Ryosuke Sinmyo

List of Publications by Year
in descending order

53 papers	1,856 citations	257450 24 h-index	265206 42 g-index
53 all docs	53 docs citations	53 times ranked	1435 citing authors

#	Article	IF	Citations
1	Crystallization of silicon dioxide and compositional evolution of the Earthâ€™s core. Nature, 2017, 543, 99-102.	27.8	161
2	The Electrical Conductivity of Post-Perovskite in Earth's D'' Layer. Science, 2008, 320, 89-91.	12.6	127
3	High Poisson's ratio of Earth's inner core explained by carbon alloying. Nature Geoscience, 2015, 8, 220-223.	12.9	113
4	Determination of post-perovskite phase transition boundary in MgSiO3using Au and MgO pressure standards. Geophysical Research Letters, 2006, 33, n/a-n/a.	4.0	94
5	Melting curve of iron to 290 GPa determined in a resistance-heated diamond-anvil cell. Earth and Planetary Science Letters, 2019, 510, 45-52.	4.4	81
6	The Soret diffusion in laser-heated diamond-anvil cell. Physics of the Earth and Planetary Interiors, 2010, 180, 172-178.	1.9	74
7	Partitioning of iron between perovskite/postperovskite and ferropericlase in the lower mantle. Journal of Geophysical Research, 2008, 113, .	3.3	73
8	Melting experiments on Feâ€“Fe 3 S system to 254 GPa. Earth and Planetary Science Letters, 2017, 464, 135-141.	4.4	73
9	Fate of MgSiO ₃ melts at coreâ€“mantle boundary conditions. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14186-14190.	7.1	72
10	Electrical conductivity of NaCl-bearing aqueous fluids to 600ÂÂ°C and 1ÂGPa. Contributions To Mineralogy and Petrology, 2017, 172, 1.	3.1	72
11	Effect of iron oxidation state on the electrical conductivity of the Earthâ€™s lower mantle. Nature Communications, 2013, 4, 1427.	12.8	60
12	The valence state and partitioning of iron in the Earth's lowermost mantle. Journal of Geophysical Research, 2011, 116, .	3.3	54
13	Perovskite in Earthâ€™s deep interior. Science, 2017, 358, 734-738.	12.6	54
14	Portable double-sided laser-heating system for MÃ¶ssbauer spectroscopy and X-ray diffraction experiments at synchrotron facilities with diamond anvil cells. Review of Scientific Instruments, 2012, 83, 124501.	1.3	50
15	Discovery of Fe7O9: a new iron oxide with a complex monoclinic structure. Scientific Reports, 2016, 6, 32852.	3.3	50
16	Ferric iron in Al-bearing post-perovskite. Geophysical Research Letters, 2006, 33, .	4.0	44
17	Melting experiments on the Feâ€“C binary system up to 255 GPa: Constraints on the carbon content in the Earth's core. Earth and Planetary Science Letters, 2019, 515, 135-144.	4.4	43
18	Iron partitioning in pyrolitic lower mantle. Physics and Chemistry of Minerals, 2013, 40, 107-113.	0.8	42

#	Article	IF	Citations
19	Hydrogen Limits Carbon in Liquid Iron. Geophysical Research Letters, 2019, 46, 5190-5197.	4.0	42
20	Lower mantle electrical conductivity based on measurements of Al,â€‰Fe-bearing perovskite under lower mantle conditions. Earth and Planetary Science Letters, 2014, 393, 165-172.	4.4	41
21	Stability of Fe,Al-bearing bridgmanite in the lower mantle and synthesis of pure Fe-bridgmanite. Science Advances, 2016, 2, e1600427.	10.3	31
22	Oxidation state of the lower mantle: In situ observations of the iron electronic configuration in bridgmanite at extreme conditions. Earth and Planetary Science Letters, 2015, 423, 78-86.	4.4	30
23	Iron spin state in silicate perovskite at conditions of the Earth's deep interior. High Pressure Research, 2013, 33, 663-672.	1.2	27
24	The effect of iron and aluminum incorporation on lattice thermal conductivity of bridgmanite at the Earth's lower mantle. Earth and Planetary Science Letters, 2017, 474, 25-31.	4.4	25
25	The advanced ion-milling method for preparation of thin film using ion slicer: Application to a sample recovered from diamond-anvil cell. Review of Scientific Instruments, 2009, 80, 013901.	1.3	22
26	Melting experiments on Feâ€“Siâ€“S alloys to core pressures: Silicon in the core?. American Mineralogist, 2018, 103, 742-748.	1.9	22
27	The spin state of Fe‹sup›3+‹/sup›in lower mantle bridgmanite. American Mineralogist, 2017, 102, 1263-1269.	1.9	21
28	Electronic spin state of Fe,Al-containing MgSiO3 perovskite at lower mantle conditions. Lithos, 2014, 189, 167-172.	1.4	19
29	Ferric iron content in (Mg,Fe)SiO3 perovskite and post-perovskite at deep lower mantle conditions. American Mineralogist, 2008, 93, 1899-1902.	1.9	17
30	Phase transition boundary between fcc and hcp structures in Fe-Si alloy and its implications for terrestrial planetary cores. American Mineralogist, 2019, 104, 94-99.	1.9	17
31	Phase relations in the system Feâ€“Niâ€“Si to 200 GPa and 3900 K and implications for Earth's core. Earth and Planetary Science Letters, 2019, 512, 83-88.	4.4	17
32	Crystal chemistry of Fe3+-bearing (Mg, Fe)SiO3 perovskite: a single-crystal X-ray diffraction study. Physics and Chemistry of Minerals, 2014, 41, 409-417.	0.8	16
33	Iron spin state in silicate glass at high pressure: Implications for melts in the EarthÊ¼s lower mantle. Earth and Planetary Science Letters, 2014, 385, 130-136.	4.4	16
34	The stability of Fe5O6 and Fe4O5 at high pressure and temperature. American Mineralogist, 2019, 104, 1356-1359.	1.9	16
35	Melting Experiments on Liquidus Phase Relations in the Feâ€Šâ€“O Ternary System Under Core Pressures. Geophysical Research Letters, 2019, 46, 5137-5145.	4.0	16
36	Synthesis and crystal structure of LiNbO3-type Mg3Al2Si3O12: A possible indicator of shock conditions of meteorites. American Mineralogist, 2017, 102, 1947-1952.	1.9	14

