Oliver Heidbach

List of Publications by Year
in descending order

80	3,692	126901 33	133244 59
papers	citations	h-index	g-index

84	84	84	3019
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Global crustal stress pattern based on the World Stress Map database release 2008. Tectonophysics, 2010, 482, 3-15.	2.2	453
2	The World Stress Map database release 2016: Crustal stress pattern across scales. Tectonophysics, 2018, 744, 484-498.	2.2	432
3	Plate boundary forces are not enough: Secondâ€•and thirdâ€•order stress patterns highlighted in the World Stress Map database. Tectonics, 2007, 26, .	2.8	162
4	TOPO-EUROPE: The geoscience of coupled deep Earth-surface processes. Global and Planetary Change, 2007, 58, 1-118.	3.5	137
5	Fatigue hydraulic fracturing by cyclic reservoir treatment enhances permeability and reduces induced seismicity. Geophysical Journal International, 2013, 195, 1282-1287.	2.4	134
6	Induced seismicity in geothermal reservoirs: A review of forecasting approaches. Renewable and Sustainable Energy Reviews, 2015, 52, 1473-1490.	16.4	131
7	Locking of the Chile subduction zone controlled by fluid pressure before the 2010 earthquake. Nature Geoscience, 2014, 7, 292-296.	12.9	122
8	Tectonic stress in the Earthâ€™s crust: advances in the World Stress Map project. Geological Society Special Publication, 2003, 212, 101-116.	1.3	86
9	Poroelastic contribution to the reservoir stress path. International Journal of Rock Mechanics and Minings Sciences, 2010, 47, 1104-1113.	5.8	83
10	The present-day state of tectonic stress in the Darling Basin, Australia: Implications for exploration and production. Marine and Petroleum Geology, 2016, 77, 776-790.	3.3	83
11	Understanding tectonic stress in the oil patch: The World Stress Map Project. The Leading Edge, 2005, 24, 1276-1282.	0.7	80
12	Slip-rate variability and distributed deformation in the Marmara Sea fault system. Nature Geoscience, 2010, 3, 132-135.	12.9	79
13	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.	4.4	78
14	The present-day stress field of Australia. Earth-Science Reviews, 2017, 168, 165-189.	9.1	74
15	Present-day stress orientation in the Molasse Basin. Tectonophysics, 2010, 482, 129-138.	2.2	73
16	3-D geomechanicalâ€“numerical model of the contemporary crustal stress state in the Alberta Basin (Canada). Solid Earth, 2014, 5, 1123-1149.	2.8	68
17	Presentâ€day stress orientation in the Clarenceâ€Moreton Basin of New South Wales, Australia: a new high density dataset reveals local stress rotations. Basin Research, 2017, 29, 622-640.	2.7	68
18	A revised crustal stress orientation database for Canada. Tectonophysics, 2014, 636, 111-124.	2.2	65

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19	Triggering of the Lusi mud eruption: Earthquake versus drilling initiation. Geology, 2008, 36, 639.	4.4	61
20	Pore pressure stress coupling in 3D and consequences for reservoir stress states and fault reactivation. Geothermics, 2014, 52, 195-205.	3.4	57
21	Quantifying the forces needed for the rapid change of Pacific plate motion at 6Ma. Earth and Planetary Science Letters, 2011, 307, 289-297.	4.4	53
22	Geomechanical model of the Marmara Sea region-II. 3-D contemporary background stress field. Geophysical Journal International, 2011, 185, 1090-1102.	2.4	52
23	Stress evolution and seismic hazard of the Dead Sea Fault System. Earth and Planetary Science Letters, 2007, 257, 299-312.	4.4	51
24	Stress field of Italy â€" Mean stress orientation at different depths and wave-length of the stress pattern. Tectonophysics, 2012, 532-535, 301-311.	2.2	48
25	The present-day stress field of New South Wales, Australia. Australian Journal of Earth Sciences, 2016, 63, 1-21.	1.0	48
26	Separating rapid relocking, afterslip, and viscoelastic relaxation: An application of the postseismic straightening method to the Maule 2010 cGPS. Journal of Geophysical Research: Solid Earth, 2016, 121, 7618-7638.	3.4	47
27	Fluid-induced microseismicity in pre-stressed rock masses. Geophysical Journal International, 2010, 180, 813-819.	2.4	45
28	Stress field sensitivity analysis in a sedimentary sequence of the Alpine foreland, northern Switzerland. Solid Earth, 2015, 6, 533-552.	2.8	45
29	The stress pattern of Iceland. Tectonophysics, 2016, 674, 101-113.	2.2	40
30	World Stress Map Database as a Resource for Rock Mechanics and Rock Engineering. Geotechnical and Geological Engineering, 2012, 30, 625-646.	1.7	38
31	Geomechanical model of the Marmara Sea region-I. 3-D contemporary kinematics. Geophysical Journal International, 2011, 185, 1073-1089.	2.4	36
32	Presentâ€day crustal stress field in Greece inferred from regionalâ€scale damped inversion of earthquake focal mechanisms. Journal of Geophysical Research: Solid Earth, 2017, 122, 506-523.	3.4	36
33	Crustal stress pattern in China and its adjacent areas. Journal of Asian Earth Sciences, 2017, 149, 20-28.	2.3	36
34	Slip acceleration on normal faults due to erosion and sedimentation â€" Results from a new three-dimensional numerical model coupling tectonics and landscape evolution. Earth and Planetary Science Letters, 2009, 284, 570-582.	4.4	35
35	Stress maps in a minute: The 2004 world stress map release. Eos, 2004, 85, 521.	0.1	33
36	Prediction of the present-day stress field in the Australian continental crust using 3D geomechanicalâ€"numerical models. Australian Journal of Earth Sciences, 2017, 64, 435-454.	1.0	33

