

Guoyin Shen

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199
papers

9,583
citations

56
h-index

90
g-index

209
ext. papers

10,486
ext. citations

6.2
avg, IF

5.84
L-index

#	Paper	IF	Citations
199	Toward an internally consistent pressure scale. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 9182-6	11.5	460
198	Melting and crystal structure of iron at high pressures and temperatures. <i>Geophysical Research Letters</i> , 1998 , 25, 373-376	4.9	281
197	Phonon density of states of iron up to 153 gigapascals. <i>Science</i> , 2001 , 292, 914-6	33.3	264
196	Elasticity and rheology of iron above 220 GPa and the nature of the Earth's inner core. <i>Nature</i> , 1998 , 396, 741-743	50.4	238
195	X-ray Imaging of Stress and Strain of Diamond, Iron, and Tungsten at Megabar Pressures. <i>Science</i> , 1997 , 276, 1242-1245	33.3	211
194	Laser heated diamond cell system at the Advanced Photon Source for in situ x-ray measurements at high pressure and temperature. <i>Review of Scientific Instruments</i> , 2001 , 72, 1273	1.7	205
193	Deformation of polycrystalline MgO at pressures of the lower mantle. <i>Journal of Geophysical Research</i> , 2002 , 107, ECV 3-1-ECV 3-17		181
192	Lattice strains in gold and rhenium under nonhydrostatic compression to 37 GPa. <i>Physical Review B</i> , 1999 , 60, 15063-15073	3.3	167
191	Electronic spin state of iron in lower mantle perovskite. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 14027-30	11.5	160
190	In situ X-ray diffraction studies of iron to Earth-core conditions. <i>Physics of the Earth and Planetary Interiors</i> , 2004 , 143-144, 455-467	2.3	160
189	Magnetism in FeO at Megabar Pressures from X-Ray Emission Spectroscopy. <i>Physical Review Letters</i> , 1999 , 83, 4101-4104	7.4	157
188	Ferromagnesian postperovskite silicates in the D ₁ layer of the Earth. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 15867-9	11.5	147
187	Measurement of melting temperatures of some minerals under lower mantle pressures. <i>Journal of Geophysical Research</i> , 1995 , 100, 17699-17713		143
186	The post-spinel transformation in Mg ₂ SiO ₄ and its relation to the 660-km seismic discontinuity. <i>Nature</i> , 2001 , 411, 571-4	50.4	140
185	Size-dependent pressure-induced amorphization in nanoscale TiO ₂ . <i>Physical Review Letters</i> , 2006 , 96, 135702	7.4	134
184	Sound velocities of hot dense iron: Birch's law revisited. <i>Science</i> , 2005 , 308, 1892-4	33.3	133
183	Multivariable dependence of Fe-Mg partitioning in the lower mantle. <i>Science</i> , 1997 , 278, 2098-100	33.3	132

