

Vitali B Prakapenka

List of Publications by Year in descending order

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186
papers

13,221
citations

28736

57
h-index

26792

111
g-index

193
all docs

193
docs citations

193
times ranked

8181
citing authors

#	ARTICLE	IF	CITATIONS
1	Synthesis of calcium orthocarbonate, Ca ₂ CO ₄ - <i>Pnma</i> at <i>P-T</i> conditions of Earth's transition zone and lower mantle. <i>American Mineralogist</i> , 2022, 107, 336-342.	0.9	23
2	HP-PdF ₂ -type FeCl ₂ as a potential Cl-carrier in the deep Earth. <i>American Mineralogist</i> , 2022, 107, 313-317.	0.9	1
3	A Reentrant Phase Transition and a Novel Polymorph Revealed in High-Pressure Investigations of CF ₄ up to 46.5 GPa. <i>Journal of Chemical Physics</i> , 2022, 156, 044503.	1.2	2
4	Synthesis and structure of carbon-doped H ₃ S compounds at high pressure. <i>Journal of Applied Physics</i> , 2022, 131, .	1.1	9
5	Negative linear compressibility in Se at ultra-high pressure above 120 GPa. <i>IUCrJ</i> , 2022, 9, 253-260. High-pressure $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:mrow} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mi} \rangle \text{Na} \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 3 \langle \text{mml:mn} \rangle \langle \text{mml:} \rangle$	1.0	3
6	$\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle$		

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19	High-pressure structural study of \pm -Mn: Experiments and calculations. <i>Physical Review B</i> , 2021, 103, .	1.1	1
20	Synthesis of molecular metallic barium superhydride: pseudocubic BaH ₁₂ . <i>Nature Communications</i> , 2021, 12, 273.	5.8	66
21	Stabilization of pentazolate anions in the high-pressure compounds Na ₂ N ₅ and NaN ₅ and in the sodium pentazolate framework NaN ₅ ·N ₂ . <i>Dalton Transactions</i> , 2021, 50, 7229-7237.	1.6	20
22	Observation of Fundamental Mechanisms in Compression-Induced Phase Transformations Using Ultrafast X-ray Diffraction. <i>Jom</i> , 2021, 73, 2185-2193.	0.9	2
23	Nitrosonium nitrate (NO ⁺ NO ₃ ⁻) structure solution using <i>in situ</i> single-crystal X-ray diffraction in a diamond anvil cell. <i>IUCr</i> , 2021, 8, 208-214.	1.0	5
24	Tungsten Hexanitride with Single-Bonded Armchairlike Hexazine Structure at High Pressure. <i>Physical Review Letters</i> , 2021, 126, 065702.	2.9	52
25	Superionic iron oxide-hydroxide in Earth's deep mantle. <i>Nature Geoscience</i> , 2021, 14, 174-178.	5.4	36
26	The stability of subducted glaucophane with the Earth's secular cooling. <i>Nature Communications</i> , 2021, 12, 1496.	5.8	10
27	Reversal of carbonate-silicate cation exchange in cold slabs in Earth's lower mantle. <i>Nature Communications</i> , 2021, 12, 1712.	5.8	13
28	Stabilization of Polynitrogen Anions in Tantalum-Nitrogen Compounds at High Pressure. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 9003-9008.	7.2	29
29	Stability of the peroxide group in BaO_2 under high pressure. <i>Physical Review B</i> , 2021, 103, .	1.1	1
30	Anomalous High-Temperature Superconductivity in YH ₆ . <i>Advanced Materials</i> , 2021, 33, e2006832.	11.1	196
31	Equation of State for Natural Almandine, Spessartine, Pyrope Garnet: Implications for Quartz-In-Garnet Elastic Geobarometry. <i>Minerals (Basel, Switzerland)</i> , 2021, 11, 458.	0.8	2
32	Structure and composition of C-S-H compounds up to 143 GPa. <i>Physical Review B</i> , 2021, 103, .	1.1	19
33	Single-Crystal Elasticity of High-Pressure Ice up to 98 GPa by Brillouin Scattering. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL092514.	1.5	9
34	Novel experimental setup for megahertz X-ray diffraction in a diamond anvil cell at the High Energy Density (HED) instrument of the European X-ray Free-Electron Laser (EuXFEL). <i>Journal of Synchrotron Radiation</i> , 2021, 28, 688-706.	1.0	21
35	High-Pressure Synthesis of Dirac Materials: Layered van der Waals Bonded BeN_4 Polymorph. <i>Physical Review Letters</i> , 2021, 126, 175501.	2.9	90
36	Composition and Pressure Effects on Partitioning of Ferrous Iron in Iron-Rich Lower Mantle Heterogeneities. <i>Minerals (Basel, Switzerland)</i> , 2021, 11, 512.	0.8	3

