Bruce Banerdt

List of Publications by Year
in descending order

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129 papers	9,796 citations	57719 44 h-index	38368 95 g-index
161 all docs	161 docs citations	161 times ranked	3427 citing authors

#	Article	IF	Citations
1	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
2	The Global Topography of Mars and Implications for Surface Evolution. Science, 1999, 284, 1495-1503.	6.0	826
3	Internal Structure and Early Thermal Evolution of Mars from Mars Global Surveyor Topography and Gravity. Science, 2000, 287, 1788-1793.	6.0	518
4	Ancient Geodynamics and Global-Scale Hydrology on Mars. Science, 2001, 291, 2587-2591.	6.0	453
5	The Borealis basin and the origin of the martian crustal dichotomy. Nature, 2008, 453, 1212-1215.	13.7	285
6	Initial results from the InSight mission on Mars. Nature Geoscience, 2020, 13, 183-189.	5.4	274
7	New Perspectives on Ancient Mars. Science, 2005, 307, 1214-1220.	6.0	265
8	SEIS: Insightâ€™s Seismic Experiment for Internal Structure of Mars. Space Science Reviews, 2019, 215, 12.	3.7	238
9	Observations of the North Polar Region of Mars from the Mars Orbiter Laser Altimeter. , 1998, 282, 2053-2060.		231
10	Constraints on the shallow elastic and anelastic structure of Mars from InSight seismic data. Nature Geoscience, 2020, 13, 213-220.	5.4	207
11	Topography of the Northern Hemisphere of Mars from the Mars Orbiter Laser Altimeter. Science, 1998, 279, 1686-1692.	6.0	196
12	The seismicity of Mars. Nature Geoscience, 2020, 13, 205-212.	5.4	194
13	Reconciliation of stress and structural histories of the Tharsis region of Mars. Journal of Geophysical Research, 1991, 96, 15617-15633.	3.3	179
14	Seismic detection of the martian core. Science, 2021, 373, 443-448.	6.0	169
15	The atmosphere of Mars as observed by InSight. Nature Geoscience, 2020, 13, 190-198.	5.4	161
16	Selection of the InSight Landing Site. Space Science Reviews, 2017, 211, 5-95.	3.7	150
17	Mars: The regolith-atmosphere-cap system and climate change. Icarus, 1982, 50, 381-407.	1.1	145
18	Thickness and structure of the martian crust from InSight seismic data. Science, 2021, 373, 438-443.	6.0	140

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19	Geophysical Investigations of Habitability in Iceâ€Covered Ocean Worlds. Journal of Geophysical Research E: Planets, 2018, 123, 180-205.	1.5	133
20	Thick shell tectonics on oneâ€plate planets: Applications to Mars. Journal of Geophysical Research, 1982, 87, 9723-9733.	3.3	116
21	Geology of the InSight landing site on Mars. Nature Communications, 2020, 11, 1014.	5.8	107
22	The Heat Flow and Physical Properties Package (HP3) for the InSight Mission. Space Science Reviews, 2018, 214, 1.	3.7	105
23	Upper mantle structure of Mars from InSight seismic data. Science, 2021, 373, 434-438.	6.0	105
24	InSight Auxiliary Payload Sensor Suite (APSS). Space Science Reviews, 2019, 215, 1.	3.7	104
25	The Marsquake catalogue from InSight, sols 0â€“478. Physics of the Earth and Planetary Interiors, 2021, 310, 106595.	0.7	97
26	Atmospheric Science with InSight. Space Science Reviews, 2018, 214, 1.	3.7	88
27	Pre-mission InSights on the Interior of Mars. Space Science Reviews, 2019, 215, 1.	3.7	85
28	A Prediction of Mars Seismicity from Surface Faulting. Science, 1992, 258, 979-981.	6.0	84
29	Planned Products of the Mars Structure Service for the InSight Mission to Mars. Space Science Reviews, 2017, 211, 611-650.	3.7	80
30	Geology and Physical Properties Investigations by the InSight Lander. Space Science Reviews, 2018, 214, 1.	3.7	77
31	Detection, Analysis, and Removal of Glitches From InSight's Seismic Data From Mars. Earth and Space Science, 2020, 7, e2020EA001317.	1.1	75
32	The Noise Model of the SEIS Seismometer of the InSight Mission to Mars. Space Science Reviews, 2017, 211, 383-428.	3.7	73
33	Support of longâ€wavelength loads on Venus and implications for internal structure. Journal of Geophysical Research, 1986, 91, 403-419.	3.3	71
34	Verifying single-station seismic approaches using Earth-based data: Preparation for data return from the InSight mission to Mars. Icarus, 2015, 248, 230-242.	1.1	71
35	The Thermal State and Interior Structure of Mars. Geophysical Research Letters, 2018, 45, 12,198.	1.5	69
36	Crustal and time-varying magnetic fields at the InSight landing site on Mars. Nature Geoscience, 2020, 13, 199-204.	5.4	68

