Nicholas C Schmerr

List of Publications by Year
in descending order

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Version: 2024-02-01

74 papers	2,962 citations	172457 29 h-index	168389 53 g-index
96 all docs	96 docs citations	96 times ranked	2302 citing authors

#	Article	IF	Citations
1	Initial results from the InSight mission on Mars. Nature Geoscience, 2020, 13, 183-189.	12.9	274
2	Constraints on the shallow elastic and anelastic structure of Mars from InSight seismic data. Nature Geoscience, 2020, 13, 213-220.	12.9	207
3	The Gutenberg Discontinuity: Melt at the Lithosphere-Asthenosphere Boundary. Science, 2012, 335, 1480-1483.	12.6	203
4	Seismic detection of the martian core. Science, 2021, 373, 443-448.	12.6	169
5	Thickness and structure of the martian crust from InSight seismic data. Science, 2021, 373, 438-443.	12.6	140
6	Compositional mantle layering revealed by slab stagnation at ~1000-km depth. Science Advances, 2015, 1, e1500815.	10.3	122
7	Changes in Seismic Anisotropy Shed Light on the Nature of the Gutenberg Discontinuity. Science, 2014, 343, 1237-1240.	12.6	105
8	Upper mantle structure of Mars from InSight seismic data. Science, 2021, 373, 434-438.	12.6	105
9	Characterization and Petrological Constraints of the Midlithospheric Discontinuity. Geochemistry, Geophysics, Geosystems, 2015, 16, 3484-3504.	2.5	98
10	Upper Mantle Discontinuity Topography from Thermal and Chemical Heterogeneity. Science, 2007, 318, 623-626.	12.6	96
11	Planned Products of the Mars Structure Service for the InSight Mission to Mars. Space Science Reviews, 2017, 211, 611-650.	8.1	80
12	Investigation of upper mantle discontinuity structure beneath the central Pacific usingSSprecursors. Journal of Geophysical Research, 2006, 111, .	3.3	65
13	Shallow seismic activity and young thrust faults on the Moon. Nature Geoscience, 2019, 12, 411-417.	12.9	64
14	Toward a mineral physics reference model for the Moonâ€™s core. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 3916-3919.	7.1	62
15	Mantle dynamics beneath the Pacific Northwest and the generation of voluminous backâ€arc volcanism. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	54
16	A surface gravity traverse on Mars indicates low bedrock density at Gale crater. Science, 2019, 363, 535-537.	12.6	49
17	Impact-Seismic Investigations of the InSight Mission. Space Science Reviews, 2018, 214, 1.	8.1	48
18	Global observations of reflectors in the mid-mantle with implications for mantle structure and dynamics. Nature Communications, 2018, 9, 385.	12.8	47

