

# Barbara Lavina

## List of Publications by Year in descending order

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Version: 2024-02-01

51  
papers

1,181  
citations

516561

16  
h-index

377752

34  
g-index

53  
all docs

53  
docs citations

53  
times ranked

1402  
citing authors

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 1  | Cation distribution and structure modelling of spinel solid solutions. <i>Physics and Chemistry of Minerals</i> , 2002, 29, 10-18.   | 0.3 | 145       |
| 2  | Discovery of the recoverable high-pressure iron oxide $\text{Fe}_4\text{O}_5$ . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 17281-17285.                               | 3.3 | 120       |
| 3  | Structure of siderite $\text{FeCO}_3$ at 56 GPa and hysteresis of its spin-pairing transition. <i>Physical Review B</i> , 2010, 82, .  | 3.1 | 88        |
| 4  | An experimental study of the oxidation state of vanadium in spinel and basaltic melt with implications for the origin of planetary basalt. <i>American Mineralogist</i> , 2006, 91, 1643-1656.                                 | 0.9 | 85        |
| 5  | Siderite at lower mantle conditions and the effects of the pressure-induced spin-pairing transition. <i>Geophysical Research Letters</i> , 2009, 36, .   | 1.5 | 84        |
| 6  | Unraveling the complexity of iron oxides at high pressure and temperature: Synthesis of $\text{Fe}_5\text{O}_6$ . <i>Science Advances</i> , 2015, 1, e1400260.   | 4.7 | 69        |
| 7  | Magneto-elastic coupling in compressed $\text{Fe}_7\text{C}_3$ supports carbon in Earth's inner core. <i>Geophysical Research Letters</i> , 2012, 39, .  | 1.5 | 62        |
| 8  | High-pressure polymorphism of $\text{Fe}_2\text{P}$ and its implications for meteorites and Earth's core. <i>Geophysical Research Letters</i> , 2008, 35, .  | 1.5 | 56        |
| 9  | High-pressure structural, elastic, and thermodynamic properties of zircon-type $\text{HoPO}_4$ and $\text{TmPO}_4$ . <i>Journal of Physics Condensed Matter</i> , 2017, 29, 095401.  | 0.7 | 43        |
| 10 | Single-crystal X-ray diffraction of spinels from the San Carlos Volcanic Field, Arizona: Spinel as a geothermometer. <i>American Mineralogist</i> , 2005, 90, 1900-1908.   | 0.9 | 40        |
| 11 | Modern X-ray Diffraction Methods in Mineralogy and Geosciences. <i>Reviews in Mineralogy and Geochemistry</i> , 2014, 78, 1-31.  | 2.2 | 35        |
| 12 | Chemical Composition, Crystal Structure, and Their Relationships with the Intrinsic Properties of Spinel-Type Crystals Based on Bond Valences. <i>Inorganic Chemistry</i> , 2014, 53, 5986-5992.                               | 1.9 | 32        |
| 13 | Effect of dilution on the spin pairing transition in rhombohedral carbonates. <i>High Pressure Research</i> , 2010, 30, 224-229.   | 0.4 | 30        |
| 14 | Structural and electronic evolution of $\text{Cr}_2\text{O}_3$ on compression to 55GPa. <i>Journal of Solid State Chemistry</i> , 2011, 184, 3040-3049.  | 1.4 | 27        |
| 15 | Pressure-induced development of bonding in NiAs type compounds and polymorphism of NiP. <i>Journal of Solid State Chemistry</i> , 2011, 184, 1997-2003.  | 1.4 | 20        |
| 16 | Controlled time-temperature oxidation reaction in a synthetic Mg-hercynite. <i>Physics and Chemistry of Minerals</i> , 2005, 32, 83-88.  | 0.3 | 17        |
| 17 | Structure and behavior of the barringerite Ni member, $\text{Ni}_2\text{P}$ , at deep Earth conditions and implications for natural Fe-Ni phosphides in planetary cores. <i>Journal of Geophysical Research</i> , 2009, 114, . | 3.3 | 17        |
| 18 | Crystal chemistry of some Mg, Cr, V normal spinels from Sludyanka (Lake Baikal, Russia): the influence of $\text{V}^{3+}$ on structural stability. <i>Physics and Chemistry of Minerals</i> , 2003, 30, 599-605.               | 0.3 | 14        |

