

# Alexander F Goncharov

## List of Publications by Year in descending order

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264  
papers

12,757  
citations

28736

57  
h-index

35168

102  
g-index

272  
all docs

272  
docs citations

272  
times ranked

8987  
citing authors

#	ARTICLE	IF	CITATIONS
1	Synthesis and structure of carbon-doped H <sub>3</sub> S compounds at high pressure. Journal of Applied Physics, 2022, 131, .	1.1	9
2	Radiative thermal conductivity of single-crystal bridgmanite at the core-mantle boundary with implications for thermal evolution of the Earth. Earth and Planetary Science Letters, 2022, 578, 117329.	1.8	14
3	Thermal conductivity of materials under pressure. Nature Reviews Physics, 2022, 4, 319-335.	11.9	46
4	Electronic Topological Transition as a Route to Improve Thermoelectric Performance in Bi <sub>0.5</sub> Sb <sub>1.5</sub> Te <sub>3</sub> . Advanced Science, 2022, 9, e2105709.	5.6	6
5	Stabilization of hexazine rings in potassium polynitride at high pressure. Nature Chemistry, 2022, 14, 794-800.	6.6	22
6	Structural and vibrational behavior of $\text{H}_2$ at high pressures. Physical Review B, 2022, 105, .		
7	Synthesis of molecular metallic barium superhydride: pseudocubic BaH <sub>12</sub> . Nature Communications, 2021, 12, 273.	5.8	66
8	Stabilization of pentazolate anions in the high-pressure compounds Na <sub>2</sub> N <sub>5</sub> and NaN <sub>5</sub> and in the sodium pentazolate framework Na <sub>5</sub> N <sub>2</sub> . Dalton Transactions, 2021, 50, 7229-7237.	1.6	20
9	Observation of Fundamental Mechanisms in Compression-Induced Phase Transformations Using Ultrafast X-ray Diffraction. Jom, 2021, 73, 2185-2193.	0.9	2
10	Latent heat method to detect melting and freezing of metals at megabar pressures. Physical Review Materials, 2021, 5, .	0.9	6
11	Stabilization of Polynitrogen Anions in Tantalum Nitrogen Compounds at High Pressure. Angewandte Chemie, 2021, 133, 9085-9090.	1.6	5
12	Stabilization of Polynitrogen Anions in Tantalum Nitrogen Compounds at High Pressure. Angewandte Chemie - International Edition, 2021, 60, 9003-9008.	7.2	29
13	Stability of the peroxide group in BaO <sub>2</sub> under high pressure. Physical Review B, 2021, 103, .	1.1	1
14	X-ray Free Electron Laser-Induced Synthesis of $\mu$ -Iron Nitride at High Pressures. Journal of Physical Chemistry Letters, 2021, 12, 3246-3252.	2.1	14
15	Structure and composition of C-S-H compounds up to 143 GPa. Physical Review B, 2021, 103, .	1.1	19
16	High-Pressure Synthesis of Dirac Materials: Layered van der Waals Bonded BeN <sub>4</sub> Polymorph. Physical Review Letters, 2021, 126, 175501.	2.9	90
17	Contrasting opacity of bridgmanite and ferropericlase in the lowermost mantle: Implications to radiative and electrical conductivity. Earth and Planetary Science Letters, 2021, 562, 116871.	1.8	7
18	Memory of pressure-induced superconductivity in a phase-change alloy. Physical Review B, 2021, 103, .	1.1	7