182	A synchrotron Mössbauer spectroscopy study of (Mg,Fe)SiO ₃ perovskite up to 120 GPa. <i>American Mineralogist</i> , 2005 , 90, 199-205	2.9	127
181	Iron-silicon alloy in Earth's core?. <i>Science</i> , 2002 , 295, 313-5	33.3	127
180	Structure of liquid iron at pressures up to 58 GPa. <i>Physical Review Letters</i> , 2004 , 92, 185701	7.4	123
179	Thermodynamic Data on Oxides and Silicates 1993 ,		120
178	Elasticity, shear strength, and equation of state of molybdenum and gold from x-ray diffraction under nonhydrostatic compression to 24 GPa. <i>Journal of Applied Physics</i> , 1999 , 86, 6729-6736	2.5	118
177	Raman, infrared, and x-ray evidence for new phases of nitrogen at high pressures and temperatures. <i>Physical Review B</i> , 2002 , 66,	3.3	105
176	High pressure induced phase transformation of SiO ₂ and GeO ₂ : difference and similarity. <i>Journal of Physics and Chemistry of Solids</i> , 2004 , 65, 1537-1545	3.9	104
175	Pressure-volume equation of state of the high-pressure B2 phase of NaCl. <i>Physical Review B</i> , 2002 , 65,	3.3	103
174	Atomistic insight into viscosity and density of silicate melts under pressure. <i>Nature Communications</i> , 2014 , 5, 3241	17.4	99
173	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
172	The stability and PVT equation of state of CaSiO ₃ perovskite in the Earth's lower mantle. <i>Journal of Geophysical Research</i> , 2000 , 105, 25955-25968		96
171	Ultralow viscosity of carbonate melts at high pressures. <i>Nature Communications</i> , 2014 , 5, 5091	17.4	93
170	Stability and crystal structure of MgSiO ₃ perovskite to the core-mantle boundary. <i>Geophysical Research Letters</i> , 2004 , 31, n/a-n/a	4.9	92
169	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, 9751-3	11.5	92
168	Nature of the high-pressure transition in Fe ₂ O ₃ hematite. <i>Physical Review Letters</i> , 2002 , 89, 205504	7.4	90
167	Pressure-induced transformations of cristobalite. <i>Chemical Physics Letters</i> , 2001 , 333, 264-270	2.5	89
166	Size-dependent amorphization of nanoscale Y ₂ O ₃ at high pressure. <i>Physical Review Letters</i> , 2010 , 105, 095701	7.4	87
165	Stability and structure of MgSiO ₃ perovskite to 2300-kilometer depth in Earth's mantle. <i>Science</i> , 2001 , 293, 2437-40	33.3	87

164	Toward comprehensive studies of liquids at high pressures and high temperatures: Combined structure, elastic wave velocity, and viscosity measurements in the Paris-Edinburgh cell. <i>Physics of the Earth and Planetary Interiors</i> , 2014 , 228, 269-280	2.3	80
163	Anomalous compression behavior in lanthanum/cerium-based metallic glass under high pressure. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 13565-8	11.5	80
162	The equation of state of CaSiO ₃ perovskite to 108 GPa at 300 K. <i>Physics of the Earth and Planetary Interiors</i> , 2000 , 120, 327-338	2.3	78
161	Compressed glassy carbon: An ultrastrong and elastic interpenetrating graphene network. <i>Science Advances</i> , 2017 , 3, e1603213	14.3	77
160	High-pressure studies with x-rays using diamond anvil cells. <i>Reports on Progress in Physics</i> , 2017 , 80, 0161014	10.4	77
159	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
158	In situ observation of texture development in olivine, ringwoodite, magnesiowüstite and silicate perovskite at high pressure. <i>Earth and Planetary Science Letters</i> , 2004 , 226, 507-519	5.3	74
157	Partial melting in the iron-sulfur system at high pressure: A synchrotron X-ray diffraction study. <i>Physics of the Earth and Planetary Interiors</i> , 2007 , 162, 119-128	2.3	72
156	New developments in laser-heated diamond anvil cell with in situ synchrotron x-ray diffraction at High Pressure Collaborative Access Team. <i>Review of Scientific Instruments</i> , 2015 , 86, 072201	1.7	70
155	Pressure effect on the electronic structure of iron in (Mg,Fe)(Si,Al)O ₃ perovskite: a combined synchrotron Mössbauer and X-ray emission spectroscopy study up to 100 GPa. <i>Physics and Chemistry of Minerals</i> , 2006 , 33, 575-585	1.6	70
154	High-pressure induced phase transitions of Y ₂ O ₃ and Y ₂ O ₃ :Eu ³⁺ . <i>Applied Physics Letters</i> , 2009 , 94, 061924	3.4	69
153	High-pressure phases in SnO ₂ to 117 GPa. <i>Physical Review B</i> , 2006 , 73,	3.3	67
152	Sound velocity of Fe ⁸ liquids at high pressure: Implications for the Moon's molten outer core. <i>Earth and Planetary Science Letters</i> , 2014 , 396, 78-87	5.3	66
151	Pressure-induced phase transitions and metallization in VO ₂ . <i>Physical Review B</i> , 2015 , 91,	3.3	63
150	Nuclear inelastic x-ray scattering of FeO to 48 GPa. <i>Physical Review Letters</i> , 2001 , 87, 255501	7.4	63
149	Static compression of iron-silicon alloys: Implications for silicon in the Earth's core. <i>Journal of Geophysical Research</i> , 2003 , 108,		62
148	Structure of siderite FeCO ₃ to 56 GPa and hysteresis of its spin-pairing transition. <i>Physical Review B</i> , 2010 , 82,	3.3	59
147	Ultrahigh-pressure polymorphism in GeO ₂ glass with coordination number >6. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 3436-41	11.5	58