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37	Evaluating the Wind-Induced Mechanical Noise on the InSight Seismometers. Space Science Reviews, 2017, 211, 429-455.	3.7	65
38	Companion guide to the marsquake catalog from InSight, Sols 0â€“478: Data content and non-seismic events. Physics of the Earth and Planetary Interiors, 2021, 310, 106597.	0.7	64
39	The NetLander very broad band seismometer. Planetary and Space Science, 2000, 48, 1289-1302.	0.9	61
40	Estimations of the Seismic Pressure Noise on Mars Determined from Large Eddy Simulations and Demonstration of Pressure Decorrelation Techniques for the Insight Mission. Space Science Reviews, 2017, 211, 457-483.	3.7	53
41	Farside explorer: unique science from a mission to the farside of the moon. Experimental Astronomy, 2012, 33, 529-585.	1.6	52
42	Huge, CO2-charged debris-flow deposit and tectonic sagging in the northern plains of Mars. Geology, 2001, 29, 427.	2.0	51
43	The Color Cameras on the InSight Lander. Space Science Reviews, 2018, 214, 1.	3.7	50
44	Modeling of Ground Deformation and Shallow Surface Waves Generated by Martian Dust Devils and Perspectives for Near-Surface Structure Inversion. Space Science Reviews, 2017, 211, 501-524.	3.7	49
45	Impact-Seismic Investigations of the InSight Mission. Space Science Reviews, 2018, 214, 1.	3.7	48
46	Deformational models of rifting and folding on Venus. Journal of Geophysical Research, 1988, 93, 4759-4772.	3.3	46
47	A Study of Daytime Convective Vortices and Turbulence in the Martian Planetary Boundary Layer Based on Halfâ€aâ€Year of InSight Atmospheric Measurements and Largeâ€Eddy Simulations. Journal of Geophysical Research E: Planets, 2021, 126, .	1.5	45
48	InSight Constraints on the Global Character of the Martian Crust. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	45
49	Permanent uplift in magmatic systems with application to the Tharsis Region of Mars. Journal of Geophysical Research, 1990, 95, 5089-5100.	3.3	44
50	Subsurface Structure at the InSight Landing Site From Compliance Measurements by Seismic and Meteorological Experiments. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006387.	1.5	44
51	First Focal Mechanisms of Marsquakes. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006546.	1.5	43
52	An Investigation of the Mechanical Properties of Some Martian Regolith Simulants with Respect to the Surface Properties at the InSight Mission Landing Site. Space Science Reviews, 2017, 211, 191-213.	3.7	42
53	Potential Pitfalls in the Analysis and Structural Interpretation of Seismic Data from the Mars InSight Mission. Bulletin of the Seismological Society of America, 2021, 111, 2982-3002.	1.1	42
54	The Marsquake Service: Securing Daily Analysis of SEIS Data and Building the Martian Seismicity Catalogue for InSight. Space Science Reviews, 2018, 214, 1.	3.7	41