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19	Lattice melting and superconductivity in a group IV-VI compound. <i>Physical Review B</i> , 2021, 103, .	1.1	3
20	Immiscibility in N <sub>2</sub> –H <sub>2</sub> O solids up to 140 GPa. <i>Journal of Chemical Physics</i> , 2021, 154, 234505.	1.2	3
21	Realization of an Ideal Cairo Tessellation in Nickel Diazenide NiN <sub>2</sub> : High-Pressure Route to Pentagonal 2D Materials. <i>ACS Nano</i> , 2021, 15, 13539-13546.	7.3	55
22	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
23	Structure and properties of two superionic ice phases. <i>Nature Physics</i> , 2021, 17, 1233-1238.	6.5	41
24	Ethane and methane at high pressures: structure and stability. <i>Journal of Chemical Physics</i> , 2021, 155, 184503.	1.2	2
25	Structural and vibrational properties of methane up to 71 GPa. <i>Physical Review B</i> , 2021, 104, .	1.1	2
26	Raman spectroscopy on hydrogenated graphene under high pressure. <i>Carbon</i> , 2020, 156, 549-557.	5.4	18
27	A Spectroscopic Study of the Insulator–Metal Transition in Liquid Hydrogen and Deuterium. <i>Advanced Science</i> , 2020, 7, 1901668.	5.6	15
28	Dinitrogen as a Universal Electron Acceptor in Solid-State Chemistry: An Example of Uncommon Metallic Compounds Na <sub>3</sub> (N <sub>2</sub> ) <sub>4</sub> and NaN <sub>2</sub> . <i>Inorganic Chemistry</i> , 2020, 59, 14819-14826.	1.9	20
29	Structure and stability of 2H–MoS <sub>2</sub> at high pressure and low temperatures. <i>Physical Review B</i> , 2020, 102, .	1.1	8
30	Novel Hydrogen Clathrate Hydrate. <i>Physical Review Letters</i> , 2020, 125, 255702.	2.9	9
31	Blocked radiative heat transport in the hot pyrolytic lower mantle. <i>Earth and Planetary Science Letters</i> , 2020, 537, 116176.	1.8	15
32	The effect of pressure on the negative thermal expansion of solid methane. <i>Low Temperature Physics</i> , 2020, 46, 177-180.	0.2	2
33	The Behavior of H <sub>2</sub> in Aqueous Fluids under High Temperature and Pressure. <i>Elements</i> , 2020, 16, 33-38.	0.5	12
34	Phase diagram of hydrogen at extreme pressures and temperatures; updated through 2019 (Review) <i>Tj ETQq0 0 0 rBT /Overlock 10 Tf</i>	0.2	15
35	High-Pressure Synthesis of Metal–Inorganic Frameworks Hf <sub>4</sub> N <sub>20</sub> ·N <sub>2</sub> , WN <sub>8</sub> ·N <sub>2</sub> , and Os <sub>5</sub> N <sub>28</sub> ·3N <sub>2</sub> with Polymeric Nitrogen Linkers. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 10321-10326.	7.2	36
36	Polymorphism of polymeric nitrogen at high pressures. <i>Journal of Chemical Physics</i> , 2020, 152, 244502.	1.2	13

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37	Low thermal conductivity of iron-silicon alloys at Earth's core conditions with implications for the geodynamo. <i>Nature Communications</i> , 2020, 11, 3332.	5.8	39
38	Thermal conductivity near the bottom of the Earth's lower mantle: Measurements of pyrolite up to 120 GPa and 2500 K. <i>Earth and Planetary Science Letters</i> , 2020, 536, 116161.	1.8	18
39	Pressure tuning of the charge density wave and superconductivity in $\text{HfTeO}_5$ . <i>Physical Review B</i> , 2020, 101, .	0.8	28
40	Melting and refreezing of zirconium observed using ultrafast x-ray diffraction. <i>Physical Review Research</i> , 2020, 2, .	1.3	22
41	Advanced integrated optical spectroscopy system for diamond anvil cell studies at GSECARS. <i>High Pressure Research</i> , 2019, 39, 457-470.	0.4	44
42	High-pressure integrated synchrotron infrared spectroscopy system at the Shanghai Synchrotron Radiation Facility. <i>Review of Scientific Instruments</i> , 2019, 90, 093905.	0.6	4
43	High-Pressure Phase Diagrams of $\text{Na}_2\text{CO}_3$ and $\text{K}_2\text{CO}_3$ . <i>Minerals (Basel, Switzerland)</i> , 2019, 9, 599.	0.8	11
44	Pressure effect on the electronic, structural, and vibrational properties of layered $\text{HfTeO}_5$ . <i>Physical Review B</i> , 2019, 99, .	1.1	26
45	Comment on "High-Pressure Behavior of Hydrogen and Deuterium at Low Temperatures". <i>Physical Review Letters</i> , 2019, 122, 199601.	2.9	2
46	Response to Comment on "Insulator-metal transition in dense fluid deuterium". <i>Science</i> , 2019, 363, .	6.0	5
47	Helium-hydrogen immiscibility at high pressures. <i>Journal of Chemical Physics</i> , 2019, 150, 114504.	1.2	5
48	The Mg-carbonate-Fe interaction: Implication for the fate of subducted carbonates and formation of diamond in the lower mantle. <i>Geoscience Frontiers</i> , 2019, 10, 1449-1458.	4.3	15
49	Enhancement of thermoelectric performance across the topological phase transition in dense lead selenide. <i>Nature Materials</i> , 2019, 18, 1321-1326.	13.3	87
50	Intermolecular coupling and fluxional behavior of hydrogen in phase IV. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 25512-25515.	3.3	11
51	Synthesis and properties of selenium trihydride at high pressures. <i>Physical Review B</i> , 2018, 97, .	1.1	12
52	Synthesis of Xenon and Iron-Nickel Intermetallic Compounds at Earth's Core Thermodynamic Conditions. <i>Physical Review Letters</i> , 2018, 120, 096001.	2.9	39
53	Kinetic boundaries and phase transformations of ice $\text{Ic}$ at high pressure. <i>Journal of Chemical Physics</i> , 2018, 148, 044508.	1.2	11
54	Synthesis and Raman spectroscopy of a layered $\text{SiS}_2$ phase at high pressures. <i>Journal of Chemical Physics</i> , 2018, 148, 014503.	1.2	13

