Frederik J Tilmann

List of Publications by Citations

109 papers	3,370 citations	32 h-index	55 g-index
158 ext. papers	3,971 ext. citations	4.9 avg, IF	5.04 L-index

#	Paper	IF	Citations
109	Seismic imaging of the downwelling Indian lithosphere beneath central Tibet. *Science*, **2003**, 300, 1424-7	33.3	258
108	Gradual unlocking of plate boundary controlled initiation of the 2014 Iquique earthquake. *Nature*, **2014**, 512, 299-302	50.4	211
107	Tibetan plate overriding the Asian plate in central and northern Tibet. *Nature Geoscience*, **2011**, 4, 870-873	13.3	164
106	Seismic polarization anisotropy beneath the central Tibetan Plateau. *Journal of Geophysical Research*, **2000**, 105, 27979-27989		161
105	Mapping the Hawaiian plume conduit with converted seismic waves. *Nature*, **2000**, 405, 938-41	50.4	157
104	Deep India meets deep Asia: Lithospheric indentation, delamination and break-off under Pamir and Hindu Kush (Central Asia). *Earth and Planetary Science Letters*, **2016**, 435, 171-184	5.3	107
103	The 2015 Illapel earthquake, central Chile: A type case for a characteristic earthquake?. *Geophysical Research Letters*, **2016**, 43, 574-583	4.9	93
102	A complex Tibetan upper mantle: A fragmented Indian slab and no south-verging subduction of Eurasian lithosphere. *Earth and Planetary Science Letters*, **2012**, 333-334, 101-111	5.3	91
101	Rayleigh wave phase velocity maps of Tibet and the surrounding regions from ambient seismic noise tomography. *Geochemistry, Geophysics, Geosystems*, **2010**, 11, n/a-n/a	3.6	85
100	Crustal structure of northern and southern Tibet from surface wave dispersion analysis. *Journal of Geophysical Research*, **2003**, 108,		85
99	The AlpArray Seismic Network: A Large-Scale European Experiment to Image the Alpine Orogen. *Surveys in Geophysics*, **2018**, 39, 1009-1033	7.6	79
98	Coalescence microseismic mapping. *Geophysical Journal International*, **2013**, 195, 1773-1785	2.6	79
97	Seismic evidence for stratification in composition and anisotropic fabric within the thick lithosphere of Kalahari Craton. *Geochemistry, Geophysics, Geosystems*, **2013**, 14, 5393-5412	3.6	73
96	A high-resolution, time-variable afterslip model for the 2010 Maule Mw = 8.8, Chile megathrust earthquake. *Earth and Planetary Science Letters*, **2013**, 383, 26-36	5.3	71
95	Aftershock seismicity of the 27 February 2010 Mw 8.8 Maule earthquake rupture zone. *Earth and Planetary Science Letters*, **2012**, 317-318, 413-425	5.3	69
94	Complex hazard cascade culminating in the Anak Krakatau sector collapse. *Nature Communications*, **2019**, 10, 4339	17.4	67
93	Thickness of the lithosphere beneath Turkey and surroundings from S-receiver functions. *Solid Earth*, **2015**, 6, 971-984	3.3	64

