

# William Evans

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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

| #  | Paper  | IF   | Citations |
|----|--|------|-----------|
| 74 | Simultaneous imaging and diffraction in the dynamic diamond anvil cell. <i>Review of Scientific Instruments</i> , <b>2022</b> , 93, 053903   | 1.7  |           |
| 73 | 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> , <b>2021</b> , 28, 688-706 | 2.4  | 6         |
| 72 | Compression-rate dependence of pressure-induced phase transitions in Bi. <i>Scientific Reports</i> , <b>2021</b> , 11, 14859   | 4.9  | 3         |
| 71 | New dynamic diamond anvil cells for tera-pascal per second fast compression x-ray diffraction experiments. <i>Review of Scientific Instruments</i> , <b>2019</b> , 90, 065114  | 1.7  | 18        |
| 70 | Two-phase equation of state for lithium fluoride. <i>Journal of Chemical Physics</i> , <b>2019</b> , 150, 074506   | 3.9  | 7         |
| 69 | Phosphorus Dimerization in Gallium Phosphide at High Pressure. <i>Inorganic Chemistry</i> , <b>2018</b> , 57, 2432-2437  | 3.1  | 7         |
| 68 | A simple and portable multi-channel pyrometer allowing temperature measurements down to 800 K on the microsecond scale. <i>Review of Scientific Instruments</i> , <b>2018</b> , 89, 125117   | 1.7  | 2         |
| 67 | Single crystal toroidal diamond anvils for high pressure experiments beyond 5 megabar. <i>Nature Communications</i> , <b>2018</b> , 9, 3563  | 17.4 | 43        |
| 66 | Anomalous elastic properties across the $f_0$ to $f_1$ volume collapse in cerium. <i>Nature Communications</i> , <b>2017</b> , 8, 1198   | 17.4 | 13        |
| 65 | Optically detected magnetic resonance of nitrogen vacancies in a diamond anvil cell using designer diamond anvils. <i>Applied Physics Letters</i> , <b>2017</b> , 111, 221903  | 3.4  | 13        |
| 64 | Comparison of the high-pressure behavior of the cerium oxides Ce <sub>2</sub> O <sub>3</sub> and CeO <sub>2</sub> . <i>Physical Review B</i> , <b>2016</b> , 93,   | 3.3  | 18        |
| 63 | Irreversible xenon insertion into a small-pore zeolite at moderate pressures and temperatures. <i>Nature Chemistry</i> , <b>2014</b> , 6, 835-9  | 17.6 | 36        |
| 62 | Equation of state measurements by radiography provide evidence for a liquid-liquid phase transition in cerium. <i>Journal of Physics: Conference Series</i> , <b>2014</b> , 500, 032011  | 0.3  | 3         |
| 61 | Time-resolved x-ray diffraction across water-ice-VI/VII transformations using the dynamic-DAC. <i>Journal of Physics: Conference Series</i> , <b>2014</b> , 500, 142006  | 0.3  | 7         |
| 60 | Persistent Fe moments in the normal-state collapsed-tetragonal phase of the pressure-induced superconductor Ca <sub>0.67</sub> Sr <sub>0.33</sub> Fe <sub>2</sub> As <sub>2</sub> . <i>Physical Review B</i> , <b>2014</b> , 90,                     | 3.3  | 7         |
| 59 | Solidification and fcc to metastable hcp phase transition in krypton under variable compression rates. <i>Physical Review B</i> , <b>2014</b> , 90,  | 3.3  | 12        |
| 58 | Equation of state and high-pressure/high-temperature phase diagram of magnesium. <i>Physical Review B</i> , <b>2014</b> , 90,  | 3.3  | 54        |