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37	Atomic-scale mixing between MgO and H ₂ O in the deep interiors of water-rich planets. <i>Nature Astronomy</i> , 2021, 5, 815-821.	4.2	10
38	X-ray free electron laser heating of water and gold at high static pressure. <i>Communications Materials</i> , 2021, 2, .	2.9	9
39	High-Pressure Phase Stability and Thermoelastic Properties of Iron Carbonitrides and Nitrogen in the Deep Earth. <i>Journal of Geophysical Research: Solid Earth</i> , 2021, 126, e2021JB021934.	1.4	3
40	Immiscibility in N ₂ -H ₂ O solids up to 140 GPa. <i>Journal of Chemical Physics</i> , 2021, 154, 234505.	1.2	3
41	High Pressure Brillouin Spectroscopy and X-ray Diffraction of Cerium Dioxide. <i>Materials</i> , 2021, 14, 3683.	1.3	1
42	Realization of an Ideal Cairo Tessellation in Nickel Diazenide NiN ₂ : High-Pressure Route to Pentagonal 2D Materials. <i>ACS Nano</i> , 2021, 15, 13539-13546.	7.3	55
43	Superconductivity up to 243 K in the yttrium-hydrogen system under high pressure. <i>Nature Communications</i> , 2021, 12, 5075.	5.8	202
44	Superconducting Phase Induced by a Local Structure Transition in Amorphous Sb_2 under High Pressure. <i>Physical Review Letters</i> , 2021, 127, 127002.	2.9	13
45	High-Pressure Synthesis of the Zn_3N_2 Nitride and the Zn_4 and Zn_4 Polynitrogen Compounds. <i>Inorganic Chemistry</i> , 2021, 60, 14594-14601.	1.9	15
46	X-ray diffraction and equation of state of the C ₆ H room-temperature superconductor. <i>Journal of Chemical Physics</i> , 2021, 155, 114703.	1.2	13
47	Mineralogy of the deep lower mantle in the presence of H ₂ O. <i>National Science Review</i> , 2021, 8, nwaa098.	4.6	20
48	Laser heating system at the Extreme Conditions Beamline, P02.2, PETRA III. <i>Journal of Synchrotron Radiation</i> , 2021, 28, 1747-1757.	1.0	14
49	Structure and properties of two superionic ice phases. <i>Nature Physics</i> , 2021, 17, 1233-1238.	6.5	41
50	Ethane and methane at high pressures: structure and stability. <i>Journal of Chemical Physics</i> , 2021, 155, 184503.	1.2	2
51	Effects of Hydrogen on the Phase Relations in FeS at Pressures of Mars-Sized Bodies. <i>Journal of Geophysical Research E: Planets</i> , 2021, 126, e2021JE006942.	1.5	3
52	High-temperature superconductivity on the verge of a structural instability in lanthanum superhydride. <i>Nature Communications</i> , 2021, 12, 6863.	5.8	40
53	Effect of nickel on the high-pressure phases in FeH. <i>Physical Review B</i> , 2021, 104, .	1.1	5
54	Carbon-boron clathrates as a new class of sp ³ -bonded framework materials. <i>Science Advances</i> , 2020, 6, eaay8361.	4.7	61

