

Cedric Schmelzbach

List of Publications by Year in descending order

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Version: 2024-02-01

69
papers

1,580
citations

304743

22
h-index

330143

37
g-index

85
all docs

85
docs citations

85
times ranked

1404
citing authors

#	ARTICLE	IF	CITATIONS
1	Constraints on the shallow elastic and anelastic structure of Mars from InSight seismic data. <i>Nature Geoscience</i> , 2020, 13, 213-220.	12.9	207
2	Seismic detection of the martian core. <i>Science</i> , 2021, 373, 443-448.	12.6	169
3	Geology and Physical Properties Investigations by the InSight Lander. <i>Space Science Reviews</i> , 2018, 214, 1.	8.1	77
4	Characterizing Sagging and Collapse Sinkholes in a Mantled Karst by Means of Ground Penetrating Radar (GPR). <i>Environmental and Engineering Geoscience</i> , 2014, 20, 109-132.	0.9	55
5	Empirical Investigations of the Instrument Response for Distributed Acoustic Sensing (DAS) across 17 Octaves. <i>Bulletin of the Seismological Society of America</i> , 2021, 111, 1-10.	2.3	54
6	Advances in 6C seismology: Applications of combined translational and rotational motion measurements in global and exploration seismology. <i>Geophysics</i> , 2018, 83, WC53-WC69.	2.6	51
7	3D constraints on a possible deep >2.5 km massive sulphide mineralization from 2D crooked-line seismic reflection data in the Kristineberg mining area, northern Sweden. <i>Tectonophysics</i> , 2009, 479, 223-240.	2.2	46
8	First Focal Mechanisms of Marsquakes. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2020JE006546.	3.6	43
9	The shallow structure of Mars at the InSight landing site from inversion of ambient vibrations. <i>Nature Communications</i> , 2021, 12, 6756.	12.8	40
10	High-resolution water content estimation from surface-based ground-penetrating radar reflection data by impedance inversion. <i>Water Resources Research</i> , 2012, 48, .	4.2	38
11	The shallow elastic structure of the lunar crust: New insights from seismic wavefield gradient analysis. <i>Geophysical Research Letters</i> , 2016, 43, 10,078.	4.0	38
12	6-C polarization analysis using point measurements of translational and rotational ground-motion: theory and applications. <i>Geophysical Journal International</i> , 2018, 213, 77-97.	2.4	38
13	Three-dimensional hydrostratigraphic models from ground-penetrating radar and direct-push data. <i>Journal of Hydrology</i> , 2011, 398, 235-245.	5.4	37
14	Seismological Processing of Six Degree-of-Freedom Ground-Motion Data. <i>Sensors</i> , 2020, 20, 6904.	3.8	34
15	Ultra-shallow seismic reflection imaging in a region characterized by high source-generated noise. <i>Near Surface Geophysics</i> , 2005, 3, 33-46.	1.2	33
16	Shallow 3D seismic-reflection imaging of fracture zones in crystalline rock. <i>Geophysics</i> , 2007, 72, B149-B160.	2.6	31
17	Finite-difference modelling of wavefield constituents. <i>Geophysical Journal International</i> , 2015, 203, 1334-1342.	2.4	30
18	Resonances and Lander Modes Observed by InSight on Mars (1-9 Hz). <i>Bulletin of the Seismological Society of America</i> , 2021, 111, 2924-2950.	2.3	30

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19	Prestack and poststack migration of crooked-line seismic reflection data: A case study from the South Portuguese Zone fold belt, southwestern Iberia. <i>Geophysics</i> , 2007, 72, B9-B18.	2.6	27
20	Rotation, Strain, and Translation Sensors Performance Tests with Active Seismic Sources. <i>Sensors</i> , 2021, 21, 264.	3.8	23
21	Efficient Deconvolution of Ground-Penetrating Radar Data. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2015, 53, 5209-5217.	6.3	22
22	Advanced seismic processing/imaging techniques and their potential for geothermal exploration. <i>Interpretation</i> , 2016, 4, SR1-SR18.	1.1	22
23	Geostatistical regularization operators for geophysical inverse problems on irregular meshes. <i>Geophysical Journal International</i> , 2018, 213, 1374-1386.	2.4	22
24	A Numerical Model of the SEIS Leveling System Transfer Matrix and Resonances: Application to SEIS Rotational Seismology and Dynamic Ground Interaction. <i>Space Science Reviews</i> , 2018, 214, 1.	8.1	22
25	Seismic reflection imaging over the South Portuguese Zone fold-and-thrust belt, SW Iberia. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	21
26	<i>P</i> - and <i>S</i> - _{<i>V</i>} -velocity structure of the South Portuguese Zone fold-and-thrust belt, SW Iberia, from traveltimes tomography. <i>Geophysical Journal International</i> , 2008, 175, 689-712.	2.4	19
27	Traveltimes tomographic inversion with simultaneous static corrections " Well worth the effort. <i>Geophysics</i> , 2009, 74, WCB25-WCB33.	2.6	19
28	Monitoring the seasonal changes of an englacial conduit network using repeated ground-penetrating radar measurements. <i>Cryosphere</i> , 2020, 14, 3269-3286.	3.9	18
29	Seismic High-Resolution Acquisition Electronics for the NASA InSight Mission on Mars. <i>Bulletin of the Seismological Society of America</i> , 2021, 111, 2909-2923.	2.3	17
30	In Situ and Orbital Stratigraphic Characterization of the InSight Landing Site "A Type Example of a Regolith-Covered Lava Plain on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	3.6	17
31	A subaquatic moraine complex in overdeepened Lake Thun (Switzerland) unravelling the deglaciation history of the Aare Glacier. <i>Quaternary Science Reviews</i> , 2018, 187, 62-79.	3.0	15
32	Structural joint inversion on irregular meshes. <i>Geophysical Journal International</i> , 2020, 220, 1995-2008.	2.4	15
33	Resonances of the InSight Seismometer on Mars. <i>Bulletin of the Seismological Society of America</i> , 2021, 111, 2951-2963.	2.3	15
34	Bayesian frequency-domain blind deconvolution of ground-penetrating radar data. <i>Journal of Applied Geophysics</i> , 2011, 75, 615-630.	2.1	14
35	Optimizing the design of vertical seismic profiling (VSP) for imaging fracture zones over hardrock basement geothermal environments. <i>Journal of Applied Geophysics</i> , 2017, 139, 25-35.	2.1	14
36	Spatial wavefield gradient-based seismic wavefield separation. <i>Geophysical Journal International</i> , 2018, 212, 1588-1599.	2.4	14

