Akio Suzuki

List of Publications by Year
in descending order

122 papers	3,982 citations	94269 37 h-index	138251 58 g-index
124 all docs	124 docs citations	124 times ranked	2261 citing authors

#	Article	IF	Citations
1	Stability of hydrous melt at the base of the Earth's upper mantle. Nature, 2006, 439, 192-194.	13.7	165
2	Viscosity of peridotite liquid up to 13 GPa: Implications for magma ocean viscosities. Earth and Planetary Science Letters, 2005, 240, 589-604.	1.8	144
3	Ponded melt at the boundary between the lithosphere and asthenosphere. Nature Geoscience, 2013, 6, 1041-1044.	5.4	144
4	A new hydrous phase Î´-AlOOH synthesized at 21 GPa and 1000 Â°C. Physics and Chemistry of Minerals, 2000, 27, 689-693.	0.3	134
5	Stability of dense hydrous magnesium silicate phases and water storage capacity in the transition zone and lower mantle. Physics of the Earth and Planetary Interiors, 2001, 124, 105-117.	0.7	125
6	In situ determination of the phase boundary between Wadsleyite and Ringwoodite in Mg2SiO4. Geophysical Research Letters, 2000, 27, 803-806.	1.5	121
7	Effect of structural transitions on properties of high-pressure silicate melts: 27Al NMR, glass densities, and melt viscosities. American Mineralogist, 2007, 92, 1093-1104.	0.9	111
8	In situ X-ray diffraction study of post-spinel transformation in a peridotite mantle: Implication for the 660-km discontinuity. Earth and Planetary Science Letters, 2005, 238, 311-328.	1.8	108
9	Wet subduction versus cold subduction. Geophysical Research Letters, 2005, 32, .	1.5	104
10	Stability field of new hydrous phase, Î´-AlOOH, with implications for water transport into the deep mantle. Geophysical Research Letters, 2001, 28, 3991-3993.	1.5	91
11	The viscosity of CaMgSi2O6 liquid at pressures up to 13GPa. Physics of the Earth and Planetary Interiors, 2003, 139, 45-54.	0.7	87
12	Viscosity of albite melt at high pressure and high temperature. Physics and Chemistry of Minerals, 2002, 29, 159-165.	0.3	81
13	Melting relations of peridotite and the density crossover in planetary mantles. Chemical Geology, 1995, 120, 207-221.	1.4	77
14	Density of peridotite melts at high pressure. Physics and Chemistry of Minerals, 2003, 30, 449-456.	0.3	73
15	Thermal history of the enstatite chondrites from silica polymorphs. Meteoritics and Planetary Science, 2005, 40, 855-868.	0.7	68
16	Flotation of Diamond in Mantle Melt at High Pressure. Science, 1995, 269, 216-218.	6.0	66
17	Measurement of hydrous peridotite magma density at high pressure using the X-ray absorption method. Earth and Planetary Science Letters, 2009, 287, 293-297.	1.8	63
18	The effect of temperature, pressure, and sulfur content on viscosity of the Feâ€“FeS melt. Earth and Planetary Science Letters, 2001, 190, 93-101.	1.8	61

