Matthias Grott

List of Publications by Year
in descending order

93 papers	4,357 citations	94433 37 h-index	110387 64 g-index
103 all docs	103 docs citations	103 times ranked	3176 citing authors

#	Article	IF	Citations
1	Planetary polar explorer â€“ the case for a next-generation remote sensing mission to low Mars orbit. Experimental Astronomy, 2022, 54, 695-711.	3.7	6
2	Mid-infrared emissivity of partially dehydrated asteroid (162173) Ryugu shows strong signs of aqueous alteration. Nature Communications, 2022, 13, 364.	12.8	10
3	The MMX rover: performing in situ surface investigations on Phobos. Earth, Planets and Space, 2022, 74, .	2.5	20
4	The InSight-HP3 mole on Mars: Lessons learned from attempts to penetrate to depth in the Martian soil. Advances in Space Research, 2022, 69, 3140-3163.	2.6	24
5	A Concept for a Mars Boundary Layer Sounding Balloon: Science Case, Technical Concept and Deployment Risk Analysis. Aerospace, 2022, 9, 136.	2.2	0
6	Seasonal variations of subsurface seismic velocities monitored by the SEIS-InSight seismometer on Mars. Geophysical Journal International, 2022, 229, 776-799.	2.4	10
7	In Situ and Orbital Stratigraphic Characterization of the InSight Landing Siteâ€"A Type Example of a Regolithâ€Covered Lava Plain on Mars. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	17
8	Thermal Properties of the Mojave Mars Regolith Simulant in Mars-Like Atmospheric Conditions. International Journal of Thermophysics, 2022, 43, 1.	2.1	3
9	An autonomous lunar geophysical experiment package (ALGEP) for future space missions. Experimental Astronomy, 2022, 54, 617-640.	3.7	2
10	Microporosity and parent body of the rubble-pile NEA (162173) Ryugu. Icarus, 2021, 358, 114166.	2.5	10
11	Changâ€™Eâ€4 Rover Spectra Revealing Microâ€scale Surface Thermophysical Properties of the Moon. Geophysical Research Letters, 2021, 48, e2020GL089226.	4.0	3
12	Anomalously porous boulders on (162173) Ryugu as primordial materials from its parent body. Nature Astronomy, 2021, 5, 766-774.	10.1	30
13	The MASCOT lander aboard Hayabusa2: The in-situ exploration of NEA (162173) Ryugu. Planetary and Space Science, 2021, 200, 105200.	1.7	18
14	Thermal Conductivity of the Martian Soil at the InSight Landing Site From HP³ Active Heating Experiments. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006861.	3.6	23
15	Near Surface Properties of Martian Regolith Derived From InSight HP³â€RAD Temperature Observations During Phobos Transits. Geophysical Research Letters, 2021, 48, e2021GL093542.	4.0	13
16	Soil Thermophysical Properties Near the InSight Lander Derived From 50 Sols of Radiometer Measurements. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006859.	3.6	22
17	A Reconstruction Algorithm for Temporally Aliased Seismic Signals Recorded by the InSight Mars Lander. Earth and Space Science, 2021, 8, e2020EA001234.	2.6	6
18	Seasonal seismic activity on Mars. Earth and Planetary Science Letters, 2021, 576, 117171.	4.4	13

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19	Penetration and performance testing of the HPÂ³ Mole for the InSight Mars mission. Planetary and Space Science, 2020, 181, 104780.	1.7	12
20	Potential effects of atmospheric collapse on Martian heat flow and application to the InSight measurements. Planetary and Space Science, 2020, 180, 104778.	1.7	0
21	Thermophysical modelling and parameter estimation of small Solar system bodies via data assimilation. Monthly Notices of the Royal Astronomical Society, 2020, 496, 2776-2785.	4.4	16
22	Macroporosity and Grain Density of Rubble Pile Asteroid (162173) Ryugu. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006519.	3.6	27
23	Effects of a Large Dust Storm in the Nearâ€Surface Atmosphere as Measured by InSight in Elysium Planitia, Mars. Comparison With Contemporaneous Measurements by Mars Science Laboratory. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006493.	3.6	30
24	The process for the selection of MASCOT landing site on Ryugu: Design, execution and results. Planetary and Space Science, 2020, 194, 105086.	1.7	6
25	Highly porous nature of a primitive asteroid revealed by thermal imaging. Nature, 2020, 579, 518-522.	27.8	100
26	Calibration of the HP³ Radiometer on InSight. Earth and Space Science, 2020, 7, e2020EA001086.	2.6	19
27	Geology of the InSight landing site on Mars. Nature Communications, 2020, 11, 1014.	12.8	107
28	Constraints on the shallow elastic and anelastic structure of Mars from InSight seismic data. Nature Geoscience, 2020, 13, 213-220.	12.9	207
29	Initial results from the InSight mission on Mars. Nature Geoscience, 2020, 13, 183-189.	12.9	274
30	Effects of dust layers on thermal emission from airless bodies. Progress in Earth and Planetary Science, 2019, 6, .	3.0	19
31	Low thermal conductivity boulder with high porosity identified on C-type asteroid (162173) Ryugu. Nature Astronomy, 2019, 3, 971-976.	10.1	124
32	Possibility of estimating particle size and porosity on Ryugu through MARA temperature measurements. Icarus, 2019, 333, 318-322.	2.5	10
33	Images from the surface of asteroid Ryugu show rocks similar to carbonaceous chondrite meteorites. Science, 2019, 365, 817-820.	12.6	99
34	Calibration of the Heat Flow and Physical Properties Package (HP) for the InSight Mars Mission. Earth and Space Science, 2019, 6, 2556-2574.	2.6	8
35	The Hayabusa2 lander MASCOT on the surface of asteroid (162173) Ryugu â€“ Stereo-photogrammetric analysis of MASCam image data. Astronomy and Astrophysics, 2019, 632, L5.	5.1	14
36	The descent and bouncing path of the Hayabusa2 lander MASCOT at asteroid (162173) Ryugu. Astronomy and Astrophysics, 2019, 632, L3.	5.1	18

