

Ralf Dohmen

List of Publications by Year in descending order

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57
papers

3,429
citations

186209

28
h-index

175177

52
g-index

61
all docs

61
docs citations

61
times ranked

2541
citing authors

#	ARTICLE	IF	CITATIONS
1	Volcanic arcs fed by rapid pulsed fluid flow through subducting slabs. <i>Nature Geoscience</i> , 2012, 5, 489-492.	5.4	249
2	Fe-Mg diffusion in olivine II: point defect chemistry, change of diffusion mechanisms and a model for calculation of diffusion coefficients in natural olivine. <i>Physics and Chemistry of Minerals</i> , 2007, 34, 409-430.	0.3	243
3	Time Scales of Magmatic Processes from Modeling the Zoning Patterns of Crystals. <i>Reviews in Mineralogy and Geochemistry</i> , 2008, 69, 545-594.	2.2	229
4	Diffusion coupling between trace and major elements and a model for calculation of magma residence times using plagioclase. <i>Geochimica Et Cosmochimica Acta</i> , 2003, 67, 2189-2200.	1.6	226
5	Fe-Mg diffusion in olivine I: experimental determination between 700 and 1,200°C as a function of composition, crystal orientation and oxygen fugacity. <i>Physics and Chemistry of Minerals</i> , 2007, 34, 389-407.	0.3	180
6	Si and O diffusion in olivine and implications for characterizing plastic flow in the mantle. <i>Geophysical Research Letters</i> , 2002, 29, 26-1.	1.5	169
7	Diffusion of Li in olivine. Part I: Experimental observations and a multi species diffusion model. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 274-292.	1.6	167
8	Advances in Lithium Isotope Geochemistry. <i>Advances in Isotope Geochemistry</i> , 2016, , .	1.4	160
9	Rare earth diffusion kinetics in garnet: Experimental studies and applications. <i>Geochimica Et Cosmochimica Acta</i> , 2005, 69, 2385-2398.	1.6	158
10	Fe-Mg interdiffusion rates in clinopyroxene: experimental data and implications for Fe-Mg exchange geothermometers. <i>Contributions To Mineralogy and Petrology</i> , 2013, 166, 1563-1576.	1.2	126
11	Diffusion in Polycrystalline Materials: Grain Boundaries, Mathematical Models, and Experimental Data. <i>Reviews in Mineralogy and Geochemistry</i> , 2010, 72, 921-970.	2.2	110
12	Linking Petrology and Seismology at an Active Volcano. <i>Science</i> , 2012, 336, 1023-1027.	6.0	106
13	Processes and time scales of magmatic evolution as revealed by Fe-Mg chemical and isotopic zoning in natural olivines. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 154, 130-150.	1.6	106
14	New Ni and Co metal-silicate partitioning data and their relevance for an early terrestrial magma ocean. <i>Earth and Planetary Science Letters</i> , 2008, 268, 28-40.	1.8	78
15	The influence of melt infiltration on the Li and Mg isotopic composition of the Horoman Peridotite Massif. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 164, 318-332.	1.6	75
16	A predictive thermodynamic model for element partitioning between plagioclase and melt as a function of pressure, temperature and composition. <i>Numerische Mathematik</i> , 2014, 314, 1319-1372.	0.7	74
17	Mechanism and kinetics of element and isotopic exchange mediated by a fluid phase. <i>American Mineralogist</i> , 2004, 88, 1251-1270.	0.9	68
18	Production of silicate thin films using pulsed laser deposition (PLD) and applications to studies in mineral kinetics. <i>European Journal of Mineralogy</i> , 2002, 14, 1155-1168.	0.4	66

