109, .	3.3	72
115	Crustal structure of Mars from gravity and topography. Journal of Geophysical Research, 2004, 109, .	3.3	360
116	Correction to â€œLocalized gravity/topography admittance and correlation spectra on Mars: Implications for regional and global evolutionâ€• Journal of Geophysical Research, 2004, 109, .	3.3	151
117	Title is missing!. Solar System Research, 2003, 37, 378-386.	0.7	9
118	Spacing of faults at the scale of the lithosphere and localization instability: 1. Theory. Journal of Geophysical Research, 2003, 108, .	3.3	20
119	Spacing of faults at the scale of the lithosphere and localization instability: 2. Application to the Central Indian Basin. Journal of Geophysical Research, 2003, 108, .	3.3	15
120	Two Mars years of clouds detected by the Mars Orbiter Laser Altimeter. Journal of Geophysical Research, 2003, 108, .	3.3	58
121	Clues to the lithospheric structure of Mars from wrinkle ridge sets and localization instability. Journal of Geophysical Research, 2003, 108, .	3.3	95
122	Mars Orbiter Laser Altimeter pulse width measurements and footprint-scale roughness. Geophysical Research Letters, 2003, 30, .	4.0	89
123	A unified description of localization for application to large-scale tectonics. Journal of Geophysical Research, 2002, 107, ECV 1-1.	3.3	109
124	Mechanisms of normal fault development at mid-ocean ridges. Journal of Geophysical Research, 2002, 107, EPM 7-1-EPM 7-17.	3.3	35
125	Localized gravity/topography admittance and correlation spectra on Mars: Implications for regional and global evolution. Journal of Geophysical Research, 2002, 107, 19-1-19-25.	3.3	243
126	A procedure for determining the nature of Mercury's core. Meteoritics and Planetary Science, 2002, 37, 1269-1283.	1.6	90

#	Article	IF	Citations
127	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
128	An improved solution of the gravity field of Mars (GMM-2B) from Mars Global Surveyor. Journal of Geophysical Research, 2001, 106, 23359-23376.	3.3	227
129	Degree-1 mantle convection and the crustal dichotomy on Mars. Earth and Planetary Science Letters, 2001, 189, 75-84.	4.4	223
130	The crust and mantle of Mars. Nature, 2001, 412, 220-227.	27.8	256
131	Ancient Geodynamics and Global-Scale Hydrology on Mars. Science, 2001, 291, 2587-2591.	12.6	453
132	A comparison of ocean topography derived from the Shuttle Laser Altimeter-01 and TOPEX/POSEIDON. IEEE Transactions on Geoscience and Remote Sensing, 2000, 38, 1425-1438.	6.3	7
133	A dynamic origin for the global asymmetry of lunar mare basalts. Earth and Planetary Science Letters, 2000, 177, 131-140.	4.4	127
134	Isostatic response of the Australian lithosphere: Estimation of effective elastic thickness and anisotropy using multitaper spectral analysis. Journal of Geophysical Research, 2000, 105, 19163-19184.	3.3	145
135	Internal Structure and Early Thermal Evolution of Mars from Mars Global Surveyor Topography and Gravity. Science, 2000, 287, 1788-1793.	12.6	518
136	The Shape of 433 Eros from the NEAR-Shoemaker Laser Rangefinder. Science, 2000, 289, 2097-2101.	12.6	171
137	Long-wavelength topographic relaxation for self-gravitating planets and implications for the time-dependent compensation of surface topography. Journal of Geophysical Research, 2000, 105, 4153-4164.	3.3	76
138	Measurement and Analysis of Lunar Basin Depths from Clementine Altimetry. Icarus, 1998, 131, 107-122.	2.5	94
139	Mars: Northern hemisphere slopes and slope distributions. Geophysical Research Letters, 1998, 25, 4413-4416.	4.0	48
140	The relationship between MOLA northern hemisphere topography and the 6.1-Mbar atmospheric pressure surface of Mars. Geophysical Research Letters, 1998, 25, 4397-4400.	4.0	42
141	Shape of the northern hemisphere of Mars from the Mars Orbiter Laser Altimeter (MOLA). Geophysical Research Letters, 1998, 25, 4393-4396.	4.0	23
142	A 70th degree lunar gravity model (GLGM-2) from Clementine and other tracking data. Journal of Geophysical Research, 1997, 102, 16339-16359.	3.3	125
143	Topography of the lunar south polar region: Implications for the size and location of permanently shaded areas. Geophysical Research Letters, 1997, 24, 2183-2186.	4.0	17
144	Topography of the Moon from the Clementine lidar. Journal of Geophysical Research, 1997, 102, 1591-1611.	3.3	246

#	Article	IF	Citations
145	The lunar crust: Global structure and signature of major basins. Journal of Geophysical Research, 1996, 101, 16841-16863.	3.3	206
146	Simultaneous estimation of the masses of Mars, Phobos, and Deimos using spacecraft distant encounters. Geophysical Research Letters, 1995, 22, 2171-2174.	4.0	28
147	New gravity field for Mars fuels research. Eos, 1994, 75, 97.	0.1	0
148	The Shape and Internal Structure of the Moon from the Clementine Mission. Science, 1994, 266, 1839-1843.	12.6	349
149	The Mars Observer laser altimeter investigation. Journal of Geophysical Research, 1992, 97, 7781-7797.	3.3	446