Takehiko Hiraga

List of Publications by Year
in descending order

36	2,305	279701 23	377752 34
papers	citations	h-index	g-index

36	36	36	1576
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Melt Segregation and Strain Partitioning: Implications for Seismic Anisotropy and Mantle Flow. Science, 2003, 301, 1227-1230.	6.0	451
2	Effect of water and stress on the lattice-preferred orientation of olivine. Tectonophysics, 2006, 421, 1-22.	0.9	323
3	Influence of melt on the creep behavior of olivineâ€“basalt aggregates under hydrous conditions. Earth and Planetary Science Letters, 2002, 201, 491-507.	1.8	225
4	Grain boundaries as reservoirs of incompatible elements in the Earth's mantle. Nature, 2004, 427, 699-703.	13.7	163
5	Olivine crystals align during diffusion creep of Earthâ€™s upper mantle. Nature, 2013, 502, 321-326.	13.7	126
6	Grain growth systematics for forsterite Â± enstatite aggregates: Effect of lithology on grain size in the upper mantle. Earth and Planetary Science Letters, 2010, 291, 10-20.	1.8	93
7	Mantle superplasticity and its self-made demise. Nature, 2010, 468, 1091-1094.	13.7	82
8	Water weakening of clinopyroxene in the dislocation creep regime. Journal of Geophysical Research, 2006, 111, .	3.3	78
9	Chemistry of grain boundaries in mantle rocks. American Mineralogist, 2003, 88, 1015-1019.	0.9	66
10	Effect of H+ on Feâ€“Mg interdiffusion in olivine, (Fe,Mg)2SiO4. Applied Physics Letters, 2004, 85, 209-211.	1.5	58
11	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
12	Interfacial energies for quartz and albite in pelitic schist. Contributions To Mineralogy and Petrology, 2002, 143, 664-672.	1.2	50
13	Influence of mineral fraction on the rheological properties of forsteriteâ€‰+â€‰enstatite during grainâ€sizeâ€sensitive creep: 2. Deformation experiments. Journal of Geophysical Research: Solid Earth, 2013, 118, 3991-4012.	1.4	49
14	Equilibrium interface segregation in the diopsideâ€“forsterite system I: Analytical techniques, thermodynamics, and segregation characteristics. Geochimica Et Cosmochimica Acta, 2007, 71, 1266-1280.	1.6	47
15	Structure and chemistry of grain boundaries in deformed, olivine + basalt and partially molten lherzolite aggregates: evidence of melt-free grain boundaries. Contributions To Mineralogy and Petrology, 2002, 144, 163-175.	1.2	43
16	Equilibrium interface segregation in the diopsideâ€“forsterite system II: Applications of interface enrichment to mantle geochemistry. Geochimica Et Cosmochimica Acta, 2007, 71, 1281-1289.	1.6	43
17	Grainâ€•to multipleâ€grainâ€scale deformation processes during diffusion creep of forsteriteÂ+Âdiopside aggregate: 1. Direct observations. Journal of Geophysical Research: Solid Earth, 2017, 122, 5890-5915.	1.4	40
18	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

#	Article	IF	Citations
19	Morphology of intergranular pores and wetting angles in pelitic schists studied by transmission electron microscopy. Contributions To Mineralogy and Petrology, 2001, 141, 613-622.	1.2	37
20	The structure of grain boundaries in granite-origin ultramylonite studied by high-resolution electron microscopy. Physics and Chemistry of Minerals, 1999, 26, 617-623.	0.3	34
21	Influence of mineral fraction on the rheological properties of forsteriteâ€‰+â€‰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
22	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
23	Grainâ€‐to multipleâ€grainâ€scale deformation processes during diffusion creep of forsteriteÂ+Âdiopside 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
24	Plastic deformation of quartz at room temperature: A Vickers Nano-Indentation Test. Geophysical Research Letters, 2000, 27, 2773-2776.	1.5	22
25	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
26	Systematic distribution of incompatible elements in mantle peridotite: importance of intra- and inter-granular melt-like components. Contributions To Mineralogy and Petrology, 2009, 158, 149-167.	1.2	17
27	Grainâ€Boundary Diffusion Creep of Olivine: 1. Experiments at 1Âatm. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019415.	1.4	14
28	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
29	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
30	Vickers indentation tests on olivine: size effects. Physics and Chemistry of Minerals, 2020, 47, 1.	0.3	7
31	Olivine Morphology and Fabric During Diffusion Creep: Pure Shear Experiments. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	6
32	Diffusion Creep of Diopside. Journal of Geophysical Research: Solid Earth, 2021, 126, .	1.4	5
33	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
34	Rocks and advanced ceramics. Journal of the Geological Society of Japan, 2017, 123, 379-390.	0.2	2
35	The Study of Intergranular Segregation and Elemental Partitioning in Partially Molten Olivine-bearing Geological Composites by STEM-EDX. Microscopy and Microanalysis, 2002, 8, 1606-1607.	0.2	0
36	The Structure of Grain Boundaries in Rocks Studied by High-Resolution Electron Microscopy.. Nihon Kessho Gakkaishi, 2001, 43, 264-268.	0.0	0