

Jianzhong Zhang

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papers

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117
ext. papers

3,796
ext. citations

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avg, IF

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L-index

#	Paper	IF	Citations
110	In situ X-ray observations of the coesite-stishovite transition: reversed phase boundary and kinetics. <i>Physics and Chemistry of Minerals</i> , 1996 , 23, 1	1.6	221
109	A new molybdenum nitride catalyst with rhombohedral MoS ₂ structure for hydrogenation applications. <i>Journal of the American Chemical Society</i> , 2015 , 137, 4815-22	16.4	148
108	Microstrain and grain-size analysis from diffraction peak width and graphical derivation of high-pressure thermomechanics. <i>Journal of Applied Crystallography</i> , 2008 , 41, 1095-1108	3.8	133
107	Synthesis, Crystal Structure, and Elastic Properties of Novel Tungsten Nitrides. <i>Chemistry of Materials</i> , 2012 , 24, 3023-3028	9.6	127
106	New experimental observations on the anhydrous solidus for peridotite KLB-1. <i>Geochemistry, Geophysics, Geosystems</i> , 2000 , 1, n/a-n/a	3.6	108
105	Thermal equations of state of the β and β' phases of zirconium. <i>Physical Review B</i> , 2005 , 71,	3.3	93
104	Enhancement of fracture toughness in nanostructured diamond/SiC composites. <i>Applied Physics Letters</i> , 2004 , 84, 1356-1358	3.4	90
103	Pressure and temperature dependence of elastic wave velocity of MgSiO ₃ perovskite and the composition of the lower mantle. <i>Physics of the Earth and Planetary Interiors</i> , 2005 , 151, 143-154	2.3	85
102	A novel helical double-layered cobalt(II)-organic framework with tetranuclear [Co ₄ (μ^3 -OH) ₂] clusters linked by an unsymmetrical pyridylbenzoate ligand. <i>Inorganic Chemistry</i> , 2007 , 46, 9021-3	5.1	83
101	Elasticity of (Mg _{0.83} ,Fe _{0.17})O ferropericlase at high pressure: ultrasonic measurements in conjunction with X-radiation techniques. <i>Earth and Planetary Science Letters</i> , 2002 , 203, 557-566	5.3	83
100	High-pressure equation of state of magnesite: New data and a reappraisal. <i>American Mineralogist</i> , 1999 , 84, 861-870	2.9	80
99	Effect of solute segregation on the strength of nanocrystalline alloys: Inverse Hall-Petch relation. <i>Acta Materialia</i> , 2007 , 55, 5007-5013	8.4	76
98	Thermal equation of state of garnets along the pyrope-majorite join. <i>Physics of the Earth and Planetary Interiors</i> , 1998 , 105, 59-71	2.3	74
97	Elasticity of single crystal and polycrystalline MgSiO ₃ perovskite by Brillouin spectroscopy. <i>Geophysical Research Letters</i> , 2004 , 31, n/a-n/a	4.9	68
96	The Hardest Superconducting Metal Nitride. <i>Scientific Reports</i> , 2015 , 5, 13733	4.9	61
95	Pressure-induced cubic to monoclinic phase transformation in erbium sesquioxide Er ₂ O ₃ . <i>Inorganic Chemistry</i> , 2007 , 46, 6164-9	5.1	61
94	Stress-induced large Curie temperature enhancement in Fe ₆₄ Ni ₃₆ Invar alloy. <i>Physical Review B</i> , 2009 , 80,	3.3	58

