Shun-Ichiro Karato

List of Publications by Year
in descending order

183 papers	17,319 citations	14655 66 h-index	15732 125 g-index
199 all docs	199 docs citations	199 times ranked	6150 citing authors

#	Article	IF	Citations
1	Importance of anelasticity in the interpretation of seismic tomography. Geophysical Research Letters, 1993, 20, 1623-1626.	4.0	763
2	Rheology of synthetic olivine aggregates: Influence of grain size and water. Journal of Geophysical Research, 1986, 91, 8151-8176.	3.3	738
3	Water-Induced Fabric Transitions in Olivine. Science, 2001, 293, 1460-1463.	12.6	730
4	Lattice preferred orientation of olivine aggregates deformed in simple shear. Nature, 1995, 375, 774-777.	27.8	698
5	Whole-mantle convection and the transition-zone water filter. Nature, 2003, 425, 39-44.	27.8	642
6	Geodynamic Significance of Seismic Anisotropy of the Upper Mantle: New Insights from Laboratory Studies. Annual Review of Earth and Planetary Sciences, 2008, 36, 59-95.	11.0	606
7	Water distribution across the mantle transition zone and its implications for global material circulation. Earth and Planetary Science Letters, 2011, 301, 413-423.	4.4	498
8	Water, partial melting and the origin of the seismic low velocity and high attenuation zone in the upper mantle. Earth and Planetary Science Letters, 1998, 157, 193-207.	4.4	478
9	Water content in the transition zone from electrical conductivity of wadsleyite and ringwoodite. Nature, 2005, 434, 746-749.	27.8	366
10	Effects of pressure on high-temperature dislocation creep in olivine. Philosophical Magazine, 2003, 83, 401-414.	1.6	362
11	The effect of water on the electrical conductivity of olivine. Nature, 2006, 443, 977-980.	27.8	344
12	The misorientation index: Development of a new method for calculating the strength of lattice-preferred orientation. Tectonophysics, 2005, 411, 157-167.	2.2	301
13	Rheological structure and deformation of subducted slabs in the mantle transition zone: implications for mantle circulation and deep earthquakes. Physics of the Earth and Planetary Interiors, 2001, 127, 83-108.	1.9	299
14	Some mineral physics constraints on the rheology and geothermal structure of Earthâ€™s lower mantle. American Mineralogist, 2001, 86, 385-391.	1.9	268
15	Origin of lateral variation of seismic wave velocities and density in the deep mantle. Journal of Geophysical Research, 2001, 106, 21771-21783.	3.3	255
16	On the origin of the asthenosphere. Earth and Planetary Science Letters, 2012, 321-322, 95-103.	4.4	240
17	B-type olivine fabric in the mantle wedge: Insights from high-resolution non-Newtonian subduction zone models. Earth and Planetary Science Letters, 2005, 237, 781-797.	4.4	231
18	Dynamic recrystallization of olivine single crystals during highâ€temperature creep. Geophysical Research Letters, 1980, 7, 649-652.	4.0	216

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19	Thermal-mechanical effects of low-temperature plasticity (the Peierls mechanism) on the deformation of a viscoelastic shear zone. Earth and Planetary Science Letters, 1999, 168, 159-172.	4.4	208
20	New type of olivine fabric from deformation experiments at modest water content and low stress. Geology, 2004, 32, 1045.	4.4	207
21	Low-temperature, high-stress deformation of olivine under water-saturated conditions. Physics of the Earth and Planetary Interiors, 2008, 168, 125-133.	1.9	175
22	Simple shear deformation of olivine aggregates. Tectonophysics, 2000, 316, 133-152.	2.2	170
23	Plastic deformation of garnets: systematics and implications for the rheology of the mantle transition zone. Earth and Planetary Science Letters, 1995, 130, 13-30.	4.4	168
24	A new analysis of experimental data on olivine rheology. Journal of Geophysical Research, 2008, 113, .	3.3	159
25	Mechanisms of shear localization in the continental lithosphere: inference from the deformation microstructures of peridotites from the Ivrea zone, northwestern Italy. Journal of Structural Geology, 1998, 20, 195-209.	2.3	158
26	Diffusion Creep in Perovskite: Implications for the Rheology of the Lower Mantle. Science, 1992, 255, 1238-1240.	12.6	157
