Walter S Kiefer

List of Publications by Year
in descending order

59	3,510	136950	149698
papers	citations	32 h-index	56 g-index

60	60	60	2279
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The Crust of the Moon as Seen by GRAIL. Science, 2013, 339, 671-675.	12.6	726
2	Lunar interior properties from the GRAIL mission. Journal of Geophysical Research E: Planets, 2014, 119, 1546-1578.	3.6	185
3	Ancient Igneous Intrusions and Early Expansion of the Moon Revealed by GRAIL Gravity Gradiometry. Science, 2013, 339, 675-678.	12.6	177
4	Lunar impact basins revealed by Gravity Recovery and Interior Laboratory measurements. Science Advances, 2015, 1, e1500852.	10.3	173
5	The density and porosity of lunar rocks. Geophysical Research Letters, 2012, 39, .	4.0	134
6	Constraining the size of the South Pole-Aitken basin impact. Icarus, 2012, 220, 730-743.	2.5	131
7	Experimental petrology of the basaltic shergottite Yamato-980459: Implications for the thermal structure of the Martian mantle. Meteoritics and Planetary Science, 2006, 41, 1271-1290.	1.6	129
8	GRAIL gravity constraints on the vertical and lateral density structure of the lunar crust. Geophysical Research Letters, 2014, 41, 5771-5777.	4.0	126
9	Melting in the martian mantle: Shergottite formation and implications for presentâ€day mantle convection on Mars. Meteoritics and Planetary Science, 2003, 38, 1815-1832.	1.6	105
10	A mantle plume model for the equatorial highlands of Venus. Journal of Geophysical Research, 1991, 96, 20947-20966.	3.3	97
11	A dynamic model of Venus's gravity field. Geophysical Research Letters, 1986, 13, 14-17.	4.0	90
12	Structure and evolution of the lunar Procellarum region as revealed by GRAIL gravity data. Nature, 2014, 514, 68-71.	27.8	85
13	Large shield volcanoes on the Moon. Journal of Geophysical Research E: Planets, 2013, 118, 1063-1081.	3.6	76
14	Numerical modeling of the formation and structure of the Orientale impact basin. Journal of Geophysical Research E: Planets, 2013, 118, 963-979.	3.6	67
15	Mantle and crustal structure in Phoebe Regio and Devana Chasma, Venus. Geophysical Research Letters, 2003, 30, 5-1-5-4.	4.0	65
16	Venus gravity: A harmonic analysis. Journal of Geophysical Research, 1987, 92, 10335-10351.	3.3	63
17	GRAIL, LLR, and LOLA constraints on the interior structure of the Moon. Geophysical Research Letters, 2016, 43, 8365-8375.	4.0	57
18	Gravity evidence for an extinct magma chamber beneath Syrtis Major, Mars: a look at the magmatic plumbing system. Earth and Planetary Science Letters, 2004, 222, 349-361.	4.4	53

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19	Thicknesses of mare basalts on the Moon from gravity and topography. Journal of Geophysical Research E: Planets, 2016, 121, 854-870.	3.6	51
20	Mantle convection and magma production on presentâ€day Mars: Effects of temperatureâ€dependent rheology. Geophysical Research Letters, 2007, 34, .	4.0	50
21	The Physics of Changing Tectonic Regimes: Implications for the Temporal Evolution of Mantle Convection and the Thermal History of Venus. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE005960.	3.6	49
22	Geoid anomalies and dynamic topography from convection in cylindrical geometry: applications to mantle plumes on Earth and Venus. Geophysical Journal International, 1992, 108, 198-214.	2.4	44
23	Melt propagation and volcanism in mantle convection simulations, with applications for Martian volcanic and atmospheric evolution. Journal of Geophysical Research, 2007, 112, .	3.3	43
24	A review of volatiles in the Martian interior. Meteoritics and Planetary Science, 2016, 51, 1935-1958.	1.6	43
25	Estimating transient crater size using the crustal annular bulge: Insights from numerical modeling of lunar basinâ€scale impacts. Geophysical Research Letters, 2012, 39, .	4.0	40
26	Mantle convection controls the observed lateral variations in lithospheric thickness on presentâ€day Mars. Geophysical Research Letters, 2009, 36, .	4.0	39
27	Gravity constraints on the subsurface structure of the Marius Hills: The magmatic plumbing of the largest lunar volcanic dome complex. Journal of Geophysical Research E: Planets, 2013, 118, 733-745.	3.6	38
28	Gravity field of the Orientale basin from the Gravity Recovery and Interior Laboratory Mission. Science, 2016, 354, 438-441.	12.6	38
29	High pressure, nearâ€liquidus phase equilibria of the Home Plate basalt Fastball and melting in the Martian mantle. Geophysical Research Letters, 2010, 37, .	4.0	37
30	An inversion of gravity and topography for mantle and crustal structure on Mars. Journal of Geophysical Research, 1996, 101, 9239-9252.	3.3	35
31	The formation of Mercury's smooth plains. Icarus, 1987, 72, 477-491.	2.5	34
32	Small-scale density variations in the lunar crust revealed by GRAIL. Icarus, 2017, 291, 107-123.	2.5	34
33	Mantle downwelling and crustal convergence: A model for Ishtar Terra, Venus. Journal of Geophysical Research, 1991, 96, 20967-20980.	3.3	33
34	Ring faults and ring dikes around the Orientale basin on the Moon. Icarus, 2018, 310, 1-20.	2.5	31
35	The effects of mantle composition on the peridotite solidus: Implications for the magmatic history of Mars. Geochimica Et Cosmochimica Acta, 2015, 162, 247-258.	3.9	30
36	Gravitational search for cryptovolcanism on the Moon: Evidence for large volumes of early igneous activity. Icarus, 2016, 273, 284-295.	2.5	27

