Haakon Fossen

List of Publications by Year
in descending order

123 papers	8,531 citations	28274 55 h-index	46799 89 g-index
126 all docs	126 docs citations	126 times ranked	4077 citing authors

#	Article	IF	Citations
1	Deformation bands in sandstone: a review. Journal of the Geological Society, 2007, 164, 755-769.	2.1	552
2	The deformation matrix for simultaneous simple shearing, pure shearing and volume change, and its application to transpression-transtension tectonics. Journal of Structural Geology, 1993, 15, 413-422.	2.3	424
3	Fault linkage and relay structures in extensional settingsâ€"A review. Earth-Science Reviews, 2016, 154, 14-28.	9.1	323
4	Shear zones â€" A review. Earth-Science Reviews, 2017, 171, 434-455.	9.1	277
5	From the Early Paleozoic Platforms of Baltica and Laurentia to the Caledonide Orogen of Scandinavia and Greenland. Episodes, 2008, 31, 44-51.	1.2	251
6	Simultaneous pure and simple shear: the unifying deformation matrix. Tectonophysics, 1993, 217, 267-283.	2.2	199
7	The limitations of three-dimensional kinematic vorticity analysis. Journal of Structural Geology, 1995, 17, 1771-1784.	2.3	187
8	Dependence of displacementâ€"length scaling relations for fractures and deformation bands on the volumetric changes across them. Journal of Structural Geology, 2008, 30, 1405-1411.	2.3	185
9	Geometric analysis and scaling relations of deformation bands in porous sandstone. Journal of Structural Geology, 1997, 19, 1479-1493.	2.3	167
10	The role of extensional tectonics in the Caledonides of south Norway. Journal of Structural Geology, 1992, 14, 1033-1046.	2.3	160
11	Displacementâ€"length scaling in three dimensions: the importance of aspect ratio and application to deformation bands. Journal of Structural Geology, 2002, 24, 1389-1411.	2.3	156
12	Extended models of transpression and transtension, and application to tectonic settings. Geological Society Special Publication, 1998, 135, 15-33.	1.3	154
13	Seismic facies analysis using machine learning. Geophysics, 2018, 83, O83-O95.	2.6	145
14	Reactivation of intrabasement structures during rifting: A case study from offshore southern Norway. Journal of Structural Geology, 2016, 91, 54-73.	2.3	137
15	Timing and kinematics of Caledonian thrusting and extensional collapse, southern Norway: evidence from 40Ar/39Ar thermochronology. Journal of Structural Geology, 1998, 20, 765-781.	2.3	130
16	Extensional tectonics in the Caledonides: Synorogenic or postorogenic?. Tectonics, 2000, 19, 213-224.	2.8	130
17	Deformation bands and their influence on fluid flow. AAPG Bulletin, 2007, 91, 1685-1700.	1.5	130
18	Conditions and implications for compaction band formation in the Navajo Sandstone, Utah. Journal of Structural Geology, 2011, 33, 1477-1490.	2.3	128