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37	A portable on-axis laser-heating system for near-90Â° X-ray spectroscopy: application to ferropericlase and iron silicide. Journal of Synchrotron Radiation, 2020, 27, 414-424.	2.4	14
38	Effect of spin transition of iron on the thermal conductivity of (Fe, Al)-bearing bridgmanite. Earth and Planetary Science Letters, 2019, 520, 188-198.	4.4	13
39	Melting Curve and Equation of State of Î²â€Fe 7 N 3 : Nitrogen in the Core?. Journal of Geophysical Research: Solid Earth, 2019, 124, 3448-3457.	3.4	11
40	Siliconâ€Depleted Presentâ€Day Earth's Outer Core Revealed by Sound Velocity Measurements of Liquid Feâ€Si Alloy. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019399.	3.4	10
41	Critical behavior of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">M</mml:mi><mml:msub><mml:mi mathvariant="normal">g</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>â€“</mml:mo><mml:mi>x</mml:mi></mml:mrow><mml:mi mathvariant="normal">F</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:mi mathvariant="normal">O	3.2	8
42	Sound velocities of skiagiteâ€“ironâ€“majorite solid solution to 56ÂGPa probed by nuclear inelastic scattering. Physics and Chemistry of Minerals, 2018, 45, 397-404.	0.8	8
43	Experimental Determination of Eutectic Liquid Compositions in the MgOâ€SiO₂ System to the Lowermost Mantle Pressures. Geophysical Research Letters, 2018, 45, 9552-9558.	4.0	8
44	Effect of Fe 3+ on Phase Relations in the Lower Mantle: Implications for Redox Melting in Stagnant Slabs. Journal of Geophysical Research: Solid Earth, 2019, 124, 12484-12497.	3.4	8
45	The influence of solid solution on elastic wave velocity determination in (Mg,Fe)O using nuclear inelastic scattering. Physics of the Earth and Planetary Interiors, 2014, 229, 16-23.	1.9	7
46	Sound velocities of bridgmanite from density of states determined by nuclear inelastic scattering and first-principles calculations. Progress in Earth and Planetary Science, 2016, 3, .	3.0	6
47	Discovery of Newâ€Structured Postâ€Spinel MgFe 2 O 4 : Crystal Structure and Highâ€Pressure Phase Relations. Geophysical Research Letters, 2020, 47, e2020GL087490.	4.0	6
48	Discovery of Elgoresyite, (Mg,Fe)5Si2O9: Implications for Novel Iron-Magnesium Silicates in Rocky Planetary Interiors. ACS Earth and Space Chemistry, 2021, 5, 2124-2130.	2.7	6
49	Anomalous compressibility in (Fe,Al)-bearing bridgmanite: implications for the spin state of iron. Physics and Chemistry of Minerals, 2020, 47, 1.	0.8	3
50	The electrical conductivity of Fe4O5, Fe5O6, and Fe7O9 up to 60 GPa. Physics and Chemistry of Minerals, 2022, 49, .	0.8	2
51	Melting Temperature of Iron Determined in an Internal-Resistance-Heated Diamond-Anvil Cell. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2019, 29, 113-120.	0.0	0
52	Measurements of Electrical Conductivity of (Mg,Fe)SiO3 Post-Perovskite using Laser-Heated Diamond-Anvil Cell. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 2008, 18, 260-266.	0.0	0
53	Physical and chemical properties of the mantle minerals explored by high-pressure and high-temperature experiments. Ganseki Kobutsu Kagaku, 2019, 48, 36-45.	0.1	0