

Katharina Marquardt

List of Publications by Year in descending order

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Version: 2024-02-01

48
papers

1,056
citations

304743

22
h-index

434195

31
g-index

52
all docs

52
docs citations

52
times ranked

1364
citing authors

#	ARTICLE	IF	CITATIONS
1	Metallic lead nanospheres discovered in ancient zircons. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4958-4963.	7.1	68
2	Experimental partitioning of F and Cl between olivine, orthopyroxene and silicate melt at Earth's mantle conditions. Chemical Geology, 2015, 416, 65-78.	3.3	62
3	First evidence of hydrous silicic fluid films around solid inclusions in gem-quality diamonds. Lithos, 2016, 260, 384-389.	1.4	61
4	Evidence for H ₂ O-bearing fluids in the lower mantle from diamond inclusion. Lithos, 2016, 265, 237-243.	1.4	57
5	Experimental determination of melt interconnectivity and electrical conductivity in the upper mantle. Earth and Planetary Science Letters, 2017, 463, 286-297.	4.4	44
6	Role of inclination dependence of grain boundary energy on the microstructure evolution during grain growth. Acta Materialia, 2020, 188, 641-651.	7.9	42
7	New constraints on upper mantle creep mechanism inferred from silicon grain-boundary diffusion rates. Earth and Planetary Science Letters, 2016, 433, 350-359.	4.4	41
8	Seismically invisible water in Earth's transition zone?. Earth and Planetary Science Letters, 2018, 498, 9-16.	4.4	40
9	Experimental partitioning of halogens and other trace elements between olivine, pyroxenes, amphibole and aqueous fluid at 2 ÅGPa and 900 Å°C. Contributions To Mineralogy and Petrology, 2013, 166, 639-653.	3.1	39
10	The effect of water on intergranular mass transport: new insights from diffusion-controlled reaction rims in the MgO Å SiO ₂ system. Contributions To Mineralogy and Petrology, 2012, 164, 1-16.	3.1	38
11	The structure and composition of olivine grain boundaries: 40 years of studies, status and current developments. Physics and Chemistry of Minerals, 2018, 45, 139-172.	0.8	37
12	Elastic properties of MgO nanocrystals and grain boundaries at high pressures by Brillouin scattering. Physical Review B, 2011, 84, .	3.2	33
13	Compressional pathways of Å-cristobalite, structure of cristobalite X-I, and towards the understanding of seifertite formation. Nature Communications, 2017, 8, 15647.	12.8	33
14	Grain boundary and volume diffusion experiments in yttrium aluminium garnet bicrystals at 1,723 Å: a miniaturized study. Contributions To Mineralogy and Petrology, 2011, 162, 739-749.	3.1	32
15	Synthesis of [Fe(L)(bipy)] _n spin crossover nanoparticles using blockcopolymer micelles. Nanoscale, 2016, 8, 19058-19065.	5.6	30
16	Quantitative electron backscatter diffraction (EBSD) data analyses using the dictionary indexing (DI) approach: Overcoming indexing difficulties on geological materials. American Mineralogist, 2017, 102, 1843-1855.	1.9	30
17	TEXTURE AND COMPOSITION OF Pb-BEARING PYRITE FROM THE COKA MARIN POLYMETALLIC DEPOSIT, SERBIA, CONTROLLED BY NANOSCALE INCLUSIONS. Canadian Mineralogist, 2012, 50, 1-20.	1.0	29
18	Atomic structures and energies of grain boundaries in Mg ₂ SiO ₄ forsterite from atomistic modeling. Physics and Chemistry of Minerals, 2012, 39, 749-760.	0.8	28