#	Article	IF	Citations
19	Extensional tectonics in the North Atlantic Caledonides: a regional view. Geological Society Special Publication, 2010, 335, 767-793.	1.3	115
20	Factors controlling permeability of cataclastic deformation bands and faults in porous sandstone reservoirs. Journal of Structural Geology, 2015, 76, 1-21.	2.3	112
21	Three-dimensional reference deformations and strain facies. Journal of Structural Geology, 1999, 21, 1497-1512.	2.3	111
22	Spatial distribution of deformation bands in damage zones of extensional faults in porous sandstones: Statistical analysis of field data. Journal of Structural Geology, 2013, 52, 148-162.	2.3	110
23	Possible absence of small faults in the Gullfaks Field, northern North Sea: implications for downscaling of faults in some porous sandstones. Journal of Structural Geology, 2000, 22, 851-863.	2.3	105
24	Growth of normal faults in multilayer sequences: A 3D seismic case study from the Egersund Basin, Norwegian North Sea. Journal of Structural Geology, 2013, 55, 1-20.	2.3	102
25	Transtensional folding. Journal of Structural Geology, 2013, 56, 89-102.	2.3	99
26	Basement structure and its influence on the structural configuration of the northern North Sea rift. Tectonics, 2017, 36, 1151-1177.	2.8	91
27	Porosity and grain size controls on compaction band formation in Jurassic Navajo Sandstone. Geophysical Research Letters, 2010, 37, .	4.0	90
28	Mechanisms for folding of high-grade rocks in extensional tectonic settings. Earth-Science Reviews, 2002, 59, 163-210.	9.1	86
29	Deformation bands formed during soft-sediment deformation: Observations from SE Utah. Marine and Petroleum Geology, 2010, 27, 215-222.	3.3	85
30	Fault facies and its application to sandstone reservoirs. AAPG Bulletin, 2009, 93, 891-917.	1.5	80
31	Deformation â€“ Progressive or multiphase?. Journal of Structural Geology, 2019, 125, 82-99.	2.3	80
32	Layer rotation around vertical fault overlap zones: observations from seismic data, field examples, and physical experiments. Marine and Petroleum Geology, 2002, 19, 181-192.	3.3	77
33	Shear-enhanced compaction bands formed at shallow burial conditions; implications for fluid flow (Provence, France). Journal of Structural Geology, 2013, 47, 3-15.	2.3	77
34	The Influence of Structural Inheritance and Multiphase Extension on Rift Development, the NorthernNorth Sea. Tectonics, 2019, 38, 4099-4126.	2.8	76
35	Simulating the effect of subseismic fault tails and process zones in a siliciclastic reservoir analogue: Implications for aquifer support and trap definition. Marine and Petroleum Geology, 2011, 28, 1648-1662.	3.3	75
36	Experimental modeling of extensional fault systems by use of plaster. Journal of Structural Geology, 1996, 18, 673-687.	2.3	74

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37	Forward modeling of non-steady-state deformations and the â€˜minimum strain pathâ€™. Journal of Structural Geology, 1997, 19, 987-996.	2.3	74
38	Terminology for structural discontinuities. AAPG Bulletin, 2008, 92, 853-867.	1.5	74
39	Uâ€“Pb dates and trace-element geochemistry of zircon from migmatite, Western Gneiss Region, Norway: Significance for history of partial melting in continental subduction. Lithos, 2013, 170-171, 35-53.	1.4	74
40	Postcollisional extension of the Caledonide orogen in Scandinavia: Structural expressions and tectonic significance. Geology, 1992, 20, 737.	4.4	73
41	Dynamic investigation of the effect of a relay ramp on simulated fluid flow: geocellular modelling of the Delicate Arch Ramp, Utah. Petroleum Geoscience, 2009, 15, 45-58.	1.5	73
42	Geochronology of shear zones â€“ A review. Earth-Science Reviews, 2018, 185, 665-683.	9.1	71
43	Spatial variation of microstructure and petrophysical properties along deformation bands in reservoir sandstones. AAPG Bulletin, 2009, 93, 919-938.	1.5	70
44	Evolution and geometries of gravitational collapse structures with examples from the StatfJord Field, northern North Sea. Marine and Petroleum Geology, 1999, 16, 259-281.	3.3	68
45	Insight into petrophysical properties of deformed sandstone reservoirs. AAPG Bulletin, 2013, 97, 619-637.	1.5	67
46	The impact of syn-faulting porosity reduction on damage zone architecture in porous sandstone: an outcrop example from the Moab Fault, Utah. Journal of Structural Geology, 2005, 27, 1469-1485.	2.3	66
47	Tectonic regime controls clustering of deformation bands in porous sandstone. Geology, 2016, 44, 423-426.	4.4	62
48	Early Paleozoic orogenic collapse, tectonic stability, and late Paleozoic continental rifting revealed through thermochronology of K-feldspars, southern Norway. Tectonics, 1998, 17, 604-620.	2.8	61
49	Properties of fault populations in the Gullfaks Field, northern North Sea. Journal of Structural Geology, 1996, 18, 179-190.	2.3	60
50	Slipped deformation bands: A new type of cataclastic deformation bands in Western Sinai, Suez rift, Egypt. Journal of Structural Geology, 2008, 30, 1317-1331.	2.3	58
51	Fault interaction in porous sandstone and implications for reservoir management; examples from southern Utah. AAPG Bulletin, 2005, 89, 1593-1606.	1.5	57
52	Overlapping faults and their effect on fluid flow in different reservoir types: A LIDAR-based outcrop modeling and flow simulation study. AAPG Bulletin, 2009, 93, 407-427.	1.5	57
53	Shear zone structures in the Ã˜ygarden area, West Norway. Tectonophysics, 1990, 174, 385-397.	2.2	56
54	Uncertainties associated with fault sealing analysis. Petroleum Geoscience, 2000, 6, 37-45.	1.5	56

