HÃ¥kon Austrheim

List of Publications by Year
in descending order

91 papers	4,833 citations	57758 44 h-index	95266 68 g-index
91 all docs	91 docs citations	91 times ranked	2869 citing authors

#	Article	IF	Citations
1	Shear deformation and eclogite formation within granulite-facies anorthosites of the Bergen Arcs, western Norway. Chemical Geology, 1985, 50, 267-281.	3.3	220
2	Fluid controlled eclogitization of granulites in deep crustal shear zones, Bergen arcs, Western Norway. Contributions To Mineralogy and Petrology, 1990, 104, 184-193.	3.1	192
3	Generation of intermediate-depth earthquakes byÂself-localizing thermal runaway. Nature Geoscience, 2009, 2, 137-140.	12.9	186
4	Trace element signature and Uâ€"Pb geochronology of eclogite-facies zircon, Bergen Arcs, Caledonides of W Norway. Contributions To Mineralogy and Petrology, 2004, 147, 671-683.	3.1	170
5	Processing of crust in the root of the Caledonian continental collision zone: the role of eclogitization. Tectonophysics, 1997, 273, 129-153.	2.2	131
6	Zircon U-Pb geochronology in the Bergen arc eclogites and their Proterozoic protoliths, and implications for the pre-Scandian evolution of the Caledonides in western Norway. Bulletin of the Geological Society of America, 2001, 113, 640.	3.3	124
7	Accelerated hydration of the Earth's deep crust induced by stress perturbations. Nature, 2000, 408, 75-78.	27.8	117
8	Geochronology of fluid-induced eclogite and amphibolite facies metamorphic reactions in a subductionâ€"collision system, Bergen Arcs, Norway. Contributions To Mineralogy and Petrology, 2008, 156, 27-48.	3.1	109
9	Softening trigerred by eclogitization, the first step toward exhumation during continental subduction. Earth and Planetary Science Letters, 2005, 237, 532-547.	4.4	105
10	The granulite-eclogite facies transition: A comparison of experimental work and a natural occurrence in the Bergen Arcs, western Norway. Lithos, 1990, 25, 163-169.	1.4	100
11	N2 and CO2 in deep crustal fluids: evidence from the Caledonides of Norway. Chemical Geology, 1993, 108, 113-132.	3.3	100
12	Diffusion versus recrystallization processes in Rbâ€"Sr geochronology: Isotopic relics in eclogite facies rocks, Western Gneiss Region, Norway. Geochimica Et Cosmochimica Acta, 2008, 72, 506-525.	3.9	100
13	Rb/Sr record of fluid-rock interaction in eclogites: The Marun-Keu complex, Polar Urals, Russia. Geochimica Et Cosmochimica Acta, 2003, 67, 4353-4371.	3.9	94
14	Eclogite-facies shear zonesâ€"deep crustal reflectors?. Tectonophysics, 1994, 232, 411-424.	2.2	93
15	Fossil earthquakes recorded by pseudotachylytes in mantle peridotite from the Alpine subduction complex of Corsica. Earth and Planetary Science Letters, 2006, 242, 58-72.	4.4	93
16	Massive serpentinite carbonation at Linnajavri, Nâ€"Norway. Terra Nova, 2012, 24, 446-455.	2.1	92
17	Precise eclogitization ages deduced from Rb/Sr mineral systematics: The Maksyutov complex, Southern Urals, Russia. Geochimica Et Cosmochimica Acta, 2002, 66, 1221-1235.	3.9	90
18	Earthquake-induced transformation of the lower crust. Nature, 2018, 556, 487-491.	27.8	89