93	Experimental constraints on the phase diagram of elemental zirconium. <i>Journal of Physics and Chemistry of Solids</i> , 2005 , 66, 1213-1219	3.9	58
92	Elasticity of polycrystalline pyrope (Mg ₃ Al ₂ Si ₃ O ₁₂) to 9GPa and 1000°C. <i>Physics of the Earth and Planetary Interiors</i> , 2006 , 155, 179-190	2.3	57
91	Thermal equation of state of magnesiowüstite (Mg _{0.6} Fe _{0.4})O. <i>Physics of the Earth and Planetary Interiors</i> , 2002 , 129, 301-311	2.3	50
90	Encapsulation kinetics and dynamics of carbon monoxide in clathrate hydrate. <i>Nature Communications</i> , 2014 , 5, 4128	17.4	49
89	Hardness, elastic, and electronic properties of chromium monoboride. <i>Applied Physics Letters</i> , 2015 , 106, 221902	3.4	46
88	Thermoelastic equation of state of jadeite NaAlSi ₂ O ₆ : An energy-dispersive Reitveld Refinement Study of low symmetry and multiple phases diffraction. <i>Geophysical Research Letters</i> , 1997 , 24, 5-8	4.9	45
87	Phase transition and compressibility in silicon nanowires. <i>Nano Letters</i> , 2008 , 8, 2891-5	11.5	45
86	Experimental invalidation of phase-transition-induced elastic softening in CrN. <i>Physical Review B</i> , 2012 , 86,	3.3	42
85	Thermal equations of state for titanium obtained by high pressure-temperature diffraction studies. <i>Physical Review B</i> , 2008 , 78,	3.3	42
84	Effect of defects on the elastic properties of Wustite. <i>Physical Review Letters</i> , 2000 , 84, 507-10	7.4	42
83	Formation of zirconium metallic glass. <i>Nature</i> , 2004 , 430, 332-5	50.4	41
82	What is the theoretical density of a nanocrystalline material?. <i>Acta Materialia</i> , 2008 , 56, 3663-3671	8.4	39
81	Synthesis, Hardness, and Electronic Properties of Stoichiometric VN and CrN. <i>Crystal Growth and Design</i> , 2016 , 16, 351-358	3.5	38
80	Nanocrystalline tungsten carbide: As incompressible as diamond. <i>Applied Physics Letters</i> , 2009 , 95, 211906	9.4	38
79	Strength weakening by nanocrystals in ceramic materials. <i>Nano Letters</i> , 2007 , 7, 3196-9	11.5	38
78	First-principles prediction of mechanical properties of gamma-boron. <i>Applied Physics Letters</i> , 2009 , 94, 191906	3.4	37
77	Pressure-Induced Amorphization and Phase Transformations in LiAlSiO ₄ . <i>Chemistry of Materials</i> , 2005 , 17, 2817-2824	9.6	35
76	Synthesis of stoichiometric and bulk CrN through a solid-state ion-exchange reaction. <i>Chemistry - A European Journal</i> , 2012 , 18, 15459-63	4.8	32