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19	Effect of water in depleted mantle on post-spinel transition and implication for 660 km seismic discontinuity. Earth and Planetary Science Letters, 2013, 371-372, 103-111.	1.8	60
20	Density and thermal expansion of a peridotite melt at high pressure. Physics of the Earth and Planetary Interiors, 1998, 107, 53-61.	0.7	57
21	Mechanisms and kinetics of the post-spinel transformation in Mg2SiO4. Physics of the Earth and Planetary Interiors, 2002, 129, 153-171.	0.7	56
22	Stability of carbonated magmas at the base of the Earth's upper mantle. Geophysical Research Letters, 2007, 34, .	1.5	55
23	Kushiroite, CaAlAlSiO6: A new mineral of the pyroxene group from the ALH 85085 CH chondrite, and its genetic significance in refractory inclusions. American Mineralogist, 2009, 94, 1479-1482.	0.9	54
24	Symmetrization driven spin transition in Îµ-FeOOH at high pressure. Earth and Planetary Science Letters, 2013, 379, 49-55.	1.8	54
25	In situ X ray observation of high-pressure phase transitions of MgSiO3and thermal expansion of MgSiO3perovskite at 25 GPa by double-stage multianvil system. Journal of Geophysical Research, 1995, 100, 20475-20481.	3.3	51
26	Diamond-Graphite Relationships in Ultrahigh-pressure Metamorphic Rocks from the Kokchetav Massif, Northern Kazakhstan. Journal of Petrology, 2010, 51, 763-783.	1.1	51
27	Absence of density crossover between basalt and peridotite in the cold slabs passing through 660 km discontinuity. Geophysical Research Letters, 2004, 31, .	1.5	50
28	Stability of Feâ€“Ni hydride after the reaction between Feâ€“Ni alloy and hydrous phase (Î´-AlOOH) up to 1.2Mbar: Possibility of H contribution to the core density deficit. Physics of the Earth and Planetary Interiors, 2012, 194-195, 18-24.	0.7	50
29	Dislocation-accommodated grain boundary sliding as the major deformation mechanism of olivine in the Earthâ€™s upper mantle. Science Advances, 2015, 1, e1500360.	4.7	49
30	Pressure-volume-temperature equation of state of tungsten carbide to 32 GPa and 1673 K. Journal of Applied Physics, 2010, 108, .	1.1	48
31	Transformation textures, mechanisms of formation of highâ€pressure minerals in shock melt veins of L6 chondrites, and pressureâ€temperature conditions of the shock events. Meteoritics and Planetary Science, 2009, 44, 1771-1786.	0.7	46
32	Hydrogen partitioning between iron and ringwoodite: Implications for water transport into the Martian core. Earth and Planetary Science Letters, 2009, 287, 463-470.	1.8	44
33	Viscosity of silicate melts in CaMgSi2O6â€“NaAlSi2O6 system at high pressure. Physics and Chemistry of Minerals, 2005, 32, 140-145.	0.3	43
34	Density of dry peridotite magma at high pressure using an X-ray absorption method. American Mineralogist, 2010, 95, 144-147.	0.9	43
35	The effect of sulfur content on density of the liquid Feâ€“S at high pressure. Physics and Chemistry of Minerals, 2008, 35, 417-423.	0.3	42
36	Chemical Reactions Between Fe and H₂O up to Megabar Pressures and Implications for Water Storage in the Earth's Mantle and Core. Geophysical Research Letters, 2018, 45, 1330-1338.	1.5	42

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37	Density measurement of Fe₃C liquid using Xâ€ray absorption image up to 10 GPa and effect of light elements on compressibility of liquid iron. Journal of Geophysical Research, 2010, 115, .	3.3	40
38	Viscosity of the albite melt to 7 GPa at 2000 K. Earth and Planetary Science Letters, 2000, 175, 87-92.	1.8	39
39	Effect of pressure on the viscosity of Fe-S and Fe-C liquids up to 16 GPa. Geophysical Research Letters, 2006, 33, .	1.5	36
40	Formation of metastable assemblages and mechanisms of the grain-size reduction in the Postspinel transformation of Mg2SiO4. Geophysical Research Letters, 2000, 27, 807-810.	1.5	35
41	Density of high-Ti basalt magma at high pressure and origin of heterogeneities in the lunar mantle. Earth and Planetary Science Letters, 2010, 299, 285-289.	1.8	35
42	Pressure and temperature dependence of the viscosity of a NaAlSi2O6 melt. Physics and Chemistry of Minerals, 2011, 38, 59-64.	0.3	35
43	Radiographic study on the viscosity of the Fe-FeS melts at the pressure of 5 to 7 GPa. American Mineralogist, 2001, 86, 578-582.	0.9	34
44	Melting relations of hydrous and dry mantle compositions and the genesis of komatiites. Geophysical Research Letters, 1998, 25, 2201-2204.	1.5	33
45	High-pressure X-ray diffraction study of Îµ-FeOOH. Physics and Chemistry of Minerals, 2010, 37, 153-157.	0.3	33
46	Density measurement of liquid FeS at high pressures using synchrotron X-ray absorption. American Mineralogist, 2011, 96, 864-868.	0.9	33
47	Viscosity change and structural transition of Molten Fe at 5 GPa. Geophysical Research Letters, 2002, 29, 68-1-68-3.	1.5	32
48	Density of Fe-3.5 wt% C liquid at high pressure and temperature and the effect of carbon on the density of the molten iron. Physics of the Earth and Planetary Interiors, 2013, 224, 77-82.	0.7	31
49	Towards a consensus on the pressure and composition dependence of sound velocity in the liquid Feâ€“S system. Physics of the Earth and Planetary Interiors, 2016, 257, 230-239.	0.7	31
50	Yamato 792947, 793408 and 82038: The most primitive H chondrites, with abundant refractory inclusions. Meteoritics and Planetary Science, 2002, 37, 1417-1434.	0.7	30
51	Thermal equation of state of superhydrous phase B to 27GPa and 1373K. Physics of the Earth and Planetary Interiors, 2007, 164, 142-160.	0.7	30
52	Intrusion of UHP metamorphic rocks into the upper crust of Kyrgyzian Tien-Shan: P-T path and metamorphic age of the Makbal Complex. Journal of Mineralogical and Petrological Sciences, 2010, 105, 233-250.	0.4	29
53	In situviscosity measurements of albite melt under high pressure. Journal of Physics Condensed Matter, 2002, 14, 11343-11347.	0.7	27
54	The compressibility of Fe- and Al-bearing phase D to 30ÂGPa. Physics and Chemistry of Minerals, 2007, 34, 159-167.	0.3	27