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| 57 | Melting and phase transitions of nitrogen under high pressures and temperatures. <i>Journal of Chemical Physics</i> , <b>2014</b> , 140, 244510   | 3.9  | 19 |
| 56 | Strength and Debye temperature measurements of cerium across the $\beta$ - $\beta'$ volume collapse: the lattice contribution. <i>Journal of Physics Condensed Matter</i> , <b>2013</b> , 25, 345401                          | 1.8  | 10 |
| 55 | Magnetism and structural distortions in uranium sulfide under pressure. <i>Physical Review B</i> , <b>2013</b> , 87,  | 3.3  | 9  |
| 54 | High-temperature experiments using a resistively heated high-pressure membrane diamond anvil cell. <i>Review of Scientific Instruments</i> , <b>2013</b> , 84, 095114   | 1.7  | 30 |
| 53 | A versatile medium-resolution x-ray emission spectrometer for diamond anvil cell applications. <i>Review of Scientific Instruments</i> , <b>2013</b> , 84, 083908   | 1.7  | 7  |
| 52 | Electronic structure of iron in magnesium silicate glasses at high pressure. <i>Geophysical Research Letters</i> , <b>2012</b> , 39,  | 4.9  | 7  |
| 51 | 4f electron delocalization and volume collapse in praseodymium metal. <i>Physical Review B</i> , <b>2012</b> , 85,  | 3.3  | 19 |
| 50 | Inter-tube thermal conductance in carbon nanotubes arrays and bundles: Effects of contact area and pressure. <i>Applied Physics Letters</i> , <b>2012</b> , 100, 261908   | 3.4  | 50 |
| 49 | Experimental and theoretical study of Ti-6Al-4V to 220 GPa. <i>Physical Review B</i> , <b>2012</b> , 85,  | 3.3  | 10 |
| 48 | X-ray emission spectroscopy of cerium across the $\beta$ - $\beta'$ volume collapse transition. <i>Physical Review Letters</i> , <b>2012</b> , 109, 195705  | 7.4  | 33 |
| 47 | Time-Resolved Synchrotron X-ray Diffraction on Pulse Laser Heated Iron in Diamond Anvil Cell. <i>Journal of Physics: Conference Series</i> , <b>2012</b> , 377, 012108  | 0.3  | 3  |
| 46 | Effects of the Fe <sup>3+</sup> spin transition on the properties of aluminous perovskite: New insights for lower-mantle seismic heterogeneities. <i>Earth and Planetary Science Letters</i> , <b>2011</b> , 310, 293-302     | 5.3  | 79 |
| 45 | Structural phase transition in vanadium at high pressure and high temperature: Influence of nonhydrostatic conditions. <i>Physical Review B</i> , <b>2011</b> , 83,   | 3.3  | 37 |
| 44 | In situ X-ray diffraction study of the $\beta$ -to- $\alpha'$ isothermal martensitic transformation kinetics in a Pu <sub>0.8</sub> Al <sub>0.2</sub> alloy. <i>Journal of Nuclear Materials</i> , <b>2011</b> , 412, 327-333 | 3.3  | 9  |
| 43 | An Experimental and Theoretical Multi-Mbar Study of Ti-6Al-4V. <i>Materials Research Society Symposia Proceedings</i> , <b>2011</b> , 1369, 1   |      | 1  |
| 42 | Synthesis and characterization of a nanocrystalline diamond aerogel. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 8550-3                                       | 11.5 | 41 |
| 41 | Plasma etching of cavities into diamond anvils for experiments at high pressures and high temperatures. <i>High Pressure Research</i> , <b>2011</b> , 31, 191-198   | 1.6  | 2  |
| 40 | The pressure-temperature phase diagram of URu <sub>2</sub> Si <sub>2</sub> under hydrostatic conditions. <i>Materials Research Society Symposia Proceedings</i> , <b>2010</b> , 1264, 1                                       |      |    |

