Vitali B Prakapenka

List of Publications by Year
in descending order

186	13,221	28736	26792
papers	citations	57 h-index	111 g-index

193	193	193	8181
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	DIOPTAS: 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
2	Superconductivity at 250 K in lanthanum hydride under high pressures. Nature, 2019, 569, 528-531.	13.7	960
3	Transparent dense sodium. Nature, 2009, 458, 182-185.	13.7	710
4	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
5	Unexpected Stable Stoichiometries of Sodium Chlorides. Science, 2013, 342, 1502-1505.	6.0	394
6	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
7	A stable compound of helium and sodium at high pressure. Nature Chemistry, 2017, 9, 440-445.	6.6	276
8	BX90: A new diamond anvil cell design for X-ray diffraction and optical measurements. Review of Scientific Instruments, 2012, 83, 125102.	0.6	251
9	Discovery of bridgmanite, the most abundant mineral in Earth, in a shocked meteorite. Science, 2014, 346, 1100-1102.	6.0	243
10	Implementation of micro-ball nanodiamond anvils for high-pressure studies above 6â€‰Mbar. Nature Communications, 2012, 3, 1163.	5.8	239
11	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
12	Superconductivity up to 243â€‰K in the yttrium-hydrogen system under high pressure. Nature Communications, 2021, 12, 5075.	5.8	202
13	Anomalous Highâ€Temperature Superconductivity in YH₆. Advanced Materials, 2021, 33, e2006832.	11.1	196
14	Polymorphism in a high-entropy alloy. Nature Communications, 2017, 8, 15687.	5.8	192
15	High-Pressure Synthesis of a Pentazolate Salt. Chemistry of Materials, 2017, 29, 735-741.	3.2	170
16	Ice-VII inclusions in diamonds: Evidence for aqueous fluid in Earthâ€™s deep mantle. Science, 2018, 359, 1136-1139.	6.0	166
17	Terapascal static pressure generation with ultrahigh yield strength nanodiamond. Science Advances, 2016, 2, e1600341.	4.7	161
18	Structural complexity of simple Fe2O3 at high pressures and temperatures. Nature Communications, 2016, 7, 10661.	5.8	161

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19	The most incompressible metal osmium at static pressures above 750 gigapascals. Nature, 2015, 525, 226-229.	13.7	159
20	Ferromagnesian postperovskite silicates in the D'' layer of the Earth. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 15867-15869.	3.3	158
21	Fe-N system at high pressure reveals a compound featuring polymeric nitrogen chains. Nature Communications, 2018, 9, 2756.	5.8	153
22	Spin transition and equations of state of (Mg, Fe)O solid solutions. Geophysical Research Letters, 2007, 34, .	1.5	152
23	Stable intermediate-spin ferrous iron in lower-mantle perovskite. Nature Geoscience, 2008, 1, 684-687.	5.4	150
24	Structure of Liquid Iron at Pressures up to 58ÂGPa. Physical Review Letters, 2004, 92, 185701.	2.9	139
25	High pressure effects on the ironâ€“iron oxide and nickelâ€“nickel oxide oxygen fugacity buffers. Earth and Planetary Science Letters, 2009, 286, 556-564.	1.8	135
26	High pressure single-crystal micro X-ray diffraction analysis with GSE_ADA/RSV software. High Pressure Research, 2013, 33, 466-484.	0.4	133
27	Spin state of ferric iron in MgSiO3 perovskite and its effect on elastic properties. Earth and Planetary Science Letters, 2010, 289, 68-75.	1.8	129
28	Phase relations in the Feâ€“FeSi system at high pressures and temperatures. Earth and Planetary Science Letters, 2013, 373, 54-64.	1.8	119
29	High-Pressure Polymeric Nitrogen Allotrope with the Black Phosphorus Structure. Physical Review Letters, 2020, 124, 216001.	2.9	119
30	Synthesis of clathrate cerium superhydride CeH9 at 80-100 GPa with atomic hydrogen sublattice. Nature Communications, 2019, 10, 4453.	5.8	117
31	High Poisson's ratio of Earth's inner core explained by carbon alloying. Nature Geoscience, 2015, 8, 220-223.	5.4	113
32	Hydrogen-bearing iron peroxide and the origin of ultralow-velocity zones. Nature, 2017, 551, 494-497.	13.7	113
33	Equation of state and phase diagram of FeO. Earth and Planetary Science Letters, 2011, 304, 496-502.	1.8	111
34	Thickness and Clapeyron slope of the post-perovskite boundary. Nature, 2009, 462, 782-785.	13.7	105
35	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
36	Iron-rich silicates in the Earth's D'' layer. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 9751-9753.	3.3	100

