

Kei Hirose

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229
papers

13,249
citations

59
h-index

108
g-index

247
ext. papers

14,755
ext. citations

6.6
avg, IF

6.62
L-index

#	Paper	IF	Citations
229	Post-perovskite phase transition in MgSiO ₃ . <i>Science</i> , 2004 , 304, 855-8	33.3	1078
228	Partial melting of dry peridotites at high pressures: Determination of compositions of melts segregated from peridotite using aggregates of diamond. <i>Earth and Planetary Science Letters</i> , 1993 , 114, 477-489	5.3	760
227	Hydrous partial melting of lherzolite at 1 GPa: The effect of H ₂ O on the genesis of basaltic magmas. <i>Earth and Planetary Science Letters</i> , 1995 , 133, 463-473	5.3	382
226	The fate of subducted basaltic crust in the Earth's lower mantle. <i>Nature</i> , 1999 , 397, 53-56	50.4	330
225	The structure of iron in Earth's inner core. <i>Science</i> , 2010 , 330, 359-61	33.3	295
224	Phase transition and density of subducted MORB crust in the lower mantle. <i>Earth and Planetary Science Letters</i> , 2005 , 237, 239-251	5.3	255
223	Experimentally determined postspinel transformation boundary in Mg ₂ SiO ₄ using MgO as an internal pressure standard and its geophysical implications. <i>Journal of Geophysical Research</i> , 2004 , 109,		237
222	Melting experiments on lherzolite KLB-1 under hydrous conditions and generation of high-magnesian andesitic melts. <i>Geology</i> , 1997 , 25, 42	5	235
221	Phase transitions in pyrolitic mantle around 670-km depth: Implications for upwelling of plumes from the lower mantle. <i>Journal of Geophysical Research</i> , 2002 , 107, ECV 3-1-ECV 3-13		230
220	The elasticity of the MgSiO ₃ post-perovskite phase in the Earth's lowermost mantle. <i>Nature</i> , 2004 , 430, 442-5	50.4	225
219	Geochemical Variations in Vanuatu Arc Lavas: the Role of Subducted Material and a Variable Mantle Wedge Composition. <i>Journal of Petrology</i> , 1997 , 38, 1331-1358	3.9	215
218	Stability of magnesite and its high-pressure form in the lowermost mantle. <i>Nature</i> , 2004 , 427, 60-3	50.4	215
217	Melting experiments on homogeneous mixtures of peridotite and basalt: application to the genesis of ocean island basalts. <i>Earth and Planetary Science Letters</i> , 1998 , 162, 45-61	5.3	214
216	The high conductivity of iron and thermal evolution of the Earth's core. <i>Physics of the Earth and Planetary Interiors</i> , 2013 , 224, 88-103	2.3	209
215	Composition and State of the Core. <i>Annual Review of Earth and Planetary Sciences</i> , 2013 , 41, 657-691	15.3	194
214	A perovskitic lower mantle inferred from high-pressure, high-temperature sound velocity data. <i>Nature</i> , 2012 , 485, 90-4	50.4	186
213	Spin crossover and iron-rich silicate melt in the Earth's deep mantle. <i>Nature</i> , 2011 , 473, 199-202	50.4	180

