

Hyunchae Cynn

List of Publications by Year in descending order

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times ranked

3619
citing authors

#	ARTICLE	IF	CITATIONS
1	High-pressure structural systematics of dysprosium metal compressed in a neon pressure medium to 182 GPa. <i>Physical Review B</i> , 2022, 105, .	1.1	0
2	The phase diagram of Ti-6Al-4V at high-pressures and high-temperatures. <i>Journal of Physics Condensed Matter</i> , 2021, 33, 154001.	0.7	12
3	The stability of subducted glaucophane with the Earth's secular cooling. <i>Nature Communications</i> , 2021, 12, 1496.	5.8	10
4	X-ray Free Electron Laser-Induced Synthesis of μ -Iron Nitride at High Pressures. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 3246-3252.	2.1	14
5	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
6	X-ray free electron laser heating of water and gold at high static pressure. <i>Communications Materials</i> , 2021, 2, .	2.9	9
7	High pressure stability of β -Zr: no evidence for isostructural phase transitions. <i>High Pressure Research</i> , 2021, 41, 247-266.	0.4	4
8	Stability of the sc16 polymorph of GaAs. <i>Journal of Physics and Chemistry of Solids</i> , 2021, 159, 110233.	1.9	1
9	Experimental and theoretical confirmation of an orthorhombic phase transition in niobium at high pressure and temperature. <i>Communications Materials</i> , 2020, 1, .	2.9	46
10	Valence instability across the magnetostructural transition in USb_2 . <i>Physical Review B</i> , 2020, 101, .	1.1	0
11	Subnanosecond phase transition dynamics in laser-shocked iron. <i>Science Advances</i> , 2020, 6, eaaz5132.	4.7	29
12	Melting curve and phase diagram of vanadium under high-pressure and high-temperature conditions. <i>Physical Review B</i> , 2019, 100, .	1.1	42
13	High-Pressure Materials, Energy, and Environmental Sciences Using SSRL and LCLS. <i>Synchrotron Radiation News</i> , 2019, 32, 32-33.	0.2	0
14	Two-phase equation of state for lithium fluoride. <i>Journal of Chemical Physics</i> , 2019, 150, 074506.	1.2	10
15	Phosphorus Dimerization in Gallium Phosphide at High Pressure. <i>Inorganic Chemistry</i> , 2018, 57, 2432-2437.	1.9	9
16	Contributed Review: Culet diameter and the achievable pressure of a diamond anvil cell: Implications for the upper pressure limit of a diamond anvil cell. <i>Review of Scientific Instruments</i> , 2018, 89, 111501.	0.6	30
17	Single crystal toroidal diamond anvils for high pressure experiments beyond 5 megabar. <i>Nature Communications</i> , 2018, 9, 3563.	5.8	65
18	A role for subducted super-hydrated kaolinite in Earth's deep water cycle. <i>Nature Geoscience</i> , 2017, 10, 947-953.	5.4	47