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19	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.	2.3	42
20	Highâ€Frequency Seismic Events on Mars Observed by InSight. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006670.	3.6	40
21	The Pacific lithosphereâ€asthenosphere boundary: Seismic imaging and anisotropic constraints from SS waveforms. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	39
22	Global characteristics of porosity and density stratification within the lunar crust from GRAIL gravity and Lunar Orbiter Laser Altimeter topography data. Geophysical Research Letters, 2014, 41, 1882-1889.	4.0	38
23	Broadband array observations of the 300â€‰km seismic discontinuity. Geophysical Research Letters, 2013, 40, 841-846.	4.0	35
24	Subducted lithosphere beneath the Kuriles from migration of PP precursors. Earth and Planetary Science Letters, 2011, 311, 101-111.	4.4	34
25	Autocorrelation of the Ground Vibrations Recorded by the SEISâ€InSight Seismometer on Mars. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006498.	3.6	34
26	Improving Constraints on Planetary Interiors With PPs Receiver Functions. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006983.	3.6	34
27	Deep mantle plumes and convective upwelling beneath the Pacific Ocean. Earth and Planetary Science Letters, 2010, 294, 143-151.	4.4	33
28	Thermal structure, radial anisotropy, and dynamics of oceanic boundary layers. Geophysical Research Letters, 2015, 42, 9740-9749.	4.0	32
29	Seismic Noise Autocorrelations on Mars. Earth and Space Science, 2021, 8, e2021EA001755.	2.6	31
30	Seismic evidence for a chemically distinct thermochemical reservoir in Earth's deep mantle beneath Hawaii. Earth and Planetary Science Letters, 2015, 426, 143-153.	4.4	29
31	Constraints on Seismic Anisotropy in the Mantle Transition Zone From Longâ€Period SS Precursors. Journal of Geophysical Research: Solid Earth, 2019, 124, 6779-6800.	3.4	29
32	The Far Side of Mars: Two Distant Marsquakes Detected by InSight. The Seismic Record, 2022, 2, 88-99.	3.1	29
33	On the difficulties of detecting PP precursors. Geophysical Journal International, 2015, 201, 1666-1681.	2.4	27
34	A poorly mixed mantle transition zone and its thermal state inferred from seismic waves. Nature Geoscience, 2021, 14, 949-955.	12.9	25
35	Lithospheric structure across the <scp>C</scp>alifornia <scp>C</scp>ontinental <scp>B</scp>orderland from receiver functions. Geochemistry, Geophysics, Geosystems, 2015, 16, 246-266.	2.5	24
36	Hydraulic Conductivity of a Firn Aquifer in Southeast Greenland. Frontiers in Earth Science, 2017, 5, .	1.8	24

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37	A New Crater Near InSight: Implications for Seismic Impact Detectability on Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006382.	3.6	24
38	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.	2.3	23
39	Using a discrete element method to investigate seismic response and spin change of 99942 Apophis during its 2029 tidal encounter with Earth. Icarus, 2019, 328, 93-103.	2.5	22
40	Extreme volcanism on Io: Latest insights at the end of Galileo era. Eos, 2003, 84, 313.	0.1	21
41	Investigation of Firn Aquifer Structure in Southeastern Greenland Using Active Source Seismology. Frontiers in Earth Science, 2017, 5, .	1.8	21
42	Seismicity on tidally active solid-surface worlds. Icarus, 2020, 338, 113466.	2.5	20
43	Direct Evidence of Meltwater Flow Within a Firn Aquifer in Southeast Greenland. Geophysical Research Letters, 2018, 45, 207-215.	4.0	19
44	Extending the Solidus for a Model Ironâ€Rich Martian Mantle Composition to 25ÂGPa. Geophysical Research Letters, 2018, 45, 10,211.	4.0	19
45	Hydrology of a Perennial Firn Aquifer in Southeast Greenland: An Overview Driven by Field Data. Water Resources Research, 2020, 56, e2019WR026348.	4.2	18
46	Scattering Attenuation of the Martian Interior through Coda-Wave Analysis. Bulletin of the Seismological Society of America, 2021, 111, 3035-3054.	2.3	17
47	Estimating water volume stored in the south-eastern Greenland firn aquifer using magnetic-resonance soundings. Journal of Applied Geophysics, 2018, 150, 11-20.	2.1	16
48	Seismic array constraints on the Dâ€³ discontinuity beneath Central America. Journal of Geophysical Research: Solid Earth, 2016, 121, 152-169.	3.4	15
49	Recently Formed Crater Clusters on Mars. Journal of Geophysical Research E: Planets, 2019, 124, 958-969.	3.6	15
50	Imaging Mantle Heterogeneity with Upper Mantle Seismic Discontinuities. , 2015, , 79-104.		14
51	Synthetic waveform modelling of SS precursors from anisotropic upper-mantle discontinuities. Geophysical Journal International, 2014, 196, 1694-1705.	2.4	12
52	Bayesian Seismic Refraction Inversion for Critical Zone Science and Nearâ€Surface Applications. Geochemistry, Geophysics, Geosystems, 2021, 22, e2020GC009172.	2.5	12
53	Dynamic lithosphere within the Great Basin. Geochemistry, Geophysics, Geosystems, 2014, 15, 1128-1146.	2.5	10
54	The Deployment of the Seismometer to Investigate Ice and Ocean Structure (SIIOS) on Gulkana Glacier, Alaska. Seismological Research Letters, 2020, 91, 1901-1914.	1.9	8