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37	A multi-stage 3-D stress field modelling approach exemplified in the Bavarian Molasse Basin. Solid Earth, 2016, 7, 1365-1382.	2.8	32
38	Evaluating Micro-Seismic Events Triggered by Reservoir Operations at the Geothermal Site of GroÃŸ SchÃ¶nebeck (Germany). Rock Mechanics and Rock Engineering, 2018, 51, 3265-3279.	5.4	31
39	Topography growth drives stress rotations in the central Andes: Observations and models. Geophysical Research Letters, 2008, 35, .	4.0	26
40	Postseismic uplift of the Andes following the 2010 Maule earthquake: Implications for mantle rheology. Geophysical Research Letters, 2017, 44, 1768-1776.	4.0	25
41	CASMIâ€”A visualization tool for the World Stress Map database. Computers and Geosciences, 2008, 34, 783-791.	4.2	24
42	Forward modelling of seismicity rate changes in georeservoirs with a hybrid geomechanicalâ€“statistical prototype model. Geothermics, 2014, 52, 185-194.	3.4	24
43	Attached or not attachedâ€”evidence from crustal stress observations for a weak coupling of the Vrancea slab in Romania. Tectonophysics, 2010, 482, 139-149.	2.2	22
44	Role of Lower Crust in the Postseismic Deformation of the 2010 Maule Earthquake: Insights from a Model with Power-Law Rheology. Pure and Applied Geophysics, 2019, 176, 3913-3928.	1.9	22
45	New insights into the mechanism of postseismic stress relaxation exemplified by the 23 June 2001Mw= 8.4 earthquake in southern Peru. Geophysical Research Letters, 2006, 33, .	4.0	20
46	Mining-Induced Stress Transfer and Its Relation to a $$ext{M}_w$$ M w Â1.9 Seismic Event in an Ultra-deep South African Gold Mine. Pure and Applied Geophysics, 2015, 172, 2557-2570.	1.9	20
47	Contemporary tectonic stress pattern of the Taranaki Basin, New Zealand. Journal of Geophysical Research: Solid Earth, 2016, 121, 6053-6070.	3.4	20
48	Impact of power-law rheology on the viscoelastic relaxation pattern and afterslip distribution following the 2010 Mw 8.8 Maule earthquake. Earth and Planetary Science Letters, 2020, 542, 116292.	4.4	20
49	3D crustal stress state of Germany according to a data-calibrated geomechanical model. Solid Earth, 2021, 12, 1777-1799.	2.8	17
50	The 2009 Horizontal Velocity Field for South America and the Caribbean. International Association of Geodesy Symposia, 2012, , 657-664.	0.4	15
51	The 3D stress state from geomechanicalâ€“numerical modelling and its uncertainties: a case study in the Bavarian Molasse Basin. Geothermal Energy, 2020, 8, .	1.9	15
52	An open-access stress magnitude database for Germany and adjacent regions. Geothermal Energy, 2020, 8, .	1.9	15
53	Deformation of the South American Crust Estimated from Finite Element and Collocation Methods. , 2005, , 544-549.		12
54	Estimation of the differential stress from the stress rotation angle in low permeable rock. Geophysical Research Letters, 2017, 44, 6761-6770.	4.0	12