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19	Diffusion-induced fractionation of niobium and tantalum during continental crust formation. <i>Earth and Planetary Science Letters</i> , 2013, 375, 361-371.	1.8	55
20	Extreme Magnesium Isotope Fractionation at Outcrop Scale Records the Mechanism and Rate at which Reaction Fronts Advance. <i>Journal of Petrology</i> , 2015, 56, 33-58.	1.1	53
21	Self-diffusion of oxygen and silicon in MgSiO ₃ perovskite. <i>Earth and Planetary Science Letters</i> , 2008, 270, 125-129.	1.8	51
22	Si and O diffusion in (Mg,Fe) ₂ SiO ₄ wadsleyite and ringwoodite and its implications for the rheology of the mantle transition zone. <i>Earth and Planetary Science Letters</i> , 2009, 284, 103-112.	1.8	50
23	Solid-solid reactions mediated by a gas phase; an experimental study of reaction progress and the role of surfaces in the system olivine+iron metal. <i>American Mineralogist</i> , 1998, 83, 970-984.	0.9	49
24	Fe-Mg interdiffusion in orthopyroxene. <i>American Mineralogist</i> , 2016, 101, 2210-2221.	0.9	49
25	Growth kinetics of enstatite reaction rims studied on nano-scale, Part I: Methodology, microscopic observations and the role of water. <i>Contributions To Mineralogy and Petrology</i> , 2007, 154, 519-533.	1.2	45
26	Chronometry and Speedometry of Magmatic Processes using Chemical Diffusion in Olivine, Plagioclase and Pyroxenes. <i>Reviews in Mineralogy and Geochemistry</i> , 2017, 83, 535-575.	2.2	42
27	Transport-controlled hydrothermal replacement of calcite by Mg-carbonates. <i>Geology</i> , 2015, 43, 779-782.	2.0	38
28	Non-traditional and Emerging Methods for Characterizing Diffusion in Minerals and Mineral Aggregates. <i>Reviews in Mineralogy and Geochemistry</i> , 2010, 72, 61-105.	2.2	28
29	A combined diffusion and thermal modeling approach to determine peak temperatures of thermal metamorphism experienced by meteorites. <i>Geochimica Et Cosmochimica Acta</i> , 2016, 191, 255-276.	1.6	27
30	Hydrothermal replacement of biogenic and abiogenic aragonite by Mg-carbonates – Relation between textural control on effective element fluxes and resulting carbonate phase. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 196, 289-306.	1.6	27
31	Fe-Mg diffusion in spinel: New experimental data and a point defect model. <i>American Mineralogist</i> , 2015, 100, 2112-2122.	0.9	25
32	New experimental approach to study aqueous alteration of amorphous silicates at low reaction rates. <i>Chemical Geology</i> , 2015, 412, 179-192.	1.4	25
33	Diffusion of Zr, Hf, Nb and Ta in rutile: effects of temperature, oxygen fugacity, and doping level, and relation to rutile point defect chemistry. <i>Physics and Chemistry of Minerals</i> , 2019, 46, 311-332.	0.3	25
34	Lithium isotope constraints on crust–mantle interactions and surface processes on Mars. <i>Geochimica Et Cosmochimica Acta</i> , 2015, 162, 46-65.	1.6	23
35	Neodymium diffusion in orthopyroxene: Experimental studies and applications to geological and planetary problems. <i>Geochimica Et Cosmochimica Acta</i> , 2011, 75, 4684-4698.	1.6	21
36	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.	0.3	14

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37	Role of element solubility on the kinetics of element partitioning: In situ observations and a thermodynamic kinetic model. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	13
38	A new experimental thin film approach to study mobility and partitioning of elements in grain boundaries: Fe-Mg exchange between olivines mediated by transport through an inert grain boundary. <i>American Mineralogist</i> , 2008, 93, 863-874.	0.9	13
39	TOF-SIMS and electron microprobe investigations of zoned magmatic orthopyroxenes: First results of trace and minor element analysis with implications for diffusion modeling. <i>American Mineralogist</i> , 2012, 97, 532-542.	0.9	12
40	Growth of magnesio-aluminate spinel in thin-film geometry: in situ monitoring using synchrotron X-ray diffraction and thermodynamic model. <i>Physics and Chemistry of Minerals</i> , 2014, 41, 681-693.	0.3	11
41	Non-stoichiometric amorphous magnesium-iron silicates in circumstellar dust shells. <i>Astronomy and Astrophysics</i> , 2020, 644, A139.	2.1	10
42	Li Partitioning, Diffusion and Associated Isotopic Fractionation: Theoretical and Experimental Insights. <i>Advances in Isotope Geochemistry</i> , 2016, , 47-118.	1.4	9
43	Methodology of Lithium Analytical Chemistry and Isotopic Measurements. <i>Advances in Isotope Geochemistry</i> , 2016, , 5-18.	1.4	9
44	Rheology of amorphous olivine thin films characterized by nanoindentation. <i>Acta Materialia</i> , 2021, 219, 117257.	3.8	9
45	Lithium in the Deep Earth: Mantle and Crustal Systems. <i>Advances in Isotope Geochemistry</i> , 2016, , 119-156.	1.4	8
46	Optical Properties of Non-stoichiometric Amorphous Silicates with Application to Circumstellar Dust Extinction. <i>Astrophysical Journal</i> , 2017, 845, 6.	1.6	7
47	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.	0.4	6
48	Diffusion chronometry of volcanic rocks: looking backward and forward. <i>Bulletin of Volcanology</i> , 2022, 84, .	1.1	6
49	The Surficial Realm: Low Temperature Geochemistry of Lithium. <i>Advances in Isotope Geochemistry</i> , 2016, , 157-189.	1.4	5
50	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.	0.9	5
51	3. Non-traditional and Emerging Methods for Characterizing Diffusion in Minerals and Mineral Aggregates. , 2010, , 61-106.		4
52	21. Diffusion in Poly crystalline Materials: Grain Boundaries, Mathematical Models, and Experimental Data. , 2010, , 921-970.		4
53	16. Chronometry and Speedometry of Magmatic Processes using Chemical Diffusion in Olivine, Plagioclase and Pyroxenes. , 2017, , 535-576.		2
54	Comment on "Formation of fast-spreading lower oceanic crust as revealed by a new Mg-REE coupled geospeedometer"™ by Sun and Lissenberg. <i>Earth and Planetary Science Letters</i> , 2018, 502, 284-286.	1.8	1

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55	Some aspects of the role of intergranular fluids in the compositional evolution of metamorphic rocks. <i>Journal of Earth System Science</i> , 2001, 110, 293-303.	0.6	0
56	Cosmochemistry of Lithium. <i>Advances in Isotope Geochemistry</i> , 2016, , 19-46.	1.4	0
57	Water Enhancement of Si Self-Diffusion in Wadsleyite. <i>Journal of Geophysical Research: Solid Earth</i> , 2022, 127, .	1.4	0