Sebastian Hainzl

List of Publications by Year
in descending order

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121 papers	4,308 citations	94433 37 h-index	128289 60 g-index
145 all docs	145 docs citations	145 times ranked	2722 citing authors

#	Article	IF	Citations
1	Gradual unlocking of plate boundary controlled initiation of the 2014 Iquique earthquake. Nature, 2014, 512, 299-302.	27.8	279
2	Detecting fluid signals in seismicity data through statistical earthquake modeling. Journal of Geophysical Research, 2005, 110, .	3.3	232
3	Evidence for rainfall-triggered earthquake activity. Geophysical Research Letters, 2006, 33, .	4.0	178
4	Statistical analysis of the induced Basel 2006 earthquake sequence: introducing a probability-based monitoring approach for Enhanced Geothermal Systems. Geophysical Journal International, 2011, 186, 793-807.	2.4	143
5	Seismicity patterns of earthquake swarms due to fluid intrusion and stress triggering. Geophysical Journal International, 2004, 159, 1090-1096.	2.4	132
6	Estimating Background Activity Based on Interevent-Time Distribution. Bulletin of the Seismological Society of America, 2006, 96, 313-320.	2.3	129
7	Indications for a successively triggered rupture growth underlying the 2000 earthquake swarm in Vogtland/NW Bohemia. Journal of Geophysical Research, 2002, 107, ESE 5-1-ESE 5-9.	3.3	127
8	Observation of growing correlation length as an indicator for critical point behavior prior to large earthquakes. Journal of Geophysical Research, 2001, 106, 2167-2175.	3.3	126
9	Rateâ€Ðependent Incompleteness of Earthquake Catalogs. Seismological Research Letters, 2016, 87, 337-344.	1.9	99
10	Afterslip and viscoelastic relaxation following the 1999M7.4 Ä°zmit earthquake from GPS measurements. Geophysical Journal International, 2009, 178, 1220-1237.	2.4	98
11	Similar power laws for foreshock and aftershock sequences in a spring-block model for earthquakes. Journal of Geophysical Research, 1999, 104, 7243-7253.	3.3	96
12	Microseismic signatures of hydraulic fracture growth in sediment formations: Observations and modeling. Journal of Geophysical Research, 2008, 113, .	3.3	78
13	Seismicity-based estimation of the driving fluid pressure in the case of swarm activity in Western Bohemia. Geophysical Journal International, 2012, 191, 271-281.	2.4	72
14	Impact of Earthquake Rupture Extensions on Parameter Estimations of Point-Process Models. Bulletin of the Seismological Society of America, 2008, 98, 2066-2072.	2.3	71
15	Impact of Aseismic Transients on the Estimation of Aftershock Productivity Parameters. Bulletin of the Seismological Society of America, 2013, 103, 1723-1732.	2.3	71
16	A retrospective comparative forecast test on the 1992 Landers sequence. Journal of Geophysical Research, 2011, 116, .	3.3	70
17	Discrimination between induced, triggered, and natural earthquakes close to hydrocarbon reservoirs: A probabilistic approach based on the modeling of depletionâ€induced stress changes and seismological source parameters. Journal of Geophysical Research: Solid Earth, 2015, 120, 2491-2509.	3.4	69
18	Aftershock modeling based on uncertain stress calculations. Journal of Geophysical Research, 2009, 114, .	3.3	68