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19	Anomalous elastic properties across the $\hat{\Gamma}^3$ to $\hat{\Gamma}_\pm$ volume collapse in cerium. Nature Communications, 2017, 8, 1198.	5.8	20
20	Zero-Kelvin Compression Isotherms of the Elements 1 $\hat{\Gamma}^3$ to 100 GPa. Journal of Physical and Chemical Reference Data, 2016, 45, .	1.9	28
21	Comparison of the high-pressure behavior of the cerium oxides CeO_2 and Ce_2O_3 . High-temperature superconductivity stabilized by electron-hole interband coupling in collapsed tetragonal phase of KFe_2As_2 under high pressure. Physical Review B, 2015, 91, .	1.1	20
22	Publisher's Note: High-temperature superconductivity stabilized by electron-hole interband coupling in collapsed tetragonal phase of KFe_2As_2 under high pressure [Phys. Rev. B91, 060508(R) (2015)]. Physical Review B, 2015, 91, .	1.1	1
23	Solidification and fcc to metastable hcp phase transition in krypton under variable compression rates. Physical Review B, 2014, 90, .	1.1	15
24	Equation of state and high-pressure/high-temperature phase diagram of magnesium. Physical Review B, 2014, 90, .	1.1	69
25	Irreversible xenon insertion into a small-pore zeolite at moderate pressures and temperatures. Nature Chemistry, 2014, 6, 835-839.	6.6	42
26	Equation of state measurements by radiography provide evidence for a liquid-liquid phase transition in cerium. Journal of Physics: Conference Series, 2014, 500, 032011.	0.3	5
27	Strength and Debye temperature measurements of cerium across the $\hat{\Gamma}^3$ to $\hat{\Gamma}_\pm$ volume collapse: the lattice contribution. Journal of Physics Condensed Matter, 2013, 25, 345401.	0.7	14
28	Magnetism and structural distortions in uranium sulfide under pressure. Physical Review B, 2013, 87, .	1.1	11
29	High-temperature experiments using a resistively heated high-pressure membrane diamond anvil cell. Review of Scientific Instruments, 2013, 84, 095114.	0.6	38
30	Experimental and theoretical study of Ti-6Al-4V to 220 GPa. Physical Review B, 2012, 85, .	1.1	16
31	X-ray Emission Spectroscopy of Cerium Across the $\hat{\Gamma}^3$ to $\hat{\Gamma}_\pm$ Volume Collapse Transition. Physical Review Letters, 2012, 109, 195705.	2.9	38
32	Electronic structure of iron in magnesium silicate glasses at high pressure. Geophysical Research Letters, 2012, 39, .	1.5	14
33	Measurement of the Phonon Density of States of $\text{PuO}_2(+2\%Ga)$. Materials Research Society Symposia Proceedings, 2012, 1444, 141.	0.1	0
34	Measurement of the phonon density of states of $\text{PuO}_2(+2\%Ga)$: A critical test of theory. Physical Review B, 2012, 85, .	1.1	25
35	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

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37	Structural phase transition in vanadium at high pressure and high temperature: Influence of nonhydrostatic conditions. <i>Physical Review B</i> , 2011, 83, .	1.1	43
38	In situ X-ray diffraction study of the $\hat{\Gamma}$ to $\hat{\Gamma}'$ isothermal martensitic transformation kinetics in a Pu-Ga alloy. <i>Journal of Nuclear Materials</i> , 2011, 412, 327-333.	1.3	9
39	Interplay between magnetism, structure, and strong electron-phonon coupling in binary FeAs under pressure. <i>Physical Review B</i> , 2011, 83, .	1.1	11
40	An Experimental and Theoretical Multi-Mbar Study of Ti-6Al-4V. <i>Materials Research Society Symposia Proceedings</i> , 2011, 1369, 1.	0.1	2
41	Plasma etching of cavities into diamond anvils for experiments at high pressures and high temperatures. <i>High Pressure Research</i> , 2011, 31, 191-198.	0.4	3
42	Diamond anvil cell measurement of high-pressure yield strength of vanadium using $\langle i \rangle$ in situ $\langle /i \rangle$ thickness determination. <i>Physical Review B</i> , 2010, 81, .	1.1	21
43	High pressure crystal structure of PrN. <i>Journal of Physics: Conference Series</i> , 2010, 215, 012010.	0.3	10
44	Spin state of ferric iron in MgSiO ₃ perovskite and its effect on elastic properties. <i>Earth and Planetary Science Letters</i> , 2010, 289, 68-75.	1.8	129
45	Probing the isothermal $\hat{\Gamma}'$ to $\hat{\Gamma}$ martensitic transformation in Pu-Ga with in situ x-ray diffraction. <i>Materials Research Society Symposia Proceedings</i> , 2010, 1264, 1.	0.1	2
46	Elastic constants of osmium between 5 and 300 K. <i>Physical Review B</i> , 2009, 80, .	1.1	33
47	Experimental method for $\langle i \rangle$ in situ $\langle /i \rangle$ 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.	0.6	43
48	Atomic structure and phase transformations in Pu alloys. <i>Progress in Materials Science</i> , 2009, 54, 909-943.	16.0	43
49	Bulk modulus of osmium, 4×10^{11} dyn/cm ² at 300K. <i>Acta Materialia</i> , 2009, 57, 544-548.	3.8	25
50	Osmium's Debye temperature. <i>Journal of Physics and Chemistry of Solids</i> , 2008, 69, 211-213.	1.9	12
51	Thermal Signatures of the Kondo Volume Collapse in Cerium. <i>Physical Review Letters</i> , 2008, 101, 165703.	2.9	103
52	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, 14576-14579.	3.3	30
53	Transformation of molecular nitrogen to nonmolecular phases at megabar pressures by direct laser heating. <i>Physical Review B</i> , 2007, 76, .	1.1	74
54	Search for superconductivity in LiBCat high pressure: Diamond anvil cell experiments and first-principles calculations. <i>Physical Review B</i> , 2007, 75, .	1.1	24