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37	Pre-mission InSights on the Interior of Mars. Space Science Reviews, 2019, 215, 1.	8.1	85
38	Latitudinal dependence of asteroid regolith formation by thermal fatigue. Icarus, 2019, 319, 308-311.	2.5	12
39	The first active seismic experiment on Mars to characterize the shallow subsurface structure at the InSight landing site. , 2019, , .		10
40	Presentâ€Đay Mars' Seismicity Predicted From 3â€Đ Thermal Evolution Models of Interior Dynamics. Geophysical Research Letters, 2018, 45, 2580-2589.	4.0	35
41	Asteroid Ryugu before the Hayabusa2 encounter. Progress in Earth and Planetary Science, 2018, 5, .	3.0	39
42	HP3â€" Experiment on InSight Mission â€" Operations on Mars. , 2018, , .		1
43	The Thermal State and Interior Structure of Mars. Geophysical Research Letters, 2018, 45, 12,198.	4.0	69
44	The Heat Flow and Physical Properties Package (HP3) for the InSight Mission. Space Science Reviews, 2018, 214, 1.	8.1	105
45	Paleopole Reconstruction of Martian Magnetic Field Anomalies. Journal of Geophysical Research E: Planets, 2018, 123, 1140-1155.	3.6	18
46	Geology and Physical Properties Investigations by the InSight Lander. Space Science Reviews, 2018, 214, 1.	8.1	77
47	A Pre-Landing Assessment of Regolith Properties at the InSight Landing Site. Space Science Reviews, 2018, 214, 1.	8.1	58
48	A method to derive surface thermophysical properties of asteroid (162173) Ryugu (1999JU3) from in-situ surface brightness temperature measurements. Planetary and Space Science, 2018, 159, 1-10.	1.7	19
49	MASCOTâ€"The Mobile Asteroid Surface Scout Onboard the Hayabusa2 Mission. Space Science Reviews, 2017, 208, 339-374.	8.1	100
50	Constraining the Date of the Martian Dynamo Shutdown by Means of Crater Magnetization Signatures. Journal of Geophysical Research E: Planets, 2017, 122, 2294-2311.	3.6	28
51	Potential Effects of Surface Temperature Variations and Disturbances and Thermal Convection on the Mars InSight HP3 Heat-Flow Determination. Space Science Reviews, 2017, 211, 277-313.	8.1	9
52	Analysis of Regolith Properties Using Seismic Signals Generated by InSightâ€™s HP3 Penetrator. Space Science Reviews, 2017, 211, 315-337.	8.1	31
53	The InSight Mars Lander and Its Effect on the Subsurface Thermal Environment. Space Science Reviews, 2017, 211, 259-275.	8.1	16
54	The Camera of the MASCOT Asteroid Lander on Board Hayabusa 2. Space Science Reviews, 2017, 208, 375-400.	8.1	46