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19	Seismic quiescence as an indicator for large earthquakes in a system of self-organized criticality. Geophysical Research Letters, 2000, 27, 597-600.	4.0	65
20	Recommendation for the discrimination of human-related and natural seismicity. Journal of Seismology, 2013, 17, 197-202.	1.3	64
21	Estimation of the Maximum Possible Magnitude in the Framework of a Doubly Truncated Gutenberg-Richter Model. Bulletin of the Seismological Society of America, 2011, 101, 1649-1659.	2.3	62
22	Can Strong-Motion Observations be Used to Constrain Probabilistic Seismic-Hazard Estimates?. Bulletin of the Seismological Society of America, 2008, 98, 509-520.	2.3	60
23	Dependence of the Omoriâ€Utsu law parameters on main shock magnitude: Observations and modeling. Journal of Geophysical Research, 2008, 113, .	3.3	58
24	Sensitivity study of forecasted aftershock seismicity based on Coulomb stress calculation and rateâ€• and stateâ€dependent frictional response. Journal of Geophysical Research, 2010, 115, .	3.3	58
25	A systematic spatiotemporal test of the critical point hypothesis for large earthquakes. Geophysical Research Letters, 2002, 29, 53-1.	4.0	57
26	Apparent triggering function of aftershocks resulting from rateâ€dependent incompleteness of earthquake catalogs. Journal of Geophysical Research: Solid Earth, 2016, 121, 6499-6509.	3.4	50
27	Correlations of Seismicity Patterns in Southern California with Surface Heat Flow Data. Bulletin of the Seismological Society of America, 2009, 99, 3114-3123.	2.3	48
28	The Forecasting Skill of Physicsâ€Based Seismicity Models during the 2010â€“2012 Canterbury, New Zealand, Earthquake Sequence. Seismological Research Letters, 2018, 89, 1238-1250.	1.9	47
29	Changes in effective stress during the 2003â€“2004 Ubaye seismic swarm, France. Journal of Geophysical Research, 2011, 116, .	3.3	43
30	Aftershocks triggered by fluid intrusion: Evidence for the aftershock sequence occurred 2014 in West Bohemia/Vogtland. Journal of Geophysical Research: Solid Earth, 2016, 121, 2575-2590.	3.4	43
31	Nontrivial decay of aftershock density with distance in Southern California. Journal of Geophysical Research: Solid Earth, 2014, 119, 5518-5535.	3.4	42
32	Quantitative earthquake forecasts resulting from static stress triggering. Journal of Geophysical Research, 2010, 115, .	3.3	40
33	Impact of the receiver fault distribution on aftershock activity. Journal of Geophysical Research, 2010, 115, .	3.3	40
34	Aftershock triggering by postseismic stresses: A study based on Coulomb rateâ€andâ€state models. Journal of Geophysical Research: Solid Earth, 2015, 120, 2388-2407.	3.4	40
35	Aseismic transient driving the swarm-like seismic sequence in the Pollino range, Southern Italy. Geophysical Journal International, 2015, 201, 1553-1567.	2.4	40
36	The Maximum Earthquake Magnitude in a Time Horizon: Theory and Case Studies. Bulletin of the Seismological Society of America, 2013, 103, 860-875.	2.3	39

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37	Bidirectional and unidirectional fracture growth during hydrofracturing: Role of driving stress gradients. Journal of Geophysical Research, 2010, 115, .	3.3	38
38	Update of likelihood-based ground-motion model selection for seismic hazard analysis in western central Europe. Bulletin of Earthquake Engineering, 2007, 5, 1-16.	4.1	37
39	Propagation of Coulomb stress uncertainties in physicsâ€based aftershock models. Journal of Geophysical Research: Solid Earth, 2014, 119, 7846-7864.	3.4	37
40	A Systematic Test on Precursory Seismic Quiescence in Armenia. Natural Hazards, 2002, 26, 245-263.	3.4	36
41	Aftershocks resulting from creeping sections in a heterogeneous fault. Geophysical Research Letters, 2005, 32, .	4.0	35
42	Recurrence Time Distributions of Large Earthquakes in a Stochastic Model for Coupled Fault Systems: The Role of Fault Interaction. Bulletin of the Seismological Society of America, 2007, 97, 1679-1687.	2.3	34
43	Earthquake activity related to seismic cycles in a model for a heterogeneous strike-slip fault. Tectonophysics, 2006, 423, 137-145.	2.2	33
44	Testing atmospheric and tidal earthquake triggering at Mt. Hochstaufen, Germany. Journal of Geophysical Research: Solid Earth, 2013, 118, 5442-5452.	3.4	33
45	Self-organization of earthquake swarms. Journal of Geodynamics, 2003, 35, 157-172.	1.6	32
46	Uplift rate transients at subduction margins due to earthquake clustering. Tectonics, 2016, 35, 2370-2384.	2.8	31
47	Review: Can Animals Predict Earthquakes?. Bulletin of the Seismological Society of America, 2018, 108, 1031-1045.	2.3	30
48	Estimating recurrence times and seismic hazard of large earthquakes on an individual fault. Geophysical Journal International, 2007, 170, 1300-1310.	2.4	29
49	Monsoon-induced earthquake activity in Talala, Gujarat, India. Geophysical Journal International, 2014, 200, 627-637.	2.4	29
50	Cyclical geothermal unrest as a precursor to Icelandâ€™s 2021 Fagradalsfjall eruption. Nature Geoscience, 2022, 15, 397-404.	12.9	29
51	Improving empirical aftershock modeling based on additional source information. Journal of Geophysical Research, 2012, 117, .	3.3	27
52	Statistical estimation of the duration of aftershock sequences. Geophysical Journal International, 2016, 205, 1180-1189.	2.4	27
53	Self-organization of spatio-temporal earthquake clusters. Nonlinear Processes in Geophysics, 2000, 7, 21-29.	1.3	27
54	Emergence of a band-limited power law in the aftershock decay rate of a slider-block model. Geophysical Research Letters, 2003, 30, .	4.0	26