27	On the Lehmann discontinuity. Geophysical Research Letters, 1992, 19, 2255-2258.	4.0	157
28	Grain-size evolution in subducted oceanic lithosphere associated with the olivine-spinel transformation and its effects on rheology. Earth and Planetary Science Letters, 1997, 148, 27-43.	4.4	147
29	Rheology of the deep upper mantle and its implications for the preservation of the continental roots: A review. Tectonophysics, 2010, 481, 82-98.	2.2	147
30	Water in the Earthâ€™s Interior: Distribution and Origin. Space Science Reviews, 2017, 212, 743-810.	8.1	139
31	Development of anisotropic structure in the Earth's lower mantle by solid-state convection. Nature, 2002, 416, 310-314.	27.8	137
32	Density of hydrous silicate melt at the conditions of Earth's deep upper mantle. Nature, 2005, 438, 488-491.	27.8	137
33	Mapping water content in the upper mantle. Geophysical Monograph Series, 2003, , 135-152.	0.1	136
34	Effects of water on dynamically recrystallized grain-size of olivine. Journal of Structural Geology, 2001, 23, 1337-1344.	2.3	135
35	Effect of temperature on the B- to C-type olivine fabric transition and implication for flow pattern in subduction zones. Physics of the Earth and Planetary Interiors, 2006, 157, 33-45.	1.9	135
36	Seismic anisotropy of the Earth's inner core resulting from flow induced by Maxwell stresses. Nature, 1999, 402, 871-873.	27.8	134

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37	Melt distribution in mantle rocks deformed in shear. Geophysical Research Letters, 1999, 26, 1505-1508.	4.0	130
38	Mechanisms and geologic significance of the mid-lithosphere discontinuity in the continents. Nature Geoscience, 2015, 8, 509-514.	12.9	128
39	Shear deformation of bridgmanite and magnesiowÃ¼stite aggregates at lower mantle conditions. Science, 2016, 351, 144-147.	12.6	121
40	Electrical conductivity of orthopyroxene: Implications for the water content of the asthenosphere. Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 2009, 85, 466-475.	3.8	115
41	Rheology of the Earth's mantle: A historical review. Gondwana Research, 2010, 18, 17-45.	6.0	114
42	Fabric development in (Mg,Fe)O during large strain, shear deformation: implications for seismic anisotropy in Earthâ€™s lower mantle. Physics of the Earth and Planetary Interiors, 2002, 131, 251-267.	1.9	110
43	Plasticity-crystal structure systematics in dense oxides and its implications for the creep strength of the Earth's deep interior: a preliminary result. Physics of the Earth and Planetary Interiors, 1989, 55, 234-240.	1.9	106
44	Toward an experimental study of deep mantle rheology: A new multianvil sample assembly for deformation studies under high pressures and temperatures. Journal of Geophysical Research, 1997, 102, 20111-20122.	3.3	100
45	Electrical conductivity of pyrope-rich garnet at high temperature and high pressure. Physics of the Earth and Planetary Interiors, 2009, 176, 83-88.	1.9	100
46	Electrical conductivity of wadsleyite at high temperatures and high pressures. Earth and Planetary Science Letters, 2009, 287, 277-283.	4.4	99
47	Effects of Water on Seismic Wave Velocities in the Upper Mantle.. Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 1995, 71, 61-66.	3.8	98
48	The role of recrystallization in the preferred orientation of olivine. Physics of the Earth and Planetary Interiors, 1988, 51, 107-122.	1.9	95
49	Deformation fabrics of the Cima di Gagnone peridotite massif, Central Alps, Switzerland: evidence of deformation at low temperatures in the presence of water. Contributions To Mineralogy and Petrology, 2006, 152, 43-51.	3.1	95
50	High-pressure rotational deformation apparatus to 15 GPa. Review of Scientific Instruments, 2001, 72, 4207-4211.	1.3	91
51	High and highly anisotropic electrical conductivity of the asthenosphere due to hydrogen diffusion in olivine. Earth and Planetary Science Letters, 2014, 408, 79-86.	4.4	91
52	Ultramafic pseudotachylite from the Balmuccia peridotite, Ivrea-Verbano zone, northern Italy. Tectonophysics, 1995, 242, 313-328.	2.2	89