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55	Density measurements of liquid Feâ€“Si alloys at high pressure using the sinkâ€“float method. Physics and Chemistry of Minerals, 2011, 38, 801-807.	0.3	27
56	High-temperature viscosity measurements of hydrous albite liquid using in-situ falling-sphere viscometry at 2.5 GPa. Chemical Geology, 2006, 229, 2-9.	1.4	25
57	Flotation of Olivine in the Peridotite Melt at High Pressure.. Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 1993, 69, 23-28.	1.6	24
58	An in situ X ray diffraction study of the Î±-Î² transformation kinetics of Mg2SiO4. Geophysical Research Letters, 1998, 25, 695-698.	1.5	24
59	Stability field of phase Egg, AlSiO₃OH at high pressure and high temperature: possible water reservoir in mantle transition zone. Journal of Mineralogical and Petrological Sciences, 2017, 112, 31-35.	0.4	24
60	The high-pressure and temperature equation of state of a majorite solid solution in the system of Mg 4 Si 4 O 12 -Mg 3 Al 2 Si 3 O 12. Physics and Chemistry of Minerals, 1999, 27, 3-10.	0.3	23
61	Thermal equation of state of Alâ€•and Feâ€bearing phase D. Journal of Geophysical Research, 2008, 113, .	3.3	23
62	In situ measurement of interfacial tension of Feâ€“S and Feâ€“P liquids under high pressure using X-ray radiography and tomography techniques. Physics of the Earth and Planetary Interiors, 2009, 174, 220-226.	0.7	23
63	Space group and hydrogen sites of ?-AlOOH and implications for a hypothetical high-pressure form of Mg(OH)2. Physics and Chemistry of Minerals, 2004, 31, 360.	0.3	22
64	Compressional behavior and spin state of Î´-(Al,Fe)OOH at high pressures. American Mineralogist, 2019, 104, 1273-1284.	0.9	22
65	Neutron diffraction study of aluminous hydroxide Î´-AlOOD. Physics and Chemistry of Minerals, 2007, 34, 657-661.	0.3	21
66	Compressibility of the high-pressure polymorph of AlOOH to 17 GPa. Mineralogical Magazine, 2009, 73, 479-485.	0.6	20
67	Flotation of olivine and diamond in mantle melt at high pressure: Implications for fractionation in the deep mantle and ultradeep origin of diamond. Geophysical Monograph Series, 1998, , 227-239.	0.1	18
68	Neutron diffraction study of hydrous phase G: Hydrogen in the lower mantle hydrous silicate, phase G. Geophysical Research Letters, 2001, 28, 3987-3990.	1.5	18
69	Single crystal synthesis of Î´-(Al,Fe)OOH. American Mineralogist, 2017, 102, 1953-1956.	0.9	18
70	Viscosity of liquid sulfur under high pressure. Journal of Physics Condensed Matter, 2004, 16, 1707-1714.	0.7	17
71	Superplasticity in hydrous melt-bearing dunite: Implications for shear localization in Earthâ€™s upper mantle. Earth and Planetary Science Letters, 2012, 335-336, 59-71.	1.8	17
72	Speciation of and D/H partitioning between fluids and melts in silicate-D-O-H-C-N systems determined in-situ at upper mantle temperatures, pressures, and redox conditions. American Mineralogist, 2014, 99, 578-588.	0.9	17