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55	Highâ€Frequency Seismic Events on Mars Observed by InSight. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006670.	1.5	40
56	The shallow structure of Mars at the InSight landing site from inversion of ambient vibrations. Nature Communications, 2021, 12, 6756.	5.8	40
57	Seismometer Detection of Dust Devil Vortices by Ground Tilt. Bulletin of the Seismological Society of America, 2015, 105, 3015-3023.	1.1	39
58	Preparing for InSight: An Invitation to Participate in a Blind Test for Martian Seismicity. Seismological Research Letters, 2017, 88, 1290-1302.	0.8	37
59	Autocorrelation of the Ground Vibrations Recorded by the SEISâ€InSight Seismometer on Mars. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006498.	1.5	34
60	Improving Constraints on Planetary Interiors With PPs Receiver Functions. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006983.	1.5	34
61	The Polarization of Ambient Noise on Mars. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006545.	1.5	33
62	A Comodulation Analysis of Atmospheric Energy Injection Into the Ground Motion at InSight, Mars. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006538.	1.5	33
63	Future Mars geophysical observatories for understanding its internal structure, rotation, and evolution. Planetary and Space Science, 2012, 68, 123-145.	0.9	32
64	Smallâ€scale fracture patterns on the volcanic plains of Venus. Journal of Geophysical Research, 1992, 97, 16149-16166.	3.3	31
65	Analysis of Regolith Properties Using Seismic Signals Generated by InSightâ€™s HP3 Penetrator. Space Science Reviews, 2017, 211, 315-337.	3.7	31
66	Pressure Effects on the SEISâ€InSight Instrument, Improvement of Seismic Records, and Characterization of Long Period Atmospheric Waves From Ground Displacements. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006278.	1.5	31
67	Seismic Noise Autocorrelations on Mars. Earth and Space Science, 2021, 8, e2021EA001755.	1.1	31
68	Utopia and Hellas basins, Mars: Twins separated at birth. Journal of Geophysical Research, 2006, 111, .	3.3	30
69	Monitoring of Dust Devil Tracks Around the InSight Landing Site, Mars, and Comparison With In Situ Atmospheric Data. Geophysical Research Letters, 2020, 47, e2020GL087234.	1.5	30
70	Resonances and Lander Modes Observed by InSight on Mars (1â€“9ÂHz). Bulletin of the Seismological Society of America, 2021, 111, 2924-2950.	1.1	30
71	The Far Side of Mars: Two Distant Marsquakes Detected by InSight. The Seismic Record, 2022, 2, 88-99.	1.3	29
72	Igneous processes and closed system evolution of the Tharsis region of Mars. Journal of Geophysical Research, 1988, 93, 10225-10235.	3.3	28