#	ARTICLE	IF	CITATIONS
19	High-pressure metamorphism and deep-crustal seismicity: evidence from contemporaneous formation of pseudotachylytes and eclogite facies coronas. Tectonophysics, 2003, 372, 59-83.	2.2	88
20	Eclogite formation and dynamics of crustal roots under continental collision zones. Terra Nova, 1991, 3, 492-499.	2.1	87
21	Fluid and deformation induced metamorphic processes around Moho beneath continent collision zones: Examples from the exposed root zone of the Caledonian mountain belt, W-Norway. Tectonophysics, 2013, 609, 620-635.	2.2	86
22	Microstructure and porosity evolution during experimental carbonation of a natural peridotite. Chemical Geology, 2012, 334, 254-265.	3.3	83
23	Garnets recording deep crustal earthquakes. Earth and Planetary Science Letters, 1996, 139, 223-238.	4.4	82
24	Pseudotachylytes from Corsica: fossil earthquakes from a subduction complex. Terra Nova, 2004, 16, 193-197.	2.1	80
25	Stress release in exhumed intermediate and deep earthquakes determined from ultramafic pseudotachylyte. Geology, 2008, 36, 995.	4.4	80
26	Inter-mineral Mg isotope fractionation during hydrothermal ultramafic rock alteration â€" Implications for the global Mg-cycle. Earth and Planetary Science Letters, 2014, 392, 166-176.	4.4	78
27	A geochronological and geochemical study of rocks from Gjelsvikfjella, Dronning Maud Land, Antarcticaâ€"implications for Mesoproterozoic correlations and assembly of Gondwana. Precambrian Research, 2003, 125, 113-138.	2.7	74
28	Brittle-ductile microfabrics in naturally deformed zircon: Deformation mechanisms and consequences for U-Pb dating. American Mineralogist, 2012, 97, 1544-1563.	1.9	73
29	Statistical characteristics and origin of oscillatory zoning in crystals. American Mineralogist, 1997, 82, 596-606.	1.9	72
30	Magma-driven hydraulic fracturing and infiltration of fluids into the damaged host rock, an example from Dronning Maud Land, Antarctica. Journal of Structural Geology, 2005, 27, 839-854.	2.3	67
31	The Effects of Earthquakes and Fluids on the Metamorphism of the Lower Continental Crust. Journal of Geophysical Research: Solid Earth, 2019, 124, 7725-7755.	3.4	67
32	Structural, mineralogical and petrophysical effects on deep crustal rocks of fluidâ€limited polymetamorphism, Western Gneiss Region, Norway. Journal of the Geological Society, 2000, 157, 121-134.	2.1	64
33	Lead and bromine enrichment in eclogite-facies fluids: Extreme fractionation during lower-crustal hydration. Geology, 1999, 27, 467.	4.4	63
34	The Proterozoic Hustad igneous complex: a low strain enclave with a key to the history of the Western Gneiss Region of Norway. Precambrian Research, 2003, 120, 149-175.	2.7	62
35	Textural Evolution of Plagioclase Feldspar across a Shear Zone: Implications for Deformation Mechanism and Rock Strength. Journal of Petrology, 2014, 55, 1457-1477.	2.8	62
36	Intragranular replacement of chlorapatite by hydroxy-fluor-apatite during metasomatism. Lithos, 2009, 112, 236-246.	1.4	60

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37	Disequilibrium metamorphism of stressed lithosphere. Earth-Science Reviews, 2016, 154, 1-13.	9.1	58
38	Fragmentation of wall rock garnets during deep crustal earthquakes. Science Advances, 2017, 3, e1602067.	10.3	56
39	Earthquakes track subduction fluids from slab source to mantle wedge sink. Science Advances, 2019, 5, eaav7369.	10.3	54
40	Experimental study of the carbonation of partially serpentinized and weathered peridotites. Geochimica Et Cosmochimica Acta, 2011, 75, 6760-6779.	3.9	53
41	CO2 sequestration and extreme Mg depletion in serpentinized peridotite clasts from the Devonian Solund basin, SW-Norway. Geochimica Et Cosmochimica Acta, 2010, 74, 6935-6964.	3.9	49
42	Zircon coronas around Feâ€"Ti oxides: a physical reference frame for metamorphic and metasomatic reactions. Contributions To Mineralogy and Petrology, 2008, 156, 517-527.	3.1	48
43	Dynamic earthquake rupture in the lower crust. Science Advances, 2019, 5, eaaw0913.	10.3	48
44	High Pressure Metamorphism Caused by Fluid Induced Weakening of Deep Continental Crust. Scientific Reports, 2018, 8, 17011.	3.3	44
45	The legacy of crystal-plastic deformation in olivine: high-diffusivity pathways during serpentinization. Contributions To Mineralogy and Petrology, 2012, 163, 701-724.	3.1	43
46	Microstructural Records of Earthquakes in the Lower Crust and Associated Fluidâ€Driven Metamorphism in Plagioclaseâ€Rich Granulites. Journal of Geophysical Research: Solid Earth, 2018, 123, 3729-3746.	3.4	42
47	Porosity evolution and crystallization-driven fragmentation during weathering of andesite. Journal of Geophysical Research, 2011, 116, .	3.3	41
48	Garnets within geode-like serpentinite veins: Implications for element transport, hydrogen production and life-supporting environment formation. Geochimica Et Cosmochimica Acta, 2014, 141, 454-471.	3.9	40
49	Geochemistry of basalt lavas from Vestfjella and adjacent areas, Dronning Maud Land, Antarctica. Lithos, 1987, 20, 337-356.	1.4	37
50	Metamorphic Processes and Seismicity: the Bergen Arcs as a Natural Laboratory. Journal of Petrology, 2017, 58, 1871-1898.	2.8	36
51	Peridotite weathering is the missing ingredient of Earthâ€™s continental crust composition. Nature Communications, 2018, 9, 634.	12.8	36
52	Earthquakes in the deep continental crust - insights from studies on exhumed high-pressure rocks. Geophysical Journal International, 2004, 158, 569-576.	2.4	35
53	Characterisation of Na-metasomatism in the Sveconorwegian Bamble Sector of South Norway. Geoscience Frontiers, 2014, 5, 659-672.	8.4	34
54	Characterization of olivine fabrics and mylonite in the presence of fluid and implications for seismic anisotropy and shear localization. Earth, Planets and Space, 2014, 66, .	2.5	32