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55	Mechanical intrusion models and their implications for the possibility of magma-driven swarms in NW Bohemia Region. Studia Geophysica Et Geodaetica, 2008, 52, 529-548.	0.5	26
56	Probabilistic seismic hazard estimation in low-seismicity regions considering non-Poissonian seismic occurrence. Geophysical Journal International, 2006, 164, 543-550.	2.4	25
57	The creation of an asymmetric hydraulic fracture as a result of driving stress gradients. Geophysical Journal International, 2009, 179, 634-639.	2.4	25
58	Seismic moment ratio of aftershocks with respect to main shocks. Journal of Geophysical Research: Solid Earth, 2013, 118, 5856-5864.	3.4	25
59	Static stress triggering explains the empirical aftershock distance decay. Geophysical Research Letters, 2014, 41, 8818-8824.	4.0	21
60	Stressâ€•and aftershockâ€constrained joint inversions for coseismic and postseismic slip applied to the 2004 M6.0 Parkfield earthquake. Journal of Geophysical Research, 2012, 117, .	3.3	20
61	Earthquake clusters resulting from delayed rupture propagation in finite fault segments. Journal of Geophysical Research, 2003, 108, ESE 4-1-ESE 4-10.	3.3	19
62	Non-Poissonian earthquake occurrence in coupled stress release models and its effect on seismic hazard. Geophysical Journal International, 2008, 174, 649-658.	2.4	19
63	Stress-based, statistical modeling of the induced seismicity at the Groningen gas field, The Netherlands. Environmental Earth Sciences, 2020, 79, 1.	2.7	19
64	Linear Relationship Between Aftershock Productivity and Seismic Coupling in the Northern Chile Subduction Zone. Journal of Geophysical Research: Solid Earth, 2019, 124, 8726-8738.	3.4	18
65	Filling the gap in a double seismic zone: Intraslab seismicity in Northern Chile. Lithos, 2019, 346-347, 105155.	1.4	18
66	Eruption Interval Monitoring at Strokkur Geyser, Iceland. Geophysical Research Letters, 2020, 47, e2019GL085266.	4.0	18
67	Postseismic deformation induced by brittle rock damage of aftershocks. Journal of Geophysical Research, 2010, 115, .	3.3	17
68	Combined approach of poroelastic and earthquake nucleation applied to the reservoir-induced seismic activity in the Val dâ€™Agri area, Italy. Journal of Rock Mechanics and Geotechnical Engineering, 2020, 12, 802-810.	8.1	17
69	The Growth of Earthquake Clusters. Frontiers in Earth Science, 2021, 9, .	1.8	17
70	Identification and characterization of growing large-scale en-echelon fractures in a salt mine. Geophysical Journal International, 2014, 196, 1092-1105.	2.4	16
71	The Largest Expected Earthquake Magnitudes in Japan: The Statistical Perspective. Bulletin of the Seismological Society of America, 2014, 104, 769-779.	2.3	16
72	The role of disorder and stress concentration in nonconservative fault systems. Physica A: Statistical Mechanics and Its Applications, 2001, 294, 67-84.	2.6	15