212	Partial melt compositions of carbonated peridotite at 3 GPa and role of CO ₂ in alkali-basalt magma generation. <i>Geophysical Research Letters</i> , 1997 , 24, 2837-2840	4.9	173
211	Low core-mantle boundary temperature inferred from the solidus of pyrolite. <i>Science</i> , 2014 , 343, 522-5	33.3	172
210	Experimental determination of the electrical resistivity of iron at Earth's core conditions. <i>Nature</i> , 2016 , 534, 95-8	50.4	164
209	Post-perovskite phase transition and mineral chemistry in the pyrolitic lowermost mantle. <i>Geophysical Research Letters</i> , 2005 , 32,	4.9	163
208	Subsolidus and melting phase relations of basaltic composition in the uppermost lower mantle. <i>Geochimica Et Cosmochimica Acta</i> , 2002 , 66, 2099-2108	5.5	159
207	Water in Earth's lower mantle. <i>Science</i> , 2002 , 295, 1885-7	33.3	147
206	Coesite and clinopyroxene exsolution lamellae in chromites: In-situ ultrahigh-pressure evidence from podiform chromitites in the Luobusa ophiolite, southern Tibet. <i>Lithos</i> , 2009 , 109, 314-322	2.9	141
205	The pyrite-type high-pressure form of silica. <i>Science</i> , 2005 , 309, 923-5	33.3	133
204	Postperovskite phase transition and its geophysical implications. <i>Reviews of Geophysics</i> , 2006 , 44,	23.1	132
203	Highly intense monochromatic X-ray diffraction facility for high-pressure research at SPring-8. <i>High Pressure Research</i> , 2008 , 28, 163-173	1.6	125
202	Crystallization of silicon dioxide and compositional evolution of the Earth's core. <i>Nature</i> , 2017 , 543, 99-102	92.4	120
201	Determination of post-perovskite phase transition boundary up to 4400K and implications for thermal structure in D' layer. <i>Earth and Planetary Science Letters</i> , 2009 , 277, 130-136	5.3	114
200	Solubilities of O and Si in liquid iron in equilibrium with (Mg,Fe)SiO ₃ perovskite and the light elements in the core. <i>Geophysical Research Letters</i> , 2005 , 32,	4.9	113
199	The electrical conductivity of post-perovskite in Earth's D'' layer. <i>Science</i> , 2008 , 320, 89-91	33.3	108
198	Sulfur in the Earth's inner core. <i>Earth and Planetary Science Letters</i> , 2001 , 193, 509-514	5.3	104
197	A critical evaluation of pressure scales at high temperatures by in situ X-ray diffraction measurements. <i>Physics of the Earth and Planetary Interiors</i> , 2004 , 143-144, 515-526	2.3	102
196	Persistence of strong silica-enriched domains in the Earth's lower mantle. <i>Nature Geoscience</i> , 2017 , 10, 236-240	18.3	100
195	Phase transitions in pyrolite and MORB at lowermost mantle conditions: Implications for a MORB-rich pile above the core-mantle boundary. <i>Earth and Planetary Science Letters</i> , 2008 , 267, 107-117	5.3	97

194	The naked planet Earth: Most essential pre-requisite for the origin and evolution of life. <i>Geoscience Frontiers</i> , 2013 , 4, 141-165	6	96
193	Experimental and theoretical evidence for pressure-induced metallization in FeO with rocksalt-type structure. <i>Physical Review Letters</i> , 2012 , 108, 026403	7.4	96
192	Compression of FeSi, Fe ₃ C, Fe _{0.95} O, and FeS under the core pressures and implication for light element in the Earth's core. <i>Journal of Geophysical Research</i> , 2010 , 115,		96
191	Stability of CaCl ₂ -type and PbO ₂ -type SiO ₂ at high pressure and temperature determined by in-situ X-ray measurements. <i>Geophysical Research Letters</i> , 2003 , 30, n/a-n/a	4.9	94
190	In situ measurements of the phase transition boundary in Mg ₃ Al ₂ Si ₃ O ₁₂ : implications for the nature of the seismic discontinuities in the Earth's mantle. <i>Earth and Planetary Science Letters</i> , 2001 , 184, 567-573	5.3	94
189	Letter. Stability and equation of state of MgGeO ₃ post-perovskite phase. <i>American Mineralogist</i> , 2005 , 90, 262-265	2.9	85
188	Lattice thermal conductivity of MgSiO ₃ perovskite and post-perovskite at the core-mantle boundary. <i>Earth and Planetary Science Letters</i> , 2012 , 349-350, 109-115	5.3	84
187	Determination of post-perovskite phase transition boundary in MgSiO ₃ using Au and MgO pressure standards. <i>Geophysical Research Letters</i> , 2006 , 33, n/a-n/a	4.9	81
186	Phase relations of iron and iron-nickel alloys up to 300 GPa: Implications for composition and structure of the Earth's inner core. <i>Earth and Planetary Science Letters</i> , 2008 , 273, 379-385	5.3	80
185	Phase transition in Al-bearing CaSiO ₃ perovskite: implications for seismic discontinuities in the lower mantle. <i>Physics of the Earth and Planetary Interiors</i> , 2004 , 145, 67-74	2.3	78
184	Post-stishovite phase boundary in SiO ₂ determined by in situ X-ray observations. <i>Earth and Planetary Science Letters</i> , 2002 , 197, 187-192	5.3	77
183	Pressure-volume-temperature relations in MgO: An ultrahigh pressure-temperature scale for planetary sciences applications. <i>Journal of Geophysical Research</i> , 2008 , 113,		75
182	Equation of state of the postperovskite phase synthesized from a natural (Mg,Fe)SiO ₃ orthopyroxene. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 3039-43	11.5	74
181	Solubility of FeO in (Mg,Fe)SiO ₃ perovskite and the post-perovskite phase transition. <i>Physics of the Earth and Planetary Interiors</i> , 2007 , 160, 319-325	2.3	70
180	Trace element partitioning in Earth's lower mantle and implications for geochemical consequences of partial melting at the core-mantle boundary. <i>Physics of the Earth and Planetary Interiors</i> , 2004 , 146, 249-260	2.3	69
179	Partitioning of iron between perovskite/postperovskite and ferropericlase in the lower mantle. <i>Journal of Geophysical Research</i> , 2008 , 113,		66
178	Compression of H ₂ O ice to 126 GPa and implications for hydrogen-bond symmetrization: Synchrotron x-ray diffraction measurements and density-functional calculations. <i>Physical Review B</i> , 2008 , 77,	3.3	66
177	Phase relations in the system Fe-FeSi at 21 GPa. <i>American Mineralogist</i> , 2004 , 89, 273-276	2.9	66