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55	Possible H ₂ O storage in the crystal structure of CaSiO ₃ perovskite. <i>Physics of the Earth and Planetary Interiors</i> , 2020, 299, 106412.	0.7	13
56	Low Melting Temperature of Anhydrous Mantle Materials at the Core–Mantle Boundary. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL089345.	1.5	15
57	Novel sulfur hydrides synthesized at extreme conditions. <i>Physical Review B</i> , 2020, 102, .	1.1	26
58	High pressure chemical reactivity and structural study of the Na–P and Li–P systems. <i>Journal of Materials Chemistry A</i> , 2020, 8, 21797-21803.	5.2	5
59	Reconciliation of Experiments and Theory on Transport Properties of Iron and the Geodynamo. <i>Physical Review Letters</i> , 2020, 125, 078501.	2.9	47
60	A new hydrous iron oxide phase stable at mid-mantle pressures. <i>Earth and Planetary Science Letters</i> , 2020, 550, 116551.	1.8	5
61	Thermal equation of state of post-aragonite CaCO ₃ -Pmmn. <i>American Mineralogist</i> , 2020, 105, 1365-1374.	0.9	4
62	Structure and stability of 2H _a –MoS ₂ at high pressure and low temperatures. <i>Physical Review B</i> , 2020, 102, .	1.1	8
63	Phase transformation of hydrous ringwoodite to the lower-mantle phases and the formation of dense hydrous silica. <i>American Mineralogist</i> , 2020, 105, 1342-1348.	0.9	3
64	Pressure-induced crystallization of an amorphous martensite alloy. <i>Journal of Applied Physics</i> , 2020, 128, 085901.	1.1	0
65	Novel Hydrogen Clathrate Hydrate. <i>Physical Review Letters</i> , 2020, 125, 255702.	2.9	9
66	Melting curve of vanadium up to 256 GPa: Consistency between experiments and theory. <i>Physical Review B</i> , 2020, 102, .	1.1	24
67	Mineralogy and density of Archean volcanic crust in the mantle transition zone. <i>Physics of the Earth and Planetary Interiors</i> , 2020, 305, 106490.	0.7	3
68	Polymorphism of feldspars above 10 GPa. <i>Nature Communications</i> , 2020, 11, 2721.	5.8	16
69	Hydrous olivine alteration on Mars and Earth. <i>Meteoritics and Planetary Science</i> , 2020, 55, 1011-1030.	0.7	7
70	High-Pressure Polymeric Nitrogen Allotrope with the Black Phosphorus Structure. <i>Physical Review Letters</i> , 2020, 124, 216001.	2.9	119
71	Synthesis, Elasticity, and Spin State of an Intermediate MgSiO ₃ –FeAlO ₃ Bridgmanite: Implications for Iron in Earth's Lower Mantle. <i>Journal of Geophysical Research: Solid Earth</i> , 2020, 125, e2020JB019964.	1.4	6
72	Nitrogen in black phosphorus structure. <i>Science Advances</i> , 2020, 6, eaba9206.	4.7	90