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37	Hydrogen sulfide at high pressure: Change in stoichiometry. Physical Review B, 2016, 93, .	1.1	97
38	Nitrogen in black phosphorus structure. Science Advances, 2020, 6, eaba9206.	4.7	90
39	High-Pressure Synthesis of Dirac Materials: Layered van der Waals Bonded <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow><mml:mi>BeN</mml:mi></mml:mrow><mml:mrow><mml:mn>4</mml:mn></mml:mrow> Polymorph. Physical Review Letters, 2021, 126, 175501.	2.9	90
40	Electrical and thermal transport properties of iron and ironâ€silicon alloy at high pressure. Geophysical Research Letters, 2013, 40, 5377-5381.	1.5	89
41	Superconductivity above 200 K discovered in superhydrides of calcium. Nature Communications, 2022, 13, .	5.8	89
42	Beyond sixfold coordinated Si in SiO ₂ glass at ultrahigh pressures. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 10041-10046.	3.3	88
43	Effects of the Fe3+ spin transition on the properties of aluminous perovskiteâ€"New insights for lower-mantle seismic heterogeneities. Earth and Planetary Science Letters, 2011, 310, 293-302.	1.8	84
44	Partial melting in the ironâ€"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
45	Uranium polyhydrides at moderate pressures: Prediction, synthesis, and expected superconductivity. Science Advances, 2018, 4, eaat9776.	4.7	82
46	Synthesis of sodium polyhydrides at high pressures. Nature Communications, 2016, 7, 12267.	5.8	79
47	X-ray diffraction and MÃ¶ssbauer 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
48	Ultrahigh-pressure isostructural electronic transitions in hydrogen. Nature, 2019, 573, 558-562.	13.7	78
49	When water meets iron at Earth's coreâ€"mantle boundary. National Science Review, 2017, 4, 870-878.	4.6	75
50	Thermal equation of state of lower-mantle ferropericlase across the spin crossover. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	70
51	Synthesis of molecular metallic barium superhydride: pseudocubic BaH12. Nature Communications, 2021, 12, 273.	5.8	66
52	Single-crystal X-ray diffraction at megabar pressures and temperatures of thousands of degrees. High Pressure Research, 2010, 30, 620-633.	0.4	65
53	High-pressure synthesis of ultraincompressible hard rhenium nitride pernitride Re2(N2)(N)2 stable at ambient conditions. Nature Communications, 2019, 10, 2994.	5.8	65
54	Intercomparison of pressure standards (Au, Pt, Mo, MgO, NaCl and Ne) to 2.5 Mbar. Journal of Geophysical Research, 2012, 117, .	3.3	61

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55	Effects of Fe-enrichment on the equation of state and stability of (Mg,Fe)SiO3 perovskite. Earth and Planetary Science Letters, 2013, 361, 249-257.	1.8	61
56	Aragonite-II and CaCO₃-VII: New High-Pressure, High-Temperature Polymorphs of CaCO₃. Crystal Growth and Design, 2017, 17, 6291-6296.	1.4	61
57	Carbon-boron clathrates as a new class of sp ³ -bonded framework materials. Science Advances, 2020, 6, eaay8361.	4.7	61
58	Superconductivity in La and Y hydrides: Remaining questions to experiment and theory. Matter and Radiation at Extremes, 2020, 5, .	1.5	61
59	Stable high-pressure phases in the H-S system determined by chemically reacting hydrogen and sulfur. Physical Review B, 2017, 95, .	1.1	60
60	Highâ€pressure polymorphism of Fe₂P and its implications for meteorites and Earth's core. Geophysical Research Letters, 2008, 35, .	1.5	56
61	Brillouin spectrometer interfaced with synchrotron radiation for simultaneous x-ray density and acoustic velocity measurements. Review of Scientific Instruments, 2006, 77, 103905.	0.6	55
62	Realization of an Ideal Cairo Tessellation in Nickel Diazenide NiN₂: High-Pressure Route to Pentagonal 2D Materials. ACS Nano, 2021, 15, 13539-13546.	7.3	55
63	Raman spectroscopy and x-ray diffraction of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msup><mml:mrow><mml:mi mathvariant="italic">sp</mml:mi></mml:mrow><mml:mn>3</mml:mn></mml:msup><mml:mspace width="4pt" /><mml:mi>CaC</mml:mi><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:mrow></mml:math> at lower mantle pressures. Physical Review B, 2017, 96, .	1.1	54
64	Stability, metastability, and elastic properties of a dense silica polymorph, seifertite. Journal of Geophysical Research: Solid Earth, 2013, 118, 4745-4757.	1.4	52
65	Tungsten Hexanitride with Single-Bonded Armchairlike Hexazine Structure at High Pressure. Physical Review Letters, 2021, 126, 065702.	2.9	52
66	Vibrational, elastic, and structural properties of cubic silicon carbide under pressure up to 75â€‰GPa: Implication for a primary pressure scale. Journal of Applied Physics, 2013, 113, .	1.1	51
67	Stability of ferrous-iron-rich bridgmanite under reducing midmantle conditions. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6468-6473.	3.3	51
68	Carbonate stability in the reduced lower mantle. Earth and Planetary Science Letters, 2018, 489, 84-91.	1.8	50
69	Phase stability and thermal equation of state of Î´-AlOOH: Implication for water transportation to the Deep Lower Mantle. Earth and Planetary Science Letters, 2018, 494, 92-98.	1.8	49
70	X-ray diffraction in the pulsed laser heated diamond anvil cell. Review of Scientific Instruments, 2010, 81, 113902.	0.6	48
71	Dolomite III: A new candidate lower mantle carbonate. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	48
72	Reconciliation of Experiments and Theory on Transport Properties of Iron and the Geodynamo. Physical Review Letters, 2020, 125, 078501.	2.9	47