176	In situ measurements of the majorite-akimotoite-perovskite phase transition boundaries in MgSiO ₃ . <i>Geophysical Research Letters</i> , 2001 , 28, 4351-4354	4.9	64
175	High-pressure behavior of MnGeO ₃ and CdGeO ₃ perovskites and the post-perovskite phase transition. <i>Physics and Chemistry of Minerals</i> , 2006 , 32, 721-725	1.6	63
174	Solubilities of nitrogen and noble gases in silicate melts under various oxygen fugacities: implications for the origin and degassing history of nitrogen and noble gases in the earth. <i>Geochimica Et Cosmochimica Acta</i> , 2004 , 68, 387-401	5.5	63
173	The Soret diffusion in laser-heated diamond-anvil cell. <i>Physics of the Earth and Planetary Interiors</i> , 2010 , 180, 172-178	2.3	61
172	The structure of FeSi alloy in Earth's inner core. <i>Earth and Planetary Science Letters</i> , 2015 , 418, 11-19	5.3	59
171	Sound velocity of MgSiO ₃ post-perovskite phase: A constraint on the D' discontinuity. <i>Earth and Planetary Science Letters</i> , 2007 , 259, 18-23	5.3	59
170	Phase relations in Mg ₃ Al ₂ Si ₃ O ₁₂ to 180 GPa: Effect of Al on post-perovskite phase transition. <i>Geophysical Research Letters</i> , 2005 , 32,	4.9	56
169	Phase transition boundary between B1 and B8 structures of FeO up to 210GPa. <i>Physics of the Earth and Planetary Interiors</i> , 2010 , 179, 157-163	2.3	55
168	Phase transition in CaSiO ₃ perovskite. <i>Earth and Planetary Science Letters</i> , 2007 , 260, 564-569	5.3	55
167	Clapeyron slope of the post-perovskite phase transition in CaIrO ₃ . <i>Geophysical Research Letters</i> , 2005 , 32,	4.9	54
166	Cr-spinel, an excellent micro-container for retaining primitive melts – implications for a hydrous plume origin for komatiites. <i>Earth and Planetary Science Letters</i> , 2001 , 189, 177-188	5.3	54
165	Simultaneous volume measurements of Au and MgO to 140 GPa and thermal equation of state of Au based on the MgO pressure scale. <i>Physics of the Earth and Planetary Interiors</i> , 2008 , 167, 149-154	2.3	53
164	Au-Pd sample containers for melting experiments on iron and water bearing systems. <i>European Journal of Mineralogy</i> , 1994 , 6, 381-386	2.2	53
163	Thermoelastic property and high-pressure stability of Fe ₇ C ₃ : Implication for iron-carbide in the Earth's core. <i>American Mineralogist</i> , 2011 , 96, 1158-1165	2.9	52
162	Electrical conductivities of pyrolitic mantle and MORB materials up to the lowermost mantle conditions. <i>Earth and Planetary Science Letters</i> , 2010 , 289, 497-502	5.3	52
161	North Fiji Basin basalts and their magma sources: Part I. Incompatible element constraints. <i>Marine Geology</i> , 1994 , 116, 153-178	3.3	52
160	Melting experiments on Fe-Fe ₃ S system to 254 GPa. <i>Earth and Planetary Science Letters</i> , 2017 , 464, 135-144	5.3	51
159	Elasticity of MgO to 130GPa: Implications for lower mantle mineralogy. <i>Earth and Planetary Science Letters</i> , 2009 , 277, 123-129	5.3	51