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73	Superconductivity in La and Y hydrides: Remaining questions to experiment and theory. Matter and Radiation at Extremes, 2020, 5, .	1.5	61
74	High-Pressure Synthesis of Metal-Organic Frameworks Hf ₄ N ₂₀ , WN ₈ , and Os ₅ N ₂₈ with Polymeric Nitrogen Linkers. Angewandte Chemie - International Edition, 2020, 59, 10321-10326.	7.2	36
75	A Boosted Critical Temperature of 166 K in Superconducting D ₃ S Synthesized from Elemental Sulfur and Hydrogen. Angewandte Chemie - International Edition, 2020, 59, 18970-18974.	7.2	27
76	A Boosted Critical Temperature of 166 K in Superconducting D ₃ S Synthesized from Elemental Sulfur and Hydrogen. Angewandte Chemie, 2020, 132, 19132-19136.	1.6	1
77	Facile diamond synthesis from lower diamondoids. Science Advances, 2020, 6, eaay9405.	4.7	26
78	The Bridgmanite-Akimotoite Majorite Triple Point Determined in Large Volume Press and Laser-Heated Diamond Anvil Cell. Minerals (Basel, Switzerland), 2020, 10, 67.	0.8	4
79	Tuning to more compressible phase in TiZrHfNb high entropy alloy by pressure. Applied Physics Letters, 2020, 116, 031901.	1.5	5
80	Multiple phase transitions in Sc doped Sb ₂ Te ₃ amorphous nanocomposites under high pressure. Applied Physics Letters, 2020, 116, .	1.5	4
81	Crystallography of low Z material at ultrahigh pressure: Case study on solid hydrogen. Matter and Radiation at Extremes, 2020, 5, .	1.5	15
82	Dehydration of $\hat{\Gamma}$ -AlOOH in Earth's Deep Lower Mantle. Minerals (Basel, Switzerland), 2020, 10, 384.	0.8	11
83	Novel Rhenium Carbides at 200 GPa. European Journal of Inorganic Chemistry, 2020, 2020, 2186-2190.	1.0	10
84	Large H ₂ O solubility in dense silica and its implications for the interiors of water-rich planets. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 9747-9754.	3.3	34
85	Melting and refreezing of zirconium observed using ultrafast x-ray diffraction. Physical Review Research, 2020, 2, .	1.3	22
86	Oxidation of the Interiors of Carbide Exoplanets. Planetary Science Journal, 2020, 1, 39.	1.5	4
87	Synthesis of osmium hydride under high hydrogen pressure. Physical Review B, 2020, 102, .	1.1	3
88	The novel high-pressure/high-temperature compound Co ₁₂ P ₇ determined from synchrotron data. Acta Crystallographica Section E: Crystallographic Communications, 2020, 76, 1665-1668.	0.2	1
89	Stability of Fe-bearing hydrous phases and element partitioning in the system MgO-Al ₂ O ₃ -Fe ₂ O ₃ -SiO ₂ -H ₂ O in Earth's lowermost mantle. Earth and Planetary Science Letters, 2019, 524, 115714.	1.8	21
90	Advanced integrated optical spectroscopy system for diamond anvil cell studies at GSECARS. High Pressure Research, 2019, 39, 457-470.	0.4	44