53	On the separation of crustal component from subducted oceanic lithosphere near the 660 km discontinuity. Physics of the Earth and Planetary Interiors, 1997, 99, 103-111.	1.9	88
54	Elasticity of CaTiO3, SrTiO3 and BaTiO3 perovskites up to 3.0 Gpa: the effect of crystallographic structure. Physics and Chemistry of Minerals, 1993, 20, 97.	0.8	87

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55	Core formation and chemical equilibrium in the Earthâ€”I. Physical considerations. Physics of the Earth and Planetary Interiors, 1997, 100, 61-79.	1.9	87
56	Rheological structure of the mantle of a super-Earth: Some insights from mineral physics. Icarus, 2011, 212, 14-23.	2.5	87
57	Localization of dislocation creep in the lower mantle: implications for the origin of seismic anisotropy. Earth and Planetary Science Letters, 2001, 191, 85-99.	4.4	82
58	Grain-size distribution and rheology of the upper mantle. Tectonophysics, 1984, 104, 155-176.	2.2	81
59	Some remarks on the origin of seismic anisotropy in the Dâ€•layer. Earth, Planets and Space, 1998, 50, 1019-1028.	2.5	81
60	Shear deformation of dry polycrystalline olivine under deep upper mantle conditions using a rotational Drickamer apparatus (RDA). Physics of the Earth and Planetary Interiors, 2009, 174, 128-137.	1.9	79
61	High-temperature creep in fine-grained polycrystalline CaTiO 3 , an analogue material of (Mg, Fe)SiO 3 perovskite. Physics of the Earth and Planetary Interiors, 1996, 95, 19-36.	1.9	74
62	Evidence of high water content in the deep upper mantle inferred from deformation microstructures. Geology, 2005, 33, 613.	4.4	74
63	Complete wetting of olivine grain boundaries by a hydrous melt near the mantle transition zone. Earth and Planetary Science Letters, 2007, 256, 466-472.	4.4	73
64	Grain-growth kinetics in wadsleyite: Effects of chemical environment. Physics of the Earth and Planetary Interiors, 2006, 154, 30-43.	1.9	71
65	Deep penetration of molten iron into the mantle caused by a morphological instability. Nature, 2012, 492, 243-246.	27.8	71
66	Electrical conductivity of amphibole-bearing rocks: influence of dehydration. Contributions To Mineralogy and Petrology, 2012, 164, 17-25.	3.1	71
67	Upper-mantle water stratification inferred from observations of the 2012 Indian Ocean earthquake. Nature, 2016, 538, 373-377.	27.8	69
68	Dislocation recovery in olivine under deep upper mantle conditions: Implications for creep and diffusion. Journal of Geophysical Research, 1993, 98, 9761-9768.	3.3	68
69	Sheared lherzolite xenoliths revisited. Journal of Geophysical Research, 2008, 113, .	3.3	64
70	High temperature creep of single crystal strontium titanate (SrTiO3): a contribution to creep systematics in perovskites. Physics of the Earth and Planetary Interiors, 1993, 79, 299-312.	1.9	61
71	Slab dehydration in the Earth's mantle transition zone. Earth and Planetary Science Letters, 2006, 251, 156-167.	4.4	60
72	Effects of water and iron content on the rheological contrast between garnet and olivine. Physics of the Earth and Planetary Interiors, 2008, 166, 57-66.	1.9	60

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73	Solubility of water in pyropeâ€rich garnet at high pressures and temperature. Geophysical Research Letters, 2010, 37, .	4.0	60
74	Plastic deformation of silicate spinel under the transition-zone conditions of the Earth's mantle. Nature, 1998, 395, 266-269.	27.8	59
75	Frequency dependence ofQin Earth's upper mantle inferred from continuous spectra of body waves. Geophysical Research Letters, 2004, 31, n/a-n/a.	4.0	59
76	Seismological detection of lowâ€velocity anomalies surrounding the mantle transition zone in Japan subduction zone. Geophysical Research Letters, 2016, 43, 2480-2487.	4.0	59
77	Plastic deformation of wadsleyite and olivine at high-pressure and high-temperature using a rotational Drickamer apparatus (RDA). Physics of the Earth and Planetary Interiors, 2008, 170, 156-169.	1.9	57
78	Water content of the Tanzanian lithosphere from magnetotelluric data: Implications for cratonic growth and stability. Earth and Planetary Science Letters, 2014, 388, 175-186.	4.4	56