158	Melting experiments on peridotite to lowermost mantle conditions. <i>Journal of Geophysical Research: Solid Earth</i> , 2014 , 119, 4684-4694	3.6	50
157	Stability of phase A in antigorite (serpentine) composition determined by in situ X-ray pressure observations. <i>Physics of the Earth and Planetary Interiors</i> , 2005 , 151, 276-289	2.3	50
156	High-temperature compression of ferropericlase and the effect of temperature on iron spin transition. <i>Earth and Planetary Science Letters</i> , 2010 , 297, 691-699	5.3	49
155	Melting curve of iron to 290 GPa determined in a resistance-heated diamond-anvil cell. <i>Earth and Planetary Science Letters</i> , 2019 , 510, 45-52	5.3	48
154	Electrical resistivity of substitutionally disordered hcp Fe ₈₁ Bi and Fe ₈₁ Ni alloys: Chemically-induced resistivity saturation in the Earth's core. <i>Earth and Planetary Science Letters</i> , 2016 , 451, 51-61	5.3	48
153	Phase transition of FeO and stratification in Earth's outer core. <i>Science</i> , 2011 , 334, 792-4	33.3	47
152	Thermal conductivity of ferropericlase in the Earth's lower mantle. <i>Earth and Planetary Science Letters</i> , 2017 , 465, 29-37	5.3	46
151	Liquid iron-hydrogen alloys at outer core conditions by first-principles calculations. <i>Geophysical Research Letters</i> , 2015 , 42, 7513-7520	4.9	46
150	Simultaneous volume measurements of post-perovskite and perovskite in MgSiO ₃ and their thermal equations of state. <i>Earth and Planetary Science Letters</i> , 2008 , 265, 515-524	5.3	46
149	High pressure and high temperature phase transitions of FeO. <i>Physics of the Earth and Planetary Interiors</i> , 2004 , 146, 273-282	2.3	46
148	High-pressure melting experiments on Fe ₈₁ Bi alloys and implications for silicon as a light element in the core. <i>Earth and Planetary Science Letters</i> , 2016 , 456, 47-54	5.3	45
147	New developments in high-pressure X-ray diffraction beamline for diamond anvil cell at SPring-8. <i>Matter and Radiation at Extremes</i> , 2020 , 5, 018403	4.7	44
146	Structural distortion of CaSnO ₃ perovskite under pressure and the quenchable post-perovskite phase as a low-pressure analogue to MgSiO ₃ . <i>Physics of the Earth and Planetary Interiors</i> , 2010 , 181, 54-59	2.3	44
145	Potential host phase of aluminum and potassium in the Earth's lower mantle. <i>American Mineralogist</i> , 2001 , 86, 740-746	2.9	44
144	The North Fiji Basin basalts and their magma sources: Part II. Sr-Nd isotopic and trace element constraints. <i>Marine Geology</i> , 1994 , 116, 179-195	3.3	44
143	The valence state and partitioning of iron in the Earth's lowermost mantle. <i>Journal of Geophysical Research</i> , 2011 , 116,		43
142	Carbon-depleted outer core revealed by sound velocity measurements of liquid iron-carbon alloy. <i>Nature Communications</i> , 2015 , 6, 8942	17.4	42
141	Experimental evidence of superionic conduction in H ₂ O ice. <i>Journal of Chemical Physics</i> , 2012 , 137, 194505	5.5	42

