

Frieder Klein

List of Publications by Year in descending order

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Version: 2024-02-01

33
papers

2,069
citations

257450

24
h-index

414414

32
g-index

35
all docs

35
docs citations

35
times ranked

1860
citing authors

#	ARTICLE	IF	CITATIONS
1	Iron partitioning and hydrogen generation during serpentinization of abyssal peridotites from 15°N on the Mid-Atlantic Ridge. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 6868-6893.	3.9	269
2	Compositional controls on hydrogen generation during serpentinization of ultramafic rocks. <i>Lithos</i> , 2013, 178, 55-69.	1.4	202
3	Temperature trends for reaction rates, hydrogen generation, and partitioning of iron during experimental serpentinization of olivine. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 181, 175-200.	3.9	143
4	The petrology of seafloor rodingites: Insights from geochemical reaction path modeling. <i>Lithos</i> , 2009, 112, 103-117.	1.4	131
5	Thermodynamic constraints on mineral carbonation of serpentinized peridotite. <i>Lithos</i> , 2011, 126, 147-160.	1.4	113
6	Abiotic methane synthesis and serpentinization in olivine-hosted fluid inclusions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 17666-17672.	7.1	105
7	Fluid mixing and the deep biosphere of a fossil Lost City-type hydrothermal system at the Iberia Margin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 12036-12041.	7.1	89
8	Serpentinized troctolites exposed near the Kairei Hydrothermal Field, Central Indian Ridge: Insights into the origin of the Kairei hydrothermal fluid supporting a unique microbial ecosystem. <i>Earth and Planetary Science Letters</i> , 2009, 280, 128-136.	4.4	86
9	Effect of water activity on rates of serpentinization of olivine. <i>Nature Communications</i> , 2017, 8, 16107.	12.8	83
10	From serpentinization to carbonation: New insights from a CO ₂ injection experiment. <i>Earth and Planetary Science Letters</i> , 2013, 379, 137-145.	4.4	78
11	Experimental constraints on fluid-rock reactions during incipient serpentinization of harzburgite. <i>American Mineralogist</i> , 2015, 100, 991-1002.	1.9	66
12	Experimental study of carbonate formation in oceanic peridotite. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 199, 264-286.	3.9	63
13	Abiotic Sources of Molecular Hydrogen on Earth. <i>Elements</i> , 2020, 16, 19-24.	0.5	62
14	Recycling and metabolic flexibility dictate life in the lower oceanic crust. <i>Nature</i> , 2020, 579, 250-255.	27.8	59
15	Progress in Deciphering the Controls on the Geochemistry of Fluids in Seafloor Hydrothermal Systems. <i>Annual Review of Marine Science</i> , 2018, 10, 315-343.	11.6	51
16	Chemical and isotopic analyses of hydrocarbon-bearing fluid inclusions in olivine-rich rocks. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020, 378, 20180431.	3.4	47
17	Complex magma storage and ascent at embryonic submarine volcanoes from the Madeira Archipelago. <i>Geology</i> , 2006, 34, 337.	4.4	44
18	Magmatic influence on reaction paths and element transport during serpentinization. <i>Chemical Geology</i> , 2010, 274, 196-211.	3.3	42

#	ARTICLE	IF	CITATIONS
19	Thallium as a tracer of fluid–rock interaction in the shallow Mariana forearc. <i>Earth and Planetary Science Letters</i> , 2015, 430, 416-426.	4.4	40
20	Estimating the carbon content of the deep mantle with Icelandic melt inclusions. <i>Earth and Planetary Science Letters</i> , 2019, 523, 115699.	4.4	40
21	Quantifying the volume increase and chemical exchange during serpentinization. <i>Geology</i> , 2020, 48, 552-556.	4.4	33
22	Ultramafic clasts from the South Chamorro serpentine mud volcano reveal a polyphase serpentinization history of the Mariana forearc mantle. <i>Lithos</i> , 2015, 227, 1-20.	1.4	31
23	Hydrogen generation and iron partitioning during experimental serpentinization of an olivine–pyroxene mixture. <i>Geochimica Et Cosmochimica Acta</i> , 2020, 282, 55-75.	3.9	30
24	Calcite-accumulating large sulfur bacteria of the genus <i>Achromatium</i> in Sippewissett Salt Marsh. <i>ISME Journal</i> , 2015, 9, 2503-2514.	9.8	29
25	Mid-ocean Ridge Serpentinite in the Puerto Rico Trench: from Seafloor Spreading to Subduction. <i>Journal of Petrology</i> , 2017, 58, 1729-1754.	2.8	28
26	Serpentinite-derived slab fluids control the oxidation state of the subarc mantle. <i>Science Advances</i> , 2021, 7, eabj2515.	10.3	23
27	The effect of pH on rates of reaction and hydrogen generation during serpentinization. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020, 378, 20180428.	3.4	20
28	Fluid–rock interactions in the shallow Mariana forearc: carbon cycling and redox conditions. <i>Solid Earth</i> , 2019, 10, 907-930.	2.8	16
29	Synthetic fluid inclusions XXIII. Effect of temperature and fluid composition on rates of serpentinization of olivine. <i>Geochimica Et Cosmochimica Acta</i> , 2021, 292, 285-308.	3.9	16
30	Quantifying the effects of hydrogen on carbon assimilation in a seafloor microbial community associated with ultramafic rocks. <i>ISME Journal</i> , 2022, 16, 257-271.	9.8	12
31	Hydrogenation reactions of carbon on Earth: Linking methane, margarine, and life. <i>American Mineralogist</i> , 2020, 105, 599-608.	1.9	9
32	Hydrogen generation from serpentinization of iron-rich olivine on Mars, icy moons, and other planetary bodies. <i>Icarus</i> , 2022, 372, 114754.	2.5	9
33	Corrigendum to: “Mid-ocean Ridge Serpentinite in the Puerto Rico Trench: from Seafloor Spreading to Subduction”. <i>Journal of Petrology</i> , 2019, 60, 2547-2547.	2.8	0