Wilson A Crichton

List of Publications by Year
in descending order

127 papers	3,945 citations	94433 37 h-index	144013 57 g-index
132 all docs	132 docs citations	132 times ranked	4127 citing authors

#	Article	IF	Citations
1	Equivalence of the Boson Peak in Glasses to the Transverse Acoustic vanÂHove Singularity in Crystals. Physical Review Letters, 2011, 106, 225501.	7.8	234
2	Amorphous silica-like carbon dioxide. Nature, 2006, 441, 857-860.	27.8	153
3	Development of a new state-of-the-art beamline optimized for monochromatic single-crystal and powder X-ray diffraction under extreme conditions at the ESRF. Journal of Synchrotron Radiation, 2005, 12, 659-664.	2.4	133
4	Kinetics of antigorite dehydration: A real-time X-ray diffraction study. Earth and Planetary Science Letters, 2005, 236, 899-913.	4.4	112
5	Ironâ€“silica interaction at extreme conditions and the electrically conducting layer at the base of Earth's mantle. Nature, 2003, 422, 58-61.	27.8	108
6	In situ measurement of viscosity of liquids in the Fe-FeS system at high pressures and temperatures. American Mineralogist, 2000, 85, 1838-1842.	1.9	101
7	Effect of Densification on the Density of Vibrational States of Glasses. Physical Review Letters, 2006, 97, 135501.	7.8	99
8	Breakdown of intermediate-range order in liquid GeSe2 at high pressure. Nature, 2001, 414, 622-625.	27.8	96
9	Aggregated diamond nanorods, the densest and least compressible form of carbon. Applied Physics Letters, 2005, 87, 083106.	3.3	96
10	High-Pressure Effect on<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>PbTiO</mml:mi><mml:mn>3</mml:mn></mml:msub></mml:math>: An Investigation by Raman and X-Ray Scattering up to 63 GPa. Physical Review Letters, 2008, 101, 237601.	7.8	95
11	Structures of dolomite at ultrahigh pressure and their influence on the deep carbon cycle. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 13509-13514.	7.1	89
12	Multichannel collimator for structural investigation of liquids and amorphous materials at high pressures and temperatures. Review of Scientific Instruments, 2002, 73, 3570-3574.	1.3	82
13	Double-sided laser heating system forin situhigh pressureâ€“high temperature monochromatic x-ray diffraction at the esrf. High Pressure Research, 2005, 25, 71-83.	1.2	77
14	Cation disorder in dolomite, CaMg(CO₃)₂, and its influence on the aragonite + magnesite â†” dolomite reaction boundary. American Mineralogist, 2004, 89, 1142-1147.	1.9	76
15	Beating the Miscibility Barrier between Iron Group Elements and Magnesium by High-Pressure Alloying. Physical Review Letters, 2005, 95, 245502.	7.8	65
16	Structural Description of Pressure-Induced Amorphization inZrW2O8. Physical Review Letters, 2007, 98, 225501.	7.8	65
17	Establishing the structure of GeS₂at high pressures and temperatures: a combined approach using x-ray and neutron diffraction. Journal of Physics Condensed Matter, 2009, 21, 474217.	1.8	59
18	Structure of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>GeO</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:ma at pressures up to 8.6 GPa. Physical Review B, 2010, 81, .	3.2	59