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73	Martian Infrasound: Numerical Modeling and Analysis of InSight's Data. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006376.	1.5	28
74	Onâ€Deck Seismology: Lessons from InSight for Future Planetary Seismology. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006353.	1.5	25
75	Magnitude Scales for Marsquakes Calibrated from InSight Data. Bulletin of the Seismological Society of America, 2021, 111, 3003-3015.	1.1	25
76	Seasonal carbon dioxide exchange between the regolith and atmosphere of Mars: Experimental and theoretical studies. Journal of Geophysical Research, 1982, 87, 10215-10225.	3.3	24
77	A New Crater Near InSight: Implications for Seismic Impact Detectability on Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006382.	1.5	24
78	Scientific Observations With the InSight Solar Arrays: Dust, Clouds, and Eclipses on Mars. Earth and Space Science, 2020, 7, e2019EA000992.	1.1	24
79	Shape of the northern hemisphere of Mars from the Mars Orbiter Laser Altimeter (MOLA). Geophysical Research Letters, 1998, 25, 4393-4396.	1.5	23
80	Vortexâ€Dominated Aeolian Activity at InSight's Landing Site, Part 1: Multiâ€Instrument Observations, Analysis, and Implications. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006757.	1.5	23
81	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.	1.5	23
82	Energy Envelope and Attenuation Characteristics of High-Frequency (HF) and Very-High-Frequency (VF) Martian Events. Bulletin of the Seismological Society of America, 2021, 111, 3016-3034.	1.1	23
83	A Numerical Model of the SEIS Leveling System Transfer Matrix and Resonances: Application to SEIS Rotational Seismology and Dynamic Ground Interaction. Space Science Reviews, 2018, 214, 1.	3.7	22
84	Soil Thermophysical Properties Near the InSight Lander Derived From 50 Sols of Radiometer Measurements. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006859.	1.5	22
85	Evidence for crustal seismic anisotropy at the InSight lander site. Earth and Planetary Science Letters, 2022, 593, 117654.	1.8	21
86	Finite-Difference Modeling of Acoustic and Gravity Wave Propagation in Mars Atmosphere: Application to Infrasounds Emitted by Meteor Impacts. Space Science Reviews, 2017, 211, 547-570.	3.7	20
87	Super High Frequency Events: A New Class of Events Recorded by the InSight Seismometers on Mars. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006599.	1.5	19
88	Analyzing Low Frequency Seismic Events at Cerberus Fossae as Long Period Volcanic Quakes. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006518.	1.5	19
89	IO: Could SO₂ condensation/sublimation cause the sometimes reported postâ€eclipse brightening?. Geophysical Research Letters, 1981, 8, 625-628.	1.5	18
90	Magnitude Scales for Marsquakes. Bulletin of the Seismological Society of America, 2018, 108, 2764-2777.	1.1	18

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91	Editorial on: Topical Collection on InSight Mission to Mars. Space Science Reviews, 2017, 211, 1-3.	3.7	17
92	Scattering Attenuation of the Martian Interior through Coda-Wave Analysis. Bulletin of the Seismological Society of America, 2021, 111, 3035-3054.	1.1	17
93	Seismic High-Resolution Acquisition Electronics for the NASA InSight Mission on Mars. Bulletin of the Seismological Society of America, 2021, 111, 2909-2923.	1.1	17
94	MSS/1: Singleâ€Station and Singleâ€Event Marsquake Inversion. Earth and Space Science, 2020, 7, e2020EA001118.	1.1	16
95	Constraining Martian Regolith and Vortex Parameters From Combined Seismic and Meteorological Measurements. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006410.	1.5	16
96	Lunar Netâ€”a proposal in response to an ESA M3 call in 2010 for a medium sized mission. Experimental Astronomy, 2012, 33, 587-644.	1.6	15
97	The Origin of Observed Magnetic Variability for a Sol on Mars From InSight. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006505.	1.5	15
98	Resonances of the InSight Seismometer on Mars. Bulletin of the Seismological Society of America, 2021, 111, 2951-2963.	1.1	15
99	Anatomy of Continuous Mars SEIS and Pressure Data from Unsupervised Learning. Bulletin of the Seismological Society of America, 2021, 111, 2964-2981.	1.1	14
100	Near Surface Properties of Martian Regolith Derived From InSight HP³â€RAD Temperature Observations During Phobos Transits. Geophysical Research Letters, 2021, 48, e2021GL093542.	1.5	13
101	Seasonal seismic activity on Mars. Earth and Planetary Science Letters, 2021, 576, 117171.	1.8	13
102	InSight Pressure Data Recalibration, and Its Application to the Study of Longâ€Term Pressure Changes on Mars. Journal of Geophysical Research E: Planets, 2022, 127, .	1.5	12
103	On the Detectability and Use of Normal Modes for Determining Interior Structure of Mars. Space Science Reviews, 2018, 214, 1.	3.7	11
104	Influence of Body Waves, Instrumentation Resonances, and Prior Assumptions on Rayleigh Wave Ellipticity Inversion for Shallow Structure at the InSight Landing Site. Space Science Reviews, 2018, 214, 1.	3.7	10
105	Geophysical Observations of Phobos Transits by InSight. Geophysical Research Letters, 2020, 47, e2020GL089099.	1.5	10
106	The first active seismic experiment on Mars to characterize the shallow subsurface structure at the InSight landing site. , 2019, , .		10
107	Seasonal variations of subsurface seismic velocities monitored by the SEIS-InSight seismometer on Mars. Geophysical Journal International, 2022, 229, 776-799.	1.0	10
108	Lunar seismic search for strange quark matter. Advances in Space Research, 2006, 37, 1889-1893.	1.2	9