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37	Characterizing a decametre-scale granitic reservoir using ground-penetrating radar and seismic methods. <i>Solid Earth</i> , 2020, 11, 1441-1455.	2.8	14
38	Single-station polarization analysis applied to seismic wavefields: A tutorial. <i>Advances in Geophysics</i> , 2018, 59, 123-170.	2.8	13
39	Combining amphibious geomorphology with subsurface geophysical and geological data: A neotectonic study at the front of the Alps (Bernese Alps, Switzerland). <i>Quaternary International</i> , 2017, 451, 101-113.	1.5	12
40	Microseismic reflection imaging of the Central Andean crust. <i>Geophysical Journal International</i> , 2016, 204, 1396-1404.	2.4	10
41	Optimized Experimental Design in the Context of Seismic Full Waveform Inversion and Seismic Waveform Imaging. <i>Advances in Geophysics</i> , 2017, , 1-45.	2.8	10
42	Time-lapse ground penetrating radar difference reflection imaging of saline tracer flow in fractured rock. <i>Geophysics</i> , 2020, 85, H25-H37.	2.6	10
43	The first active seismic experiment on Mars to characterize the shallow subsurface structure at the InSight landing site. , 2019, , .		10
44	Constraining helicopter electromagnetic models of the Okavango Delta with seismic-refraction and seismic-reflection data. <i>Geophysics</i> , 2014, 79, B123-B134.	2.6	9
45	The Galperin source: A novel efficient multicomponent seismic source. <i>Geophysics</i> , 2018, 83, P19-P27.	2.6	9
46	Wavefield Separation of Multicomponent Land Seismic Data Using Spatial Wavefield Gradients. , 2016, , .		8
47	Single-component elastic wavefield separation at the free surface using source- and receiver-side gradients. , 2016, , .		8
48	Frequency-dependent traveltome tomography using fat rays: application to near-surface seismic imaging. <i>Journal of Applied Geophysics</i> , 2016, 131, 202-213.	2.1	8
49	Exploring planets and asteroids with 6DoF sensors: Utopia and realism. <i>Earth, Planets and Space</i> , 2020, 72, .	2.5	8
50	Automated, six-component, single-station ground-roll identification and suppression by combined processing of translational and rotational ground motion. , 2017, , .		7
51	9C seismic data acquisition for near-surface applications: recording, waveform reciprocity and 4C rotation. , 2016, , .		7
52	Seismic imaging of a megathrust splay fault in the North Chilean subduction zone (Central Andes). <i>Tectonophysics</i> , 2016, 689, 157-166.	2.2	6
53	Imaging the high-temperature geothermal field at Krafla using vertical seismic profiling. <i>Journal of Volcanology and Geothermal Research</i> , 2020, 391, 106474.	2.1	6
54	A Reconstruction Algorithm for Temporally Aliased Seismic Signals Recorded by the InSight Mars Lander. <i>Earth and Space Science</i> , 2021, 8, e2020EA001234.	2.6	6

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55	Understanding the Impact of Karst on Seismic Wave Propagation - A Multi-method Geophysical Study. , 2015, , .		5
56	GPR imaging of shear zones in crystalline rock. , 2017, , .		3
57	Source-side spatial wavefield gradients in land seismic exploration. Geophysics, 2019, 84, P73-P85.	2.6	3
58	Multi-method geophysical imaging of a Quaternary valley in northern Switzerland. , 2014, , .		2
59	Accounting for receiver perturbations in seismic wavefield gradiometry. Geophysical Journal International, 2019, 218, 1748-1760.	2.4	2
60	Geophone Coupling Corrections for Land-seismic Point Receiver Acquisition. , 2015, , .		2
61	Spatial Wavefield Gradient Data in Seismic Exploration. , 2017, , .		2
62	Nearâ€‘surface threeâ€‘dimensional multicomponent source and receiver Sâ€‘wave survey in the Tannwald Basin, Germany: Acquisition and data processing. Near Surface Geophysics, 2022, 20, 331-348.	1.2	2
63	Finite Difference Modelling of Wavefield Constituents. , 2016, , .		1
64	Land and ocean-bottom spatial gradient-based seismic wavefield separation. , 2017, , .		1
65	Bayesian Frequency-domain Mixed-phase Wavelet Estimation and Deconvolution. , 2011, , .		1
66	Seismic exploration on the Moon, Mars and beyond. , 2020, , .		0
67	Highâ€‘resolution 3â€‘D seismic imaging of the upper crystalline crust at a nuclearâ€‘waste disposal study site on Å,vrÃ¶ Island, southeastern Sweden. , 2006, , .		0
68	Mixed-phase Deconvolution of Ground-penetrating Radar Data. , 2010, , .		0
69	Three-dimensional Ground-penetrating Radar and Magnetic-gradient Surveying of the Roman Castle Irgenhausen (Switzerland). , 2014, , .		0