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73	The Impact of the Spatial Uniform Distribution of Seismicity on Probabilistic Seismic-Hazard Estimation. Bulletin of the Seismological Society of America, 2006, 96, 2465-2471.	2.3	15
74	Effective Stress Drop of Earthquake Clusters. Bulletin of the Seismological Society of America, 2017, 107, 2247-2257.	2.3	15
75	Two global ensemble seismicity models obtained from the combination of interseismic strain measurements and earthquake-catalogue information. Geophysical Journal International, 2020, 224, 1945-1955.	2.4	15
76	Moment release in the Lower Rhine Embayment, Germany: seismological perspective of the deformation process. Geophysical Journal International, 2005, 160, 901-909.	2.4	14
77	Detecting premonitory seismicity patterns based on critical point dynamics. Natural Hazards and Earth System Sciences, 2001, 1, 93-98.	3.6	14
78	Weak decays of heavy mesons in the instantaneous Bethe Salpeter approach. Zeitschrift FÃ¼r Physik C-Particles and Fields, 1995, 68, 103-111.	1.5	13
79	Recurrent Large Earthquakes in a Fault Region: What Can Be Inferred from Small and Intermediate Events?. Bulletin of the Seismological Society of America, 2008, 98, 2641-2651.	2.3	13
80	Quantifying slip balance in the earthquake cycle: Coseismic slip model constrained by interseismic coupling. Journal of Geophysical Research: Solid Earth, 2015, 120, 8383-8403.	3.4	13
81	Statistical analysis of time-dependent earthquake occurrence and its impact on hazard in the low seismicity region Lower Rhine Embayment. Geophysical Journal International, 2007, 171, 797-806.	2.4	11
82	Statistical analysis of the Central-Europe seismicity. Tectonophysics, 2009, 470, 195-204.	2.2	11
83	Comment on â€œSelfâ€similar earthquake triggering, BÃ¥th's law, and foreshock/aftershock magnitudes: Simulations, theory, and results forâ€‰southern Californiaâ€•by P. M. Shearer. Journal of Geophysical Research: Solid Earth, 2013, 118, 1188-1191.	3.4	11
84	Improving the estimation of detection probability and magnitude of completeness in strongly heterogeneous media, an application to acoustic emission (AE). Geophysical Journal International, 2013, 193, 1556-1569.	2.4	10
85	Is Coulomb Stress the Best Choice for Aftershock Forecasting?. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019553.	3.4	10
86	Investigating the Origin of Seismic Swarms. Eos, 2013, 94, 361-362.	0.1	9
87	Detection of Gutenbergâ€“Richter bâ€Value Changes in Earthquake Time Series. Bulletin of the Seismological Society of America, 2018, 108, 2778-2787.	2.3	9
88	Multiple Changeâ€Point Detection in Spatiotemporal Seismicity Data. Bulletin of the Seismological Society of America, 2018, 108, 1147-1159.	2.3	9
89	Reservoir-Triggered Earthquakes Around the AtatÃ¼rk Dam (Southeastern Turkey). Frontiers in Earth Science, 2021, 9, .	1.8	9
90	ETAS-Approach Accounting for Short-Term Incompleteness of Earthquake Catalogs. Bulletin of the Seismological Society of America, 2022, 112, 494-507.	2.3	9