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109	Seismic constraints from a Mars impact experiment using InSight and Perseverance. Nature Astronomy, 2022, 6, 59-64.	4.2	9
110	Search for Infrasound Signals in InSight Data Using Coupled Pressure/Ground Deformation Methods. Bulletin of the Seismological Society of America, 2021, 111, 3055-3064.	1.1	8
111	The Site Tilt and Lander Transfer Function from the Short-Period Seismometer of InSight on Mars. Bulletin of the Seismological Society of America, 2021, 111, 2889-2908.	1.1	7
112	A Reconstruction Algorithm for Temporally Aliased Seismic Signals Recorded by the InSight Mars Lander. Earth and Space Science, 2021, 8, e2020EA001234.	1.1	6
113	Using the Moon as a low-noise seismic detector for strange quark nuggets. Nuclear Physics, Section B, Proceedings Supplements, 2007, 166, 203-208.	0.5	5
114	Preparing for InSight: Evaluation of the Blind Test for Martian Seismicity. Seismological Research Letters, 0, , .	0.8	5
115	Listening for the Landing: Seismic Detections of Perseverance's Arrival at Mars With InSight. Earth and Space Science, 2021, 8, e2020EA001585.	1.1	5
116	Space Weather Observations With InSight. Geophysical Research Letters, 2021, 48, e2021GL095432.	1.5	5
117	Forward Modeling of the Phobos Tides and Applications to the First Martian Year of the InSight Mission. Earth and Space Science, 2021, 8, e2021EA001669.	1.1	4
118	Development of the Primary Sorption Pump for the SEIS Seismometer of the InSight Mission to Mars. Space Science Reviews, 2018, 214, 1.	3.7	3
119	Finding SEIS North on Mars: Comparisons Between SEIS Sundial, Inertial and Imaging Measurements and Consequences for Seismic Analysis. Earth and Space Science, 2021, 8, e2020EA001286.	1.1	3
120	Investigation of magnetic field signals during vortex-induced pressure drops at InSight. Planetary and Space Science, 2022, 217, 105487.	0.9	3
121	Probing the Interiors of Planets withÂGeophysical Tools. , 2014, , 1185-1204.		2
122	Determining True North on Mars by Using a Sundial on InSight. Space Science Reviews, 2019, 215, 1.	3.7	2
123	The interaction between the SEIS seismometer of the InSight Martian mission and a regolith simulant. Geotechnique, 2024, 74, 42-53.	2.2	2
124	An autonomous lunar geophysical experiment package (ALGEP) for future space missions. Experimental Astronomy, 2022, 54, 617-640.	1.6	2
125	Sparse Reconstruction of Aliased Seismic Signals Recorded During the Insight Mars Mission. , 2019, , .		1
126	Scientific results of the Mars Exploration Rovers, Spirit and Opportunity. Proceedings of the International Astronomical Union, 2006, 2, 336-337.	0.0	0

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127	Next generation Autonomous Lunar Geophysical Experiment Package. , 2009, , .		0
128	Lunar Suitcase Science: A Lunar Regolith Characterization Kit (LRoCK). , 2010, , .		0
129	SEISMIC MOON SEARCH FOR STRANGE QUARK MATTER. , 2005, , .		0