75	Comparative studies of compressibility between nanocrystalline and bulk nickel. <i>Applied Physics Letters</i> , 2007 , 90, 043112	3-4	32
74	Pressure-driven phase transitions in NaBH ₄ : theory and experiments. <i>Journal of Physical Chemistry B</i> , 2007 , 111, 13873-6	3-4	32
73	Nanoscale twinning-induced elastic strengthening in silicon carbide nanowires. <i>Scripta Materialia</i> , 2010 , 63, 981-984	5-6	31
72	Thermal equation of state of rhenium diboride by high pressure-temperature synchrotron x-ray studies. <i>Physical Review B</i> , 2008 , 78,	3-3	31
71	Thermomechanics of nanocrystalline nickel under high pressure-temperature conditions. <i>Nano Letters</i> , 2007 , 7, 426-32	11.5	31
70	Crystal structure and encapsulation dynamics of ice II-structured neon hydrate. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 10456-61	11.5	28
69	Elasticity of β phase zirconium. <i>Physical Review B</i> , 2007 , 76,	3-3	28
68	Pressure induced structural changes in the potential hydrogen storage compound ammonia borane: A combined X-ray, neutron and theoretical investigation. <i>Chemical Physics Letters</i> , 2010 , 495, 203-207	2.5	27
67	High-temperature phase transitions in CsH ₂ PO ₄ under ambient and high-pressure conditions: a synchrotron x-ray diffraction study. <i>Journal of Chemical Physics</i> , 2007 , 127, 194701	3-9	26
66	In situ neutron diffraction study of deuterated portlandite Ca(OD) ₂ at high pressure and temperature. <i>Physics and Chemistry of Minerals</i> , 2007 , 34, 223-232	1.6	26
65	Enhancement of yield strength in zirconium metal through high-pressure induced structural phase transition. <i>Applied Physics Letters</i> , 2007 , 91, 201907	3-4	26
64	The strength of moissanite. <i>American Mineralogist</i> , 2002 , 87, 1005-1008	2.9	26
63	Constitutive law and flow mechanism in diamond deformation. <i>Scientific Reports</i> , 2012 , 2, 876	4-9	25
62	Phase-transition induced elastic softening and band gap transition in semiconducting PbS at high pressure. <i>Inorganic Chemistry</i> , 2013 , 52, 8638-43	5-1	24
61	High pressure-high temperature synthesis of lithium-rich Li ₃ O(Cl, Br) and Li ₃ Ca _x /2OCl anti-perovskite halides. <i>Inorganic Chemistry Communication</i> , 2014 , 48, 140-143	3-1	23
60	High-pressure neutron diffraction studies at LANSCE. <i>Applied Physics A: Materials Science and Processing</i> , 2010 , 99, 585-599	2.6	23
59	Thermal equation of state of copper studied by high P-T synchrotron x-ray diffraction. <i>Applied Physics Letters</i> , 2009 , 94, 071904	3-4	22
58	Impurity effects on the phase transformations and equations of state of zirconium metals. <i>Journal of Physics and Chemistry of Solids</i> , 2007 , 68, 2297-2302	3-9	22

57	Synthesis of Onion-Like EMoN Catalyst for Selective Hydrogenation. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 19451-19460	3.8	21
56	Thermal equations of state and phase relation of PbTiO ₃ : A high P-T synchrotron x-ray diffraction study. <i>Journal of Applied Physics</i> , 2011 , 110, 084103	2.5	21
55	Experimental constraints on the phase diagram of titanium metal. <i>Journal of Physics and Chemistry of Solids</i> , 2008 , 69, 2559-2563	3.9	21
54	Thermal equation of state of silicon carbide. <i>Applied Physics Letters</i> , 2016 , 108, 061906	3.4	21
53	High-temperature crystal structures and chemical modifications in RbH(2)PO(4). <i>Journal of Physics Condensed Matter</i> , 2009 , 21, 325401	1.8	20
52	Yield strength enhancement of MgO by nanocrystals. <i>Journal of Materials Science</i> , 2005 , 40, 5763-5766	4.3	19
51	Variable pressure-temperature neutron diffraction of wüstite (Fe _{1-x} O): Absence of long-range magnetic order to 20GPa. <i>Applied Physics Letters</i> , 2005 , 86, 052505	3.4	19
50	Revisit of Pressure-Induced Phase Transition in PbSe: Crystal Structure, and Thermoelastic and Electrical Properties. <i>Inorganic Chemistry</i> , 2015 , 54, 4981-9	5.1	18
49	Sulfur-catalyzed phase transition in MoS ₂ under high pressure and temperature. <i>Journal of Physics and Chemistry of Solids</i> , 2014 , 75, 100-104	3.9	18
48	High Pressure Phase-Transformation Induced Texture Evolution and Strengthening in Zirconium Metal: Experiment and Modeling. <i>Scientific Reports</i> , 2015 , 5, 12552	4.9	18
47	Superhard diamond/tungsten carbide nanocomposites. <i>Applied Physics Letters</i> , 2011 , 98, 121914	3.4	17
46	Anisotropic elasticity of jarosite: A high-P synchrotron XRD study. <i>American Mineralogist</i> , 2010 , 95, 19-23	2.9	16
45	Pressure-induced long-range magnetic ordering in cobalt oxide. <i>Physical Review B</i> , 2006 , 74,	3.3	15
44	Strain stiffening, high load-invariant hardness, and electronic anomalies of boron phosphide under pressure. <i>Physical Review B</i> , 2020 , 101,	3.3	14
43	High-temperature neutron diffraction study of deuterated brucite. <i>Physics and Chemistry of Minerals</i> , 2013 , 40, 799-810	1.6	14
42	In situ phase transition study of nano- and coarse-grained TiO ₂ under high pressure/temperature conditions. <i>Journal of Physics Condensed Matter</i> , 2008 , 20, 125224	1.8	14
41	Elastic properties of yttrium-doped BaCeO ₃ perovskite. <i>Applied Physics Letters</i> , 2007 , 90, 161903	3.4	14
40	Unusual Mott transition in multiferroic PbCrO ₃ . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 15320-5	11.5	13

