William Evans

List of Publications by Citations

74 papers	2,203 citations	30 h-index	45 g-index
75 ext. papers	2,416 ext. citations	5.5 avg, IF	4.36 L-index

#	Paper	IF	Citations
74	Intermediate-spin ferrous iron in lowermost mantle post-perovskite and perovskite. *Nature Geoscience*, **2008**, 1, 688-691	18.3	124
73	Spin state of ferric iron in MgSiO3 perovskite and its effect on elastic properties. *Earth and Planetary Science Letters*, **2010**, 289, 68-75	5.3	120
72	Six-fold coordinated carbon dioxide VI. *Nature Materials*, **2007**, 6, 34-8	27	108
71	High-energy-density extended CO solid. *Nature Materials*, **2005**, 4, 211-5	27	99
70	First-order isostructural Mott transition in highly compressed MnO. *Physical Review Letters*, **2005**, 94, 115502	7.4	90
69	Thermal signatures of the Kondo volume collapse in cerium. *Physical Review Letters*, **2008**, 101, 165703	7.4	87
68	Effects of the Fe3+ spin transition on the properties of aluminous perovskite—New insights for lower-mantle seismic heterogeneities. *Earth and Planetary Science Letters*, **2011**, 310, 293-302	5.3	79
67	Pressure-Induced Polymerization of Carbon Monoxide: Disproportionation and Synthesis of an Energetic Lactonic Polymer. *Chemistry of Materials*, **2006**, 18, 2520-2531	9.6	78
66	Absorption and reflectance in hydrogen up to 230 GPa: Implications for metallization. *Physical Review Letters*, **1991**, 66, 193-196	7.4	69
65	Transformation of molecular nitrogen to nonmolecular phases at megabar pressures by direct laser heating. *Physical Review B*, **2007**, 76,	3.3	64
64	Dynamic diamond anvil cell (dDAC): a novel device for studying the dynamic-pressure properties of materials. *Review of Scientific Instruments*, **2007**, 78, 073904	1.7	63
63	Equation of state and high-pressure/high-temperature phase diagram of magnesium. *Physical Review B*, **2014**, 90,	3.3	54
62	Inter-tube thermal conductance in carbon nanotubes arrays and bundles: Effects of contact area and pressure. *Applied Physics Letters*, **2012**, 100, 261908	3.4	50
61	Pressure-induced antifluorite-to-anticotunnite phase transition in lithium oxide. *Physical Review B*, **2006**, 73,	3.3	49
60	Nanocrystalline diamond: Effect of confinement, pressure, and heating on phonon modes. *Physical Review B*, **1997**, 56, 5978-5984	3.3	47
59	Crystallization of water in a dynamic diamond-anvil cell: Evidence for ice VII-like local order in supercompressed water. *Physical Review B*, **2006**, 74,	3.3	45
58	Single crystal toroidal diamond anvils for high pressure experiments beyond 5 megabar. *Nature Communications*, **2018**, 9, 3563	17.4	43