#	ARTICLE	IF	CITATIONS
19	Focused ion beam preparation and characterization of single-crystal samples for high-pressure experiments in the diamond-anvil cell. <i>American Mineralogist</i> , 2012, 97, 299-304.	1.9	26
20	The most frequent interfaces in olivine aggregates: the GBCD and its importance for grain boundary related processes. <i>Contributions To Mineralogy and Petrology</i> , 2015, 170, 1.	3.1	26
21	Mg lattice diffusion in iron-free olivine and implications to conductivity anomaly in the oceanic asthenosphere. <i>Earth and Planetary Science Letters</i> , 2018, 484, 204-212.	4.4	24
22	Synthetic near $\hat{1}\hat{1}\hat{5}$ (210)/[100] grain boundary in YAG fabricated by direct bonding: structure and stability. <i>Physics and Chemistry of Minerals</i> , 2010, 37, 291-300.	0.8	22
23	Degradation mechanisms of SiC/BN/SiC after low temperature humidity exposure. <i>Journal of the European Ceramic Society</i> , 2020, 40, 3863-3874.	5.7	20
24	Nitrogen nano-inclusions in milky diamonds from Juina area, Mato Grosso State, Brazil. <i>Lithos</i> , 2016, 265, 57-67.	1.4	17
25	Intragranular plasticity vs. grain boundary sliding (GBS) in forsterite: Microstructural evidence at high pressures (3.5–5.0 GPa). <i>American Mineralogist</i> , 2019, 104, 220-231.	1.9	15
26	Volume diffusion of Ytterbium in YAG: thin-film experiments and combined TEM–RBS analysis. <i>Physics and Chemistry of Minerals</i> , 2010, 37, 751-760.	0.8	14
27	The effect of crystallite size and stress condition on the equation of state of nanocrystalline MgO. <i>Journal of Applied Physics</i> , 2011, 110, .	2.5	14
28	Diffusion in yttrium aluminium garnet at the nanometer-scale: Insight into the effective grain boundary width. <i>American Mineralogist</i> , 2011, 96, 1521-1529.	1.9	13
29	Structural insights and elasticity of single-crystal antigorite from high-pressure Raman and Brillouin spectroscopy measured in the (010) plane. <i>American Mineralogist</i> , 2015, 100, 1932-1939.	1.9	11
30	Multi-sample loading technique for comparative physical property measurements in the diamond-anvil cell. <i>High Pressure Research</i> , 2017, 37, 159-169.	1.2	11
31	Weathering of Bi-bearing tennantite. <i>Chemical Geology</i> , 2018, 499, 1-25.	3.3	11
32	The Effect of Grain Boundaries on Plastic Deformation of Olivine. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2020JB020273.	3.4	11
33	STEM EDX Nitrogen Mapping of Nano-inclusions in Milky Diamonds from Juina, Brazil, Using a Windowless Silicon Drift Detector System. <i>Analytical Chemistry</i> , 2016, 88, 5804-5808.	6.5	9
34	Experimental study on the pseudobinary H ₂ O+NaAlSi ₃ O ₈ at 600–800 °C and 0.3–2.4 GPa. <i>Chemical Geology</i> , 2014, 388, 40-47.	3.3	8
35	Evidence for complex iron oxides in the deep mantle from FeNi(Cu) inclusions in superdeep diamond. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 21088-21094.	7.1	8
36	Location and quantification of hydrogen in Ca- and Sr-anorthite. <i>European Journal of Mineralogy</i> , 2010, 22, 103-112.	1.3	7

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37	Pressure, temperature, water content, and oxygen fugacity dependence of the Mg grain-boundary diffusion coefficient in forsterite. <i>American Mineralogist</i> , 2018, 103, 1354-1361.	1.9	7
38	P-T-X-controlled element transport through granulite-facies ternary feldspar from Lofoten, Norway. <i>Contributions To Mineralogy and Petrology</i> , 2008, 156, 359-375.	3.1	6
39	Anisotropy of self-diffusion in forsterite grain boundaries derived from molecular dynamics simulations. <i>Contributions To Mineralogy and Petrology</i> , 2016, 171, 1.	3.1	6
40	Grain boundary diffusion and its relation to segregation of multiple elements in yttrium aluminum garnet. <i>European Journal of Mineralogy</i> , 2020, 32, 675-696.	1.3	6
41	Lead diffusion in CaTiO ₃ : A combined study using Rutherford backscattering and TOF-SIMS for depth profiling to reveal the role of lattice strain in diffusion processes. <i>American Mineralogist</i> , 2019, 104, 557-568.	1.9	5
42	Realizing shape and size control for the synthesis of coordination polymer nanoparticles templated by diblock copolymer micelles. <i>Nanoscale</i> , 2022, 14, 3131-3147.	5.6	4
43	Optimized FIB Sample Preparation for Atomic Resolution Analytical STEM at Low kV - A Key Requirement for Successful Application. <i>Microscopy and Microanalysis</i> , 2011, 17, 630-631.	0.4	3
44	Silicic microinclusions in a metasomatized eclogite from Roberts Victor mine, South Africa. <i>Lithos</i> , 2021, 388-389, 106057.	1.4	3
45	A transmission x-ray microscopy and NEXAFS approach for studying corroded silicate glasses at the nanometre scale. <i>Journal of Commonwealth Law and Legal Education</i> , 2018, 59, 11-26.	0.5	2
46	Magnesium transport in olivine mantle: new insights from miniaturized study of volume and grain boundary diffusion in Mg ₂ SiO ₄ bi-crystals. <i>Contributions To Mineralogy and Petrology</i> , 2021, 176, 1.	3.1	2
47	A reversed redox gradient in Earth's mantle transition zone. <i>Earth and Planetary Science Letters</i> , 2021, 575, 117181.	4.4	1
48	Accurate Grain and Phase Boundary Location by Dictionary-based Indexing of Geological EBSD Data. <i>Microscopy and Microanalysis</i> , 2017, 23, 2156-2157.	0.4	0