146	Phase stability and density of FeS at high pressures and temperatures: implications for the interior structure of Mars. <i>Earth and Planetary Science Letters</i> , 2001 , 185, 25-33	5.3	58
145	Stability of magnesiowustite in Earth's lower mantle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 4405-8	11.5	57
144	Effect of helium on structure and compression behavior of SiO ₂ glass. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 6004-7	11.5	56
143	The laser micro-machining system for diamond anvil cell experiments and general precision machining applications at the High Pressure Collaborative Access Team. <i>Review of Scientific Instruments</i> , 2015 , 86, 072202	1.7	54
142	High-pressure x-ray diffraction studies on the structure of liquid silicate using a Paris-Edinburgh type large volume press. <i>Review of Scientific Instruments</i> , 2011 , 82, 015103	1.7	53
141	Double-sided laser heating system at HPCAT for in situ x-ray diffraction at high pressures and high temperatures. <i>Journal of Physics Condensed Matter</i> , 2006 , 18, S1097-103	1.8	53
140	Intermediate states of GeO ₂ glass under pressures up to 35GPa. <i>Physical Review B</i> , 2007 , 75,	3.3	53
139	Thermal equation of state of Fe ₃ S and implications for sulfur in Earth's core. <i>Journal of Geophysical Research</i> , 2006 , 111, n/a-n/a		53
138	Beating the miscibility barrier between iron group elements and magnesium by high-pressure alloying. <i>Physical Review Letters</i> , 2005 , 95, 245502	7.4	52
137	Pressure-induced isostructural phase transition and correlation of FeAs coordination with the superconducting properties of 111-type Na(1-x)FeAs. <i>Journal of the American Chemical Society</i> , 2011 , 133, 7892-6	16.4	51
136	Melting of wüstite and iron up to pressures of 600 kbar. <i>Physics and Chemistry of Minerals</i> , 1993 , 20, 91	1.6	50
135	High-pressure phase transition in Mn ₂ O ₃ : Application for the crystal structure and preferred orientation of the CaIrO ₃ type. <i>Geophysical Research Letters</i> , 2006 , 33,	4.9	49
134	Simultaneous structure and elastic wave velocity measurement of SiO ₂ glass at high pressures and high temperatures in a Paris-Edinburgh cell. <i>Review of Scientific Instruments</i> , 2012 , 83, 033905	1.7	48
133	High-pressure x-ray diffraction measurements on vitreous GeO ₂ under hydrostatic conditions. <i>Physical Review B</i> , 2010 , 81,	3.3	48
132	Amorphous boron gasket in diamond anvil cell research. <i>Review of Scientific Instruments</i> , 2003 , 74, 4732-4736	4.7	48
131	Iron-Nickel alloy in the Earth's core. <i>Geophysical Research Letters</i> , 2002 , 29, 109-1-109-3	4.9	47
130	Ultrahigh-pressure isostructural electronic transitions in hydrogen. <i>Nature</i> , 2019 , 573, 558-562	50.4	47
129	Online remote control systems for static and dynamic compression and decompression using diamond anvil cells. <i>Review of Scientific Instruments</i> , 2015 , 86, 072209	1.7	45