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37	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
38	Xenolith digestion in large magma bodies. Journal of Geophysical Research, 1985, 90, C585.	3.3	25
39	Water undersaturated mantle plume volcanism on presentâ€day Mars. Meteoritics and Planetary Science, 2016, 51, 1993-2010.	1.6	24
40	Geoid anomalies and dynamic topography from time-dependent, spherical axisymmetric mantle convection. Physics of the Earth and Planetary Interiors, 1998, 106, 237-256.	1.9	21
41	Degassing history of Mars and the lifespan of its magnetic dynamo. Geophysical Research Letters, 2012, 39, .	4.0	21
42	Buried mass anomalies along the hemispheric dichotomy in eastern Mars: Implications for the origin and evolution of the dichotomy. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	19
43	Topographic analysis of Devana Chasma, Venus: implications for rift system segmentation and propagation. Journal of Structural Geology, 2006, 28, 2144-2155.	2.3	18
44	Examination of the Longâ€Term Subsurface Warming Observed at the Apollo 15 and 17 Sites Utilizing the Newly Restored Heat Flow Experiment Data From 1975 to 1977. Journal of Geophysical Research E: Planets, 2018, 123, 1125-1139.	3.6	18
45	The Syrtis Major volcano, Mars: A multidisciplinary approach to interpreting its magmatic evolution and structural development. Journal of Geophysical Research E: Planets, 2015, 120, 1476-1496.	3.6	16
46	The relationship between radar scattering and surface roughness of lunar volcanic features. Journal of Geophysical Research E: Planets, 2014, 119, 2331-2348.	3.6	15
47	Lunar heat flow experiments: Science objectives and a strategy for minimizing the effects of lander-induced perturbations. Planetary and Space Science, 2012, 60, 155-165.	1.7	14
48	Long-duration Venus lander for seismic and atmospheric science. Planetary and Space Science, 2020, 190, 104961.	1.7	13
49	Forming the martian great divide. Nature, 2008, 453, 1191-1192.	27.8	10
50	Characterization of Circle Cliffs tar sands. 1. Application of the FT-i.r. technique to mineral matter. Fuel, 1986, 65, 1261-1264.	6.4	8
51	High temperature, wireless seismometer sensor for Venus. , 2012, , .		8
52	A survey of the natural remanent magnetization and magnetic susceptibility of Apollo whole rocks. Physics of the Earth and Planetary Interiors, 2019, 290, 36-43.	1.9	6
53	Mantle viscosity stratification and flow geometry: Implications for surface motions on Earth and Venus. Geophysical Research Letters, 1993, 20, 265-268.	4.0	5
54	Availability of previously lost data and metadata from the Apollo Lunar Surface Experiments Package (ALSEP). Planetary and Space Science, 2020, 191, 105039.	1.7	2

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55	A reexamination of the spreading center hypothesis for Ovda and Thetis Regiones, Venus. Geophysical Research Letters, 1990, 17, 1373-1376.	4.0	1
56	Wireless seismometer for venus. , 2014, , .		1
57	The influence of crustal radioactivity on mantle convection and lithospheric thickness on Mars. Journal of Geophysical Research E: Planets, 2016, 121, 2463-2466.	3.6	1
58	Volatiles in Mars: Constraints, Questions, and Future Directions. Eos, 2015, 96, .	0.1	1
59	Lunar Interior, Geophysical Models. , 2018, , 1-7.		0