79	Terrestrial magma ocean origin of the Moon. Nature Geoscience, 2019, 12, 418-423.	12.9	56
80	Experimental studies on the recovery process of deformed olivines and the mechanical state of the upper mantle. Tectonophysics, 1978, 49, 79-95.	2.2	55
81	Geophysical constraints on the water content of the lunar mantle and its implications for the origin of the Moon. Earth and Planetary Science Letters, 2013, 384, 144-153.	4.4	55
82	Development of finite strain in the convecting lower mantle and its implications for seismic anisotropy. Journal of Geophysical Research, 2003, 108, .	3.3	52
83	Seismological signature of chemical differentiation of Earth's upper mantle. Journal of Geophysical Research, 2005, 110, .	3.3	51
84	Comments on â€œElectrical conductivity of wadsleyite as a function of temperature and water contentâ€• by Manthilake et al.. Physics of the Earth and Planetary Interiors, 2009, 174, 19-21.	1.9	51
85	Does partial melting explain geophysical anomalies?. Physics of the Earth and Planetary Interiors, 2014, 228, 300-306.	1.9	51
86	A scanning electron microscope study of the effects of dynamic recrystallization on lattice preferred orientation in olivine. Tectonophysics, 2002, 351, 331-341.	2.2	46
87	Strength of single-crystal orthopyroxene under lithospheric conditions. Contributions To Mineralogy and Petrology, 2011, 161, 961-975.	3.1	46
88	Role of orthopyroxene in rheological weakening of the lithosphere via dynamic recrystallization. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 16355-16360.	7.1	46
89	Water Concentration in Singleâ€Crystal (Al,Fe)â€Bearing Bridgmanite Grown From the Hydrous Melt: Implications for Dehydration Melting at the Topmost Lower Mantle. Geophysical Research Letters, 2019, 46, 10346-10357.	4.0	46
90	Theory of isotope diffusion in a material with multiple species and its implications for hydrogen-enhanced electrical conductivity in olivine. Physics of the Earth and Planetary Interiors, 2013, 219, 49-54.	1.9	45

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91	Lattice preferred orientation in deformed polycrystalline (Mg,Fe)O and implications for seismic anisotropy in Dâ€³. Physics of the Earth and Planetary Interiors, 2006, 156, 75-88.	1.9	44
92	Two-dimensional thermo-kinetic model for the olivine-spinel phase transition in subducting slabs. Physics of the Earth and Planetary Interiors, 1996, 94, 217-239.	1.9	42
93	Microstructural Development During Nucleation and Growth. Geophysical Journal International, 1996, 125, 397-414.	2.4	40
94	An experimental study of the influence of graphite on the electrical conductivity of olivine aggregates. Geophysical Research Letters, 2013, 40, 2028-2032.	4.0	39
95	The effect of pressure on the electrical conductivity of olivine under the hydrogen-rich conditions. Physics of the Earth and Planetary Interiors, 2014, 232, 51-56.	1.9	39
96	Seismic evidence for water transport out of the mantle transition zone beneath the European Alps. Earth and Planetary Science Letters, 2018, 482, 93-104.	4.4	38
97	Effect of H2O on the density of silicate melts at high pressures: Static experiments and the application of a modified hard-sphere model of equation of state. Geochimica Et Cosmochimica Acta, 2012, 85, 357-372.	3.9	37
98	Nature of the seismic lithosphereâ€asthenosphere boundary within normal oceanic mantle from highâ€resolution receiver functions. Geochemistry, Geophysics, Geosystems, 2016, 17, 1265-1282.	2.5	36
99	A new approach to the equation of state of silicate melts: An application of the theory of hard sphere mixtures. Geochimica Et Cosmochimica Acta, 2011, 75, 6780-6802.	3.9	35
100	Influence of oxygen fugacity on the electrical conductivity of hydrous olivine: Implications for the mechanism of conduction. Physics of the Earth and Planetary Interiors, 2014, 232, 57-60.	1.9	35
101	Influence of FeO and H on the electrical conductivity of olivine. Physics of the Earth and Planetary Interiors, 2014, 237, 73-79.	1.9	35
102	Plasticity of M_GS_IO₃ perovskite: The results of microhardness tests on single crystals. Geophysical Research Letters, 1990, 17, 13-16.	4.0	34