#	Article	IF	Citations
19	Importance of Correlation Effects in hcp Iron Revealed by a Pressure-Induced Electronic Topological Transition. Physical Review Letters, 2013, 110, 117206.	7.8	58
20	X-ray study of the synthesis of boron oxides at high pressure:â€ƒ Phase diagram and equation of state. Physical Review B, 2004, 70, .	3.2	56
21	Phase transitions and compressibility of NaMgF 3 (Neighborite) in perovskiteâ€•and postâ€perovskiteâ€related structures. Geophysical Research Letters, 2006, 33, .	4.0	53
22	Density of Vibrational States of a Hyperquenched Glass. Physical Review Letters, 2006, 96, 205502.	7.8	51
23	Portable double-sided laser-heating system for MÃ¶ssbauer spectroscopy and X-ray diffraction experiments at synchrotron facilities with diamond anvil cells. Review of Scientific Instruments, 2012, 83, 124501.	1.3	50
24	Response of Superconductivity and Crystal Structure of LiFeAs to Hydrostatic Pressure. Journal of the American Chemical Society, 2009, 131, 2986-2992.	13.7	49
25	A New Polymorph of ZrW2O8Synthesized at High Pressures and High Temperatures. Chemistry of Materials, 2001, 13, 4255-4259.	6.7	47
26	Evidence for monazite-, barite-, and AgMnO4(distorted barite)-type structures of CaSO4at high pressure and temperature. American Mineralogist, 2005, 90, 22-27.	1.9	47
27	Noninvasive pressure and temperature estimation in large-volume apparatus by equation-of-state cross-calibration. High Temperatures - High Pressures, 2002, 34, 235-242.	0.3	46
28	Metastable NaYF4 fluorite at high pressures and high temperatures. Solid State Sciences, 2002, 4, 895-899.	3.2	46
29	Kinetics of Diamond Crystallization from the Melt of the Feâ^'Niâ^'C System. Journal of Physical Chemistry B, 2002, 106, 6634-6637.	2.6	45
30	High-pressure high-temperature tailoring of High Entropy Alloys for extreme environments. Journal of Alloys and Compounds, 2018, 738, 491-500.	5.5	45
31	Equation of state and thermal expansivity of LiF and NaF. High Pressure Research, 2007, 27, 483-489.	1.2	43
32	Nature of Hexagonal Silicon Forming via High-Pressure Synthesis: Nanostructured Hexagonal 4H Polytype. Nano Letters, 2018, 18, 5989-5995.	9.1	43
33	Equations of state of magnesium silicates anhydrous B and superhydrous B. Physics and Chemistry of Minerals, 1999, 26, 570-575.	0.8	40
34	Reaction of rhenium and carbon at high pressures and temperatures. Zeitschrift Fur Kristallographie - Crystalline Materials, 2008, 223, 492-501.	0.8	40
35	Phase separation, crystallization and polyamorphism in the Y₂O₃â€“Al₂O₃system. Journal of Physics Condensed Matter, 2008, 20, 205103.	1.8	40
36	Synthesis of Î²-Mg2C3: A Monoclinic High-Pressure Polymorph of Magnesium Sesquicarbide. Inorganic Chemistry, 2014, 53, 7020-7027.	4.0	40

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37	Scheelite CaWO4at high pressures. Journal of Physics Condensed Matter, 2003, 15, 7261-7270.	1.8	39
38	Rietveld structure refinement of perovskite and post-perovskite phases of NaMgF3 (Neighborite) at high pressures. American Mineralogist, 2006, 91, 1703-1706.	1.9	37
39	Alternating sequence of ring and chain structures in sulphur at high pressure and temperature. Nature Materials, 2005, 4, 550-552.	27.5	35
40	The large volume press facility at ID06 beamline of the European synchrotron radiation facility as a High Pressure-High Temperature deformation apparatus. Review of Scientific Instruments, 2015, 86, 085112.	1.3	35
41	Puzzling calcite-III dimorphism: crystallography, high-pressure behavior, and pathway of single-crystal transitions. Physics and Chemistry of Minerals, 2015, 42, 29-43.	0.8	32
42	Phosphorus: New in situ powder data from large-volume apparatus. Powder Diffraction, 2003, 18, 155-158.	0.2	30
43	Evidence of interspersed co-existing CaCO₃-III and CaCO₃-IIIb structures in polycrystalline CaCO₃ at high pressure. Mineralogical Magazine, 2014, 78, 225-233.	1.4	30
44	High-pressure x-ray and neutron powder diffraction study of PbWO4and BaWO4scheelites. Journal of Physics Condensed Matter, 2006, 18, 3017-3029.	1.8	29
45	The structural behaviour of LaF3 at high pressures. Dalton Transactions, 2010, 39, 4302.	3.3	27
46	High-Pressure and High-Temperature Stability of Antifluorite Mg₂C by in Situ X-ray Diffraction and ab Initio Calculations. Journal of Physical Chemistry C, 2014, 118, 8128-8133.	3.1	26
47	Evidence of eutectic crystallization and transient nucleation in Al89La6Ni5 amorphous alloy. Applied Physics Letters, 2001, 79, 743-745.	3.3	25
48	Pressure-induced transformations in kaolinite. American Mineralogist, 2010, 95, 651-654.	1.9	25
49	Synthesis of Bulk BC8 Silicon Allotrope by Direct Transformation and Reduced-Pressure Chemical Pathways. Inorganic Chemistry, 2016, 55, 8943-8950.	4.0	25
50	Structural transformations in cubic ZrMo2O8 at high pressures and high temperatures. Solid State Sciences, 2002, 4, 1137-1141.	3.2	24
51	Effects of high pressure and high temperature on cation ordering in magnesioferrite, MgFe2O4, using in situ synchrotron X-ray powder diffraction up to 1430 K and 6 GPa. American Mineralogist, 2005, 90, 1500-1505.	1.9	24
52	Pressure-induced phase transition in Mg0.8Fe0.2O ferropericlase. Physics and Chemistry of Minerals, 2006, 33, 35-44.	0.8	24
53	SrWO4 at high pressures. Physica Status Solidi (B): Basic Research, 2005, 242, 2795-2802.	1.5	23
54	Compressibility of clinochlore to 8 GPa at 298 K and a comparison with micas. European Journal of Mineralogy, 2002, 14, 561-565.	1.3	22