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55	Mode Grüneisen parameters of an efficient thermoelectric half-Heusler. Journal of Applied Physics, 2018, 124, .	1.1	12
56	Uranium polyhydrides at moderate pressures: Prediction, synthesis, and expected superconductivity. Science Advances, 2018, 4, eaat9776.	4.7	82
57	Reply to "Comment on "Synthesis and properties of selenium trihydride at high pressures". Physical Review B, 2018, 98, .	1.1	0
58	Nontrivial metallic state of $\text{MoS}_2$ . Physical Review B, 2018, 97, .	1.1	0
59	Metallization and molecular dissociation of dense fluid nitrogen. Nature Communications, 2018, 9, 2624.	5.8	38
60	Iodine in Metal-Organic Frameworks at High Pressure. Journal of Physical Chemistry A, 2018, 122, 6109-6117.	1.1	26
61	Insulator-metal transition in dense fluid deuterium. Science, 2018, 361, 677-682.	6.0	108
62	A stable compound of helium and sodium at high pressure. Nature Chemistry, 2017, 9, 440-445.	6.6	276
63	Stability of $\text{Ar}(\text{H}_2)_2$ to 358 GPa. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 3596-3600.	3.3	23
64	Radiative conductivity and abundance of post-perovskite in the lowermost mantle. Earth and Planetary Science Letters, 2017, 479, 43-49.	1.8	25
65	Comment on "Evidence of a first-order phase transition to metallic hydrogen". Physical Review B, 2017, 96, .	1.1	12
66	Aragonite-II and $\text{CaCO}_3$ -VII: New High-Pressure, High-Temperature Polymorphs of $\text{CaCO}_3$ . Crystal Growth and Design, 2017, 17, 6291-6296.	1.4	61
67	Comment on "Observation of the Wigner-Huntington transition to metallic hydrogen". Science, 2017, 357, .	6.0	41
68	Raman spectroscopy and x-ray diffraction of $\text{CaC}_3\text{O}$ at lower mantle pressures. Physical Review B, 2017, 96, .	1.1	54
69	Optical signatures of low spin $\text{Fe}^{3+}$ in NAL at high pressure. Journal of Geophysical Research: Solid Earth, 2017, 122, 3565-3573.	1.4	14
70	High-pressure phase transition of alkali metal-transition metal deuteride $\text{Li}_2\text{PdD}_2$ . Journal of Chemical Physics, 2017, 146, 234506.	1.2	2
71	Stable high-pressure phases in the H-S system determined by chemically reacting hydrogen and sulfur. Physical Review B, 2017, 95, .	1.1	60
72	Elasticity and Poisson's ratio of hexagonal close-packed hydrogen at high pressures. Physical Review B, 2017, 95, .	1.1	6