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109	Anharmonicity-induced first-order isostructural phase transition of zirconium under pressure. <i>Physical Review B</i> , 2018, 98, .	1.1	15
110	Melting behavior of the lower-mantle ferropericlase across the spin crossover: Implication for the ultra-low velocity zones at the lowermost mantle. <i>Earth and Planetary Science Letters</i> , 2018, 503, 1-9.	1.8	25
111	Uranium polyhydrides at moderate pressures: Prediction, synthesis, and expected superconductivity. <i>Science Advances</i> , 2018, 4, eaat9776.	4.7	82
112	Phase stability and thermal equation of state of H_2O : Implication for water transportation to the Deep Lower Mantle. <i>Earth and Planetary Science Letters</i> , 2018, 494, 92-98.	1.8	49
113	Equations of state and phase boundary for stishovite and CaCl_2 -type SiO_2 . <i>American Mineralogist</i> , 2018, 103, 792-802.	0.9	32
114	Equation of state of solid Ne inter-calibrated with the MgO, Au, Pt, NaCl-B2, and ruby pressure scales up to 130 GPa. <i>High Pressure Research</i> , 2018, 38, 377-395.	0.4	16
115	Fe-N system at high pressure reveals a compound featuring polymeric nitrogen chains. <i>Nature Communications</i> , 2018, 9, 2756.	5.8	153
116	Equation of state and hyperfine parameters of high-spin bridgmanite in the Earth's lower mantle by synchrotron X-ray diffraction and Mössbauer spectroscopy. <i>American Mineralogist</i> , 2017, 102, 357-368.	0.9	26
117	Thermal expansion of SiC at high pressure-temperature and implications for thermal convection in the deep interiors of carbide exoplanets. <i>Journal of Geophysical Research E: Planets</i> , 2017, 122, 124-133.	1.5	29
118	A stable compound of helium and sodium at high pressure. <i>Nature Chemistry</i> , 2017, 9, 440-445.	6.6	276
119	Intercomparison of the gold, platinum, and MgO pressure scales up to 140 GPa and 2500 K. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 3450-3464.	1.4	36
120	Polymorphism in a high-entropy alloy. <i>Nature Communications</i> , 2017, 8, 15687.	5.8	192
121	High-Pressure Synthesis of a Pentazolate Salt. <i>Chemistry of Materials</i> , 2017, 29, 735-741.	3.2	170
122	Aragonite-II and CaCO_3 -VII: New High-Pressure, High-Temperature Polymorphs of CaCO_3 . <i>Crystal Growth and Design</i> , 2017, 17, 6291-6296.	1.4	61
123	Raman spectroscopy and X-ray diffraction of CaC_3 CaC_3 at lower mantle pressures. <i>Physical Review B</i> , 2017, 96, .	1.1	54
124	Beyond sixfold coordinated Si in SiO_2 glass at ultrahigh pressures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 10041-10046.	3.3	88
125	Spin transition of ferric iron in the calcium-ferrite type aluminous phase. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 5935-5944.	1.4	7
126	Phase transition and equation of state of dense hydrous silica up to 63 GPa. <i>Journal of Geophysical Research: Solid Earth</i> , 2017, 122, 6972-6983.	1.4	22

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127	Insufficient Energy From MgO Exsolution to Power Early Geodynamo. <i>Geophysical Research Letters</i> , 2017, 44, 11,376.	1.5	24
128	Hydrogen-bearing iron peroxide and the origin of ultralow-velocity zones. <i>Nature</i> , 2017, 551, 494-497.	13.7	113
129	Stable high-pressure phases in the H-S system determined by chemically reacting hydrogen and sulfur. <i>Physical Review B</i> , 2017, 95, .	1.1	60
130	Stability of ferrous-iron-rich bridgmanite under reducing midmantle conditions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 6468-6473.	3.3	51
131	When water meets iron at Earth's core-mantle boundary. <i>National Science Review</i> , 2017, 4, 870-878.	4.6	75
132	Phase relations of Fe ₃ C and Fe ₇ C ₃ up to 185 GPa and 5200 K: Implication for the stability of iron carbide in the Earth's core. <i>Geophysical Research Letters</i> , 2016, 43, 12,415.	1.5	35
133	Two-stage spin transition of iron in FeAl-bearing phase D at lower mantle. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 6411-6420.	1.4	12
134	Elasticity of ferropericlase and seismic heterogeneity in the Earth's lower mantle. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 8488-8500.	1.4	17
135	Confirming a pyrolitic lower mantle using self-consistent pressure scales and new constraints on CaSiO ₃ perovskite. <i>Journal of Geophysical Research: Solid Earth</i> , 2016, 121, 4876-4894.	1.4	24
136	Hydrogen sulfide at high pressure: Change in stoichiometry. <i>Physical Review B</i> , 2016, 93, .	1.1	97
137	Synthesis of sodium polyhydrides at high pressures. <i>Nature Communications</i> , 2016, 7, 12267.	5.8	79
138	Terapascal static pressure generation with ultrahigh yield strength nanodiamond. <i>Science Advances</i> , 2016, 2, e1600341.	4.7	161
139	Spin transition of ferric iron in the NAL phase: Implications for the seismic heterogeneities of subducted slabs in the lower mantle. <i>Earth and Planetary Science Letters</i> , 2016, 434, 91-100.	1.8	30
140	Structural complexity of simple Fe ₂ O ₃ at high pressures and temperatures. <i>Nature Communications</i> , 2016, 7, 10661.	5.8	161
141	Stable magnesium peroxide at high pressure. <i>Scientific Reports</i> , 2015, 5, 13582.	1.6	30
142	Effects of the Fe ³⁺ spin transition on the equation of state of bridgmanite. <i>Geophysical Research Letters</i> , 2015, 42, 4335-4342.	1.5	37
143	High Poisson's ratio of Earth's inner core explained by carbon alloying. <i>Nature Geoscience</i> , 2015, 8, 220-223.	5.4	113
144	Backbone NxH compounds at high pressures. <i>Journal of Chemical Physics</i> , 2015, 142, 214308.	1.2	38