128	High-pressure EXAFS study of vitreous GeO ₂ up to 44 GPa. <i>Physical Review B</i> , 2010 , 81,	3.3	44
127	Phase relations of FeNi alloys at high pressure and temperature. <i>Physics of the Earth and Planetary Interiors</i> , 2006 , 155, 146-151	2.3	44
126	Nanoarchitected materials composed of fullerene-like spheroids and disordered graphene layers with tunable mechanical properties. <i>Nature Communications</i> , 2015 , 6, 6212	17.4	43
125	Structural investigation of amorphous materials at high pressures using the diamond anvil cell. <i>Review of Scientific Instruments</i> , 2003 , 74, 3021-3026	1.7	41
124	Facilities for high-pressure research with the diamond anvil cell at GSECARS. <i>Journal of Synchrotron Radiation</i> , 2005 , 12, 642-9	2.4	41
123	Toward an international practical pressure scale: A proposal for an IPPS ruby gauge (IPPS-Ruby2020). <i>High Pressure Research</i> , 2020 , 40, 299-314	1.6	41
122	Microstructures define melting of molybdenum at high pressures. <i>Nature Communications</i> , 2017 , 8, 14562-7	17.4	40
121	Brillouin spectrometer interfaced with synchrotron radiation for simultaneous x-ray density and acoustic velocity measurements. <i>Review of Scientific Instruments</i> , 2006 , 77, 103905	1.7	39
120	Compression behavior of VC0.85 up to 53 GPa. <i>International Journal of Refractory Metals and Hard Materials</i> , 2004 , 22, 129-132	4.1	39
119	Nitrogen in black phosphorus structure. <i>Science Advances</i> , 2020 , 6, eaba9206	14.3	38
118	Experimental method for in situ determination of material textures at simultaneous high pressure and high temperature by means of radial diffraction in the diamond anvil cell. <i>Review of Scientific Instruments</i> , 2009 , 80, 104501	1.7	38
117	Elasticity and strength of calcium silicate perovskite at lower mantle pressures. <i>Physics of the Earth and Planetary Interiors</i> , 2004 , 143-144, 93-105	2.3	37
116	Molar volumes of molten indium at high pressures measured in a diamond anvil cell. <i>Applied Physics Letters</i> , 2002 , 81, 1411-1413	3.4	37
115	Rutile solubility in NaF/NaCl/Cl-bearing aqueous fluids at 0.5-0.79 GPa and 250-350 °C. <i>Geochimica Et Cosmochimica Acta</i> , 2016 , 177, 170-181	5.5	36
114	Controlled formation of metastable germanium polymorphs. <i>Physical Review B</i> , 2014 , 89,	3.3	36
113	X-ray diffraction studies and equation of state of methane at 202 GPa. <i>Chemical Physics Letters</i> , 2009 , 473, 72-74	2.5	36
112	X-ray diffraction and Raman studies of beryllium: Static and elastic properties at high pressures. <i>Physical Review B</i> , 2005 , 72,	3.3	36
111	Equation of state of MgGeO ₃ perovskite to 65 GPa: comparison with the post-perovskite phase. <i>Physics and Chemistry of Minerals</i> , 2006 , 33, 699-709	1.6	35