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55	Shear zones in porous sand: Insights from ring-shear experiments and naturally deformed sandstones. Tectonophysics, 2007, 437, 37-50.	2.2	56
56	Statistical tests of scaling relationships for geologic structures. Journal of Structural Geology, 2013, 48, 85-94.	2.3	55
57	The Hardangerfjord Shear Zone in SW Norway and the North Sea: a large-scale low-angle shear zone in the Caledonian crust. Journal of the Geological Society, 2005, 162, 675-687.	2.1	53
58	Fault linkage and graben stepovers in the Canyonlands (Utah) and the North Sea Viking Graben, with implications for hydrocarbon migration and accumulation. AAPG Bulletin, 2010, 94, 597-613.	1.5	52
59	Seismic attribute analysis in structural interpretation of the Gullfaks Field, northern North Sea. Petroleum Geoscience, 1997, 3, 13-26.	1.5	51
60	Post-Caledonian extension in the West Norwayâ€"northern North Sea region: the role of structural inheritance. Geological Society Special Publication, 2017, 439, 465-486.	1.3	51
61	Hot Versus Cold Orogenic Behavior: Comparing the AraÃ§uaÃâ€West Congo and the Caledonian Orogens. Tectonics, 2017, 36, 2159-2178.	2.8	51
62	Are relay ramps conduits for fluid flow? Structural analysis of a relay ramp in Arches National Park, Utah. Geological Society Special Publication, 2007, 270, 55-71.	1.3	50
63	Influence of a pre-existing basement weakness on normal fault growth during oblique extension: Insights from discrete element modeling. Journal of Structural Geology, 2017, 105, 44-61.	2.3	50
64	Influence of fault reactivation during multiphase rifting: The Oseberg area, northern North Sea rift. Marine and Petroleum Geology, 2017, 86, 1252-1272.	3.3	49
65	A review of deformation bands in reservoir sandstones: geometries, mechanisms and distribution. Geological Society Special Publication, 2018, 459, 9-33.	1.3	49
66	Structural core analysis from the Gullfaks area, northern North Sea. Marine and Petroleum Geology, 2001, 18, 411-439.	3.3	46
67	The use of dipmeter data to constrain the structural geology of the Gullfaks Field, northern North Sea. Marine and Petroleum Geology, 1998, 15, 549-573.	3.3	45
68	Crustal stretching in the Scandinavian Caledonides as revealed by deep seismic data. Geology, 2014, 42, 791-794.	4.4	45
69	Adamastor â€" an ocean that never existed?. Earth-Science Reviews, 2020, 205, 103201.	9.1	45
70	Origin of contrasting Devonian supradetachment basin types in the Scandinavian Caledonides. Geology, 2012, 40, 571-574.	4.4	44
71	Contractional deformation of porous sandstone: Insights from the Aztec Sandstone, SE Nevada, USA. Journal of Structural Geology, 2015, 74, 172-184.	2.3	44
72	How Does the Orientation of a Preexisting Basement Weakness Influence Fault Development During Renewed Rifting? Insights From Threeâ€Dimensional Discrete Element Modeling. Tectonics, 2018, 37, 2221-2242.	2.8	44