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145	<i><i>DIOPTAS</i></i> : a program for reduction of two-dimensional X-ray diffraction data and data exploration. High Pressure Research, 2015, 35, 223-230.	0.4	1,230
146	The most incompressible metal osmium at static pressures above 750 gigapascals. Nature, 2015, 525, 226-229.	13.7	159
147	Discovery of bridgmanite, the most abundant mineral in Earth, in a shocked meteorite. Science, 2014, 346, 1100-1102.	6.0	243
148	The postspinel boundary in pyrolitic compositions determined in the laser-heated diamond anvil cell. Geophysical Research Letters, 2014, 41, 3833-3841.	1.5	27
149	The effect of Fe spin crossovers on its partitioning behavior and oxidation state in a pyrolitic Earth's lower mantle system. Earth and Planetary Science Letters, 2014, 399, 86-91.	1.8	37
150	High pressure single-crystal micro X-ray diffraction analysis with GSE_ADA/RSV software. High Pressure Research, 2013, 33, 466-484.	0.4	133
151	Unexpected Stable Stoichiometries of Sodium Chlorides. Science, 2013, 342, 1502-1505.	6.0	394
152	A comparison of ice VII formed in the H ₂ O, NaCl-H ₂ O, and CH ₃ OH-H ₂ O systems: Implications for H ₂ O-rich planets. Physics of the Earth and Planetary Interiors, 2013, 215, 12-20.	0.7	11
153	Effects of Fe-enrichment on the equation of state and stability of (Mg,Fe)SiO ₃ perovskite. Earth and Planetary Science Letters, 2013, 361, 249-257.	1.8	61
154	Phase relations in the Fe-FeSi system at high pressures and temperatures. Earth and Planetary Science Letters, 2013, 373, 54-64.	1.8	119
155	Vibrational, elastic, and structural properties of cubic silicon carbide under pressure up to 75 GPa: Implication for a primary pressure scale. Journal of Applied Physics, 2013, 113, .	1.1	51
156	Stability, metastability, and elastic properties of a dense silica polymorph, seifertite. Journal of Geophysical Research: Solid Earth, 2013, 118, 4745-4757.	1.4	52
157	Electrical and thermal transport properties of iron and iron-silicon alloy at high pressure. Geophysical Research Letters, 2013, 40, 5377-5381.	1.5	89
158	BX90: A new diamond anvil cell design for X-ray diffraction and optical measurements. Review of Scientific Instruments, 2012, 83, 125102.	0.6	251
159	Intercomparison of pressure standards (Au, Pt, Mo, MgO, NaCl and Ne) to 2.5 Mbar. Journal of Geophysical Research, 2012, 117, .	3.3	61
160	Implementation of micro-ball nanodiamond anvils for high-pressure studies above 6 Mbar. Nature Communications, 2012, 3, 1163.	5.8	239
161	Dolomite III: A new candidate lower mantle carbonate. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	48
162	Thermal equation of state of lower-mantle ferroperricite across the spin crossover. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	70