| #  | ARTICLE   | IF  | CITATIONS |
|----|---|-----|-----------|
| 19 | Loss and Isotopic Fractionation of Alkali Elements during Diffusion-Limited Evaporation from Molten Silicate: Theory and Experiments. <i>ACS Earth and Space Chemistry</i> , 2021, 5, 755-784.  | 1.2 | 14        |
| 20 | The crystal structure of dissakisite-(La) and structural variations after annealing of radiation damage. <i>American Mineralogist</i> , 2006, 91, 104-110.  | 0.9 | 13        |
| 21 | Closure temperatures of intracrystalline ordering in anatectic and metamorphic hercynite, Fe <sub>2</sub> +Al <sub>2</sub> O <sub>4</sub> . <i>American Mineralogist</i> , 2009, 94, 657-665.   | 0.9 | 13        |
| 22 | X-ray diffraction and equation of state of the Ca <sup>2+</sup> -H room-temperature superconductor. <i>Journal of Chemical Physics</i> , 2021, 155, 114703.   | 1.2 | 13        |
| 23 | Coupling of organic cation and inorganic lattice in methylammonium lead halide perovskites: Insights into a pressure-induced isostructural phase transition. <i>Physical Review Materials</i> , 2020, 4, .  | 0.9 | 13        |
| 24 | Cation distribution and cooling rates of Cr-substituted Mg-Al spinel from the Olkhon metamorphic complex, Russia. <i>European Journal of Mineralogy</i> , 2003, 15, 435-441.  | 0.4 | 10        |
| 25 | Investigation of synthetic Mg <sub>1.3</sub> V <sub>1.7</sub> O <sub>4</sub> spinel with MgO inclusions: Case study of a spinel with an apparently occupied interstitial site. <i>American Mineralogist</i> , 2007, 92, 1031-1037.  | 0.9 | 10        |
| 26 | High-pressure X-ray diffraction and X-ray emission studies on iron-bearing silicate perovskite under high pressures. <i>High Pressure Research</i> , 2010, 30, 230-237.   | 0.4 | 10        |
| 27 | The Water-Fe-Pressure dependent single-crystal elastic properties of wadsleyite: Implications for the seismic anisotropy in the upper Mantle Transition Zone. <i>Earth and Planetary Science Letters</i> , 2021, 565, 116955.   | 1.8 | 10        |
| 28 | High pressure effects on U L <sub>3</sub> x-ray absorption in partial fluorescence yield mode and single crystal x-ray diffraction in the heavy fermion compound UCd <sub>11</sub> . <i>Journal of Physics Condensed Matter</i> , 2016, 28, 105601.   | 0.7 | 9         |
| 29 | Phosphorus Dimerization in Gallium Phosphide at High Pressure. <i>Inorganic Chemistry</i> , 2018, 57, 2432-2437.  | 1.9 | 9         |
| 30 | Piezomagnetic switching and complex phase equilibria in uranium dioxide. <i>Communications Materials</i> , 2021, 2, .   | 2.9 | 9         |
| 31 | Drastic enhancement of magnetic critical temperature and amorphization in topological magnet EuSn <sub>2</sub> P <sub>2</sub> under pressure. <i>Npj Quantum Materials</i> , 2022, 7, .   | 1.8 | 9         |
| 32 | Nuclear forward scattering and first-principles studies of the iron oxide phase $\text{Fe}_{1-x}\text{O}$ . <i>Physical Review B</i> , 2014, 90, .  | 1.1 | 8         |
| 33 | The Structure of Ferroselite, FeSe <sub>2</sub> , at Pressures up to 46 GPa and Temperatures down to 50 K: A Single-Crystal Micro-Diffraction Analysis. <i>Crystals</i> , 2018, 8, 289.   | 1.0 | 7         |
| 34 | Sound velocity and compressibility of melts along the hedenbergite (CaFeSi <sub>2</sub> O <sub>6</sub> )-diopside (CaMgSi <sub>2</sub> O <sub>6</sub> ) join at high pressure: Implications for stability and seismic signature of Fe-rich melts in the mantle. <i>Earth and Planetary Science Letters</i> , 2022, 577, 117250. | 1.8 | 7         |
| 35 | Equation of state for technetium from X-ray diffraction and first-principle calculations. <i>Journal of Physics and Chemistry of Solids</i> , 2016, 95, 6-11.   | 1.9 | 5         |
| 36 | Tyrellite, Cu(Co <sub>0.68</sub> Ni <sub>0.32</sub> ) <sub>2</sub> Se <sub>4</sub> , isostructural with spinel. <i>Acta Crystallographica Section C: Crystal Structure Communications</i> , 2007, 63, i73-i74.  | 0.4 | 4         |

