Nicholas C Schmerr

List of Publications by Year
in descending order

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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	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
2	The Lunar Geophysical Network Landing Sites Science Rationale. Planetary Science Journal, 2022, 3, 40.	3.6	7
3	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
4	The Far Side of Mars: Two Distant Marsquakes Detected by InSight. The Seismic Record, 2022, 2, 88-99.	3.1	29
5	An autonomous lunar geophysical experiment package (ALGEP) for future space missions. Experimental Astronomy, 2022, 54, 617-640.	3.7	2
6	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
7	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
8	Highâ€Frequency Seismic Events on Mars Observed by InSight. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006670.	3.6	40
9	The Importance of Field Studies for Closing Key Knowledge Gaps in Planetary Science. , 2021, 53, .		0
10	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
11	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
12	Bayesian Seismic Refraction Inversion for Critical Zone Science and Nearâ€Surface Applications. Geochemistry, Geophysics, Geosystems, 2021, 22, e2020GC009172.	2.5	12
13	Seismic Noise Autocorrelations on Mars. Earth and Space Science, 2021, 8, e2021EA001755.	2.6	31
14	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
15	Thickness and structure of the martian crust from InSight seismic data. Science, 2021, 373, 438-443.	12.6	140
16	Upper mantle structure of Mars from InSight seismic data. Science, 2021, 373, 434-438.	12.6	105
17	Seismic detection of the martian core. Science, 2021, 373, 443-448.	12.6	169
18	Geophysical constraints on the properties of a subglacial lake in northwest Greenland. Cryosphere, 2021, 15, 3279-3291.	3.9	5

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19	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
20	Automatic Identification of Mantle Seismic Phases Using a Convolutional Neural Network. Geophysical Research Letters, 2021, 48, e2020GL091658.	4.0	7
21	Constraining Europa's ice shell thickness with fundamental mode surface wave dispersion. Icarus, 2021, 369, 114617.	2.5	3
22	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
23	Improving Constraints on Planetary Interiors With PPs Receiver Functions. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006983.	3.6	34
24	Scattering Attenuation of the Martian Interior through Coda-Wave Analysis. Bulletin of the Seismological Society of America, 2021, 111, 3035-3054.	2.3	17
25	Brownian Noise and Temperature Sensitivity of Long-Period Lunar Seismometers. Bulletin of the Seismological Society of America, 2021, 111, 3065-3075.	2.3	3
26	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
27	A poorly mixed mantle transition zone and its thermal state inferred from seismic waves. Nature Geoscience, 2021, 14, 949-955.	12.9	25
28	Temperature sensitivity analysis on mass-spring potential with electrostatic frequency reduction for lunar seismometers. AIP Advances, 2021, 11, 125019.	1.3	1
29	Terrestrial single-station analog for constraining the martian core and deep interior: Implications for InSight. Icarus, 2020, 335, 113396.	2.5	2
30	Seismicity on tidally active solid-surface worlds. Icarus, 2020, 338, 113466.	2.5	20
31	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
32	A New Crater Near InSight: Implications for Seismic Impact Detectability on Mars. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006382.	3.6	24
33	Hydrology of a Perennial Firn Aquifer in Southeast Greenland: An Overview Driven by Field Data. Water Resources Research, 2020, 56, e2019WR026348.	4.2	18
34	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
35	Constraints on the shallow elastic and anelastic structure of Mars from InSight seismic data. Nature Geoscience, 2020, 13, 213-220.	12.9	207
36	Initial results from the InSight mission on Mars. Nature Geoscience, 2020, 13, 183-189.	12.9	274