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55	Dynamic diamond anvil cell (dDAC): A novel device for studying the dynamic-pressure properties of materials. Review of Scientific Instruments, 2007, 78, 073904.	0.6	81
56	Six-fold coordinated carbon dioxide VI. Nature Materials, 2007, 6, 34-38.	13.3	120
57	Pressure-Induced Polymerization of Carbon Monoxide: Disproportionation and Synthesis of an Energetic Lactonic Polymer. Chemistry of Materials, 2006, 18, 2520-2531.	3.2	92
58	Martensitic fcc-to-hcp Transformations in Solid Xenon under Pressure: A First-Principles Study. Physical Review Letters, 2006, 96, 035504.	2.9	33
59	X-ray diffraction and Raman studies of beryllium: Static and elastic properties at high pressures. Physical Review B, 2005, 72, .	1.1	42
60	High-Pressure-Induced Phase Transitions in Pentaerythritol: X-ray and Raman Studies. Journal of Physical Chemistry B, 2005, 109, 22581-22587.	1.2	14
61	Disproportionation and Other Transformations of N ₂ O at High Pressures and Temperatures to Lower Energy, Denser Phases. Journal of Physical Chemistry B, 2003, 107, 5922-5925.	1.2	25
62	Crystal structure of bent carbon dioxide phase IV. Physical Review B, 2003, 68, .	1.1	52
63	Phase diagram and equation of state of praseodymium at high pressures and temperatures. Physical Review B, 2003, 67, .	1.1	36
64	PLEIADES: a subpicosecond Thomson x-ray source for ultrafast materials probing. , 2003, , .		0
65	ULTRAFAST MATERIALS PROBING WITH THE LLNL THOMSON X-RAY SOURCE. , 2003, , .		3
66	Osmium has the Lowest Experimentally Determined Compressibility. Physical Review Letters, 2002, 88, 135701.	2.9	189
67	Crystal structure of pseudo-six-fold carbon dioxide phase II at high pressures and temperatures. Physical Review B, 2002, 65, .	1.1	66
68	Nonlinear Carbon Dioxide at High Pressures and Temperatures. Physical Review Letters, 2001, 86, 444-447.	2.9	63
69	Martensitic fcc-to-hcp Transformation Observed in Xenon at High Pressure. Physical Review Letters, 2001, 86, 4552-4555.	2.9	109
70	New $\sqrt{2}$ (fcc)-Cobalt to 210 GPa. Physical Review Letters, 2000, 84, 4132-4135.	2.9	123
71	X-ray induced luminescence of solid argon at high pressures: A pressure probe. Applied Physics Letters, 2000, 76, 3721-3722.	1.5	2
72	Crystal Structure of Carbon Dioxide at High Pressure: "Superhard" Polymeric Carbon Dioxide. Physical Review Letters, 1999, 83, 5527-5530.	2.9	232