110	Nuclear resonant scattering at high pressure and high temperature. <i>High Pressure Research</i> , 2004 , 24, 447-457	1.6	35
109	BbO ₂ -type high-pressure polymorph of GeO ₂ . <i>Physical Review B</i> , 2003 , 67,	3.3	34
108	New developments in micro-X-ray diffraction and X-ray absorption spectroscopy for high-pressure research at 16-BM-D at the Advanced Photon Source. <i>Review of Scientific Instruments</i> , 2015 , 86, 072205	1.7	33
107	Structure of jadeite melt at high pressures up to 4.9 GPa. <i>Journal of Applied Physics</i> , 2012 , 111, 112623	2.5	33
106	Absolute temperature measurement in a laser-heated diamond anvil cell. <i>Geophysical Research Letters</i> , 2004 , 31,	4.9	33
105	Phase diagram and equation of state of praseodymium at high pressures and temperatures. <i>Physical Review B</i> , 2003 , 67,	3.3	33
104	HPCAT: an integrated high-pressure synchrotron facility at the Advanced Photon Source. <i>High Pressure Research</i> , 2008 , 28, 145-162	1.6	32
103	Density measurements of noncrystalline materials at high pressure with diamond anvil cell. <i>Review of Scientific Instruments</i> , 2007 , 78, 103905	1.7	32
102	Single-crystal synchrotron X-ray diffraction study of w ₈ ite and magnesio-w ₈ ite at lower-mantle pressures. <i>Journal of Synchrotron Radiation</i> , 2005 , 12, 577-83	2.4	32
101	Charge transfer in spinel Co ₃ O ₄ at high pressures. <i>Journal of Physics Condensed Matter</i> , 2012 , 24, 435401	1.8	30
100	Carbon transport in diamond anvil cells. <i>High Temperatures - High Pressures</i> , 2003 , 35/36, 237-249	1.3	30
99	Rietveld structure refinement of MgGeO ₃ post-perovskite phase to 1 Mbar. <i>American Mineralogist</i> , 2008 , 93, 965-976	2.9	29
98	Experimental study of the NaCl-H ₂ O system up to 28 GPa: Implications for ice-rich planetary bodies. <i>Physics of the Earth and Planetary Interiors</i> , 2006 , 155, 152-162	2.3	29
97	High-pressure viscosity of liquid Fe and FeS revisited by falling sphere viscometry using ultrafast X-ray imaging. <i>Physics of the Earth and Planetary Interiors</i> , 2015 , 241, 57-64	2.3	28
96	Experimental evidence of low-density liquid water upon rapid decompression. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 2010-2015	11.5	28
95	Strength and elastic moduli of TiN from radial x-ray diffraction under nonhydrostatic compression up to 45 GPa. <i>Journal of Applied Physics</i> , 2010 , 107, 113503	2.5	27
94	Distinct thermal behavior of GeO ₂ glass in tetrahedral, intermediate, and octahedral forms. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 14576-9	11.5	27
93	X-ray diffraction study of phase stability in SiO ₂ at deep mantle conditions. <i>Earth and Planetary Science Letters</i> , 2005 , 235, 273-282	5.3	27