39	Pressure-induced reversal between thermal contraction and expansion in ferroelectric PbTiO ₃ . <i>Scientific Reports</i> , 2014 , 4, 3700	4.9	13
38	Compressibility and pressure-induced amorphization of guest-free melanophlogite: An in-situ synchrotron X-ray diffraction study. <i>American Mineralogist</i> , 2007 , 92, 166-173	2.9	13
37	Comparative studies of constitutive properties of nanocrystalline and bulk iron during compressive deformation. <i>Acta Materialia</i> , 2011 , 59, 3384-3389	8.4	12
36	Development of high P $\bar{\Gamma}$ neutron diffraction at LANSCE Toroidal anvil press, TAP-98, in the HiPPO diffractometer 2005 , 461-474		12
35	High pressure synchrotron x-ray diffraction studies of superprotonic transitions in phosphate solid acids. <i>Solid State Ionics</i> , 2012 , 213, 58-62	3.3	10
34	Unusual structural evolution in KCuF ₃ at high temperatures by neutron powder diffraction. <i>Physical Review B</i> , 2013 , 87,	3.3	10
33	In Situ Time-Resolved Phase Evolution and Phase Transformations in U-6 Wt Pct Nb. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2019 , 50, 2619-2628	2.3	9
32	Grain size effects on the compressibility and yield strength of copper. <i>Journal of Physics and Chemistry of Solids</i> , 2013 , 74, 75-79	3.9	9
31	Temperature and pressure effects of multiferroic Bi ₂ NiTiO ₆ compound. <i>Journal of Applied Physics</i> , 2013 , 113, 143514	2.5	9
30	Equations of state and phase transformation of depleted uranium DU-238 by high pressure-temperature diffraction studies. <i>Physical Review B</i> , 2007 , 75,	3.3	9
29	Effects of defect and pressure on the thermal expansivity of Fe x O. <i>Physics and Chemistry of Minerals</i> , 2005 , 32, 241-247	1.6	9
28	A new lithium-rich anti-spinel in Li-O-Br system. <i>Chemical Communications</i> , 2015 , 51, 9666-9	5.8	8
27	Thermal equations of state and melting of lithium deuteride under high pressure. <i>Journal of Applied Physics</i> , 2008 , 103, 093513	2.5	8
26	HighP-TNano-Mechanics of Polycrystalline Nickel. <i>Nanoscale Research Letters</i> , 2007 , 2, 476-91	5	8
25	Porous ice phases with VI and distorted VII structures constrained in nanoporous silica. <i>Nano Letters</i> , 2014 , 14, 6554-8	11.5	7
24	Thermal equation of state and thermodynamic Grüneisen parameter of beryllium metal. <i>Journal of Applied Physics</i> , 2013 , 114, 173509	2.5	7
23	Comparative studies of yield strength and elastic compressibility between nanocrystalline and bulk cobalt. <i>Journal of Applied Physics</i> , 2012 , 111, 113506	2.5	7
22	Thermal equation of state of TiC: A synchrotron x-ray diffraction study. <i>Journal of Applied Physics</i> , 2010 , 107, 113517	2.5	7