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73	Advanced integrated optical spectroscopy system for diamond anvil cell studies at GSECARS. High Pressure Research, 2019, 39, 457-470.	0.4	44
74	Structure and properties of two superionic ice phases. Nature Physics, 2021, 17, 1233-1238.	6.5	41
75	Chenmingite, FeCr2O4 in the CaFe2O4-type structure, a shock-induced, high-pressure mineral in the Tissint martian meteorite. American Mineralogist, 2019, 104, 1521-1525.	0.9	40
76	High-temperature superconductivity on the verge of a structural instability in lanthanum superhydride. Nature Communications, 2021, 12, 6863.	5.8	40
77	Synthesis of Xenon and Iron-Nickel Intermetallic Compounds at Earthâ€™s Core Thermodynamic Conditions. Physical Review Letters, 2018, 120, 096001.	2.9	39
78	Metastable silica high pressure polymorphs as structural proxies of deep Earth silicate melts. Nature Communications, 2018, 9, 4789.	5.8	39
79	Backbone NxH compounds at high pressures. Journal of Chemical Physics, 2015, 142, 214308.	1.2	38
80	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
81	Effects of the Fe³⁺ spin transition on the equation of state of bridgmanite. Geophysical Research Letters, 2015, 42, 4335-4342.	1.5	37
82	Highâ€Pressure Geophysical Properties of Fcc Phase FeH_X. Geochemistry, Geophysics, Geosystems, 2018, 19, 305-314.	1.0	37
83	Intercomparison of the gold, platinum, and MgO pressure scales up to 140ÂGPa and 2500ÂK. Journal of Geophysical Research: Solid Earth, 2017, 122, 3450-3464.	1.4	36
84	Highâ€Pressure Synthesis of Metalâ€“Inorganic Frameworks Hf 4 N 20 â‹…N 2 , WN 8 â‹…N 2 , and Os 5 N 28 â‹…3â€‰N 2 with Polymeric Nitrogen Linkers. Angewandte Chemie - International Edition, 2020, 59, 10321-10326.	7.2	36
85	Superionic iron oxideâ€“hydroxide in Earthâ€™s deep mantle. Nature Geoscience, 2021, 14, 174-178.	5.4	36
86	Carbon transport in diamond anvil cells. High Temperatures - High Pressures, 2003, 35/36, 237-249.	0.3	36
87	Experimental study of the NaClâ€“H2O system up to 28GPa: Implications for ice-rich planetary bodies. Physics of the Earth and Planetary Interiors, 2006, 155, 152-162.	0.7	35
88	Phase relations of Fe₃C and Fe₇C₃ up to 185â€‰GPa and 5200â€‰K: Implication for the stability of iron carbide in the Earth's core. Geophysical Research Letters, 2016, 43, 12,415.	1.5	35
89	Altered chemistry of oxygen and iron under deep Earth conditions. Nature Communications, 2019, 10, 153.	5.8	35
90	Materials synthesis at terapascal static pressures. Nature, 2022, 605, 274-278.	13.7	35