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55	The first bulk synthesis of ReO3-type tungsten trioxide, WO3, from nanometric precursors. Materials Research Bulletin, 2003, 38, 289-296.	5.2	22
56	Decomposition of LiGdF4scheelite at high pressures. Journal of Physics Condensed Matter, 2004, 16, 7779-7786.	1.8	22
57	Rubberlike Dynamics in Sulphur above theÎ»-Transition Temperature. Physical Review Letters, 2005, 95, 255502.	7.8	22
58	Novel behaviour and structure of new glasses of the type Baâ€“Alâ€“O and Baâ€“Alâ€“Tiâ€“O produced by aerodynamic levitation and laser heating. Journal of Physics Condensed Matter, 2006, 18, L407-L414.	1.8	22
59	Synthesis and recovery of bulk Fe₄O₅ from magnetite, Fe₃O₄. A member of a self-similar series of structures for the lower mantle and transition zone. Mineralogical Magazine, 2014, 78, 361-371.	1.4	22
60	High-temperature and high-pressure behavior of carbonates in the ternary diagram CaCO₃-MgCO₃-FeCO₃. American Mineralogist, 2016, 101, 1423-1430.	1.9	22
61	Experimental verification of the Stokes-Einstein relation in liquid Feâ”FeS at 5 GPa. Molecular Physics, 2001, 99, 773-777.	1.7	21
62	Hot mantle geotherms stabilize calcic carbonatite magmas up to the surface. Geology, 2014, 42, 911-914.	4.4	21
63	Pressure-induced tricritical phase transition from the scheelite structure to the fergusonite structure in LiLuF4. Journal of Physics Condensed Matter, 2005, 17, 763-770.	1.8	20
64	High-pressure behavior of akermanite and gehlenite and phase stability of the normal structure in melilites. American Mineralogist, 2009, 94, 704-709.	1.9	20
65	High pressure behavior of Ga-doped LaMnO₃: a combined X-ray diffraction and optical spectroscopy study. Journal of Materials Chemistry, 2010, 20, 1304-1311.	6.7	20
66	Portable multi-anvil device forin situangle-dispersive synchrotron diffraction measurements at high pressure and temperature. Journal of Synchrotron Radiation, 2009, 16, 513-523.	2.4	19
67	Perovskite to Postperovskite Transition in NaFeF₃. Inorganic Chemistry, 2014, 53, 12205-12214.	4.0	19
68	FeO and MnO high-pressure phase diagrams: relations between structural and magnetic properties. Phase Transitions, 2007, 80, 1151-1163.	1.3	17
69	The crystal structure of barite, BaSO4, at high pressure. American Mineralogist, 2011, 96, 364-367.	1.9	17
70	X-ray diffraction study of WO3 at high pressure. Journal of Physics Condensed Matter, 2002, 14, 6605-6617.	1.8	16
71	Potassium triyttrium decafluoride, KY3F10, synthesized at high pressures and high temperatures. Solid State Sciences, 2003, 5, 757-764.	3.2	16
72	High Pressure X-Ray Absorption and Diffraction Study of InAs. High Pressure Research, 2002, 22, 331-335.	1.2	15