140	Chemical equilibrium between ferropicrinite and molten iron to 134 GPa and implications for iron content at the bottom of the mantle. <i>Geophysical Research Letters</i> , 2008 , 35,	4.9	42
139	Reconciling magma-ocean crystallization models with the present-day structure of the Earth's mantle. <i>Geochemistry, Geophysics, Geosystems</i> , 2017 , 18, 2785-2806	3.6	41
138	The structure of Fe-Ni alloy in Earth's inner core. <i>Geophysical Research Letters</i> , 2012 , 39, n/a-n/a	4.9	41
137	Electrical resistivity and thermal conductivity of hcp Fe-Ni alloys under high pressure: Implications for thermal convection in the Earth's core. <i>Physics of the Earth and Planetary Interiors</i> , 2015 , 247, 2-10	2.3	39
136	High-pressure form of pyrite-type germanium dioxide. <i>Physical Review B</i> , 2003 , 68,	3.3	39
135	Segregation of core melts by permeable flow in the lower mantle. <i>Earth and Planetary Science Letters</i> , 2004 , 224, 249-257	5.3	39
134	Ferric iron in Al-bearing post-perovskite. <i>Geophysical Research Letters</i> , 2006 , 33,	4.9	38
133	Experimental study of reaction between perovskite and molten iron to 146 GPa and implications for chemically distinct buoyant layer at the top of the core. <i>Physics and Chemistry of Minerals</i> , 2009 , 36, 355-363	1.6	37
132	Iron partitioning in pyrolytic lower mantle. <i>Physics and Chemistry of Minerals</i> , 2013 , 40, 107-113	1.6	36
131	Precise determination of post-stishovite phase transition boundary and implications for seismic heterogeneities in the mid-lower mantle. <i>Physics of the Earth and Planetary Interiors</i> , 2010 , 183, 104-109	2.3	36
130	Phase relations of iron-silicon alloys at high pressure and high temperature. <i>Physics and Chemistry of Minerals</i> , 2009 , 36, 511-518	1.6	36
129	Perovskite in Earth's deep interior. <i>Science</i> , 2017 , 358, 734-738	33.3	35
128	Thermal diffusivity measurement in a diamond anvil cell using a light pulse thermoreflectance technique. <i>Measurement Science and Technology</i> , 2011 , 22, 024011	2	35
127	Liquid iron-sulfur alloys at outer core conditions by first-principles calculations. <i>Geophysical Research Letters</i> , 2014 , 41, 6712-6717	4.9	34
126	Water solubility in majoritic garnet in subducting oceanic crust. <i>Geophysical Research Letters</i> , 2003 , 30,	4.9	34
125	Magnesium Partitioning Between Earth's Mantle and Core and its Potential to Drive an Early Exsolution Geodynamo. <i>Geophysical Research Letters</i> , 2018 , 45, 13,240	4.9	34
124	Unsolved problems in the lowermost mantle. <i>Geophysical Research Letters</i> , 2006 , 33,	4.9	33
123	Melting experiments on the Fe-C binary system up to 255 GPa: Constraints on the carbon content in the Earth's core. <i>Earth and Planetary Science Letters</i> , 2019 , 515, 135-144	5.3	31