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37	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
38	A surface gravity traverse on Mars indicates low bedrock density at Gale crater. Science, 2019, 363, 535-537.	12.6	49
39	Shallow seismic activity and young thrust faults on the Moon. Nature Geoscience, 2019, 12, 411-417.	12.9	64
40	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
41	Recently Formed Crater Clusters on Mars. Journal of Geophysical Research E: Planets, 2019, 124, 958-969.	3.6	15
42	The Seismic Signatures of Recently Formed Impact Craters on Mars. Journal of Geophysical Research E: Planets, 2019, 124, 3063-3081.	3.6	6
43	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
44	Global observations of reflectors in the mid-mantle with implications for mantle structure and dynamics. Nature Communications, 2018, 9, 385.	12.8	47
45	Direct Evidence of Meltwater Flow Within a Firn Aquifer in Southeast Greenland. Geophysical Research Letters, 2018, 45, 207-215.	4.0	19
46	Impact-Seismic Investigations of the InSight Mission. Space Science Reviews, 2018, 214, 1.	8.1	48
47	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
48	Extending the Solidus for a Model Ironâ€Rich Martian Mantle Composition to 25ÂGPa. Geophysical Research Letters, 2018, 45, 10,211.	4.0	19
49	Planned Products of the Mars Structure Service for the InSight Mission to Mars. Space Science Reviews, 2017, 211, 611-650.	8.1	80
50	Investigation of Firn Aquifer Structure in Southeastern Greenland Using Active Source Seismology. Frontiers in Earth Science, 2017, 5, .	1.8	21
51	Hydraulic Conductivity of a Firn Aquifer in Southeast Greenland. Frontiers in Earth Science, 2017, 5, .	1.8	24
52	Seismic array constraints on the Dâ€³ discontinuity beneath Central America. Journal of Geophysical Research: Solid Earth, 2016, 121, 152-169.	3.4	15
53	Compositional mantle layering revealed by slab stagnation at ~1000-km depth. Science Advances, 2015, 1, e1500815.	10.3	122
54	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

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55	Characterization and Petrological Constraints of the Midlithospheric Discontinuity. Geochemistry, Geophysics, Geosystems, 2015, 16, 3484-3504.	2.5	98
56	Thermal structure, radial anisotropy, and dynamics of oceanic boundary layers. Geophysical Research Letters, 2015, 42, 9740-9749.	4.0	32
57	Modeling approaches in planetary seismology. , 2015, , 140-156.		4
58	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
59	Imaging Mantle Heterogeneity with Upper Mantle Seismic Discontinuities. , 2015, , 79-104.		14
60	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
61	On the difficulties of detecting PP precursors. Geophysical Journal International, 2015, 201, 1666-1681.	2.4	27
62	Dynamic lithosphere within the Great Basin. Geochemistry, Geophysics, Geosystems, 2014, 15, 1128-1146.	2.5	10
63	Changes in Seismic Anisotropy Shed Light on the Nature of the Gutenberg Discontinuity. Science, 2014, 343, 1237-1240.	12.6	105
64	Synthetic waveform modelling of SS precursors from anisotropic upper-mantle discontinuities. Geophysical Journal International, 2014, 196, 1694-1705.	2.4	12
65	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
66	Broadband array observations of the 300â€‰km seismic discontinuity. Geophysical Research Letters, 2013, 40, 841-846.	4.0	35
67	The Gutenberg Discontinuity: Melt at the Lithosphere-Asthenosphere Boundary. Science, 2012, 335, 1480-1483.	12.6	203
68	Mantle dynamics beneath the Pacific Northwest and the generation of voluminous backâ€arc volcanism. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	54
69	The Pacific lithosphereâ€asthenosphere boundary: Seismic imaging and anisotropic constraints from SS waveforms. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	39
70	Subducted lithosphere beneath the Kuriles from migration of PP precursors. Earth and Planetary Science Letters, 2011, 311, 101-111.	4.4	34
71	Deep mantle plumes and convective upwelling beneath the Pacific Ocean. Earth and Planetary Science Letters, 2010, 294, 143-151.	4.4	33
72	Upper Mantle Discontinuity Topography from Thermal and Chemical Heterogeneity. Science, 2007, 318, 623-626.	12.6	96

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73	Investigation of upper mantle discontinuity structure beneath the central Pacific usingSSprecursors. Journal of Geophysical Research, 2006, 111, .	3.3	65
74	Extreme volcanism on Io: Latest insights at the end of Galileo era. Eos, 2003, 84, 313.	0.1	21