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91	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
92	Equations of state and phase boundary for stishovite and CaCl2-type SiO2. American Mineralogist, 2018, 103, 792-802.	0.9	32
93	Magnetic field screening in hydrogen-rich high-temperature superconductors. Nature Communications, 2022, 13, .	5.8	32
94	Stable magnesium peroxide at high pressure. Scientific Reports, 2015, 5, 13582.	1.6	30
95	Spin transition of ferric iron in the NAL phase: Implications for the seismic heterogeneities of subducted slabs in the lower mantle. Earth and Planetary Science Letters, 2016, 434, 91-100.	1.8	30
96	New Highâ€Pressure Phase of CaCO₃ at the Topmost Lower Mantle: Implication for the Deepâ€Mantle Carbon Transportation. Geophysical Research Letters, 2018, 45, 1355-1360.	1.5	30
97	Thermal expansion of SiC at high pressureâ€temperature and implications for thermal convection in the deep interiors of carbide exoplanets. Journal of Geophysical Research E: Planets, 2017, 122, 124-133.	1.5	29
98	Phase transition and thermal equations of state of (Fe,Al)-bridgmanite and post-perovskite: Implication for the chemical heterogeneity at the lowermost mantle. Earth and Planetary Science Letters, 2018, 490, 161-169.	1.8	29
99	Stabilization of Polynitrogen Anions in Tantalumâ€“Nitrogen Compounds at High Pressure. Angewandte Chemie - International Edition, 2021, 60, 9003-9008.	7.2	29
100	The postspinel boundary in pyrolitic compositions determined in the laserâ€heated diamond anvil cell. Geophysical Research Letters, 2014, 41, 3833-3841.	1.5	27
101	Elasticity of single-crystal periclase at high pressure and temperature: The effect of iron on the elasticity and seismic parameters of ferropericlase in the lower mantle. American Mineralogist, 2019, 104, 262-275.	0.9	27
102	A Boosted Critical Temperature of 166â€…K in Superconducting D₃S Synthesized from Elemental Sulfur and Hydrogen. Angewandte Chemie - International Edition, 2020, 59, 18970-18974.	7.2	27
103	Equation of state and hyperfine parameters of high-spin bridgmanite in the Earthâ€™s lower mantle by synchrotron X-ray diffraction and MÃ¶ssbauer spectroscopy. American Mineralogist, 2017, 102, 357-368.	0.9	26
104	Novel sulfur hydrides synthesized at extreme conditions. Physical Review B, 2020, 102, .	1.1	26
105	Facile diamond synthesis from lower diamondoids. Science Advances, 2020, 6, eaay9405.	4.7	26
106	Melting behavior of the lower-mantle ferropericlase across the spin crossover: Implication for the ultra-low velocity zones at the lowermost mantle. Earth and Planetary Science Letters, 2018, 503, 1-9.	1.8	25
107	Confirming a pyrolitic lower mantle using selfâ€consistent pressure scales and new constraints on CaSiO₃ perovskite. Journal of Geophysical Research: Solid Earth, 2016, 121, 4876-4894.	1.4	24
108	Insufficient Energy From MgO Exsolution to Power Early Geodynamo. Geophysical Research Letters, 2017, 44, 11,376.	1.5	24