92	Structure and seismogenic properties of the Mentawai segment of the Sumatra subduction zone revealed by local earthquake traveltime tomography. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		53
91	The September 2009 Padang earthquake. *Nature Geoscience*, **2010**, 3, 70-71	18.3	52
90	Subducted seafloor relief stops rupture in South American great earthquakes: Implications for rupture behaviour in the 2010 Maule, Chile earthquake. *Earth and Planetary Science Letters*, **2010**, 298, 89-94	5.3	52
89	Shear-wave structure of the lithosphere above the Hawaiian Hot Spot from two-station Rayleigh wave phase velocity measurements. *Geophysical Research Letters*, **1999**, 26, 1493-1496	4.9	50
88	Seismicity and geometry of the south Chilean subduction zone (41.5°S–43.5°S): Implications for controlling parameters. *Geophysical Research Letters*, **2007**, 34,	4.9	47
87	About the lithospheric structure of central Tibet, based on seismic data from the INDEPTH III profile. *Tectonophysics*, **2004**, 380, 1-25	3.1	47
86	The Fine Structure of the Subducted Investigator Fracture Zone in Western Sumatra as Seen by Local Seismicity. *Earth and Planetary Science Letters*, **2010**, 298, 47-56	5.3	45
85	Relationship between the upper mantle high velocity seismic lid and the continental lithosphere. *Lithos*, **2009**, 109, 112-124	2.9	44
84	Depth-variant azimuthal anisotropy in Tibet revealed by surface wave tomography. *Geophysical Research Letters*, **2015**, 42, 4326-4334	4.9	37
83	Significant and vertically coherent seismic anisotropy beneath eastern Tibet. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		37
82	Insight into NE Tibetan Plateau expansion from crustal and upper mantle anisotropy revealed by shear-wave splitting. *Earth and Planetary Science Letters*, **2017**, 478, 66-75	5.3	34
81	P-wave velocity structure of the uppermost mantle beneath Hawaii from traveltime tomography. *Geophysical Journal International*, **2001**, 146, 594-606	2.6	34
80	Crustal structure of the British Isles and its epeirogenic consequences. *Geophysical Journal International*, **2012**, 190, 705-725	2.6	33
79	Fragmented Indian plate and vertically coherent deformation beneath eastern Tibet. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		33
78	A 3D shear-wave velocity model of the upper mantle beneath China and the surrounding areas. *Tectonophysics*, **2014**, 633, 193-210	3.1	32
77	Seismicity in the outer rise offshore southern Chile: Indication of fluid effects in crust and mantle. *Earth and Planetary Science Letters*, **2008**, 269, 41-55	5.3	31
76	Field observations of seismic velocity changes caused by shaking-induced damage and healing due to mesoscopic nonlinearity. *Geophysical Journal International*, **2016**, 204, 1490-1502	2.6	30
75	SMART Cables for Observing the Global Ocean: Science and Implementation. *Frontiers in Marine Science*, **2019**, 6,	4.5	28

74	Microearthquake seismicity of the Mid-Atlantic Ridge at 5°S: A view of tectonic extension. *Journal of Geophysical Research*, **2004**, 109,		27
73	Splay fault activity revealed by aftershocks of the 2010 Mw 8.8 Maule earthquake, central Chile. *Geology*, **2014**, 42, 823-826	5	26
72	The structure of the crust and uppermost mantle beneath Madagascar. *Geophysical Journal International*, **2017**, 210, 1525-1544	2.6	25
71	Imaging the lithosphere beneath NE Tibet: teleseismic P and S body wave tomography incorporating surface wave starting models. *Geophysical Journal International*, **2014**, 196, 1724-1741	2.6	25
70	Seismic Broadband Ocean-Bottom Data and Noise Observed with Free-Fall Stations: Experiences from Long-Term Deployments in the North Atlantic and the Tyrrhenian Sea. *Bulletin of the Seismological Society of America*, **2006**, 96, 647-664	2.3	25
69	Comparison of postseismic afterslip models with aftershock seismicity for three subduction-zone earthquakes: Nias 2005, Maule 2010 and Tohoku 2011. *Geophysical Journal International*, **2014**, 199, 784-799	2.6	22
68	Scandinavia: A former Tibet?. *Geochemistry, Geophysics, Geosystems*, **2013**, 14, 4479-4487	3.6	22
67	Seismic anisotropy in the Sumatra subduction zone. *Journal of Geophysical Research: Solid Earth*, **2013**, 118, 5372-5390	3.6	22
66	The updip seismic/aseismic transition of the Sumatra megathrust illuminated by aftershocks of the 2004 Aceh-Andaman and 2005 Nias events. *Geophysical Journal International*, **2010**,	2.6	22
65	The Crust in the Pamir: Insights From Receiver Functions. *Journal of Geophysical Research: Solid Earth*, **2019**, 124, 9313-9331	3.6	21
64	Crustal structure of southern Madagascar from receiver functions and ambient noise correlation: Implications for crustal evolution. *Journal of Geophysical Research: Solid Earth*, **2017**, 122, 1179-1197	3.6	20
63	The structure of the Sumatran Fault revealed by local seismicity. *Geophysical Research Letters*, **2012**, 39, n/a-n/a	4.9	20
62	Shear wave splitting and mantle flow beneath LA RISTRA. *Geophysical Research Letters*, **2003**, 30,	4.9	20
61	Seismic Anisotropy from SKS Splitting beneath Northeastern Tibet. *Bulletin of the Seismological Society of America*, **2013**, 103, 3362-3371	2.3	18
60	Seismic anisotropy of the lithosphere and asthenosphere beneath southern Madagascar from teleseismic shear wave splitting analysis and waveform modeling. *Journal of Geophysical Research: Solid Earth*, **2016**, 121, 6627-6643	3.6	18
59	Shear velocity structure across the Sumatran Forearc-Arc. *Geophysical Journal International*, **2012**, 189, 1306-1314	2.6	17
58	Ambient-noise tomography of north Tibet limits geological terrane signature to upper-middle crust. *Geophysical Research Letters*, **2013**, 40, 808-813	4.9	15
57	Magmatic and Sedimentary Structure beneath the Klyuchevskoy Volcanic Group, Kamchatka, From Ambient Noise Tomography. *Journal of Geophysical Research: Solid Earth*, **2020**, 125, e2019JB018900	3.6	14