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73	Reduced radiative conductivity of low spin FeO <sub>6</sub> -octahedra in FeCO <sub>3</sub> at high pressure and temperature. Earth and Planetary Science Letters, 2016, 449, 20-25.	1.8	25
74	Synthesis of Ultra-incompressible sp <sup>3</sup> -Hybridized Carbon Nitride with 1:1 Stoichiometry. Chemistry of Materials, 2016, 28, 6925-6933.	3.2	41
75	Photochemistry within Compressed Sodium Azide. Journal of Physical Chemistry C, 2016, 120, 28176-28185.	1.5	9
76	Novel high-pressure nitrogen phase formed by compression at low temperature. Physical Review B, 2016, 93, .	1.1	31
77	High-pressure structural study of $MnF_2$ . Physical Review B, 2016, 93, .	1.1	0
78	Realization of insulating state and superconductivity in the Rashba semiconductor BiTeCl. Physical Review B, 2016, 93, .	1.1	23
79	Optical Properties of Fluid Hydrogen at the Transition to a Conducting State. Physical Review Letters, 2016, 116, 255501.	2.9	74
80	Hydrogen sulfide at high pressure: Change in stoichiometry. Physical Review B, 2016, 93, .	1.1	97
81	Electronic correlations and pressure-induced metallicity in $LaMnPO_8$ revealed via infrared spectroscopy. Physical Review B, 2016, 94, .	1.1	0
82	Stability of numerous novel potassium chlorides at high pressure. Scientific Reports, 2016, 6, 26265.	1.6	21
83	Synthesis of sodium polyhydrides at high pressures. Nature Communications, 2016, 7, 12267.	5.8	79
84	Combined experimental and computational study of high-pressure behavior of triphenylene. Scientific Reports, 2016, 6, 25600.	1.6	12
85	Direct measurement of thermal conductivity in solid iron at planetary core conditions. Nature, 2016, 534, 99-101.	13.7	222
86	Stable magnesium peroxide at high pressure. Scientific Reports, 2015, 5, 13582.	1.6	30
87	Pressure-induced phase transition in MnCO <sub>3</sub> and its implications on the deep carbon cycle. Journal of Geophysical Research: Solid Earth, 2015, 120, 4069-4079.	1.4	23
88	Formation of As-As Interlayer Bonding in the collapsed tetragonal phase of NaFe <sub>2</sub> As <sub>2</sub> under pressure. Scientific Reports, 2015, 5, 9868.	1.6	16
89	Adjacent and Far Track Erasure Dependence on Media Soft Underlayer Permeability in Shielded Head Recording. IEEE Transactions on Magnetics, 2015, 51, 1-4.	1.2	0
90	Opacity and conductivity measurements in noble gases at conditions of planetary and stellar interiors. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 7925-7930.	3.3	48