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73	Observation of the high-pressure Pmma phase in InAs: A combined X-ray absorption and diffraction study. Europhysics Letters, 2003, 61, 554-560.	2.0	15
74	Effect of pressure on the strength of olivine at room temperature. Physics of the Earth and Planetary Interiors, 2016, 259, 34-44.	1.9	15
75	Thermal equations of state of dioctahedral micas on the join muscovite-paragonite. Physics and Chemistry of Minerals, 2002, 29, 538-544.	0.8	14
76	Structural similarities of 2-chlorophenol and 2-methylphenol. CrystEngComm, 2009, 11, 463-469.	2.6	14
77	Synthesis and structure of magnesium hydroxide fluoride, Mg(OH)F: a topological intermediate between brucite- and rutile-type structures. Mineralogical Magazine, 2012, 76, 25-36.	1.4	14
78	New High-Pressure and High-Temperature CaCO₃ Polymorph. ACS Earth and Space Chemistry, 2022, 6, 1506-1513.	2.7	14
79	High-pressure forms of lithium sulphate: Structural determination and computer simulation. Physical Review B, 2005, 72, .	3.2	13
80	High-pressure ferroelastic phase transition in aluminosilicate hollandite. Physical Review B, 2009, 80, .	3.2	13
81	Structural transition in KMnCrF₆ â€“ a chemically ordered magnetic ferroelectric. Journal of Materials Chemistry C, 2015, 3, 4321-4332.	5.5	13
82	Irâ€“Re binary alloys under extreme conditions and their electrocatalytic activity in methanol oxidation. Acta Materialia, 2017, 139, 236-243.	7.9	13
83	The isothermal equation of state of CaPtO3 post-perovskite to 40GPa. Physics of the Earth and Planetary Interiors, 2010, 182, 113-118.	1.9	12
84	Phase transitions in hydroxide perovskites: a Raman spectroscopic study of stottite, FeGe(OH)₆, to 21 GPa. Mineralogical Magazine, 2012, 76, 949-962.	1.4	12
85	Na3FeH7 and Na3CoH6: Hydrogen-Rich First-Row Transition Metal Hydrides from High Pressure Synthesis. Inorganic Chemistry, 2020, 59, 16467-16473.	4.0	12
86	A high-pressure polytypic transformation in type-I chlorite. American Mineralogist, 2005, 90, 1139-1145.	1.9	11
87	Compression of the perovskite-related mineral bernalite Fe(OH)3 to 9 GPa and a reappraisal of its structure. Mineralogical Magazine, 2005, 69, 309-315.	1.4	11
88	Diffraction studies of orderâ€“disorder at high pressures and temperatures. Powder Diffraction, 2005, 20, 80-86.	0.2	11
89	Decomposition of ferropericlase (Mg0.80Fe0.20)O at high pressures and temperatures. Journal of Alloys and Compounds, 2005, 390, 41-45.	5.5	11
90	High-pressure high-temperature stability of hcp-Ir Os1â^' (xÂ=ÂÂ0.50 and 0.55) alloys. Journal of Alloys and Compounds, 2017, 700, 198-207.	5.5	11

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91	Observation of Sb₂S₃-type post-post-perovskite in NaFeF₃. Implications for ABX₃ and A₂X₃ systems at ultrahigh pressure. Mineralogical Magazine, 2016, 80, 659-674.	1.4	10
92	COMBINED ENERGY DISPERSIVE XAS AND ANGLE DISPERSIVE XRD FOR HIGH PRESSURE STUDIES AT ID24, ESRF. High Pressure Research, 2003, 23, 301-305.	1.2	9
93	Reaction of iron and silica at coreâ€“mantle boundary conditions. Physics of the Earth and Planetary Interiors, 2004, 146, 243-247.	1.9	9
94	Second-order P6c2-P31c transition and structural crystallography of the cyclosilicate benitoite, BaTiSi3O9, at high pressure. American Mineralogist, 2012, 97, 1749-1763.	1.9	9
95	Unraveling Hidden Mgâ€“Mnâ€“H Phase Relations at High Pressures and Temperatures by in Situ Synchrotron Diffraction. Inorganic Chemistry, 2018, 57, 1614-1622.	4.0	9
96	Compressibility to 7 GPa at 298 K of the protonated octahedral framework mineral burtite, CaSn(OH)6. Mineralogical Magazine, 2002, 66, 431-440.	1.4	8
97	The high-pressure monazite-to-scheelite transformation in CaSeO4. Mineralogical Magazine, 2012, 76, 913-923.	1.4	8
98	An Alternative Route to Pentavalent Postperovskite. Inorganic Chemistry, 2016, 55, 5738-5740.	4.0	8
99	Phase relations and melting of nominally â€˜dryâ€™ residual eclogites with variable CaO/Na2O from 3 to 5â€¯GPa and 1250 to 1500â€¯Â°C; implications for refertilisation of upwelling heterogeneous mantle. Lithos, 2018, 314-315, 506-519.	1.4	8
100	Metastable melting and pressure-induced amorphisation of GeSe2. Physica A: Statistical Mechanics and Its Applications, 2002, 314, 560-566.	2.6	7
101	Equations of state of dense hydrous magnesium silicates: results from single-crystal X-ray diffraction. Mineralogical Magazine, 2005, 69, 273-287.	1.4	7
102	Structural evolution of (Ca0.35Sr0.65)TiO3 perovskite at high pressures. Journal of Solid State Chemistry, 2007, 180, 360-369.	2.9	7
103	Absence of pressure-induced amorphization in LiKSO₄. Journal of Physics Condensed Matter, 2010, 22, 315401.	1.8	7
104	High-temperature equation of state of vanadium. High Pressure Research, 2016, 36, 16-22.	1.2	7
105	An internally consistent pressure calibration of geobarometers applicable to the Earthâ€™s upper mantle using in situ XRD. Geochimica Et Cosmochimica Acta, 2018, 222, 421-435.	3.9	7
106	Decomposition of single-source precursors under high-temperature high-pressure to access osmiumâ€“platinum refractory alloys. Journal of Alloys and Compounds, 2020, 813, 152121.	5.5	7
107	Naâ€“Niâ€“H Phase Formation at High Pressures and High Temperatures: Hydrido Complexes [NiH5]3â€“ Versus the Perovskite NaNiH3. ACS Omega, 2020, 5, 8730-8743.	3.5	7
108	Thermoelastic equation of state and melting of Mg metal at high pressure and high temperature. Journal of Applied Physics, 2020, 127, 055903.	2.5	7