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109	Melting curve of vanadium up to 256 GPa: Consistency between experiments and theory. Physical Review B, 2020, 102, .	1.1	24
110	Synthesis of calcium orthocarbonate, Ca2CO4-Pnma at P-T conditions of Earthâ€™s transition zone and lower mantle. American Mineralogist, 2022, 107, 336-342.	0.9	23
111	Phase transition and equation of state of dense hydrous silica up to 63ÂGPa. Journal of Geophysical Research: Solid Earth, 2017, 122, 6972-6983.	1.4	22
112	Melting and refreezing of zirconium observed using ultrafast x-ray diffraction. Physical Review Research, 2020, 2, .	1.3	22
113	Stabilization of hexazine rings in potassium polynitride at high pressure. Nature Chemistry, 2022, 14, 794-800.	6.6	22
114	Stability of Fe-bearing hydrous phases and element partitioning in the system MgOâ€“Al2O3â€“Fe2O3â€“SiO2â€“H2O in Earth's lowermost mantle. Earth and Planetary Science Letters, 2019, 524, 115714.	1.8	21
115	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). Journal of Synchrotron Radiation, 2021, 28, 688-706.	1.0	21
116	Stabilization of pentazolate anions in the high-pressure compounds Na₂N₅and NaN₅and in the sodium pentazolate framework NaN₅Â·N₂. Dalton Transactions, 2021, 50, 7229-7237.	1.6	20
117	Mineralogy of the deep lower mantle in the presence of H2O. National Science Review, 2021, 8, nwaa098.	4.6	20
118	Structure and composition of C-S-H compounds up to 143 GPa. Physical Review B, 2021, 103, .	1.1	19
119	Elasticity of ferropericlase and seismic heterogeneity in the Earth's lower mantle. Journal of Geophysical Research: Solid Earth, 2016, 121, 8488-8500.	1.4	17
120	The equation of state of Al,H-bearing SiO2 stishovite to 58ÂGPa. Physics and Chemistry of Minerals, 2005, 32, 466-470.	0.3	16
121	Equation of state of solid Ne inter-calibrated with the MgO, Au, Pt, NaCl-B2, and ruby pressure scales up to 130â€…GPa. High Pressure Research, 2018, 38, 377-395.	0.4	16
122	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>I</mml:mi><mml:mi>n</mml:mi></mml:mrow><mml:mo observation of a phase transition in silicon carbide under shock compression using pulsed x-ray diffraction. Physical Review B, 2019, 99, .	1.1	16
123	Polymorphism of feldspars above 10 GPa. Nature Communications, 2020, 11, 2721.	5.8	16
124	Anharmonicity-induced first-order isostructural phase transition of zirconium under pressure. Physical Review B, 2018, 98, .	1.1	15
125	The Mg-carbonateâ€“Fe interaction: Implication for the fate of subducted carbonates and formation of diamond in the lower mantle. Geoscience Frontiers, 2019, 10, 1449-1458.	4.3	15
126	Low Melting Temperature of Anhydrous Mantle Materials at the Coreâ€Mantle Boundary. Geophysical Research Letters, 2020, 47, e2020GL089345.	1.5	15

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127	Crystallography of low Z material at ultrahigh pressure: Case study on solid hydrogen. Matter and Radiation at Extremes, 2020, 5, .	1.5	15
128	High-Pressure Synthesis of the Î²-Zn₃N₂ Nitride and the Î±-ZnN₄ and Î²-ZnN₄ Polynitrogen Compounds. Inorganic Chemistry, 2021, 60, 14594-14601.	1.9	15
129	Laser heating system at the Extreme Conditions Beamline, P02.2, PETRA III. Journal of Synchrotron Radiation, 2021, 28, 1747-1757.	1.0	14
130	Possible H2O storage in the crystal structure of CaSiO3 perovskite. Physics of the Earth and Planetary Interiors, 2020, 299, 106412.	0.7	13
131	Reversal of carbonate-silicate cation exchange in cold slabs in Earthâ€™s lower mantle. Nature Communications, 2021, 12, 1712.	5.8	13
132	Superconducting Phase Induced by a Local Structure Transition in Amorphous <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Sb</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow> under High Pressure. Physical Review Letters, 2021, 127, 127002.	2.9	13
133	X-ray diffraction and equation of state of the Câ€“Sâ€“H room-temperature superconductor. Journal of Chemical Physics, 2021, 155, 114703.	1.2	13
134	Twoâ€stage spin transition of iron in FeAlâ€bearing phase D at lower mantle. Journal of Geophysical Research: Solid Earth, 2016, 121, 6411-6420.	1.4	12
135	A comparison of ice VII formed in the H2O, NaClâ€“H2O, and CH3OHâ€“H2O systems: Implications for H2O-rich planets. Physics of the Earth and Planetary Interiors, 2013, 215, 12-20.	0.7	11
136	Dehydration of Î´-AlOOH in Earthâ€™s Deep Lower Mantle. Minerals (Basel, Switzerland), 2020, 10, 384.	0.8	11
137	High-pressure <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Na</mml:mi><mml:mn>3</mml:mn></mml: <mml:math		