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73	Strain distribution in a fold in the West Norwegian Caledonides. Journal of Structural Geology, 1987, 9, 915-924.	2.3	40
74	Indication of transpressional tectonics in the Gullfaks oil-field, northern North Sea. Marine and Petroleum Geology, 1989, 6, 22-30.	3.3	38
75	Application of spatial correlation functions in permeability estimation of deformation bands in porous rocks. Journal of Geophysical Research, 2008, 113, .	3.3	38
76	Deformation bands and their impact on fluid flow in sandstone reservoirs: the role of natural thickness variations. Geofluids, 2013, 13, 359-371.	0.7	38
77	Reviewing the puzzling intracontinental termination of the AraÃ§uaÃ-West Congo orogenic belt and its implications for orogenic development. Precambrian Research, 2019, 322, 85-98.	2.7	36
78	A critical discussion of the subduction-collision model for the Neoproterozoic AraÃ§uaÃ-West Congo orogen. Precambrian Research, 2020, 343, 105715.	2.7	36
79	From orogen to passive margin: constraints from fission track and (Uâ€"Th)/He analyses on Mesozoic uplift and fault reactivation in SW Norway. Geological Society Special Publication, 2014, 390, 679-702.	1.3	34
80	Connecting the AraÃ§uaÃ-and Ribeira belts (SE â€" Brazil): Progressive transition from contractional to transpressive strain regime during the Brasiliano orogeny. Journal of South American Earth Sciences, 2018, 86, 127-139.	1.4	34
81	Structural geology of the Gullfaks Field, northern North Sea. Geological Society Special Publication, 1998, 127, 231-261.	1.3	33
82	40Ar/39Ar muscovite dates from the nappe region of southwestern Norway: dating extensional deformation in the Scandinavian Caledonides. Tectonophysics, 1998, 285, 119-133.	2.2	32
83	Structural architecture and composition of crystalline basement offshore west Norway. Lithosphere, 2019, 11, 273-293.	1.4	31
84	Pull-apart formation and strike-slip partitioning in an obliquely divergent setting, Leka Ophiolite, Norway. Tectonophysics, 2002, 354, 101-119.	2.2	29
85	Internal geometry of fault damage zones in interbedded siliciclastic sediments. Geological Society Special Publication, 2008, 299, 35-56.	1.3	29
86	3-D seismic images of an extensive igneous sill in the lower crust. Geology, 2019, 47, 729-733.	4.4	28
87	Fold geometry and folding â€" a review. Earth-Science Reviews, 2021, 222, 103812.	9.1	28
88	On the age and tectonic significance of Permo-Triassic dikes in the Bergen-Sunnhordland region, southwestern Norway. Norwegian Journal of Geology, 1999, 79, 169-178.	0.3	27
89	Progressive evolution of deformation band populations during Laramide fault-propagation folding: Navajo Sandstone, San Rafael monocline, Utah, U.S.A.. Journal of Structural Geology, 2014, 68, 66-81.	2.3	27
90	Use and abuse of seismic data in reservoir characterisation. Marine and Petroleum Geology, 2001, 18, 635-655.	3.3	26

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91	Composite fabrics in mid-crustal gneisses: observations from the Ã˜ygarden Complex, West Norway Caledonides. Journal of Structural Geology, 1992, 14, 1-9.	2.3	25
92	The Wilson Cycle and Effects of Tectonic Structural Inheritance on Rifted Passive Margin Formation. Tectonics, 2018, 37, 3085-3101.	2.8	24
93	Temperature constraints on microfabric patterns in quartzofeldsphatic mylonites, Ribeira belt (SE) Tj ETQq1 1 0.784314 rgBT /Overloc	2.3	23
94	Deformation band populations in fault damage zoneâ€"impact on fluid flow. Computational Geosciences, 2010, 14, 231-248.	2.4	22
95	The Patos-Pernambuco shear system of NE Brazil: Partitioned intracontinental transcurrent deformation revealed by enhanced aeromagnetic data. Journal of Structural Geology, 2022, 158, 104573.	2.3	22
96	Fabric development during exhumation from ultrahigh-pressure in an eclogite-bearing shear zone, Western Gneiss Region, Norway. Journal of Structural Geology, 2015, 71, 58-70.	2.3	21
97	The interaction between oblique and layer-parallel shear in high-strain zones: Observations and experiments. Tectonophysics, 1992, 207, 331-343.	2.2	18
98	Deep Crustal Flow Within Postorogenic Metamorphic Core Complexes: Insights From the Southern Western Gneiss Region of Norway. Tectonics, 2019, 38, 4267-4289.	2.8	17
99	Subseismic deformation in the Vaza-Barris Transfer Zone in the Cretaceous RecÃ´ncavo-Tucano-JatobÃ¡ rift system, NE Brazil. Journal of Structural Geology, 2018, 117, 81-95.	2.3	16
100	From widespread faulting to localised rifting: Evidence from Kâ€Ar fault gouge dates from the Norwegian North Sea rift shoulder. Basin Research, 2021, 33, 1934-1953.	2.7	16
101	Geochronology and geochemistry of zircon from the northern Western Gneiss Region: Insights into the Caledonian tectonic history of western Norway. Lithos, 2016, 246-247, 134-148.	1.4	15
102	Seismic expression of shear zones: Insights from 2-D point-spread-function based convolution modelling. Journal of Structural Geology, 2020, 140, 104121.	2.3	15
103	Strain migration during multiphase extension, Stord Basin, northern North Sea rift. Basin Research, 2021, 33, 1474-1496.	2.7	15
104	Megaâ€scale Moho relief and the structure of the lithosphere on the eastern flank of the Viking Graben, offshore southwestern Norway. Tectonics, 2015, 34, 803-819.	2.8	14
105	From Caledonian Collapse to North Sea Rift: The Extended History of a Metamorphic Core Complex. Tectonics, 2020, 39, e2020TC006178.	2.8	13
106	Segmentation of the Caledonian orogenic infrastructure and exhumation of the Western Gneiss Region during transtensional collapse. Journal of the Geological Society, 2021, 178, .	2.1	13
107	Zippered Shear Zone Model for Interacting Shear Zones in the Borborema Province, Brazil, as Constrained by Uâ€Pb Dating. Tectonics, 2019, 38, 3959-3974.	2.8	12
108	Shear zone evolution during core complex exhumation â€" Implications for continental detachments. Journal of Structural Geology, 2020, 140, 104139.	2.3	12