92	Thermal evolution of the metastable r8 and bc8 polymorphs of silicon. <i>High Pressure Research</i> , 2015 , 35, 99-116	1.6	26
91	Developments in time-resolved high pressure x-ray diffraction using rapid compression and decompression. <i>Review of Scientific Instruments</i> , 2015 , 86, 072208	1.7	26
90	Contrasting sound velocity and intermediate-range structural order between polymerized and depolymerized silicate glasses under pressure. <i>Earth and Planetary Science Letters</i> , 2014 , 391, 288-295	5.3	26
89	Stability and equation of state of the post-perovskite phase in MgGeO ₃ to 2 Mbar. <i>Geophysical Research Letters</i> , 2006 , 33,	4.9	26
88	Pressure-induced structural change in MgSiO glass at pressures near the Earth's core-mantle boundary. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 1742-1747	11.5	25
87	High pressure [high temperature studies and reactivity of FeMo_2N and FeMoN . <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2006 , 203, 831-836	1.6	25
86	Effect of dilution on the spin pairing transition in rhombohedral carbonates. <i>High Pressure Research</i> , 2010 , 30, 224-229	1.6	24
85	A metastable liquid melted from a crystalline solid under decompression. <i>Nature Communications</i> , 2017 , 8, 14260	17.4	22
84	Anomaly in the viscosity of liquid KCl at high pressures. <i>Physical Review B</i> , 2013 , 87,	3.3	22
83	Two-dimensional energy dispersive x-ray diffraction at high pressures and temperatures. <i>Review of Scientific Instruments</i> , 2001 , 72, 1302	1.7	22
82	X Ray Diffraction with a Double Hot-Plate Laser-Heated Diamond Cell. <i>Geophysical Monograph Series</i> , 1998 , 27-34	1.1	20
81	Spin transition of Fe ³⁺ in Al-bearing phase D: An alternative explanation for small-scale seismic scatterers in the mid-lower mantle. <i>Earth and Planetary Science Letters</i> , 2013 , 382, 1-9	5.3	19
80	Chain breakage in liquid sulfur at high pressures and high temperatures. <i>Physical Review B</i> , 2014 , 89,	3.3	19
79	Direct observation of a pressure-induced precursor lattice in silicon. <i>Physical Review Letters</i> , 2012 , 109, 205503	7.4	19
78	A portable laser heating microscope for high pressure research. <i>Journal of Physics: Conference Series</i> , 2010 , 215, 012191	0.3	19
77	The mobility of Nb in rutile-saturated NaCl- and NaF-bearing aqueous fluids from 18.5 GPa and 300-800 °C. <i>American Mineralogist</i> , 2015 , 100, 1600-1609	2.9	18
76	The structure of amorphous iron at high pressures to 67GPa measured in a diamond anvil cell. <i>Physics of the Earth and Planetary Interiors</i> , 2004 , 143-144, 481-495	2.3	18
75	Melting of indium at high pressure determined by monochromatic x-ray diffraction in an externally-heated diamond anvil cell. <i>Applied Physics Letters</i> , 2001 , 78, 3208-3210	3.4	18

74	Melting studies of indium: determination of the structure and density of melts at high pressures and high temperatures. <i>Journal of Physics Condensed Matter</i> , 2002 , 14, 10533-10540	1.8	18
73	Kinetically Controlled Two-Step Amorphization and Amorphous-Amorphous Transition in Ice. <i>Physical Review Letters</i> , 2017 , 119, 135701	7.4	17
72	Carbon coated face-centered cubic Ru-C nanoalloys. <i>Nanoscale</i> , 2014 , 6, 10370-6	7.7	16
71	Formation of iron hydride and high-magnetite at high pressure and temperature. <i>Physics of the Earth and Planetary Interiors</i> , 2004 , 146, 313-317	2.3	16
70	High-energy-resolution monochromator for 83Kr nuclear resonant scattering. <i>Review of Scientific Instruments</i> , 2002 , 73, 1608-1610	1.7	16
69	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
68	Crystal structure and compression of an iron-bearing Phase A to 33 GPa. <i>Physics and Chemistry of Minerals</i> , 2006 , 33, 192-199	1.6	13
67	Hard x-ray radiation induced dissociation of N ₂ and O ₂ molecules and the formation of ionic nitrogen oxide phases under pressure. <i>Physical Review B</i> , 2006 , 74,	3.3	13
66	The equation of state of Al,H-bearing SiO ₂ stishovite to 58 GPa. <i>Physics and Chemistry of Minerals</i> , 2005 , 32, 466-470	1.6	13
65	X-ray emission spectroscopy with a laser-heated diamond anvil cell: a new experimental probe of the spin state of iron in the Earth's interior. <i>Journal of Synchrotron Radiation</i> , 2005 , 12, 637-41	2.4	13
64	Chapter 12. HIGH-PRESSURE MELTING OF DEEP MANTLE AND CORE MATERIALS 1998 , 369-396		13
63	Kinetics of the B1-B2 phase transition in KCl under rapid compression. <i>Journal of Applied Physics</i> , 2016 , 119, 045902	2.5	13
62	Amorphous boron oxide at megabar pressures via inelastic X-ray scattering. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 5855-5860	11.5	13
61	A CO laser heating system for high pressure-temperature experiments at HPCAT. <i>Review of Scientific Instruments</i> , 2018 , 89, 083901	1.7	12
60	Pressure-induced cation-cation bonding in V ₂ O ₃ . <i>Physical Review B</i> , 2015 , 92,	3.3	12
59	Pressure-induced changes in the electron density distribution in β -Ge near the β -transition. <i>Applied Physics Letters</i> , 2015 , 107, 072109	3.4	12
58	Time- and angle-resolved x-ray diffraction to probe structural and chemical evolution during Al-Ni intermetallic reactions. <i>Review of Scientific Instruments</i> , 2011 , 82, 113901	1.7	12
57	Structural Evolution of SiO ₂ Glass with Si Coordination Number Greater than 6. <i>Physical Review Letters</i> , 2020 , 125, 205701	7.4	12