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91	Recurrence of Large Earthquakes: Bayesian Inference from Catalogs in the Presence of Magnitude Uncertainties. Pure and Applied Geophysics, 2010, 167, 845-853.	1.9	8
92	Assessment of stress coupling among the inter-, co- and post-seismic phases related to the 2004 M6 Parkfield earthquake. Geophysical Journal International, 2014, 197, 1858-1868.	2.4	8
93	Seismicity clusters in Central Chile: investigating the role of repeating earthquakes and swarms in a subduction region. Geophysical Journal International, 2020, 224, 2028-2043.	2.4	8
94	Comparison of deterministic and stochastic earthquake simulators for fault interactions in the Lower Rhine Embayment, Germany. Geophysical Journal International, 2013, 195, 684-694.	2.4	7
95	Spatial Variations of Aftershock Parameters and their Relation to Geodetic Slip Models for the 2010 Mw8.8 Maule and the 2011 Mw9.0 Tohoku-oki Earthquakes. Pure and Applied Geophysics, 2017, 174, 77-102.	1.9	7
96	Localised thickening and grounding of an Antarctic ice shelf from tidal triggering and sizing of cryoseismicity. Earth and Planetary Science Letters, 2018, 503, 78-87.	4.4	7
97	Broadband Ground-Motion Simulation Using Energy-Constrained Rise-Time Scaling. Bulletin of the Seismological Society of America, 2014, 104, 2683-2697.	2.3	6
98	Testing stress shadowing effects at the South American subduction zone. Geophysical Journal International, 2017, 211, 1272-1283.	2.4	6
99	Time-dependent and spatiotemporal statistical analysis of intraplate anomalous seismicity: Sarria-Triacastela-BecerreÃ¡ (NW Iberian Peninsula, Spain). Geophysical Journal International, 2021, 225, 477-493.	2.4	6
100	Solving three major biases of the ETAS model to improve forecasts of the 2019 Ridgecrest sequence. Stochastic Environmental Research and Risk Assessment, 2022, 36, 2133-2152.	4.0	6
101	SELF-ORGANIZED CRITICALITY MODEL FOR EARTHQUAKES: QUIESCENCE, FORESHOCKS AND AFTERSHOCKS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1999, 09, 2249-2255.	1.7	5
102	Joint Determination of Slip and Stress Drop in a Bayesian Inversion Approach: A Case Study for the 2010 M8.8 Maule Earthquake. Pure and Applied Geophysics, 2015, 172, 375-388.	1.9	5
103	A nonplanar slow rupture episode during the 2000 Miyakejima dike intrusion. Journal of Geophysical Research: Solid Earth, 2017, 122, 2054-2068.	3.4	5
104	Statistical analysis of the 2012â€“2013 Torreperogilâ€“Sabiote seismic series, Spain. Journal of Seismology, 2017, 21, 705-717.	1.3	5
105	Poroelastic model in a vertically sealed gas storage: a case study from cyclic injection/production in a carbonate aquifer. Geophysical Journal International, 2021, 227, 1322-1338.	2.4	5
106	Improving Earthquake Doublet Frequency Predictions by Modified Spatial Trigger Kernels in the Epidemic-Type Aftershock Sequence (ETAS) Model. Bulletin of the Seismological Society of America, 2022, 112, 474-493.	2.3	5
107	A review of source models to further the understanding of the seismicity of the Groningen field. Geologie En Mijnbouw/Netherlands Journal of Geosciences, 2022, 101, .	0.9	5
108	Special Issue Tectonophysics. Tectonophysics, 2006, 423, 1-2.	2.2	4

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109	Maximum Magnitude of Completeness in a Salt Mine. Bulletin of the Seismological Society of America, 2015, 105, 1491-1501.	2.3	4
110	Comment on â€œRevisiting the 1894 Omori Aftershock Dataset with the Stretched Exponential Functionâ€• by A. Mignan. Seismological Research Letters, 2016, 87, 1130-1133.	1.9	4
111	Testing alternative temporal aftershock decay functions in an ETAS framework. Geophysical Journal International, 2017, 210, 585-593.	2.4	4
112	A Regionalized Seismicity Model for Subduction Zones Based on Geodetic Strain Rates, Geomechanical Parameters, and Earthquakeâ€Catalog Data. Bulletin of the Seismological Society of America, 2019, 109, 2036-2049.	2.3	4
113	A Bayesian seismic hazard analysis for the city of Naples. Journal of Geophysical Research: Solid Earth, 2017, 122, 1990-2012.	3.4	3
114	To which level did the 2010ÂM 8.8 Maule earthquake fill the pre-existing seismic gap?. Geophysical Journal International, 2017, 211, 498-511.	2.4	3
115	Fault Parametersâ€Based Earthquake Magnitude Estimation Using Artificial Neural Networks. Seismological Research Letters, 2019, , .	1.9	3
116	Modeling of Kashmir Aftershock Decay Based on Static Coulomb Stress Changes and Laboratory-Derived Rate-and-State Dependent Friction Law. Pure and Applied Geophysics, 2016, 173, 1559-1574.	1.9	2
117	Steady-state solutions of rupture propagation in an earthquake simulator governed by rate and state dependent friction. European Physical Journal: Special Topics, 2010, 191, 105-115.	2.6	1
118	Comment on â€œPotential shortâ€term earthquake forecasting by farm animal monitoringâ€•by Wikelski, Mueller, Scocco, Catorci, Desinov, Belyaev, Keim, Pohlmeier, Fechteler, and Mai. Ethology, 2021, 127, 302-306.	1.1	1
119	Seismicity, Critical States of: From Models to Practical Seismic Hazard Estimates Space. , 2011, , 805-824.		1
120	Statistical Seismology. Encyclopedia of Earth Sciences Series, 2021, , 1724-1727.	0.1	0
121	Statistical Seismology. Encyclopedia of Earth Sciences Series, 2020, , 1-5.	0.1	0