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109	Sveconorwegian vs. Caledonian orogenesis in the eastern Ã˜ygarden Complex, SW Norway â€“ Geochronology, structural constraints and tectonic implications. Precambrian Research, 2018, 305, 1-18.	2.7	12
110	3D numerical modelling of graben interaction and linkage: a case study of the Canyonlands grabens, Utah. Basin Research, 2013, 25, 436-449.	2.7	11
111	The dilemma of asymmetric porphyroclast systems and sense of shear. Journal of Structural Geology, 2020, 130, 103893.	2.3	10
112	Interaction between gravity-driven listric normal fault linkage and their hanging-wall rollover development: a case study from the western Niger Delta, Nigeria. Geological Society Special Publication, 2017, 439, 169-186.	1.3	8
113	Correspondence: Challenges with dating weathering products to unravel ancient landscapes. Nature Communications, 2017, 8, 1502.	12.8	8
114	Quartz textural analysis from an anastomosing shear zone system: Implications for the tectonic evolution of the Ribeira belt, Brazil. Journal of South American Earth Sciences, 2020, 103, 102750.	1.4	7
115	Fault classification, fault growth and displacement. , 2020, , 119-147.		7
116	Comment to â€œNeoproterozoic magmatic arc systems of the central Ribeira belt, SE-Brazil, in the context of the West-Gondwana pre-collisional history: A reviewâ€• Journal of South American Earth Sciences, 2021, 107, 103052.	1.4	6
117	Writing papers with an emphasis on structural geology and tectonics: advices and warnings. Brazilian Journal of Geology, 2019, 49, .	0.7	6
118	Disaggregation bands as an indicator for slow creep activity on blind faults. Communications Earth & Environment, 2022, 3, .	6.8	6
119	Structural and petrophysical effects of overthrusting on highly porous sandstones: the Aztec Sandstone in the Buffington window, SE Nevada, USA. Geological Society Special Publication, 2018, 459, 59-77.	1.3	5
120	The evolution of quartz veins during the tectonometamorphic development of the Brusque Metamorphic Complex, Brazil. Journal of South American Earth Sciences, 2019, 93, 174-182.	1.4	5
121	From seismic data to core data: an integrated approach to enhance reservoir characterization. Geological Society Special Publication, 2003, 209, 39-54.	1.3	3
122	Relation between finite strain geometry and quartz petrofabrics in a folded conglomerate in the Norwegian Caledonides. Journal of Structural Geology, 2022, 160, 104604.	2.3	1
123	Fault Linkage Styles in Rifts: Observations From Northern North Sea Rift Basin. , 2015, , .		0