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91	A flash heating method for measuring thermal conductivity at high pressure and temperature: Application to Pt. Physics of the Earth and Planetary Interiors, 2015, 247, 17-26.	0.7	33
92	Backbone NxH compounds at high pressures. Journal of Chemical Physics, 2015, 142, 214308.	1.2	38
93	Elastic anisotropy and Poisson's ratio of solid helium under pressure. Physical Review B, 2015, 92, .	1.1	8
94	Effect of salt on the H-bond symmetrization in ice. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8216-8220.	3.3	58
95	Optical properties of siderite (FeCO <sub>3</sub> ) across the spin transition: Crossover to iron-rich carbonates in the lower mantle. American Mineralogist, 2015, 100, 1059-1064.	0.9	43
96	Pressure, stress, and strain distribution in the double-stage diamond anvil cell. Journal of Applied Physics, 2015, 118, .	1.1	22
97	Equations of state of anhydrous AlF <sub>3</sub> and AlI <sub>3</sub> : Modeling of extreme condition halide chemistry. Journal of Chemical Physics, 2015, 142, 214506.	1.2	6
98	Poisson's ratio in cryocrystals under pressure. Low Temperature Physics, 2015, 41, 445-448.	0.2	1
99	Dielectric Anomalies in Crystalline Ice: Indirect Evidence of the Existence of a Liquid-Liquid Critical Point in H <sub>2</sub> O. Journal of Physical Chemistry C, 2015, 119, 20618-20622.	1.5	9
100	Experimental study of thermal conductivity at high pressures: Implications for the deep Earth's interior. Physics of the Earth and Planetary Interiors, 2015, 247, 11-16.	0.7	40
101	Crystal-field phenomena in hcpH <sub>2</sub> and D <sub>2</sub> at high pressures. Physical Review B, 2014, 90, .	1.1	7
102	High-pressure radiative conductivity of dense silicate glasses with potential implications for dark magmas. Nature Communications, 2014, 5, 5428.	5.8	19
103	Sub-100 ps laser-driven dynamic compression of solid deuterium with a $\lambda = 440$ nm laser pulse. Applied Physics Letters, 2014, 105, .	1.5	7
104	Phonon Localization by Mass Disorder in Dense Hydrogen-Deuterium Binary Alloy. Physical Review Letters, 2014, 113, 175501.	2.9	41
105	Pressure-Induced Metallization of Molybdenum Disulfide. Physical Review Letters, 2014, 113, 036802.	2.9	239
106	Vibrational, electronic and structural properties of wurtzite GaAs nanowires under hydrostatic pressure. Scientific Reports, 2014, 4, 6472.	1.6	10
107	Hydrogen (deuterium) vibron frequency as a pressure comparison gauge at multi-Mbar pressures. Journal of Applied Physics, 2013, 114, .	1.1	24
108	Unexpected Stable Stoichiometries of Sodium Chlorides. Science, 2013, 342, 1502-1505.	6.0	394

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109	Sound velocities of hexagonal close-packed H <sub>2</sub> and He under pressure. Physical Review B, 2013, 88, .	1.1	8
110	Carbon precipitation from heavy hydrocarbon fluid in deep planetary interiors. Nature Communications, 2013, 4, 2446.	5.8	70
111	Sound velocities in solid hydrogen under pressure. Low Temperature Physics, 2013, 39, 423-426.	0.2	4
112	Bonding, structures, and band gap closure of hydrogen at high pressures. Physical Review B, 2013, 87, .	1.1	54
113	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
114	Hydrogen at extreme pressures (Review Article). Low Temperature Physics, 2013, 39, 402-408.	0.2	25
115	Probing the different spatial scales of Kel F-800 polymeric glass under pressure. Scientific Reports, 2013, 3, 1290.	1.6	11
116	Effect of mass disorder on the lattice thermal conductivity of MgO periclase under pressure. Scientific Reports, 2013, 3, 2400.	1.6	90
117	Raman Spectroscopy at High Pressures. International Journal of Spectroscopy, 2012, 2012, 1-16.	1.4	40
118	Development of ultrafast spectroscopic techniques to study rapid chemical and physical changes in materials under extreme pressure and temperature conditions. Materials Research Society Symposia Proceedings, 2012, 1405, .	0.1	2
119	Shock compression of precompressed deuterium. , 2012, , .		0
120	Structural and chemical properties of the nitrogen-rich energetic material triaminoguanidinium 1-methyl-5-nitriminotetrazolate under pressure. Journal of Chemical Physics, 2012, 137, 054501.	1.2	15
121	Finite element calculations of the time dependent thermal fluxes in the laser-heated diamond anvil cell. Journal of Applied Physics, 2012, 111, .	1.1	27
122	Equation of state and Raman-active E <sub>2g</sub> phonon in phases I, II, and III of solid hydrogen and deuterium. Physical Review B, 2012, 86, .	1.1	14
123	Melting and dissociation of ammonia at high pressure and high temperature. Journal of Chemical Physics, 2012, 137, 064507.	1.2	26
124	Optical Spectroscopy in the Diamond Anvil Cell. Scottish Graduate Series, 2012, , 155-171.	0.1	0
125	Thermal conductivity of argon at high pressures and high temperatures. Journal of Applied Physics, 2012, 111, .	1.1	25
126	Mixed Molecular and Atomic Phase of Dense Hydrogen. Physical Review Letters, 2012, 108, 125501.	2.9	217