56	Investigation of mantle kinematics beneath the Hellenic-subduction zone with teleseismic direct shear waves. *Physics of the Earth and Planetary Interiors*, **2016**, 261, 141-151	2.3	14
55	Crustal structure of a rifted oceanic core complex and its conjugate side at the MAR at 5°S: implications for melt extraction during detachment faulting and core complex formation. *Geophysical Journal International*, **2010**, 181, 113-126	2.6	14
54	Infragravity wave source regions determined from ambient noise correlation. *Geophysical Research Letters*, **2012**, 39, n/a-n/a	4.9	13
53	Subduction system variability across the segment boundary of the 2004/2005 Sumatra megathrust earthquakes. *Earth and Planetary Science Letters*, **2013**, 365, 108-119	5.3	13
52	3-D active source tomography around Simeulue Island offshore Sumatra: Thick crustal zone responsible for earthquake segment boundary. *Geophysical Research Letters*, **2013**, 40, 48-53	4.9	13
51	High-frequency seismic radiation from Maule earthquake (Mw 8.8, 2010 February 27) inferred from high-resolution backprojection analysis. *Geophysical Journal International*, **2014**, 199, 1058-1077	2.6	12
50	The Use of Direct Shear Waves in Quantifying Seismic Anisotropy: Exploiting Regional Arrays. *Bulletin of the Seismological Society of America*, **2014**, 104, 2644-2661	2.3	12
49	Seismology Across the Northeastern Edge of the Tibetan Plateau. *Eos*, **2008**, 89, 487-487	1.5	12
48	Constraints on crustal and mantle structure of the oceanic plate south of Iceland from ocean bottom recorded Rayleigh waves. *Tectonophysics*, **2008**, 447, 66-79	3.1	12
47	Crustal Radial Anisotropy and Linkage to Geodynamic Processes: A Study Based on Seismic Ambient Noise in Southern Madagascar. *Journal of Geophysical Research: Solid Earth*, **2018**, 123, 5130-5146	3.6	12
46	The Interplay of Eclogitization and Deformation During Deep Burial of the Lower Continental Crust—A Case Study From the Bergen Arcs (Western Norway). *Tectonics*, **2019**, 38, 898-915	4.3	11
45	Application of multichannel Wiener filters to the suppression of ambient seismic noise in passive seismic arrays. *The Leading Edge*, **2008**, 27, 232-238	1	11
44	Probing the Northern Chile Megathrust With Seismicity: The 2014 M8.1 Iquique Earthquake Sequence. *Journal of Geophysical Research: Solid Earth*, **2019**, 124, 12935-12954	3.6	10
43	Upper-mantleP- andS-wave velocities across the Northern Tornquist Zone from traveltime tomography. *Geophysical Journal International*, **2015**, 203, 437-458	2.6	9
42	Modification of the Seismic Properties of Subducting Continental Crust by Eclogitization and Deformation Processes. *Journal of Geophysical Research: Solid Earth*, **2019**, 124, 9731-9754	3.6	9
41	P and S wave scattering from mantle plumes. *Journal of Geophysical Research*, **1998**, 103, 21145-21163		9
40	Structure of the central Sumatran subduction zone revealed by local earthquake travel-time tomography using an amphibious network. *Solid Earth*, **2018**, 9, 1035-1049	3.3	9
39	The transformer earthquake alerting model: a new versatile approach to earthquake early warning. *Geophysical Journal International*, **2021**, 225, 646-656	2.6	8