122	High pressure generation using double-stage diamond anvil technique: problems and equations of state of rhenium. <i>High Pressure Research</i> , 2018 , 38, 107-119	1.6	31
121	Melt-crystal density crossover in a deep magma ocean. <i>Earth and Planetary Science Letters</i> , 2019 , 516, 202-211	5.3	30
120	Development of in situ Brillouin spectroscopy at high pressure and high temperature with synchrotron radiation and infrared laser heating system: Application to the Earth's deep interior. <i>Physics of the Earth and Planetary Interiors</i> , 2009 , 174, 282-291	2.3	30
119	The effect of melt segregation on polybaric mantle melting: Estimation from the incremental melting experiments. <i>Physics of the Earth and Planetary Interiors</i> , 1998 , 107, 111-118	2.3	30
118	Spin crossover, structural change, and metallization in NiAs-type FeO at high pressure. <i>Physical Review B</i> , 2011 , 84,	3.3	29
117	Measurements of lattice thermal conductivity of MgO to core-mantle boundary pressures. <i>Geophysical Research Letters</i> , 2014 , 41, 4542-4547	4.9	28
116	Stability and compressibility of a new iron-nitride Fe ₇ N ₃ to core pressures. <i>Geophysical Research Letters</i> , 2015 , 42, 5206-5211	4.9	28
115	The effect of iron spin transition on electrical conductivity of (Mg,Fe)O magnesiowüstite. <i>Proceedings of the Japan Academy Series B: Physical and Biological Sciences</i> , 2007 , 83, 97-100	4	27
114	Letter. Iron partitioning between perovskite and post-perovskite: A transmission electron microscope study. <i>American Mineralogist</i> , 2008 , 93, 1678-1681	2.9	26
113	Phase transition between the CaCl ₂ -type and PbO ₂ -type structures of germanium dioxide. <i>Physical Review B</i> , 2003 , 68,	3.3	26
112	In situ X-ray diffraction measurements of the fcc-hcp phase transition boundary of an Fe-Ni alloy in an internally heated diamond anvil cell. <i>Physics and Chemistry of Minerals</i> , 2012 , 39, 329-338	1.6	25
111	The electrical resistance measurements of (Mg,Fe)SiO ₃ perovskite at high pressures and implications for electronic spin transition of iron. <i>Physics of the Earth and Planetary Interiors</i> , 2010 , 180, 154-158	2.3	25
110	Equation of state of hexagonal aluminous phase in basaltic composition to 63 GPa at 300 K. <i>Physics and Chemistry of Minerals</i> , 2002 , 29, 527-531	1.6	24
109	The compressibility of a natural composition calcium ferrite-type aluminous phase to 70 GPa. <i>Physics of the Earth and Planetary Interiors</i> , 2002 , 131, 311-318	2.3	24
108	Sound velocity of liquid Fe-Ni-S at high pressure. <i>Journal of Geophysical Research: Solid Earth</i> , 2017 , 122, 3624-3634	3.6	23
107	Hydrogen Limits Carbon in Liquid Iron. <i>Geophysical Research Letters</i> , 2019 , 46, 5190-5197	4.9	23
106	The influence of sulfur on the electrical resistivity of hcp iron: Implications for the core conductivity of Mars and Earth. <i>Geophysical Research Letters</i> , 2017 , 44, 8254-8259	4.9	23
105	Sound velocity measurement in liquid water up to 25 GPa and 900 K: Implications for densities of water at lower mantle conditions. <i>Earth and Planetary Science Letters</i> , 2010 , 289, 479-485	5.3	23