103	Low viscosity of the bottom of the Earthâ€™s mantle inferred from the analysis of Chandler wobble and tidal deformation. Physics of the Earth and Planetary Interiors, 2012, 192-193, 68-80.	1.9	34
104	Theory of lattice strain in a material undergoing plastic deformation: Basic formulation and applications to a cubic crystal. Physical Review B, 2009, 79, .	3.2	31
105	Shear attenuation and dispersion in MgO. Physics of the Earth and Planetary Interiors, 1997, 99, 249-257.	1.9	30
106	Compositional effect on the pressure derivatives of bulk modulus of silicate melts. Earth and Planetary Science Letters, 2008, 272, 429-436.	4.4	29
107	Influence of Hydrogen-Related Defects on the Electrical Conductivity and Plastic Deformation of Mantle Minerals: A Critical Review. Geophysical Monograph Series, 2013, , 113-129.	0.1	29
108	Shear deformation of polycrystalline wadsleyite up to 2100 K at 14â€“17 GPa using a rotational Drickamer apparatus (RDA). Journal of Geophysical Research, 2010, 115, .	3.3	28

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109	Seismic anisotropy due to lattice preferred orientation of minerals: Kinematic or dynamic?. Geophysical Monograph Series, 1987, , 455-471.	0.1	27
110	Effect of chemical environment on the hydrogen-related defect chemistry in wadsleyite. American Mineralogist, 2008, 93, 831-843.	1.9	27
111	Tetrahedral occupancy of ferric iron in (Mg,Fe)O: Implications for point defects in the Earth's lower mantle. Physics of the Earth and Planetary Interiors, 2010, 180, 179-188.	1.9	27
112	Plastic deformation experiments to high strain on mantle transition zone minerals wadsleyite and ringwoodite in the rotational Drickamer apparatus. Earth and Planetary Science Letters, 2013, 361, 7-15.	4.4	27
113	Water and Volatile Inventories of Mercury, Venus, the Moon, and Mars. Space Science Reviews, 2018, 214, 1.	8.1	27
114	Insights into the nature of plumeâ€"asthenosphere interaction from central Pacific geophysical anomalies. Earth and Planetary Science Letters, 2008, 274, 234-240.	4.4	26
115	Ferric iron content of ferropericlase as a function of composition, oxygen fugacity, temperature and pressure: Implications for redox conditions during diamond formation in the lower mantle. Earth and Planetary Science Letters, 2013, 365, 7-16.	4.4	26
116	15. Remote Sensing of Hydrogen in Earth's Mantle. , 2006, , 343-376.		25
117	The influence of anisotropic diffusion on the high-temperature creep of a polycrystalline aggregate. Physics of the Earth and Planetary Interiors, 2010, 183, 468-472.	1.9	25
118	Volume thermal expansion along the jadeiteâ€"diopside join. Physics and Chemistry of Minerals, 2015, 42, 1-14.	0.8	25
119	Dynamics of fault motion and the origin of contrasting tectonic style between Earth and Venus. Scientific Reports, 2018, 8, 11884.	3.3	25
120	A unified static and dynamic recrystallization Internal State Variable (ISV) constitutive model coupled with grain size evolution for metals and mineral aggregates. International Journal of Plasticity, 2019, 112, 123-157.	8.8	25
121	Dynamic Recrystallization and High-Temperature Rheology of Olivine. , 1982, , 171-189.		25
122	Deep mantle melting, global water circulation and its implications for the stability of the ocean mass. Progress in Earth and Planetary Science, 2020, 7, .	3.0	25
123	Effects of solute segregation on the grain-growth kinetics of orthopyroxene with implications for the deformation of the upper mantle. Physics of the Earth and Planetary Interiors, 2007, 164, 186-196.	1.9	24
124	Global Analysis of Experimental Data on the Rheology of Olivine Aggregates. Journal of Geophysical Research: Solid Earth, 2019, 124, 310-334.	3.4	24
125	The density of volatile bearing melts in the Earth's deep mantle: The role of chemical composition. Chemical Geology, 2009, 262, 100-107.	3.3	23
126	Control of the water fugacity at high pressures and temperatures: Applications to the incorporation mechanisms of water in olivine. Physics of the Earth and Planetary Interiors, 2011, 189, 27-33.	1.9	23