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73	Equation of state, phase transition, decomposition of $\hat{\nu}^2$ -HMX (octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine) at high pressures. Journal of Chemical Physics, 1999, 111, 10229-10235.	1.2	180
74	Phase transition and decomposition of 90% hydrogen peroxide at high pressures. Journal of Chemical Physics, 1999, 110, 6836-6843.	1.2	16
75	Quartzlike Carbon Dioxide: An Optically Nonlinear Extended Solid at High Pressures and Temperatures. Science, 1999, 283, 1510-1513.	6.0	273
76	Equation of state of tantalum to 174 GPa. Physical Review B, 1999, 59, 8526-8529.	1.1	126
77	Vibrational spectra of dense, hydrous magnesium silicates at high pressure; importance of the hydrogen bond angle. American Mineralogist, 1999, 84, 454-464.	0.9	72
78	Phase diagram of uranium at high pressures and temperatures. Physical Review B, 1998, 57, 10359-10362.	1.1	100
79	Elasticity of TiO ₂ rutile to 1800 K. Physics and Chemistry of Minerals, 1998, 26, 31-43.	0.3	134
80	The phase diagram of cobalt at high pressure and temperature: the stability of α -cobalt and new β -cobalt. Journal of Physics Condensed Matter, 1998, 10, L311-L318.	0.7	54
81	Elastic properties of forsterite at high pressure obtained from the high-temperature database. Geophysical Monograph Series, 1998, , 345-355.	0.1	1
82	Elementary Reactions of Nitrogen and Oxygen with Boron and Carbon at High Pressures and Temperatures.. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 1998, 7, 1054-1056.	0.1	4
83	Experimental Issues in In-Situ Synchrotron X-Ray Diffraction at High Pressure and Temperature by Using a Laser-Heated Diamond-Anvil Cell. Materials Research Society Symposia Proceedings, 1997, 499, 419.	0.1	1
84	Direct elementary reactions of boron and nitrogen at high pressures and temperatures. Physical Review B, 1997, 56, 140-146.	1.1	62
85	Thermodynamic properties and hydrogen speciation from vibrational spectra of dense hydrous magnesium silicates. Physics and Chemistry of Minerals, 1996, 23, 361.	0.3	67
86	Thermal properties of forsterite, including C_v , calculated from $\hat{\nu} \pm KT$ through the entropy. Journal of Physics and Chemistry of Solids, 1996, 57, 1593-1599.	1.9	19
87	Grüneisen ratios of MgO from the calculation of entropy. The Journal of Physical Chemistry, 1995, 99, 7813-7818.	2.9	27
88	High-pressure IR spectra of lattice modes and OH vibrations in Fe-bearing wadsleyite. Journal of Geophysical Research, 1994, 99, 17717-17727.	3.3	50
89	Effects of cation disordering in a natural MgAl ₂ O ₄ spinel observed by rectangular parallelepiped ultrasonic resonance and Raman measurements. Pure and Applied Geophysics, 1993, 141, 415-444.	0.8	48
90	Effects of Cation Disordering in a Natural MgAl ₂ O ₄ Spinel Observed by Rectangular Parallelepiped Ultrasonic Resonance and Raman Measurements. , 1993, , 415-444.		11

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91	High-temperature Raman investigation of order-disorder behavior in the $MgAl_2O_4$ spinel. Physical Review B, 1992, 45, 500-502.	1.1	137
92	Fullerene formation in sputtering and electron beam evaporation processes. The Journal of Physical Chemistry, 1992, 96, 6866-6869.	2.9	51
93	High-pressure Raman study of one-dimensional crystals of the very polar molecule hydrogen cyanide. Physical Review B, 1990, 42, 4298-4303.	1.1	33