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127	Radiative heat transfer in a hydrous mantle transition zone. <i>Earth and Planetary Science Letters</i> , 2012, 357-358, 130-136.	1.8	25
128	Prospects for achieving high dynamic compression with low energy. <i>Applied Physics Letters</i> , 2012, 101, .	1.5	12
129	Static Compression of Tetramethylammonium Borohydride. <i>Journal of Physical Chemistry A</i> , 2011, 115, 11033-11038.	1.1	3
130	Persistence of Jahn-Teller Distortion up to the Insulator to Metal Transition in $\text{LaMnO}_3$ . <i>Physical Review Letters</i> , 2011, 106, 066402.	2.9	77
131	Polymorphism of dense, hot oxygen. <i>Journal of Chemical Physics</i> , 2011, 135, 084512.	1.2	13
132	Bonding changes in hot fluid hydrogen at megabar pressures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 6014-6019.	3.3	54
133	Elasticity of cubic boron nitride under ambient conditions. <i>Journal of Applied Physics</i> , 2011, 109, 063521.	1.1	41
134	Crossover from melting to dissociation of CO <sub>2</sub> under pressure: Implications for the lower mantle. <i>Earth and Planetary Science Letters</i> , 2011, 309, 318-323.	1.8	78
135	Compressional, temporal, and compositional behavior of H <sub>2</sub> -O <sub>2</sub> compound formed by high pressure x-ray irradiation. <i>Journal of Chemical Physics</i> , 2011, 134, 234502.	1.2	2
136	Probing Hydrogen at Extreme Conditions by Raman Spectroscopy. , 2011, , .		0
137	Thermal conductivity of hcp iron at high pressure and temperature. <i>High Pressure Research</i> , 2011, 31, 228-236.	0.4	26
138	Optical and electronic properties of dense sodium. <i>Physical Review B</i> , 2011, 83, .	1.1	48
139	High-pressure study of silane to 150 GPa. <i>Physical Review B</i> , 2011, 83, .	1.1	53
140	Molecular rotation in p-H <sub>2</sub> and o-D <sub>2</sub> in phase I under pressure. <i>Low Temperature Physics</i> , 2011, 37, 1038-1041.	0.2	9
141	Vibron frequencies of solid H <sub>2</sub> and D <sub>2</sub> to 200 GPa and implications for the P-T phase diagram. <i>Journal of Chemical Physics</i> , 2011, 134, 174501.	1.2	35
142	Raman spectroscopy of hydrogen confined under extreme conditions. <i>Journal of Physics: Conference Series</i> , 2010, 215, 012057.	0.3	8
143	Enhancement of superconductivity by pressure-driven competition in electronic order. <i>Nature</i> , 2010, 466, 950-953.	13.7	102
144	Pressure-induced bonding and compound formation in xenon-hydrogen solids. <i>Nature Chemistry</i> , 2010, 2, 50-53.	6.6	127