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127	On the Yield Strength of Oceanic Lithosphere. Geophysical Research Letters, 2017, 44, 9716-9722.	4.0	23
128	Effects of metal protection coils on thermocouple EMF in multi-anvil high-pressure experiments. American Mineralogist, 2006, 91, 111-114.	1.9	22
129	Plastic anisotropy and slip systems in ringwoodite deformed to high shear strain in the Rotational Drickamer Apparatus. Physics of the Earth and Planetary Interiors, 2014, 228, 244-253.	1.9	22
130	Densityâ€Pressure Profiles of Feâ€Bearing MgSiO₃ Liquid: Effects of Valence and Spin States, and Implications for the Chemical Evolution of the Lower Mantle. Geophysical Research Letters, 2018, 45, 3959-3966.	4.0	22
131	Pervasive low-velocity layer atop the 410-km discontinuity beneath the northwest Pacific subduction zone: Implications for rheology and geodynamics. Earth and Planetary Science Letters, 2021, 554, 116642.	4.4	22
132	Effect of oxygen partial pressure on the dislocation recovery in olivine: a new constraint on creep mechanisms. Physics of the Earth and Planetary Interiors, 1982, 28, 312-319.	1.9	20
133	Towards Mapping the Three-Dimensional Distribution of Water in the Upper Mantle from Velocity and Attenuation Tomography. Geophysical Monograph Series, 2013, , 225-236.	0.1	20
134	Anisotropic high-temperature creep in hydrous olivine single crystals and its geodynamic implications. Physics of the Earth and Planetary Interiors, 2019, 290, 1-9.	1.9	20
135	Preferred Orientation Development of Dynamically Recrystallized Olivine during High Temperature Creep. Journal of Geology, 1985, 93, 407-417.	1.4	19
136	The viscosity structure of the Dâ€³ layer of the Earthâ€™s mantle inferred from the analysis of Chandler wobble and tidal deformation. Physics of the Earth and Planetary Interiors, 2012, 208-209, 11-24.	1.9	19
137	The Transition-Zone Water Filter Model for Global Material Circulation: Where Do We Stand?. Geophysical Monograph Series, 0, , 289-313.	0.1	19
138	Lattice-preferred orientation of lower mantle materials and seismic anisotropy in the Dâ€³ layer. Geophysical Monograph Series, 2007, , 69-78.	0.1	18
139	Some notes on hydrogen-related point defects and their role in the isotope exchange and electrical conductivity in olivine. Physics of the Earth and Planetary Interiors, 2015, 248, 94-98.	1.9	18
140	Markov chain Monte Carlo inversion for the rheology of olivine single crystals. Journal of Geophysical Research: Solid Earth, 2015, 120, 3142-3172.	3.4	18
141	Speciation and dissolution of hydrogen in the proto-lunar disk. Earth and Planetary Science Letters, 2016, 445, 104-113.	4.4	18
142	Slab weakening during the olivine to ringwoodite transition in the mantle. Nature Geoscience, 2020, 13, 170-174.	12.9	18
143	High-pressure and high-temperature deformation experiments on polycrystalline wadsleyite using the rotational Drickamer apparatus. Physics and Chemistry of Minerals, 2015, 42, 541-558.	0.8	17
144	Physical basis of trace element partitioning: A review. American Mineralogist, 2016, 101, 2577-2593.	1.9	17

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145	Some remarks on hydrogen-assisted electrical conductivity in olivine and other minerals. Progress in Earth and Planetary Science, 2019, 6, .	3.0	17
146	Seismic Anisotropy in the Deep Mantle, Boundary Layers and the Geometry of Mantle Convection. , 1998, , 565-587.		17
147	High temperature creep of single crystal gadolinium gallium garnet. Physics and Chemistry of Minerals, 1996, 23, 73.	0.8	16
148	Core formation and chemical equilibrium in the Earthâ€"II: Chemical consequences for the mantle and core. Physics of the Earth and Planetary Interiors, 1997, 100, 81-95.	1.9	16
149	2. New Developments in Deformation Experiments at High Pressure. , 2002, , 21-50.		15
150	On the Grain Size Sensitivity of Olivine Rheology. Journal of Geophysical Research: Solid Earth, 2018, 123, 674-688.	3.4	15
151	Electrical Conductivity of Tiâ€Bearing Hydrous Olivine Aggregates at High Temperature and High Pressure. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB020309.	3.4	14