38	P Wave Azimuthal Anisotropic Tomography in Northern Chile: Insight Into Deformation in the Subduction Zone. *Journal of Geophysical Research: Solid Earth*, **2019**, 124, 742-765	3.6	8
37	Revision of earthquake hypocentre locations in global bulletin data sets using source-specific station terms. *Geophysical Journal International*, **2017**, 208, 589-602	2.6	7
36	Role of Serpentinized Mantle Wedge in Affecting Megathrust Seismogenic Behavior in the Area of the 2010 M = 8.8 Maule Earthquake. *Geophysical Research Letters*, **2020**, 47, e2020GL090482	4.9	7
35	Seismic Anisotropy Beneath the Pamir and the Hindu Kush: Evidence for Contributions From Crust, Mantle Lithosphere, and Asthenosphere. *Journal of Geophysical Research: Solid Earth*, **2018**, 123, 10,727	3.6	7
34	Systematic Changes of Earthquake Rupture with Depth: A Case Study from the 2010Mw 8.8 Maule, Chile, Earthquake Aftershock Sequence. *Bulletin of the Seismological Society of America*, **2015**, 105, 2468-2479	2.3	6
33	Crustal Structure of Sri Lanka Derived From Joint Inversion of Surface Wave Dispersion and Receiver Functions Using a Bayesian Approach. *Journal of Geophysical Research: Solid Earth*, **2020**, 125, e2019JB018688	3.6	6
32	Advancing Subduction Zone Science After a Big Quake. *Eos*, **2014**, 95, 193-194	1.5	6
31	Application of frequency-dependent multichannel Wiener filters to detect events in 2D three-component seismometer arrays. *Geophysics*, **2009**, 74, V133-V141	3.1	6
30	Low uncertainty multifeature magnitude estimation with 3-D corrections and boosting tree regression: application to North Chile. *Geophysical Journal International*, **2020**, 220, 142-159	2.6	6
29	The SWATH-D Seismological Network in the Eastern Alps. *Seismological Research Letters*, **2021**, 92, 1592-1609	3	6
28	Receiver-function imaging of the lithosphere at the Kunlun-Qaidam boundary, Northeast Tibet. *Tectonophysics*, **2019**, 759, 30-43	3.1	5
27	Application of the Multichannel Wiener Filter to Regional Event Detection Using NORSAR Seismic-Array Data. *Bulletin of the Seismological Society of America*, **2011**, 101, 2887-2896	2.3	5
26	Exploring Structural Controls on Sumatran Earthquakes. *Eos*, **2010**, 91, 405	1.5	5
25	EditorialSubmarine geomorphology: new views on an unseen landscape. *Basin Research*, **2008**, 20, 467-472	3.2	5
24	Commercial Underwater Cable Systems Could Reduce Disaster Impact. *Eos*, **2017**,	1.5	5
23	Earthquake magnitude and location estimation from real time seismic waveforms with a transformer network. *Geophysical Journal International*, **2021**, 226, 1086-1104	2.6	5
22	Fibre optic distributed acoustic sensing of volcanic events.. *Nature Communications*, **2022**, 13, 1753	17.4	5
21	Another look at the treatment of data uncertainty in Markov chain Monte Carlo inversion and other probabilistic methods. *Geophysical Journal International*, **2020**, 222, 388-405	2.6	4