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| 39 | Diamond anvil cell measurement of high-pressure yield strength of vanadium using in situ thickness determination. <i>Physical Review B</i> , <b>2010</b> , 81,   | 3.3  | 18  |
| 38 | High pressure crystal structure of PrN. <i>Journal of Physics: Conference Series</i> , <b>2010</b> , 215, 012010   | 0.3  | 9   |
| 37 | Thermal conductivity of carbon nanotube cross-bar structures. <i>Nanotechnology</i> , <b>2010</b> , 21, 475704   | 3.4  | 17  |
| 36 | Spin state of ferric iron in MgSiO <sub>3</sub> perovskite and its effect on elastic properties. <i>Earth and Planetary Science Letters</i> , <b>2010</b> , 289, 68-75   | 5.3  | 120 |
| 35 | In situ electrical conductivity and Raman study of C60 tetragonal polymer at high pressures up to 30 GPa. <i>Physica Status Solidi (B): Basic Research</i> , <b>2010</b> , 247, 3068-3071  | 1.3  | 4   |
| 34 | 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. <i>Review of Scientific Instruments</i> , <b>2009</b> , 80, 104501 | 1.7  | 38  |
| 33 | Ammonium salicylate: a synchrotron study. <i>Acta Crystallographica Section E: Structure Reports Online</i> , <b>2009</b> , 65, o2062  |      | 6   |
| 32 | Atomic structure and phase transformations in Pu alloys. <i>Progress in Materials Science</i> , <b>2009</b> , 54, 909-943  | 42.2 | 39  |
| 31 | Thermal signatures of the Kondo volume collapse in cerium. <i>Physical Review Letters</i> , <b>2008</b> , 101, 165703  | 7.4  | 87  |
| 30 | Raman shift of stressed diamond anvils: Pressure calibration and culet geometry dependence. <i>Journal of Applied Physics</i> , <b>2008</b> , 104, 034504  | 2.5  | 25  |
| 29 | Pressure-induced loss of electronic interlayer state and metallization in the ionic solid Li <sub>3</sub> N: Experiment and theory. <i>Physical Review B</i> , <b>2008</b> , 78,   | 3.3  | 6   |
| 28 | Intermediate-spin ferrous iron in lowermost mantle post-perovskite and perovskite. <i>Nature Geoscience</i> , <b>2008</b> , 1, 688-691   | 18.3 | 124 |
| 27 | Electrical conductivity of the lower-mantle ferropericlase across the electronic spin transition. <i>Geophysical Research Letters</i> , <b>2007</b> , 34,  | 4.9  | 42  |
| 26 | Six-fold coordinated carbon dioxide VI. <i>Nature Materials</i> , <b>2007</b> , 6, 34-8  | 2.7  | 108 |
| 25 | Dynamic pressure-induced dendritic and shock crystal growth of ice VI. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2007</b> , 104, 9178-81   | 11.5 | 34  |
| 24 | Transformation of molecular nitrogen to nonmolecular phases at megabar pressures by direct laser heating. <i>Physical Review B</i> , <b>2007</b> , 76,   | 3.3  | 64  |
| 23 | Search for superconductivity in LiBC at high pressure: Diamond anvil cell experiments and first-principles calculations. <i>Physical Review B</i> , <b>2007</b> , 75,  | 3.3  | 21  |
| 22 | Coherent anti-stokes Raman spectroscopy of highly compressed solid deuterium at 300 K: evidence for a new phase and implications for the band gap. <i>Physical Review Letters</i> , <b>2007</b> , 98, 235503                                       | 7.4  | 22  |