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163	Equation of state and phase diagram of FeO. Earth and Planetary Science Letters, 2011, 304, 496-502.	1.8	111
164	X-ray diffraction and Mössbauer spectroscopy study of fcc iron hydride FeH at high pressures and implications for the composition of the Earth's core. Earth and Planetary Science Letters, 2011, 307, 409-414.	1.8	78
165	Effects of the Fe ³⁺ spin transition on the properties of aluminous perovskite—New insights for lower-mantle seismic heterogeneities. Earth and Planetary Science Letters, 2011, 310, 293-302.	1.8	84
166	X-ray diffraction in the pulsed laser heated diamond anvil cell. Review of Scientific Instruments, 2010, 81, 113902.	0.6	48
167	Single-crystal X-ray diffraction at megabar pressures and temperatures of thousands of degrees. High Pressure Research, 2010, 30, 620-633.	0.4	65
168	Spin state of ferric iron in MgSiO ₃ perovskite and its effect on elastic properties. Earth and Planetary Science Letters, 2010, 289, 68-75.	1.8	129
169	Transparent dense sodium. Nature, 2009, 458, 182-185.	13.7	710
170	Thickness and Clapeyron slope of the post-perovskite boundary. Nature, 2009, 462, 782-785.	13.7	105
171	High pressure effects on the iron—iron oxide and nickel—nickel oxide oxygen fugacity buffers. Earth and Planetary Science Letters, 2009, 286, 556-564.	1.8	135
172	Stable intermediate-spin ferrous iron in lower-mantle perovskite. Nature Geoscience, 2008, 1, 684-687.	5.4	150
173	Advanced flat top laser heating system for high pressure research at GSECARS: application to the melting behavior of germanium. High Pressure Research, 2008, 28, 225-235.	0.4	277
174	High-pressure polymorphism of Fe ₂ P and its implications for meteorites and Earth's core. Geophysical Research Letters, 2008, 35, .	1.5	56
175	The COMPRES/GSECARS gas-loading system for diamond anvil cells at the Advanced Photon Source. High Pressure Research, 2008, 28, 273-292.	0.4	225
176	Toward an internally consistent pressure scale. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 9182-9186.	3.3	566
177	The post-stishovite phase transition in hydrous alumina-bearing SiO ₂ in the lower mantle of the earth. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 13588-13590.	3.3	102
178	Partial melting in the iron—sulfur system at high pressure: A synchrotron X-ray diffraction study. Physics of the Earth and Planetary Interiors, 2007, 162, 119-128.	0.7	83
179	Spin transition and equations of state of (Mg, Fe)O solid solutions. Geophysical Research Letters, 2007, 34, .	1.5	152
180	Experimental study of the NaCl—H ₂ O system up to 28GPa: Implications for ice-rich planetary bodies. Physics of the Earth and Planetary Interiors, 2006, 155, 152-162.	0.7	35

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181	Brillouin spectrometer interfaced with synchrotron radiation for simultaneous x-ray density and acoustic velocity measurements. <i>Review of Scientific Instruments</i> , 2006, 77, 103905.	0.6	55
182	The equation of state of Al,H-bearing SiO ₂ stishovite to 58 ÅGPa. <i>Physics and Chemistry of Minerals</i> , 2005, 32, 466-470.	0.3	16
183	Iron-rich silicates in the Earth's D'' layer. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 9751-9753.	3.3	100
184	Ferromagnesian postperovskite silicates in the D'' layer of the Earth. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 15867-15869.	3.3	158
185	Structure of Liquid Iron at Pressures up to 58 ÅGPa. <i>Physical Review Letters</i> , 2004, 92, 185701.	2.9	139
186	Carbon transport in diamond anvil cells. <i>High Temperatures - High Pressures</i> , 2003, 35/36, 237-249.	0.3	36