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145	X-ray diffraction in the pulsed laser heated diamond anvil cell. Review of Scientific Instruments, 2010, 81, 113902.	0.6	48
146	A virtual experiment control and data acquisition system for in situ laser heated diamond anvil cell Raman spectroscopy. Review of Scientific Instruments, 2010, 81, 093906.	0.6	5
147	Raman Probes of Molecules at Extreme Pressures and Temperatures. , 2010, , .		0
148	Pressure-induced phase transition in the electronic structure of palladium nitride. Physical Review B, 2010, 82, .	1.1	27
149	Spin of Semiconductor Quantum Dots under Hydrostatic Pressure. Nano Letters, 2010, 10, 358-362.	4.5	5
150	Effect of composition, structure, and spin state on the thermal conductivity of the Earth's lower mantle. Physics of the Earth and Planetary Interiors, 2010, 180, 148-153.	0.7	48
151	OPTICAL CONSTANTS OF SILICON CARBIDE FOR ASTROPHYSICAL APPLICATIONS. II. EXTENDING OPTICAL FUNCTIONS FROM INFRARED TO ULTRAVIOLET USING SINGLE-CRYSTAL ABSORPTION SPECTRA. Astrophysical Journal, 2009, 696, 1502-1516.	1.6	33
152	Lattice distortion of hcp solid helium under pressure. Physical Review B, 2009, 80, .	1.1	22
153	Comment on "Melting Line of Hydrogen at High Pressures" Physical Review Letters, 2009, 102, 149601; discussion 149602.	2.9	9
154	Symmetry Breaking in Dense Solid Hydrogen: Mechanisms for the Transitions to Phase II and Phase III. Physical Review Letters, 2009, 103, 105301.	2.9	20
155	Response to "Comment on "Measurement of thermal diffusivity at high-pressure using a transient heating technique" [Appl. Phys. Lett. 95, 096101 (2009)]. Applied Physics Letters, 2009, 95, 096102.	1.5	5
156	Comment on "High-Pressure Melting Curve of Nitrogen and the Liquid-Liquid Phase Transition" Physical Review Letters, 2009, 102, 049601; discussion 049602.	2.9	7
157	Anomalous optical and electronic properties of dense sodium. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 6525-6528.	3.3	53
158	Laser heating in diamond anvil cells: developments in pulsed and continuous techniques. Journal of Synchrotron Radiation, 2009, 16, 769-772.	1.0	33
159	Methane-derived hydrocarbons produced under upper-mantle conditions. Nature Geoscience, 2009, 2, 566-570.	5.4	126
160	Thermal conductivity of lower-mantle minerals. Physics of the Earth and Planetary Interiors, 2009, 174, 24-32.	0.7	74
161	Dissociative melting of ice VII at high pressure. Journal of Chemical Physics, 2009, 130, 124514.	1.2	45
162	Laser-heating diamond anvil cell studies of simple molecular systems at high pressures and temperatures. Journal of Physics and Chemistry of Solids, 2008, 69, 2217-2222.	1.9	25

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163	Radiative conductivity in the Earth's lower mantle. <i>Nature</i> , 2008, 456, 231-234.	13.7	91
164	Triple Point on the Melting Curve and Polymorphism of Nitrogen at High Pressure. <i>Physical Review Letters</i> , 2008, 101, 095502.	2.9	72
165	Synthesis and characterization of nitrides of iridium and palladium. <i>Journal of Materials Research</i> , 2008, 23, 1-5.	1.2	141
166	Uncovering a Pressure-Tuned Electronic Transition in $\text{Bi}_{1.98}\text{Sr}_{0.68}\text{Cu}_2\text{O}_8$ . <i>Physical Review Letters</i> , 2008, 100, 217003.		
167	<i>In situ</i> high-pressure x-ray diffraction study of H <sub>2</sub> O ice VII. <i>Journal of Chemical Physics</i> , 2008, 128, 064510.	1.2	70
168	Elasticity of (Mg,Fe)O Through the Spin Transition of Iron in the Lower Mantle. <i>Science</i> , 2008, 319, 451-453.	6.0	167
169	Pressure-induced metallization of silane. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 20-23.	3.3	156
170	Synchrotron infrared spectroscopy of the pressure-induced insulator-metal transitions in glassy $\text{As}_2\text{S}_3$ and $\text{Q}$ -dependent electronic excitations in osmium: Pressure- and temperature-induced effects. <i>Physical Review B</i> , 2008, 78, .	1.1	26
171		1.1	3
172	Thermodynamic Ground States of Platinum Metal Nitrides. <i>Physical Review Letters</i> , 2008, 100, 095501.	2.9	68
173	Raman scattering in hcp rare gas solids under pressure. <i>Physical Review B</i> , 2008, 78, .	1.1	30
174	Pressure-induced effect on electronic excitations in osmium. <i>Journal of Physics: Conference Series</i> , 2008, 121, 042001.	0.3	0
175	Oxygen isotope effect in a high-temperature superconductor under high pressure. <i>Journal of Physics Condensed Matter</i> , 2007, 19, 425236.	0.7	1
176	Measurement of thermal diffusivity at high pressure using a transient heating technique. <i>Applied Physics Letters</i> , 2007, 91, .	1.5	64
177	Proton delocalization under extreme conditions of high pressure and temperature. <i>Phase Transitions</i> , 2007, 80, 1051-1072.	0.6	22
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