

Takehiko Hiraga

List of Publications by Year in descending order

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papers

2,305
citations

279701

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times ranked

1576
citing authors

#	ARTICLE	IF	CITATIONS
1	Olivine Morphology and Fabric During Diffusion Creep: Pure Shear Experiments. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	6
2	Diffusion Creep of Diopside. Journal of Geophysical Research: Solid Earth, 2021, 126, .	1.4	5
3	Grainâ€Boundary Diffusion Creep of Olivine: 2. Solidus Effects and Consequences for the Viscosity of the Oceanic Upper Mantle. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019416.	1.4	11
4	Grainâ€Boundary Diffusion Creep of Olivine: 1. Experiments at 1Âatm. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019415.	1.4	14
5	Vickers indentation tests on olivine: size effects. Physics and Chemistry of Minerals, 2020, 47, 1.	0.3	7
6	Diffusion Creep and Grain Growth in Forsterite +20Âvol% Enstatite Aggregates: 2. Their Common Diffusional Mechanism and Its Consequence for Weakâ€Temperatureâ€Dependent Viscosity. Journal of Geophysical Research: Solid Earth, 2018, 123, 9513-9527.	1.4	12
7	Diffusion Creep and Grain Growth in Forsterite +20 vol% Enstatite Aggregates: 1. Highâ€Resolution Experiments and Their Data Analyses. Journal of Geophysical Research: Solid Earth, 2018, 123, 9486-9512.	1.4	20
8	Grainâ€to multipleâ€grainâ€scale deformation processes during diffusion creep of forsterite+diopside aggregate: 1. Direct observations. Journal of Geophysical Research: Solid Earth, 2017, 122, 5890-5915.	1.4	40
9	Rocks and advanced ceramics. Journal of the Geological Society of Japan, 2017, 123, 379-390.	0.2	2
10	Grainâ€to multipleâ€grainâ€scale deformation processes during diffusion creep of forsterite+diopside aggregate: 2. Grain boundary slidingâ€induced grain rotation and its role in crystallographic preferred orientation in rocks. Journal of Geophysical Research: Solid Earth, 2017, 122, 5916-5934.	1.4	28
11	Synthesis of crystallographically oriented olivine aggregates using colloidal processing in a strong magnetic field. Physics and Chemistry of Minerals, 2016, 43, 689-706.	0.3	2
12	Influence of mineral fraction on the rheological properties of forsterite+enstatite during grain size sensitive creep: 3. Application of grain growth and flow laws on peridotite ultramylonite. Journal of Geophysical Research: Solid Earth, 2014, 119, 840-857.	1.4	32
13	Olivine crystals align during diffusion creep of Earthâ€™s upper mantle. Nature, 2013, 502, 321-326.	13.7	126
14	Comparison of microstructures in superplastically deformed synthetic materials and natural mylonites: Mineral aggregation via grain boundary sliding. Geology, 2013, 41, 959-962.	2.0	29
15	Influence of mineral fraction on the rheological properties of forsterite + enstatite during grainâ€sizeâ€sensitive creep: 1. Grain size and grain growth laws. Journal of Geophysical Research: Solid Earth, 2013, 118, 3970-3990.	1.4	39
16	Influence of mineral fraction on the rheological properties of forsterite+enstatite during grainâ€sizeâ€sensitive creep: 2. Deformation experiments. Journal of Geophysical Research: Solid Earth, 2013, 118, 3991-4012.	1.4	49
17	Synthesis of highly dense and fine-grained aggregates of mantle composites by vacuum sintering of nano-sized mineral powders. Physics and Chemistry of Minerals, 2010, 37, 505-518.	0.3	51
18	Mantle superplasticity and its self-made demise. Nature, 2010, 468, 1091-1094.	13.7	82

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19	Grain growth systematics for forsterite ± enstatite aggregates: Effect of lithology on grain size in the upper mantle. <i>Earth and Planetary Science Letters</i> , 2010, 291, 10-20.	1.8	93
20	Systematic distribution of incompatible elements in mantle peridotite: importance of intra- and inter-granular melt-like components. <i>Contributions To Mineralogy and Petrology</i> , 2009, 158, 149-167.	1.2	17
21	Equilibrium interface segregation in the diopside–forsterite system I: Analytical techniques, thermodynamics, and segregation characteristics. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 1266-1280.	1.6	47
22	Equilibrium interface segregation in the diopside–forsterite system II: Applications of interface enrichment to mantle geochemistry. <i>Geochimica Et Cosmochimica Acta</i> , 2007, 71, 1281-1289.	1.6	43
23	Water weakening of clinopyroxene in the dislocation creep regime. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	78
24	Effect of water and stress on the lattice-preferred orientation of olivine. <i>Tectonophysics</i> , 2006, 421, 1-22.	0.9	323
25	Effect of H ⁺ on Fe–Mg interdiffusion in olivine, (Fe,Mg) ₂ SiO ₄ . <i>Applied Physics Letters</i> , 2004, 85, 209-211.	1.5	58
26	Grain boundaries as reservoirs of incompatible elements in the Earth's mantle. <i>Nature</i> , 2004, 427, 699-703.	13.7	163
27	Melt Segregation and Strain Partitioning: Implications for Seismic Anisotropy and Mantle Flow. <i>Science</i> , 2003, 301, 1227-1230.	6.0	451
28	Chemistry of grain boundaries in mantle rocks. <i>American Mineralogist</i> , 2003, 88, 1015-1019.	0.9	66
29	Influence of melt on the creep behavior of olivine–basalt aggregates under hydrous conditions. <i>Earth and Planetary Science Letters</i> , 2002, 201, 491-507.	1.8	225
30	The Study of Intergranular Segregation and Elemental Partitioning in Partially Molten Olivine-bearing Geological Composites by STEM-EDX. <i>Microscopy and Microanalysis</i> , 2002, 8, 1606-1607.	0.2	0
31	Interfacial energies for quartz and albite in pelitic schist. <i>Contributions To Mineralogy and Petrology</i> , 2002, 143, 664-672.	1.2	50
32	Structure and chemistry of grain boundaries in deformed, olivine + basalt and partially molten lherzolite aggregates: evidence of melt-free grain boundaries. <i>Contributions To Mineralogy and Petrology</i> , 2002, 144, 163-175.	1.2	43
33	Morphology of intergranular pores and wetting angles in pelitic schists studied by transmission electron microscopy. <i>Contributions To Mineralogy and Petrology</i> , 2001, 141, 613-622.	1.2	37
34	The Structure of Grain Boundaries in Rocks Studied by High-Resolution Electron Microscopy.. <i>Nihon Kessho Gakkaishi</i> , 2001, 43, 264-268.	0.0	0
35	Plastic deformation of quartz at room temperature: A Vickers Nano-Indentation Test. <i>Geophysical Research Letters</i> , 2000, 27, 2773-2776.	1.5	22
36	The structure of grain boundaries in granite-origin ultramylonite studied by high-resolution electron microscopy. <i>Physics and Chemistry of Minerals</i> , 1999, 26, 617-623.	0.3	34