21	Anomalous Surface Doping Effect in Semiconductor Nanowires. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 11824-11830	3.8	6
20	Equation of state, phase stability, and phase transformations of uranium-6 wt. % niobium under high pressure and temperature. <i>Journal of Applied Physics</i> , 2018 , 123, 175103	2.5	6
19	Equation of state and phase evolution of U-7.7Nb with implications for the understanding of dynamic behavior of U-Nb alloys. <i>Applied Physics Letters</i> , 2019 , 114, 221901	3.4	5
18	Interactive visualization of multi-data-set Rietveld analyses using. <i>Journal of Applied Crystallography</i> , 2018 , 51, 943-951	3.8	5
17	The lattice parameter λ -composition relationship of the body centered cubic uranium-niobium alloys. <i>Journal of Nuclear Materials</i> , 2020 , 542, 152493	3.3	5
16	Local structural distortion and electrical transport properties of Bi(Ni _{1/2} Ti _{1/2})O ₃ perovskite under high pressure. <i>Scientific Reports</i> , 2015 , 5, 18229	4.9	5
15	Phase Stability and Compressibility of 3R-MoN at High Pressure. <i>Scientific Reports</i> , 2019 , 9, 10524	4.9	3
14	Structural disorder, sublattice melting, and thermo-elastic properties of anti-perovskite Li ₃ OBr under high pressure and temperature. <i>Applied Physics Letters</i> , 2020 , 117, 081904	3.4	3
13	Neutron diffraction study of crystal structure and temperature driven molecular reorientation in solid β -CO. <i>AIP Advances</i> , 2020 , 10, 045301	1.5	2
12	New exploration on phase transition and structure of PbS under high pressure and temperature. <i>Journal of Applied Physics</i> , 2013 , 113, 043509	2.5	2
11	High pressure neutron and synchrotron X-ray diffraction studies of tetragonal LaFeAsO _{0.9} F _{0.1} . <i>High Pressure Research</i> , 2012 , 32, 405-411	1.6	2
10	Nuclear and charge density distributions in ferroelectric PbTiO ₃ : maximum entropy method analysis of neutron and X-ray diffraction data. <i>Powder Diffraction</i> , 2013 , 28, 276-280	1.8	2
9	Compressive-tensile deformation of nanocrystalline nickel at high pressure and temperature conditions. <i>Applied Physics Letters</i> , 2013 , 103, 043118	3.4	2
8	Equation of state and thermodynamic Grüneisen parameter of monoclinic 1,1-diamino-2,2-dinitroethylene. <i>Journal of Physics Condensed Matter</i> , 2016 , 28, 395402	1.8	2
7	Line profile analysis of dislocation densities of the β phase 239Pu-2.0 at%Ga alloy using neutron diffraction. <i>Journal of Nuclear Materials</i> , 2019 , 517, 152-156	3.3	2
6	Equation of state and strain-induced stabilization of β phase stabilized plutonium alloys. <i>Journal of Nuclear Materials</i> , 2019 , 524, 54-59	3.3	1
5	Strength measurement of boron suboxide B ₆ O at high pressure and temperature using in situ synchrotron X-ray diffraction. <i>High Pressure Research</i> , 2008 , 28, 423-430	1.6	1
4	Pressure-induced shear-mode elastic softening in orthorhombic BaCe _{0.85} Y _{0.15} O _{2.925} perovskite. <i>High Pressure Research</i> , 2008 , 28, 415-421	1.6	0

- 3 Time-resolved phase and compositional homogenization of segregated uranium-niobium alloys above the monotectoid temperature. *Journal of Nuclear Materials*, **2022**, 564, 153673 3.3 ○
- 2 Compressibility and thermoelasticity of CrN. *High Pressure Research*, **2020**, 40, 423-433 1.6
- 1 Synthesis and Characterization of NanoComposite Superhard Materials. *Materials Research Society Symposia Proceedings*, **2006**, 987, 1