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145	X-ray free electron laser heating of water and gold at high static pressure. Communications Materials, 2021, 2, .	2.9	9
146	Synthesis and structure of carbon-doped H3S compounds at high pressure. Journal of Applied Physics, 2022, 131, .	1.1	9
147	Structure and stability of 2Haâ^'MoS2 at high pressure and low temperatures. Physical Review B, 2020, 102, .	1.1	8
148	Spin transition of ferric iron in the calciumâ€ferrite type aluminous phase. Journal of Geophysical Research: Solid Earth, 2017, 122, 5935-5944.	1.4	7
149	Hydrous olivine alteration on Mars and Earth. Meteoritics and Planetary Science, 2020, 55, 1011-1030.	0.7	7
150	Femtosecond Xâ€Ray Diffraction of Laserâ€Shocked Forsterite (Mg₂SiO₄) to 122ÂGPa. Journal of Geophysical Research: Solid Earth, 2021, 126, .	1.4	7
151	Elasticity of Hydrated Alâ€Bearing Stishovite and Postâ€Stishovite: Implications for Understanding Regional Seismic V_S Anomalies Along Subducting Slabs in the Lower Mantle. Journal of Geophysical Research: Solid Earth, 2022, 127, .	1.4	7
152	The Oâ€“O Bonding and Hydrogen Storage in the Pyrite-type PtO₂. Inorganic Chemistry, 2019, 58, 8300-8307.	1.9	6
153	Synthesis, Elasticity, and Spin State of an Intermediate MgSiO 3 â€FeAlO 3 Bridgmanite: Implications for Iron in Earth's Lower Mantle. Journal of Geophysical Research: Solid Earth, 2020, 125, e2020JB019964.	1.4	6
154	High pressure chemical reactivity and structural study of the Naâ€“P and Liâ€“P systems. Journal of Materials Chemistry A, 2020, 8, 21797-21803.	5.2	5
155	A new hydrous iron oxide phase stable at mid-mantle pressures. Earth and Planetary Science Letters, 2020, 550, 116551.	1.8	5
156	Tuning to more compressible phase in TiZrHfNb high entropy alloy by pressure. Applied Physics Letters, 2020, 116, 031901.	1.5	5
157	Nitrosonium nitrate (NO⁺NO₃ ^{â^'}) structure solution using in situ single-crystal X-ray diffraction in a diamond anvil cell. IUCrJ, 2021, 8, 208-214.	1.0	5
158	Effect of nickel on the high-pressure phases in FeH. Physical Review B, 2021, 104, .	1.1	5
159	Thermal equation of state of post-aragonite CaCO3-Pmmn. American Mineralogist, 2020, 105, 1365-1374.	0.9	4
160	The Bridgmaniteâ€“Akimotoiteâ€“Majorite Triple Point Determined in Large Volume Press and Laser-Heated Diamond Anvil Cell. Minerals (Basel, Switzerland), 2020, 10, 67.	0.8	4
161	Multiple phase transitions in Sc doped Sb2Te3 amorphous nanocomposites under high pressure. Applied Physics Letters, 2020, 116, .	1.5	4
162	Oxidation of the Interiors of Carbide Exoplanets. Planetary Science Journal, 2020, 1, 39.	1.5	4

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163	Phase transformation of hydrous ringwoodite to the lower-mantle phases and the formation of dense hydrous silica. American Mineralogist, 2020, 105, 1342-1348.	0.9	3
164	Mineralogy and density of Archean volcanic crust in the mantle transition zone. Physics of the Earth and Planetary Interiors, 2020, 305, 106490.	0.7	3
165	Composition and Pressure Effects on Partitioning of Ferrous Iron in Iron-Rich Lower Mantle Heterogeneities. Minerals (Basel, Switzerland), 2021, 11, 512.	0.8	3
166	Highâ€Pressure Phase Stability and Thermoelastic Properties of Iron Carbonitrides and Nitrogen in the Deep Earth. Journal of Geophysical Research: Solid Earth, 2021, 126, e2021JB021934.	1.4	3
167	Immiscibility in N2â€“H2O solids up to 140 GPa. Journal of Chemical Physics, 2021, 154, 234505.	1.2	3
168	Effects of Hydrogen on the Phase Relations in Feâ€FeS at Pressures of Marsâ€Sized Bodies. Journal of Geophysical Research E: Planets, 2021, 126, e2021JE006942.	1.5	3
169	Synthesis of osmium hydride under high hydrogen pressure. Physical Review B, 2020, 102, .	1.1	3
170	Negative linear compressibility in Se at ultra-high pressure above 120 GPa. IUCrJ, 2022, 9, 253-260.	1.0	3
171	Synthesis, Structure, and Electric Conductivity of Higher Hydrides of Ytterbium at High Pressure. Inorganic Chemistry, 2022, 61, 8694-8702.	1.9	3
172	Melting of the Feâ€Câ€H System and Earth's Deep Carbonâ€Hydrogen Cycle. Geophysical Research Letters, 2022, 49, .	1.5	3
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