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55	Coupled mass transfer through a fluid phase and volume preservation during the hydration of granulite: An example from the Bergen Arcs, Norway. Lithos, 2015, 236-237, 245-255.	1.4	32
56	The eclogites of the Marunâ€“Keu complex, Polar Urals (Russia): fluid control on reaction kinetics and metasomatism during high P metamorphism. Lithos, 2002, 61, 55-78.	1.4	31
57	Formation of planar deformation features (PDFs) in zircon during coseismic faulting and an evaluation of potential effects on Uâ€“Pb systematics. Chemical Geology, 2009, 261, 25-31.	3.3	29
58	Olivine Pseudomorphs after Serpentinized Orthopyroxene Record Transient Oceanic Lithospheric Mantle Dehydration (Leka Ophiolite Complex, Norway). Journal of Petrology, 2012, 53, 1943-1968.	2.8	29
59	Stress orientationâ€“dependent reactions during metamorphism. Geology, 2019, 47, 151-154.	4.4	25
60	Reactions involving hydration of orthopyroxene in anorthosite-gabbro. Lithos, 1981, 14, 275-281.	1.4	24
61	Eclogite-facies vein systems in the Marun-Keu complex (Polar Urals, Russia): textural, chemical and thermal constraints for patterns of fluid flow in the lower crust. Contributions To Mineralogy and Petrology, 2004, 147, 484-504.	3.1	24
62	Mechanisms of Metasomatism and Metamorphism on the Local Mineral Scale: The Role of Dissolution-Reprecipitation During Mineral Re-equilibration. Lecture Notes in Earth System Sciences, 2013, , 141-170.	0.6	24
63	Sustainable densification of the deep crust. Geology, 2020, 48, 673-677.	4.4	20
64	Formation of sapphirine and corundum in scapolitised and Mg-metasomatised gabbro. Terra Nova, 2010, 22, 166-171.	2.1	19
65	Mass transfer and trace element redistribution during hydration of granulites in the Bergen Arcs, Norway. Lithos, 2016, 262, 1-10.	1.4	19
66	Temperature-HF fugacity trends during crystallization of calcite carbonatite magma in the Fen complex, Norway. Mineralogical Magazine, 1991, 55, 81-94.	1.4	18
67	Rare earth elements and Sm-Nd isotope redistribution in apatite and accessory minerals in retrogressed lower crust material (Bergen Arcs, Norway). Chemical Geology, 2018, 484, 120-135.	3.3	18
68	Textural and chemical evolution of pyroxene during hydration and deformation: A consequence of retrograde metamorphism. Lithos, 2018, 296-299, 245-264.	1.4	18
69	Microstructurally controlled trace element (Zr, Uâ€“Pb) concentrations in metamorphic rutile: An example from the amphibolites of the Bergen Arcs. Journal of Metamorphic Geology, 2020, 38, 103-127.	3.4	17
70	Formation of magnesium silicate hydrate cement in nature. Journal of the Geological Society, 2018, 175, 308-320.	2.1	15
71	Origin of Rodingite Forming Fluids Constrained by Calcium and Strontium Isotope Ratios in the Leka Ophiolite Complex. Chemical Geology, 2020, 542, 119598.	3.3	14
72	Sulphide formation from granuliteâ€facies Sâ€rich scapolite breakdown. Terra Nova, 2017, 29, 29-35.	2.1	13