20	Crustal structure and kinematics of the TAMMAR propagating rift system on the Mid-Atlantic Ridge from seismic refraction and satellite altimetry gravity. *Geophysical Journal International*, **2016**, 206, 1382-1397	2.6	4
19	Estimating Rupture Directions from Local Earthquake Data Using the IPOC Observatory in Northern Chile. *Seismological Research Letters*, **2018**, 89, 495-502	3	4
18	The GEOFON Program in 2020. *Seismological Research Letters*, **2021**, 92, 1610-1622	3	4
17	Applicability and Bias ofVP/VSEstimates byPandSDifferential Arrival Times of Spatially Clustered Earthquakes. *Bulletin of the Seismological Society of America*, **2016**, 106, 1055-1063	2.3	3
16	Anomalous azimuthal variations with 360°periodicity of Rayleigh phase velocities observed in Scandinavia. *Geophysical Journal International*, **2020**, 224, 1684-1704	2.6	3
15	Thickness of the lithosphere beneath Turkey and surroundings from S-receiver functions		3
14	ScanArray: A Broadband Seismological Experiment in the Baltic Shield. *Seismological Research Letters*, **2021**, 92, 2811-2823	3	3
13	Full Waveform Inversion Beneath the Central Andes: Insight Into the Dehydration of the Nazca Slab and Delamination of the Back-Arc Lithosphere. *Journal of Geophysical Research: Solid Earth*, **2021**, 126, e2021JB021984	3.6	3
12	Shear wave splitting in the Alpine region. *Geophysical Journal International*, **2021**, 227, 1996-2015	2.6	3
11	P Wave Anisotropy Caused by Partial Eclogitization of Descending Crust Demonstrated by Modeling Effective Petrophysical Properties. *Geochemistry, Geophysics, Geosystems*, **2020**, 21, e2019GC008906	3.6	2
10	Seismic anisotropy and mantle deformation in NW Iran inferred from splitting measurements of SK(K)S and direct S phases. *Geophysical Journal International*, **2021**, 226, 1417-1431	2.6	2
9	SeisBench - A Toolbox for Machine Learning in Seismology		2
8	Velocity structure and radial anisotropy of the lithosphere in southern Madagascar from surface wave dispersion. *Geophysical Journal International*, **2020**, 224, 1930-1944	2.6	1
7	Seismic velocity and anisotropy of the uppermost mantle beneath Madagascar from Pn tomography. *Geophysical Journal International*, **2020**, 224, 290-305	2.6	1
6	Comment on "Potential short-term earthquake forecasting by farm animal monitoring" by Wikelski, Mueller, Scocco, Catorci, Desinov, Belyaev, Keim, Pohlmeier, Fechteler, and Mai. *Ethology*, **2021**, 127, 302-306	1.7	1
5	Joint ambient noise autocorrelation and receiver function analysis of the Moho. *Geophysical Journal International*, **2021**, 225, 1920-1934	2.6	1
4	Seismic structure across central Myanmar from joint inversion of receiver functions and Rayleigh wave dispersion. *Tectonophysics*, **2021**, 818, 229068	3.1	1
3	Continental Break-Up Under a Convergent Setting: Insights From P Wave Radial Anisotropy Tomography of the Woodlark Rift in Papua New Guinea. *Geophysical Research Letters*, **2022**, 49,	4.9	1

2	Impact of the Juan Fernandez Ridge on the Pampean Flat Subduction Inferred From Full Waveform Inversion. *Geophysical Research Letters*, **2021**, 48, e2021GL095509	4.9	0
1	Imaging the Ethiopian Rift Region Using Transdimensional Hierarchical Seismic Noise Tomography. *Pure and Applied Geophysics*, **2021**, 178, 4367	2.2	0