57	Electrical conductivity of the lower-mantle ferropericlase across the electronic spin transition. *Geophysical Research Letters*, **2007**, 34,	4.9	42
56	Synthesis and characterization of a nanocrystalline diamond aerogel. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 8550-3	11.5	41
55	New cubic phase of Li3N: stability of the N3- ion to 200 GPa. *Physical Review Letters*, **2005**, 95, 165503	7.4	40
54	Atomic structure and phase transformations in Pu alloys. *Progress in Materials Science*, **2009**, 54, 909-943	42.2	39
53	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. *Review of Scientific Instruments*, **2009**, 80, 104501	1.7	38
52	Structural phase transition in vanadium at high pressure and high temperature: Influence of nonhydrostatic conditions. *Physical Review B*, **2011**, 83,	3.3	37
51	Irreversible xenon insertion into a small-pore zeolite at moderate pressures and temperatures. *Nature Chemistry*, **2014**, 6, 835-9	17.6	36
50	X-ray diffraction and Raman studies of beryllium: Static and elastic properties at high pressures. *Physical Review B*, **2005**, 72,	3.3	36
49	Carbon Monoxide: Spectroscopic Characterization of the High□Pressure Polymerized Phase. *Journal of Low Temperature Physics*, **1998**, 111, 247-256	1.3	35
48	Dynamic pressure-induced dendritic and shock crystal growth of ice VI. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 9178-81	11.5	34
47	Ruby at high pressure. III. A pumping scheme for the R lines up to 230 GPa. *Physical Review B*, **1991**, 44, 7202-7208	3.3	34
46	X-ray emission spectroscopy of cerium across the □volume collapse transition. *Physical Review Letters*, **2012**, 109, 195705	7.4	33
45	Index of refraction, polarizability, and equation of state of solid molecular hydrogen. *Physical Review B*, **1998**, 57, 14105-14109	3.3	32
44	High-temperature experiments using a resistively heated high-pressure membrane diamond anvil cell. *Review of Scientific Instruments*, **2013**, 84, 095114	1.7	30
43	Raman shift of stressed diamond anvils: Pressure calibration and culet geometry dependence. *Journal of Applied Physics*, **2008**, 104, 034504	2.5	25
42	Irreversibility in the Galton board via conservative classical and quantum hamiltonian and gaussian dynamics. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **1988**, 133, 114-120	2.3	24
41	High-pressure phases of PbF2: A joint experimental and theoretical study. *Physical Review B*, **1997**, 56, 543-551	3.3	22
40	Coherent anti-stokes Raman spectroscopy of highly compressed solid deuterium at 300 K: evidence for a new phase and implications for the band gap. *Physical Review Letters*, **2007**, 98, 235503	7.4	22

39	Search for superconductivity in LiBC at high pressure: Diamond anvil cell experiments and first-principles calculations. *Physical Review B*, **2007**, 75,	3.3	21
38	Melting and phase transitions of nitrogen under high pressures and temperatures. *Journal of Chemical Physics*, **2014**, 140, 244510	3.9	19
37	4f electron delocalization and volume collapse in praseodymium metal. *Physical Review B*, **2012**, 85,	3.3	19
36	New dynamic diamond anvil cells for tera-pascal per second fast compression x-ray diffraction experiments. *Review of Scientific Instruments*, **2019**, 90, 065114	1.7	18
35	Comparison of the high-pressure behavior of the cerium oxides Ce2O3 and CeO2. *Physical Review B* , **2016**, 93,	3.3	18
34	Diamond anvil cell measurement of high-pressure yield strength of vanadium using in situ thickness determination. *Physical Review B*, **2010**, 81,	3.3	18
33	Thermal conductivity of carbon nanotube cross-bar structures. *Nanotechnology*, **2010**, 21, 475704	3.4	17
32	Dielectric properties of solid molecular hydrogen at high pressure. *Physical Review B*, **1992**, 45, 9709-9715	3.3	14
31	Anomalous elastic properties across the □to □volume collapse in cerium. *Nature Communications*, **2017**, 8, 1198	17.4	13
30	Optically detected magnetic resonance of nitrogen vacancies in a diamond anvil cell using designer diamond anvils. *Applied Physics Letters*, **2017**, 111, 221903	3.4	13
29	Solidification and fcc to metastable hcp phase transition in krypton under variable compression rates. *Physical Review B*, **2014**, 90,	3.3	12
28	Strength and Debye temperature measurements of cerium across the □□volume collapse: the lattice contribution. *Journal of Physics Condensed Matter*, **2013**, 25, 345401	1.8	10
27	Experimental and theoretical study of Ti-6Al-4V to 220 GPa. *Physical Review B*, **2012**, 85,	3.3	10
26	Magnetism and structural distortions in uranium sulfide under pressure. *Physical Review B*, **2013**, 87,	3.3	9
25	High pressure crystal structure of PrN. *Journal of Physics: Conference Series*, **2010**, 215, 012010	0.3	9
24	In situ X-ray diffraction study of the □to □isothermal martensitic transformation kinetics in a Pu□a alloy. *Journal of Nuclear Materials*, **2011**, 412, 327-333	3.3	9
23	Cryogenic loading of large volume presses for high-pressure experimentation and synthesis of novel materials. *Review of Scientific Instruments*, **2005**, 76, 053903	1.7	9
22	Phosphorus Dimerization in Gallium Phosphide at High Pressure. *Inorganic Chemistry*, **2018**, 57, 2432-2437	5.1	7