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55	CASQUS: A new simulation tool for coupled 3D finite element modeling of tectonic and surface processes based on ABAQUSâ„¢ and CASCADE. Computers and Geosciences, 2009, 35, 1959-1967.	4.2	11
56	World stress map published. Eos, 2007, 88, 504-504.	0.1	9
57	3D finite element model of major tectonic processes in the Eastern Mediterranean. Geological Society Special Publication, 2003, 212, 261-274.	1.3	8
58	Forward induced seismic hazard assessment: application to a synthetic seismicity catalogue from hydraulic stimulation modelling. Journal of Seismology, 2014, 18, 671-680.	1.3	8
59	New constraints on the neotectonic stress pattern of the Flinders and Mount Lofty Ranges, South Australia. Exploration Geophysics, 2018, 49, 111-124.	1.1	8
60	3-D crustal density model of the Sea of Marmara. Solid Earth, 2019, 10, 785-807.	2.8	7
61	Contemporary stress and strain field in the Mediterranean from stress inversion of focal mechanisms and GPS data. Tectonophysics, 2020, 774, 228286.	2.2	6
62	Forecasting Italian seismicity through a spatio-temporal physical model: importance of considering time-dependency and reliability of the forecast. Annals of Geophysics, 2010, 53, .	1.0	6
63	Using topographic signatures to classify internally and externally driven tilt anomalies at Merapi Volcano, Java, Indonesia. Geophysical Research Letters, 2008, 35, .	4.0	4
64	Transient Deformation and Stress Patterns Induced by the 2010 Maule Earthquake in the Illapel Segment. Frontiers in Earth Science, 2021, 9, .	1.8	4
65	Characterising the contemporary stress orientations near an active continental rifting zone: A case study from the Moatize Basin, central Mozambique. Basin Research, 2022, 34, 1292-1313.	2.7	4
66	Role of Poroelasticity During the Early Postseismic Deformation of the 2010 Maule Megathrust Earthquake. Geophysical Research Letters, 2022, 49, .	4.0	4
67	The Present-day stress pattern in the Middle East and Northern Africa and their importance: The World Stress Map database contains the lowest wellbore information in these petroliferous areas. , 2014, , .		3
68	World Stress Map. Techniques in Dentistry and Oral & Maxillofacial Surgery, 2019, , 1-8.	0.0	3
69	Stress Field Modelling in the Alberta Basin, Canada. , 2013, , .		3
70	The World Stress Map â€" A Freely Accessible Tool For Geohazard Assessment. AIP Conference Proceedings, 2006, , .	0.4	2
71	Applying Conservation of Energy to Estimate Earthquake Frequencies from Strain Rates and Stresses. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB020186.	3.4	2
72	Lithospheric strength variations and seismotectonic segmentation below the Sea of Marmara. Tectonophysics, 2021, 815, 228999.	2.2	2

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73	In Situ Stress in Switzerland â€“ From Pointwise Field Data to a 3D Continuous Quantification. , 2013, , .		2
74	The crustal stress field of Germany: a refined prediction. Geothermal Energy, 2022, 10, .	1.9	2
75	Uncertainty reduction of stress tensor inversion with data-driven catalogue selection. Geophysical Journal International, 2018, 214, 2250-2263.	2.4	1
76	The Role of Faults and Fractures in Local and Regional Perturbation of Present-day Horizontal Stresses - An Example from the Clarence-Moreton Basin, Eastern Australia. , 2015, , .		1
77	The analysis of slip tendency of major tectonic faults in Germany. Solid Earth, 2022, 13, 1087-1105.	2.8	1
78	New constraints on the neotectonic stress pattern of the Flinders and Mount Lofty Ranges, South Australia. Exploration Geophysics, 2018, 49, 125-125.	1.1	0
79	Building a 3D Geomechanical Model for the Fitzroy Trough. ASEG Extended Abstracts, 2019, 2019, 1-4.	0.1	0
80	The recent stress state of Germany â€“ results of a geomechanicalâ€“numerical 3D model. , 0, 1, 163-164.		0