56	Coexistence of multiple metastable polytypes in rhombohedral bismuth. <i>Scientific Reports</i> , 2016 , 6, 203379	4.9	11
55	Compressed glassy carbon maintaining graphite-like structure with linkage formation between graphene layers. <i>Scientific Reports</i> , 2019 , 9, 7531	4.9	11
54	Multimode scanning X-ray diffraction microscopy for diamond anvil cell experiments. <i>Review of Scientific Instruments</i> , 2019 , 90, 025109	1.7	11
53	Crystallography of low Z material at ultrahigh pressure: Case study on solid hydrogen. <i>Matter and Radiation at Extremes</i> , 2020 , 5, 038401	4.7	11
52	Contrasting behavior of intermediate-range order structures in jadeite glass and melt. <i>Physics of the Earth and Planetary Interiors</i> , 2014 , 228, 281-286	2.3	11
51	X-ray imaging for studying behavior of liquids at high pressures and high temperatures using Paris-Edinburgh press. <i>Review of Scientific Instruments</i> , 2015 , 86, 072207	1.7	11
50	Termination and hydration of forsteritic olivine (0 1 0) surface. <i>Geochimica Et Cosmochimica Acta</i> , 2014 , 145, 268-280	5.5	11
49	A Multi-Anvil, High-Pressure Facility for Synchrotron Radiation Research at GeoSoilEnviroCARS at the Advanced Photon Source.. <i>Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu</i> , 1998 , 7, 1490-1495	0	11
48	Optical Absorption Spectra of (Mg, Fe)SiO ₃ Silicate Perovskites. <i>Physics and Chemistry of Minerals</i> , 1994 , 20, 478	1.6	11
47	Deep melting reveals liquid structural memory and anomalous ferromagnetism in bismuth. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, 3375-3380	11.5	9
46	Structural characteristic correlated to the electronic band gap in MoS ₂ . <i>Physical Review B</i> , 2016 , 94,	3.3	9
45	Temperature induced immiscibility in the NaCl-H ₂ O system at high pressure. <i>Physics of the Earth and Planetary Interiors</i> , 2008 , 170, 107-114	2.3	9
44	Oxygen Quadclusters in SiO ₂ Glass above Megabar Pressures up to 160 GPa Revealed by X-Ray Raman Scattering. <i>Physical Review Letters</i> , 2019 , 123, 235701	7.4	9
43	Pressure-induced phase transitions and insulator-metal transitions in VO ₂ nanoparticles. <i>Journal of Alloys and Compounds</i> , 2017 , 709, 260-266	5.7	8
42	Pressure-induced structures of Si-doped HfO ₂ . <i>Journal of Applied Physics</i> , 2015 , 117, 234102	2.5	8
41	Anomalous perovskite PbRuO ₃ stabilized under high pressure. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 20003-7	11.5	8
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