104	Seismic Anisotropy of Post-Perovskite and the Lowermost Mantle. <i>Geophysical Monograph Series</i> , 2007 , 171-189	1.1	23
103	Phase boundary between rutile-type and CaCl ₂ -type germanium dioxide determined by in situ X-ray observations. <i>American Mineralogist</i> , 2002 , 87, 99-102	2.9	23
102	A new experimental approach for incremental batch melting of peridotite at 1.5 GPa. <i>Geophysical Research Letters</i> , 1994 , 21, 2139-2142	4.9	23
101	Equation of State of Liquid Iron under Extreme Conditions. <i>Physical Review Letters</i> , 2020 , 124, 165701	7.4	23
100	Decomposition of Fe ₃ S above 250 GPa. <i>Geophysical Research Letters</i> , 2013 , 40, 4845-4849	4.9	21
99	Stabilities of NAL and Ca-ferrite-type phases on the join NaAlSiO ₄ -MgAl ₂ O ₄ at high pressure. <i>Physics and Chemistry of Minerals</i> , 2011 , 38, 557-560	1.6	21
98	High-pressure experimental evidence for metal FeO with normal NiAs-type structure. <i>Physical Review B</i> , 2010 , 82,	3.3	21
97	Deformation of MnGeO ₃ post-perovskite at lower mantle pressure and temperature. <i>Geophysical Research Letters</i> , 2010 , 37, n/a-n/a	4.9	21
96	The advanced ion-milling method for preparation of thin film using ion slicer: application to a sample recovered from diamond-anvil cell. <i>Review of Scientific Instruments</i> , 2009 , 80, 013901	1.7	21
95	Experimental evidence for hydrogen incorporation into Earth's core. <i>Nature Communications</i> , 2021 , 12, 2588	17.4	21
94	The effect of iron and aluminum incorporation on lattice thermal conductivity of bridgmanite at the Earth's lower mantle. <i>Earth and Planetary Science Letters</i> , 2017 , 474, 25-31	5.3	20
93	Thermoelastic properties of ice VII and its high-pressure polymorphs: Implications for dynamics of cold slab subduction in the lower mantle. <i>Earth and Planetary Science Letters</i> , 2010 , 299, 474-482	5.3	20
92	Compression of FeSiH alloys to core pressures. <i>Geophysical Research Letters</i> , 2016 , 43, 3686-3692	4.9	19
91	Sound velocity measurements of CaSiO ₃ perovskite to 133GPa and implications for lowermost mantle seismic anomalies. <i>Earth and Planetary Science Letters</i> , 2012 , 349-350, 1-7	5.3	19
90	New high-pressure B2 phase of FeS above 180 GPa. <i>American Mineralogist</i> , 2008 , 93, 492-494	2.9	19
89	Discovery of Post-Perovskite and New Views on the Core-Mantle Boundary Region. <i>Elements</i> , 2008 , 4, 183-189	3.8	19
88	Reconciling the Post-Perovskite Phase with Seismological Observations of Lowermost Mantle Structure. <i>Geophysical Monograph Series</i> , 2007 , 129-153	1.1	19
87	Simultaneous high-pressure and high-temperature volume measurements of ice VII and its thermal equation of state. <i>Physical Review B</i> , 2010 , 82,	3.3	18

86	A new high-pressure and high-temperature polymorph of FeS. <i>Physics and Chemistry of Minerals</i> , 2007 , 34, 335-343	1.6	18
85	Chemical compositions of the outer core examined by first principles calculations. <i>Earth and Planetary Science Letters</i> , 2020 , 531, 116009	5.3	18
84	Nature of the Volume Isotope Effect in Ice. <i>Physical Review Letters</i> , 2015 , 115, 173005	7.4	17
83	Pressure-induced structural evolution of pyrite-type SiO ₂ . <i>Physics and Chemistry of Minerals</i> , 2011 , 38, 591-597	1.6	17
82	Ferric iron content in (Mg,Fe)SiO ₃ perovskite and post-perovskite at deep lower mantle conditions. <i>American Mineralogist</i> , 2008 , 93, 1899-1902	2.9	16
81	Phase transition in SiC from zinc-blende to rock-salt structure and implications for carbon-rich extrasolar planets. <i>American Mineralogist</i> , 2017 , 102, 2230-2234	2.9	15
80	Resistivity saturation of hcp Fe-Si alloys in an internally heated diamond anvil cell: A key to assessing the Earth's core conductivity. <i>Earth and Planetary Science Letters</i> , 2020 , 543, 116357	5.3	15
79	High-temperature compression experiments of CaSiO ₃ perovskite to lowermost mantle conditions and its thermal equation of state. <i>Physics and Chemistry of Minerals</i> , 2013 , 40, 81-91	1.6	15
78	Crystal structures of (Mg _{1-x} ,Fe(x))SiO ₃ postperovskite at high pressures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 1035-40	11.5	15
77	Lattice-Preferred Orientation of Lower Mantle Materials and Seismic Anisotropy in the D' Layer. <i>Geophysical Monograph Series</i> , 2007 , 69-78	1.1	15
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