21	Time-resolved x-ray diffraction across water-ice-VI/VII transformations using thedynamic-DAC. *Journal of Physics: Conference Series*, **2014**, 500, 142006	0.3	7
20	Persistent Fe moments in the normal-state collapsed-tetragonal phase of the pressure-induced superconductor Ca0.67Sr0.33Fe2As2. *Physical Review B*, **2014**, 90,	3.3	7
19	Electronic structure of iron in magnesium silicate glasses at high pressure. *Geophysical Research Letters*, **2012**, 39,	4.9	7
18	A versatile medium-resolution x-ray emission spectrometer for diamond anvil cell applications. *Review of Scientific Instruments*, **2013**, 84, 083908	1.7	7
17	Two-phase equation of state for lithium fluoride. *Journal of Chemical Physics*, **2019**, 150, 074506	3.9	7
16	Ammonium salicylate: a synchrotron study. *Acta Crystallographica Section E: Structure Reports Online*, **2009**, 65, o2062		6
15	Pressure-induced loss of electronic interlayer state and metallization in the ionic solid Li3N: Experiment and theory. *Physical Review B*, **2008**, 78,	3.3	6
14	Vibrational Spectroscopy at High Pressures in CF4: Implications to the Phase Diagram. *Journal of Low Temperature Physics*, **2001**, 122, 279-290	1.3	6
13	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). *Journal of Synchrotron Radiation*, **2021**, 28, 688-706	2.4	6
12	In situ electrical conductivity and Raman study of C60 tetragonal polymer at high pressures up to 30 GPa. *Physica Status Solidi (B): Basic Research*, **2010**, 247, 3068-3071	1.3	4
11	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	3
10	Time-Resolved Synchrotron X-ray Diffraction on Pulse Laser Heated Iron in Diamond Anvil Cell. *Journal of Physics: Conference Series*, **2012**, 377, 012108	0.3	3
9	Hybrid Bridgman anvil design: an optical window for in situ spectroscopy in large volume presses. *High Pressure Research*, **2005**, 25, 205-210	1.6	3
8	Wavemeter for lead-salt diode laser calibration. *Applied Optics*, **1986**, 25, 2867-8	1.7	3
7	Compression-rate dependence of pressure-induced phase transitions in Bi. *Scientific Reports*, **2021**, 11, 14859	4.9	3
6	Plasma etching of cavities into diamond anvils for experiments at high pressures and high temperatures. *High Pressure Research*, **2011**, 31, 191-198	1.6	2
5	A simple and portable multi-channel pyrometer allowing temperature measurements down to 800 K on the microsecond scale. *Review of Scientific Instruments*, **2018**, 89, 125117	1.7	2
4	An Experimental and Theoretical Multi-Mbar Study of Ti-6Al-4V. *Materials Research Society Symposia Proceedings*, **2011**, 1369, 1		1

3	Anomalous Molecular Phase of Nitrogen: Implications to the Phase Diagram. *High Pressure Research* , **2002**, 22, 5-8	1.6	1
2	The pressure-temperature phase diagram of URu2Si2 under hydrostatic conditions. *Materials Research Society Symposia Proceedings*, **2010**, 1264, 1		
1	Simultaneous imaging and diffraction in the dynamic diamond anvil cell. *Review of Scientific Instruments*, **2022**, 93, 053903	1.7	