152	Behavior and properties of water in silicate melts under deep mantle conditions. Scientific Reports, 2021, 11, 10588.	3.3	13
153	TEM observation of dissociated dislocations with b = [010] in naturally deformed olivine. Physics of the Earth and Planetary Interiors, 1993, 78, 131-137.	1.9	11
154	Asymmetric shock heating and the terrestrial magma ocean origin of the Moon. Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 2014, 90, 97-103.	3.8	11
155	A wet mantle conductor? (Reply). Nature, 2006, 439, E3-E4.	27.8	10
156	The influence of ferric iron and hydrogen on Feâ€"Mg interdiffusion in ferropericlase ((Mg,Fe)O) in the lower mantle. Physics and Chemistry of Minerals, 2015, 42, 261-273.	0.8	10
157	Development of a rotational Drickamer apparatus for large-strain deformation experiments at deep Earth conditions. , 2005, , 167-182.		9
158	Some remarks on the models of plate tectonics on terrestrial planets: From the view-point of mineral physics. Tectonophysics, 2014, 631, 4-13.	2.2	8
159	A Theory of Interâ€Granular Transient Dislocation Creep: Implications for the Geophysical Studies on Mantle Rheology. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022763.	3.4	8
160	Melting of Bridgmanite Under Hydrous Shallow Lower Mantle Conditions. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022222.	3.4	7
161	Thermal Ionization of Hydrogen in Hydrous Olivine With Enhanced and Anisotropic Conductivity. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB022939.	3.4	7
162	13. Theoretical Analysis of Shear Localization in the Lithosphere. , 2002, , 387-420.		6

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163	Comments on â€œPetrofabrics and seismic properties of garnet peridotites from the UHP Sulu terrane (China)â€•by Xu et al. [Tectonophysics 421 (2006) 111â€“127]. Tectonophysics, 2007, 429, 287-289.	2.2	6
164	Recent progress in the experimental studies on the kinetic properties in minerals. Physics of the Earth and Planetary Interiors, 2008, 170, 152-155.	1.9	6
165	Influence of hydrogen on the electronic states of olivine: Implications for electrical conductivity. Geophysical Research Letters, 2012, 39, .	4.0	5
166	Reply to comment on â€œHigh and highly anisotropic electrical conductivity of the asthenosphere due to hydrogen diffusion in olivineâ€•by Dai and Karato [Earth Planet. Sci. Lett. 408 (2014) 79â€“86]. Earth and Planetary Science Letters, 2015, 427, 300-302.	4.4	5
167	Development of a Stress Sensor for In-Situ High-Pressure Deformation Experiments Using Radial X-Ray Diffraction. Minerals (Basel, Switzerland), 2020, 10, 166.	2.0	5
168	Rock deformation: Ductile and brittle. Reviews of Geophysics, 1995, 33, 451.	23.0	4
169	Reply to Comment on â€œThe Misorientation index: Development of a new method for calculating the strength of lattice-preferred orientationâ€• Tectonophysics, 2007, 441, 119-120.	2.2	4
170	Influence of realistic rheological properties on the style of mantle convection: roles of dynamic friction and depth-dependence of rheological properties. Geophysical Journal International, 2021, 226, 1986-1996.	2.4	4
171	Development of a rotational Drickamer apparatus for large-strain deformation experiments at deep Earth conditions. , 2005, , 167-182.		4
172	A Dislocation Model of Seismic Wave Attenuation and Micro-creep in the Earth: Harold Jeffreys and the Rheology of the Solid Earth. , 1998, , 239-256.		4
173	Some issues on the strength of the lithosphere. Journal of Earth Science (Wuhan, China), 2011, 22, 131-136.	3.2	3
174	An experimental study of grain-scale microstructure evolution during the olivineâ€“wadsleyite phase transition under nominally â€œdryâ€• conditions. Earth and Planetary Science Letters, 2018, 501, 128-137.	4.4	3
175	The Effect of Pressure on Grainâ€Growth Kinetics in Olivine Aggregates With Some Geophysical Applications. Journal of Geophysical Research: Solid Earth, 2021, 126, e2020JB020886.	3.4	3
176	Microscopic Models for the Effects of Hydrogen on Physical and Chemical Properties of Earth Materials. , 2007, , 321-356.		3
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