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55	Electrostatic frequency reduction: A negative stiffness mechanism for measuring dissipation in a mechanical oscillator at low frequency. Review of Scientific Instruments, 2021, 92, 015101.	1.3	8
56	Projected Seismic Activity at the Tiger Stripe Fractures on Enceladus, Saturn, From an Analog Study of Tidally Modulated Icequakes Within the Ross Ice Shelf, Antarctica. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006862.	3.6	7
57	Automatic Identification of Mantle Seismic Phases Using a Convolutional Neural Network. Geophysical Research Letters, 2021, 48, e2020GL091658.	4.0	7
58	The Lunar Geophysical Network Landing Sites Science Rationale. Planetary Science Journal, 2022, 3, 40.	3.6	7
59	The Seismic Signatures of Recently Formed Impact Craters on Mars. Journal of Geophysical Research E: Planets, 2019, 124, 3063-3081.	3.6	6
60	Integrated Borehole, Radar, and Seismic Velocity Analysis Reveals Dynamic Spatial Variations Within a Firn Aquifer in Southeast Greenland. Geophysical Research Letters, 2020, 47, e2020GL089335.	4.0	5
61	The Deployment of the Seismometer to Investigate Ice and Ocean Structure (SIIOS) in Northwest Greenland: An Analog Experiment for Icy Ocean World Seismic Deployments. Seismological Research Letters, 2021, 92, 2036-2049.	1.9	5
62	Geophysical constraints on the properties of a subglacial lake in northwest Greenland. Cryosphere, 2021, 15, 3279-3291.	3.9	5
63	Modeling approaches in planetary seismology. , 2015, , 140-156.		4
64	Investigating a firn aquifer near Helheim Glacier (Southâ€Eastern Greenland) with magnetic resonance soundings and groundâ€penetrating radar. Near Surface Geophysics, 2018, 16, 411-422.	1.2	4
65	Upper mantle radial anisotropy under the Indian Ocean from higher mode surface waves and a hierarchical transdismensional approach. Geophysical Journal International, 2021, 228, 78-101.	2.4	3
66	Constraining Europa's ice shell thickness with fundamental mode surface wave dispersion. Icarus, 2021, 369, 114617.	2.5	3
67	Brownian Noise and Temperature Sensitivity of Long-Period Lunar Seismometers. Bulletin of the Seismological Society of America, 2021, 111, 3065-3075.	2.3	3
68	The Detection of Seismicity on Icy Ocean Worlds by Singleâ€Station and Smallâ€Aperture Seismometer Arrays. Earth and Space Science, 2022, 9, .	2.6	3
69	Field Mapping and Modeling of Terrestrial Lava Tube Magnetic Anomalies as an Analog for Lunar Lava Tube Exploration and Prospecting. Journal of Geophysical Research E: Planets, 2022, 127, .	3.6	3
70	Terrestrial single-station analog for constraining the martian core and deep interior: Implications for InSight. Icarus, 2020, 335, 113396.	2.5	2
71	An autonomous lunar geophysical experiment package (ALGEP) for future space missions. Experimental Astronomy, 2022, 54, 617-640.	3.7	2
72	Temperature sensitivity analysis on mass-spring potential with electrostatic frequency reduction for lunar seismometers. AIP Advances, 2021, 11, 125019.	1.3	1

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73	The Importance of Field Studies for Closing Key Knowledge Gaps in Planetary Science. , 2021, 53, .		0
74	3-D synthetic modelling and observations of anisotropy effects on SS precursors: implications for mantle deformation in the transition zone. Geophysical Journal International, 2022, 229, 1212-1231.	2.4	0