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|----|---|-----|-----------|
| 37 | Synthesis and Microdiffraction at Extreme Pressures and Temperatures. <i>Journal of Visualized Experiments</i> , 2013, , .  | 0.2 | 4         |
| 38 | Thermal Analysis, Compressibility, and Decomposition of Synthetic Bastn site-(La) to Lanthanum Oxyfluoride. <i>Minerals (Basel, Switzerland)</i> , 2020, 10, 212.   | 0.8 | 4         |
| 39 | Synthesis and chemical stability of technetium nitrides. <i>Chemical Communications</i> , 2021, 57, 8079-8082.  | 2.2 | 3         |
| 40 | Probing structure  property relationship in chemical vapor deposited hybrid perovskites by pressure and temperature. <i>Journal of Materials Research</i> , 2021, 36, 1805-1812.                                    | 1.2 | 3         |
| 41 | Fe5S2 identified as a host of sulfur in Earth and planetary cores. <i>Earth and Planetary Science Letters</i> , 2022, 593, 117650.  | 1.8 | 3         |
| 42 | Structure modelling and cation partitioning of spinel solid solutions at high T , P conditions. <i>Physics and Chemistry of Minerals</i> , 2004, 31, 45-51.   | 0.3 | 2         |
| 43 | The crystal structure of Fe2S at 90 GPa based on single-crystal X-ray diffraction techniques. <i>American Mineralogist</i> , 2022, 107, 739-743.  | 0.9 | 2         |
| 44 | Stability of the sc16 polymorph of GaAs. <i>Journal of Physics and Chemistry of Solids</i> , 2021, 159, 110233.   | 1.9 | 1         |
| 45 | The novel high-pressure/high-temperature compound Co <sub>12</sub> P <sub>7</sub> determined from synchrotron data. <i>Acta Crystallographica Section E: Crystallographic Communications</i> , 2020, 76, 1665-1668. | 0.2 | 1         |
| 46 | Accurate crystal structure of ice VI from X-ray diffraction with Hirshfeld atom refinement. <i>IUCr</i> , 2022, 9, 573-579.   | 1.0 | 1         |
| 47 | Mg, Al, Si, Ca-bearing magnetite from Korshunovskoe, East Siberia. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2005, 61, c379-c379.   | 0.3 | 0         |
| 48 | Correction to Loss and Isotopic Fractionation of Alkali Elements during Diffusion-Limited Evaporation from Molten Silicate: Theory and Experiments. <i>ACS Earth and Space Chemistry</i> , 2021, 5, 2544-2544.      | 1.2 | 0         |
| 49 | Site occupancies of spinel solid solutions. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2000, 56, s444-s444.  | 0.3 | 0         |
| 50 | Structural behaviour of a Mg  hercynite crystal under oxidation. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2004, 60, s195-s195.   | 0.3 | 0         |
| 51 | High-pressure behavior of iron  nickel phosphides and its implications for meteorites and Earth core. <i>Acta Crystallographica Section A: Foundations and Advances</i> , 2008, 64, C609-C609.                      | 0.3 | 0         |