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55	The MASCOT Radiometer MARA for the Hayabusa 2 Mission. Space Science Reviews, 2017, 208, 413-431.	8.1	62
56	On the accuracy of palaeopole estimations from magnetic field measurements. Geophysical Journal International, 2017, 211, 1669-1678.	2.4	21
57	How large are present-day heat flux variations across the surface of Mars?. Journal of Geophysical Research E: Planets, 2016, 121, 2386-2403.	3.6	81
58	Interannual perturbations of the Martian surface heat flow by atmospheric dust opacity variations. Journal of Geophysical Research E: Planets, 2016, 121, 2166-2175.	3.6	14
59	Water in the Martian interiorâ€"The geodynamical perspective. Meteoritics and Planetary Science, 2016, 51, 1959-1992.	1.6	20
60	A review of volatiles in the Martian interior. Meteoritics and Planetary Science, 2016, 51, 1935-1958.	1.6	43
61	Mercury's lowâ€degree geoid and topography controlled by insolationâ€driven elastic deformation. Geophysical Research Letters, 2015, 42, 7327-7335.	4.0	16
62	Thermal evolution and Urey ratio of Mars. Journal of Geophysical Research E: Planets, 2015, 120, 995-1010.	3.6	48
63	Thermal and mechanical properties of the near-surface layers of comet 67P/Churyumov-Gerasimenko. Science, 2015, 349, aab0464.	12.6	158
64	A spherical harmonic model of the lithospheric magnetic field of Mars. Journal of Geophysical Research E: Planets, 2014, 119, 1162-1188.	3.6	157
65	Outgassing History and Escape of the Martian Atmosphere and Water Inventory. Space Science Reviews, 2013, 174, 113-154.	8.1	159
66	Long-Term Evolution of the Martian Crust-Mantle System. Space Science Reviews, 2013, 174, 49-111.	8.1	124
67	Thermochemical evolution of Mercury's interior. Journal of Geophysical Research E: Planets, 2013, 118, 2474-2487.	3.6	113
68	Geology, geochemistry, and geophysics of the Moon: Status of current understanding. Planetary and Space Science, 2012, 74, 15-41.	1.7	104
69	Density and lithospheric structure at Tyrrhena Patera, Mars, from gravity and topography data. Icarus, 2012, 221, 43-52.	2.5	36
70	Farside explorer: unique science from a mission to the farside of the moon. Experimental Astronomy, 2012, 33, 529-585.	3.7	52
71	Future Mars geophysical observatories for understanding its internal structure, rotation, and evolution. Planetary and Space Science, 2012, 68, 123-145.	1.7	32
72	Long-Term Evolution of the Martian Crust-Mantle System. Space Sciences Series of ISSI, 2012, , 49-111.	0.0	4

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73	Outgassing History and Escape of the Martian Atmosphere and Water Inventory. Space Sciences Series of ISSI, 2012, , 113-154.	0.0	6
74	Thermo-chemical evolution and global contraction of mercury. Earth and Planetary Science Letters, 2011, 307, 135-146.	4.4	71
75	Volcanic outgassing of CO2 and H2O on Mars. Earth and Planetary Science Letters, 2011, 308, 391-400.	4.4	139
76	Crustal recycling, mantle dehydration, and the thermal evolution of Mars. Icarus, 2011, 212, 541-558.	2.5	113
77	In situ methods for measuring thermal properties and heat flux on planetary bodies. Planetary and Space Science, 2011, 59, 639-660.	1.7	34
78	On the spatial variability of the Martian elastic lithosphere thickness: Evidence for mantle plumes?. Journal of Geophysical Research, 2010, 115, .	3.3	65
79	Apollo lunar heat flow experiment revisited: A critical reassessment of the in situ thermal conductivity determination. Journal of Geophysical Research, 2010, 115, .	3.3	46
80	Martian rifts: Structural geology and geophysics. Earth and Planetary Science Letters, 2010, 294, 393-410.	4.4	86
81	Implications of large elastic thicknesses for the composition and current thermal state of Mars. Icarus, 2009, 201, 540-548.	2.5	30
82	TandEM: Titan and Enceladus mission. Experimental Astronomy, 2009, 23, 893-946.	3.7	77
83	Thermal disturbances caused by lander shadowing and the measurability of the martian planetary heat flow. Planetary and Space Science, 2009, 57, 71-77.	1.7	11
84	The evolution of the martian elastic lithosphere and implications for crustal and mantle rheology. Icarus, 2008, 193, 503-515.	2.5	78
85	Constraints on the radiogenic heat production rate in the Martian interior from viscous relaxation of crustal thickness variations. Geophysical Research Letters, 2008, 35, .	4.0	8
86	Is Mars Geodynamically Dead?. Science, 2008, 320, 1171-1172.	12.6	1
87	Acheron Fossae, Mars: Tectonic rifting, volcanism, and implications for lithospheric thickness. Journal of Geophysical Research, 2007, 112, .	3.3	39
88	Formation of the double rift system in the Thaumasia Highlands, Mars. Journal of Geophysical Research, 2007, 112, .	3.3	11
89	Thermal structure of Martian soil and the measurability of the planetary heat flow. Journal of Geophysical Research, 2007, 112, .	3.3	37
90	Mechanical modeling of thrust faults in the Thaumasia region, Mars, and implications for the Noachian heat flux. Icarus, 2007, 186, 517-526.	2.5	69

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91	Degree-one convection and the origin of Enceladus' dichotomy. Icarus, 2007, 191, 203-210.	2.5	28
92	High heat flux on ancient Mars: Evidence from rift flank uplift at Coracis Fossae. Geophysical Research Letters, 2005, 32, .	4.0	59
93	Late crustal growth on Mars: Evidence from lithospheric extension. Geophysical Research Letters, 2005, 32, .	4.0	15