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73	In situ observation of crystallographic preferred orientation of deforming olivine at high pressure and high temperature. Physics of the Earth and Planetary Interiors, 2015, 243, 1-21.	0.7	17
74	Designing PLANET: Neutron beamline for high-pressure material science at J-PARC. Journal of Physics: Conference Series, 2010, 215, 012025.	0.3	15
75	Pâ€“Vâ€“T equation of state of Na-majorite to 21 GPa and 1673 K. Physics of the Earth and Planetary Interiors, 2014, 227, 68-75.	0.7	15
76	Pressureâ€“volumeâ€“temperature equation of state of Îµâ€“FeOOH to 11 GPa and 700 K. Journal of Mineralogical and Petrological Sciences, 2016, 111, 420-424.	0.4	15
77	In situ observation and determination of liquid immiscibility in the Feâ€Oâ€S melt at 3 GPa using a synchrotron Xâ€ray radiographic technique. Geophysical Research Letters, 2007, 34, .	1.5	14
78	Rheology of fineâ€grained forsterite aggregate at deep upper mantle conditions. Journal of Geophysical Research: Solid Earth, 2014, 119, 253-273.	1.4	14
79	Effect of sulfur on sound velocity of liquid iron under Martian core conditions. Nature Communications, 2020, 11, 1954.	5.8	13
80	The influence of Î´-(Al,Fe)OOH on seismic heterogeneities in Earthâ€™s lower mantle. Scientific Reports, 2021, 11, 12036.	1.6	12
81	Thermoelastic properties of chromium oxide Cr2O3 (eskolaite) at high pressures and temperatures. Physics and Chemistry of Minerals, 2016, 43, 447-458.	0.3	11
82	Viscosity and density measurements of melts and glasses at high pressure and temperature by using the multi-anvil apparatus and synchrotron X-ray radiation. , 2005, , 195-209.		10
83	Thermal equation of state of majoritic knorringite and its significance for continental upper mantle. Journal of Geophysical Research: Solid Earth, 2014, 119, 8034-8046.	1.4	10
84	Structure and Density of H₂Oâ€Rich Mg₂SiO₄ Melts at High Pressure From Ab Initio Simulations. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB020365.	1.4	10
85	Compression behavior of manganite. Journal of Mineralogical and Petrological Sciences, 2013, 108, 295-299.	0.4	9
86	In situ Xâ€“ray diffraction studies of hydrous aluminosilicate at high pressure and temperature. Journal of Mineralogical and Petrological Sciences, 2018, 113, 106-111.	0.4	9
87	Sound velocity measurements of Îµâ€“FeOOH up to 24 GPa. Journal of Mineralogical and Petrological Sciences, 2019, 114, 155-160.	0.4	9
88	Hydrous magnesium-rich magma genesis at the top of the lower mantle. Scientific Reports, 2019, 9, 7420.	1.6	9
89	Effects of alkali and alkaline-earth cations on the high-pressure sound velocities of aluminosilicate glasses. Physics and Chemistry of Minerals, 2020, 47, 1.	0.3	8
90	Deformation cubic anvil press and stress and strain measurements using monochromatic X-rays at high pressure and high temperature. High Pressure Research, 2011, 31, 399-406.	0.4	7