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| 21 | Dynamic diamond anvil cell (dDAC): a novel device for studying the dynamic-pressure properties of materials. <i>Review of Scientific Instruments</i> , <b>2007</b> , 78, 073904    | 1.7 | 63 |
| 20 | Crystallization of water in a dynamic diamond-anvil cell: Evidence for ice VII-like local order in supercompressed water. <i>Physical Review B</i> , <b>2006</b> , 74,             | 3.3 | 45 |
| 19 | Pressure-induced antiferroite-to-antiferroite phase transition in lithium oxide. <i>Physical Review B</i> , <b>2006</b> , 73,  | 3.3 | 49 |
| 18 | Pressure-Induced Polymerization of Carbon Monoxide: Disproportionation and Synthesis of an Energetic Lactonic Polymer. <i>Chemistry of Materials</i> , <b>2006</b> , 18, 2520-2531 | 9.6 | 78 |
| 17 | X-ray diffraction and Raman studies of beryllium: Static and elastic properties at high pressures. <i>Physical Review B</i> , <b>2005</b> , 72,                                    | 3.3 | 36 |
| 16 | New cubic phase of Li <sub>3</sub> N: stability of the N <sup>3-</sup> ion to 200 GPa. <i>Physical Review Letters</i> , <b>2005</b> , 95, 165503                                   | 7.4 | 40 |
| 15 | High-energy-density extended CO solid. <i>Nature Materials</i> , <b>2005</b> , 4, 211-5  | 27  | 99 |
| 14 | Cryogenic loading of large volume presses for high-pressure experimentation and synthesis of novel materials. <i>Review of Scientific Instruments</i> , <b>2005</b> , 76, 053903   | 1.7 | 9  |
| 13 | First-order isostructural Mott transition in highly compressed MnO. <i>Physical Review Letters</i> , <b>2005</b> , 94, 115502  | 7.4 | 90 |
| 12 | Hybrid Bridgman anvil design: an optical window for in situ spectroscopy in large volume presses. <i>High Pressure Research</i> , <b>2005</b> , 25, 205-210                        | 1.6 | 3  |
| 11 | Anomalous Molecular Phase of Nitrogen: Implications to the Phase Diagram. <i>High Pressure Research</i> , <b>2002</b> , 22, 5-8  | 1.6 | 1  |
| 10 | Vibrational Spectroscopy at High Pressures in CF <sub>4</sub> : Implications to the Phase Diagram. <i>Journal of Low Temperature Physics</i> , <b>2001</b> , 122, 279-290          | 1.3 | 6  |
| 9  | Carbon Monoxide: Spectroscopic Characterization of the High Pressure Polymerized Phase. <i>Journal of Low Temperature Physics</i> , <b>1998</b> , 111, 247-256                     | 1.3 | 35 |
| 8  | Index of refraction, polarizability, and equation of state of solid molecular hydrogen. <i>Physical Review B</i> , <b>1998</b> , 57, 14105-14109                                   | 3.3 | 32 |
| 7  | Nanocrystalline diamond: Effect of confinement, pressure, and heating on phonon modes. <i>Physical Review B</i> , <b>1997</b> , 56, 5978-5984                                      | 3.3 | 47 |
| 6  | High-pressure phases of PbF <sub>2</sub> : A joint experimental and theoretical study. <i>Physical Review B</i> , <b>1997</b> , 56, 543-551  | 3.3 | 22 |
| 5  | Dielectric properties of solid molecular hydrogen at high pressure. <i>Physical Review B</i> , <b>1992</b> , 45, 9709-9715   | 3.3 | 14 |
| 4  | Ruby at high pressure. III. A pumping scheme for the R lines up to 230 GPa. <i>Physical Review B</i> , <b>1991</b> , 44, 7202-7208   | 3.3 | 34 |

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|---|---|-----|----|
| 3 | Absorption and reflectance in hydrogen up to 230 GPa: Implications for metallization. <i>Physical Review Letters</i> , <b>1991</b> , 66, 193-196  | 7.4 | 69 |
| 2 | Irreversibility in the Galton board via conservative classical and quantum hamiltonian and gaussian dynamics. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , <b>1988</b> , 133, 114-120 | 2.3 | 24 |
| 1 | Wavemeter for lead-salt diode laser calibration. <i>Applied Optics</i> , <b>1986</b> , 25, 2867-8   | 1.7 | 3  |