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109	Methods and application of the Parisâ€“Edinburgh Press to X-ray diffraction structure solution with large-volume samples at high pressures and temperatures. , 2005, , 353-369.		6
110	Tetrapotassium pyrophosphates Î³- and Î´-K₄P₂O₇. Powder Diffraction, 2013, 28, 2-12.	0.2	6
111	Centennialite, CaCu3(OH)6Cl2.nH2O, n â‰ˆ 0.7, a new kapellasite-like species, and a reassessment of calumetite. Mineralogical Magazine, 2017, 81, 1105-1124.	1.4	6
112	Exploring the Mgâ€“Crâ€“H System at High Pressure and Temperature via in Situ Synchrotron Diffraction. Inorganic Chemistry, 2019, 58, 11043-11050.	4.0	6
113	High-pressure dissociation of silver mercury iodide, Ag2HgI4. Journal of Solid State Chemistry, 2004, 177, 3715-3720.	2.9	5
114	Compressibility of boron-doped diamond. High Pressure Research, 2006, 26, 79-85.	1.2	5
115	Silicon Allotropy and Chemistry at Extreme Conditions. Energy Procedia, 2016, 92, 839-844.	1.8	5
116	Materials under pressure. MRS Bulletin, 2017, 42, 710-713.	3.5	5
117	An Unexpected Cubic Symmetry in Groupâ€…IV Alloys Prepared Using Pressure and Temperature. Angewandte Chemie - International Edition, 2021, 60, 9009-9014.	13.8	5
118	Advances and synergy of high-pressure sciences at synchrotron sources. Journal of Synchrotron Radiation, 2009, 16, 697-698.	2.4	4
119	Monazite structure from dehydrated CaSeO₄Â·2H₂O. Mineralogical Magazine, 2010, 74, 127-139.	1.4	4
120	Trigonal distortion of ferropericlase (Mg0.8Fe0.2)O at high pressures. Doklady Physics, 2005, 50, 343-345.	0.7	3
121	Unconventional Route to High-Pressure and -Temperature Synthesis of GeSn Solid Solutions. Journal of the American Chemical Society, 2021, 143, 7920-7924.	13.7	3
122	Collimator for inelastic x-ray scattering experiments at high temperature and pressure conditions. High Pressure Research, 2004, 24, 463-469.	1.2	2
123	From Phase Identification to Structure Solution: X-Ray Crystallography at High Pressures. , 2004, , 113-130.		2
124	Brochantite-2M2 from Pierre Plate Mine, Vizille. Powder Diffraction, 2008, 23, 246-250.	0.2	2
125	Synthesis and structure of calumetite-like SrCu4(OH)8Cl2â‹…3.5H2O. Mineralogical Magazine, 0, , 1-15.	1.4	1
126	Structural Transformations in Cubic ZrMo2O8 at High Pressures and High Temperatures.. ChemInform, 2003, 34, no.	0.0	0

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127	Potassium Triyttrium Decafluoride, KY3F10, Synthesized at High Pressures and High Temperatures.. ChemInform, 2003, 34, no.	0.0	0