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91	Thermal equation of state of goethite (Î±-FeOOH). High Pressure Research, 2017, 37, 193-199.	0.4	7
92	Flow behavior and microstructures of hydrous olivine aggregates at upper mantle pressures and temperatures. Contributions To Mineralogy and Petrology, 2017, 172, 1.	1.2	7
93	Effect of carbon dioxide on the viscosity of a melt of jadeite composition at high pressure. Journal of Mineralogical and Petrological Sciences, 2018, 113, 47-50.	0.4	6
94	On the origin of the Kamiokande experiment and neutrino astrophysics. European Physical Journal H, 2012, 37, 33-73.	0.5	5
95	Pressureâ€“induced structural changes of basaltic glass. Journal of Mineralogical and Petrological Sciences, 2018, 113, 286-292.	0.4	5
96	Elastic properties and structures of pyrope glass under high pressures. American Mineralogist, 2021, 106, 7-14.	0.9	5
97	The 20th anniversary of SN1987A. Journal of Physics: Conference Series, 2008, 120, 072001.	0.3	4
98	Corrigendum to â€œEffect of water in depleted mantle on post-spinel transition and implication for 660 km seismic discontinuityâ€•[Earth Planet. Sci. Lett. 371â€“372 (2013) 103â€“111]. Earth and Planetary Science Letters, 2013, 382, 85-86.	1.8	4
99	Application of X-ray radiography to study the segregation process of iron from silicate under high pressure and high temperature. High Pressure Research, 2015, 35, 130-138.	0.4	4
100	Pâ€“Vâ€“T equation of state of rhodium oxyhydroxide. High Pressure Research, 2018, 38, 145-152.	0.4	4
101	The sound velocity of wÃ¼stite at high pressures: implications for low-velocity anomalies at the base of the lower mantle. Progress in Earth and Planetary Science, 2020, 7, .	1.1	4
102	In Situ X Ray Observation of the Phase Transitions from .ALPHA. to .GAMMA. and from .GAMMA. to Perovskite+Periclase in Mg2SiO4.. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 1998, 7, 119-121.	0.1	4
103	Phase relationships of the system Fe-Ni-S and structure of the high-pressure phase of (Fe1â^'xNix)3S2. Physics of the Earth and Planetary Interiors, 2018, 277, 30-37.	0.7	3
104	The stability of anhydrous phase B, Mg14Si5O24, at mantle transition zone conditions. Physics and Chemistry of Minerals, 2018, 45, 523-531.	0.3	3
105	Do SnI₄ molecules deform on heating and pressurization in the low-pressure crystalline phase?. Journal of Physics Condensed Matter, 2020, 32, 055401.	0.7	3
106	In situ observation of the pyroxene-majorite transition in Na2MgSi5O12 using synchrotron radiation and Raman spectroscopy of Na-majorite. American Mineralogist, 2015, 100, 378-384.	0.9	2
107	In-situ X-ray diffraction study on Î²-CrOOH at high pressure and high-temperature. High Pressure Research, 2019, 39, 499-508.	0.4	2
108	Structure of basaltic glass at pressures up to 18 GPa. American Mineralogist, 2022, 107, 325-335.	0.9	2

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109	Phase transitions of ScOOH under high pressure. High Pressure Research, 2021, 41, 275-289.	0.4	2
110	High Pressure Earth Science. Physical Properties of Silicate Melt at High Pressure.. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 1999, 9, 11-18.	0.1	2
111	Creep behavior during the eutectoid transformation of albite: Implications for the slab deformation in the lower mantle. Earth and Planetary Science Letters, 2014, 388, 92-97.	1.8	1
112	ãƒžãƒ«ãƒã‚¢ãƒ³ãƒ“ãƒ«ã‚’ç”¨ã„ãŸé«˜åœ§å®Ÿé¨“ â€”æœ€è¿‘ã®æˆæžœâ€”. Ganseki Kobutsu Kagaku, 2001, 30, 102-103.	0.1	1
113	Micro-Raman spectroscopy of small crystals.. Ganseki Kobutsu Kagaku, 2001, 30, 241-246.	0.1	1
114	Density and Viscosity of Magma and Metallic Liquid at High Pressures and Temperatures. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2005, 15, 146-155.	0.1	1
115	Viscosity of melt of soda melilite composition at high pressure. Journal of Mineralogical and Petrological Sciences, 2019, 114, 41-44.	0.4	1
116	High Pressure Experiments and the Study of the Earth's Interior. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2007, 17, 198-205.	0.1	0
117	Preface for the article collection â€œHigh-Pressure Earth and Planetary Science in the last and next decadeâ€. Progress in Earth and Planetary Science, 2016, 3, .	1.1	0
118	A unique multianvil 6â€“6 assembly for a cubic-type multianvil apparatus. Review of Scientific Instruments, 2021, 92, 025117.	0.6	0
119	Viscosity of K₂TiSi₄O₁₁ melt at high pressure. Journal of Mineralogical and Petrological Sciences, 2019, 114, 280-283.	0.4	0
120	Localized Deformation of Lawsonite During Cold Subduction. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	0
121	In situ Xâ€“ray diffraction study of the phase boundary between diaspore and Îˆâ€“AlOOH. Journal of Mineralogical and Petrological Sciences, 2022, 117, n/a.	0.4	0
122	P-V-T equation of state of Î±-ScOOH.. High Pressure Research, 0, , 1-13.	0.4	0