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73	Metastability and Nondislocationâ€Based Deformation Mechanisms of the Flem Eclogite in the Western Gneiss Region, Norway. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019375.	3.4	12
74	Preservation of granulite in a partially eclogitized terrane: Metastable phenomena or local pressure variations?. Lithos, 2021, 400-401, 106413.	1.4	12
75	Localized granulite and eclogite facies metamorphism at Flatraket and KrÃ¥keneset, Western Gneiss Region: Uâ€"Pb data and tectonic implications. Geological Society Special Publication, 2014, 390, 425-442.	1.3	11
76	Localized slip controlled by dehydration embrittlement of partly serpentinized dunites, Leka Ophiolite Complex, Norway. Earth and Planetary Science Letters, 2017, 463, 277-285.	4.4	11
77	Sequence and timing of mineral replacement reactions during albitisation in the high-grade Bamble lithotectonic domain, S-Norway. Precambrian Research, 2017, 291, 1-16.	2.7	10
78	Spatial and size distributions of garnets grown in a pseudotachylyte generated during a lower crust earthquake. Tectonophysics, 2018, 733, 159-170.	2.2	10
79	Dynamic Metasomatism: Stable Isotopes, Fluid Evolution, and Deformation of Albitite and Scapolite Metagabbro (Bamble Lithotectonic Domain, South Norway). Geofluids, 2018, 2018, 1-22.	0.7	7
80	Microstructural Evolution of Amphibole Peridotites in Ã…heim, Norway, and the Implications for Seismic Anisotropy in the Mantle Wedge. Minerals (Basel, Switzerland), 2020, 10, 345.	2.0	7
81	Olivine Grain Size Distributions in Faults and Shear Zones: Evidence for Nonsteady State Deformation. Journal of Geophysical Research: Solid Earth, 2018, 123, 7421-7443.	3.4	6
82	Quartz dissolution associated with magnesium silicate hydrate cement precipitation. Solid Earth, 2021, 12, 389-404.	2.8	6
83	The control of shearâ€zone development and electric conductivity by graphite in granulite: An example from the Proterozoic Lofotenâ€VesterÃ¥len Complex of northern Norway. Terra Nova, 2021, 33, 529-539.	2.1	6
84	Rapid fluid-driven transformation of lower continental crust associated with thrust-induced shear heating. Lithos, 2021, 396-397, 106216.	1.4	6
85	From peridotite to fuchsite bearing quartzite via carbonation and weathering: with implications for the Pb budget of continental crust. Contributions To Mineralogy and Petrology, 2021, 176, 1.	3.1	6
86	Metamorphic Differentiation via Enhanced Dissolution along High Permeability Zones. Journal of Petrology, 2021, 61, .	2.8	4
87	Magnetic field visualization of magnetic minerals and grain boundary regions using magneto-optical imaging. Journal of Geophysical Research, 2007, 112, .	3.3	3
88	Transfer of olivine crystallographic orientation through a cycle of serpentinisation and dehydration. Contributions To Mineralogy and Petrology, 2017, 172, 1.	3.1	3
89	Lowâ€grade prehniteâ€pumpellyite facies metamorphism and metasomatism in basement rocks adjacent to the Permian Oslo rift: The importance of displacive reactions. Journal of Metamorphic Geology, 2022, 40, 1467-1492.	3.4	3
90	Direct Observations of the Coupling between Quartz Dissolution and Mg-Silicate Formation. ACS Earth and Space Chemistry, 2019, 3, 617-625.	2.7	2

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91	Metasomatic Formation and Replacement of Apatite (Bamble Sector, South Norway). , 2012, , 163-170.		0