

Xi Liu

List of Publications by Year in descending order

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84
papers

1,543
citations

279798

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361022

35
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85
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85
docs citations

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times ranked

1763
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 1 | Quantifying Mg-Al cation distribution in MgAl ₂ O ₄ -spinel using Raman spectroscopy: An experimental calibration. <i>Solid Earth Sciences</i> , 2022, 7, 60-71. | 1.7 | 4 |
| 2 | Equation of state of a new calcium magnesium silicate compound with the composition Ca ₃ MgSi ₂ O ₈ at pressures up to 23 GPa and ambient T. <i>Physics and Chemistry of Minerals</i> , 2022, 49, 1. | 0.8 | 0 |
| 3 | Effect of second Si-O vibrational overtones/combinations on quantifying water in silicate and silica minerals using infrared spectroscopy, and an experimental method for its removal. <i>Physics and Chemistry of Minerals</i> , 2022, 49, 1. | 0.8 | 3 |
| 4 | Extremely Stable, Highly Conductive Boron-Hydrogen Complexes in Forsterite and Olivine. <i>Journal of Geophysical Research: Solid Earth</i> , 2022, 127, . | 3.4 | 1 |
| 5 | Raman and infrared spectroscopic quantification of the carbonate concentration in K ₂ CO ₃ aqueous solutions with water as an internal standard. <i>Geoscience Frontiers</i> , 2021, 12, 1018-1030. | 8.4 | 28 |
| 6 | Water in coesite: Incorporation mechanism and operation condition, solubility and P-T dependence, and contribution to water transport and coesite preservation. <i>Geoscience Frontiers</i> , 2021, 12, 313-326. | 8.4 | 5 |
| 7 | Thermodynamics of Mg-Al Order-Disorder Reaction in MgAl ₂ O ₄ -Spinel: Constrained by Prolonged Annealing Experiments at 773-1123 K. <i>Molecules</i> , 2021, 26, 872. | 3.8 | 5 |
| 8 | Experimental constraints on trace element partitioning between coesite and hydrous silicate melt at 5 GPa and 1500-1750°C. <i>Science China Earth Sciences</i> , 2021, 64, 1171-1183. | 5.2 | 2 |
| 9 | High sulfur solubility in subducted sediment melt under both reduced and oxidized conditions: With implications for S recycling in subduction zone settings. <i>Geochimica Et Cosmochimica Acta</i> , 2021, 304, 305-326. | 3.9 | 8 |
| 10 | Crystal Structure and Some Thermodynamic Properties of Ca ₇ MgSi ₄ O ₁₆ -Bredigite. <i>Crystals</i> , 2021, 11, 14. | 2.2 | 4 |
| 11 | Experimental evidence for a protracted enrichment of tungsten in evolving granitic melts: implications for scheelite mineralization. <i>Mineralium Deposita</i> , 2020, 55, 1299-1306. | 4.1 | 4 |
| 12 | Compositional characteristics of ringwoodite in the lower part of the mantle transition zone. <i>Solid Earth Sciences</i> , 2020, 5, 223-225. | 1.7 | 4 |
| 13 | An experimental study of trace element mobility during dehydration of lawsonite blueschist along different P-T paths: Implications for geochemical heterogeneity of Earth's mantle. <i>Journal of Asian Earth Sciences</i> , 2020, 197, 104389. | 2.3 | 0 |
| 14 | IR Features of Hydrous Mg ₂ SiO ₄ -Ringwoodite, Unannealed and Annealed at 200-600 °C and 1 atm, with Implications to Hydrogen Defects and Water-Coupled Cation Disorder. <i>Minerals (Basel, Switzerland)</i> , 2020, 10, 499. | 2.0 | 7 |
| 15 | Jianite: Massive Dunite Solely Made of Virtually Pure Forsterite from Ji'an County, Jilin Province, Northeast China. <i>Minerals (Basel, Switzerland)</i> , 2020, 10, 220. | 2.0 | 10 |
| 16 | Raman and X-ray diffraction study of pressure-induced phase transition in synthetic Mg ₂ TiO ₄ . <i>Scientific Reports</i> , 2020, 10, 6278. | 3.3 | 2 |
| 17 | Equations of state of Co ₂ TiO ₄ -Sp, Co ₂ TiO ₄ -CM, and Co ₂ TiO ₄ -CT, and their phase transitions: an experimental and theoretical study. <i>Physics and Chemistry of Minerals</i> , 2019, 46, 571-582. | 0.8 | 4 |
| 18 | Trace element partitioning between MgAl ₂ O ₄ -spinel and carbonatitic silicate melt from 3 to 6 GPa, with emphasis on the role of cation order-disorder. <i>Solid Earth Sciences</i> , 2019, 4, 43-65. | 1.7 | 8 |

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|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| 19 | Fundamental infrared absorption features of Γ_{\pm} -quartz: An unpolarized single-crystal absorption infrared spectroscopic study. <i>Vibrational Spectroscopy</i> , 2019, 101, 52-63. | 2.2 | 21 |
| 20 | Kinetics and Thermodynamics of Mg-Al Disorder in MgAl ₂ O ₄ -Spinel: A Review. <i>Molecules</i> , 2019, 24, 1704. | 3.8 | 25 |
| 21 | A Metastable Fo-III Wedge in Cold Slabs Subducted to the Lower Part of the Mantle Transition Zone: A Hypothesis Based on First-Principles Simulations. <i>Minerals (Basel, Switzerland)</i> , 2019, 9, 186. | 2.0 | 2 |
| 22 | The Study of Crystal Structure on Grossular-Andradite Solid Solution. <i>Minerals (Basel, Switzerland)</i> , 2019, 9, 186. | 2.0 | 6 |
| 23 | Raman spectroscopic study of synthetic pyrope-grossular garnets: structural implications. <i>Physics and Chemistry of Minerals</i> , 2018, 45, 197-209. | 0.8 | 8 |
| 24 | Carbonated mantle domains at the base of the Earth's transition zone. <i>Chemical Geology</i> , 2018, 478, 69-75. | 3.3 | 20 |
| 25 | Equation of State of a Natural Chromian Spinel at Ambient Temperature. <i>Minerals (Basel, Switzerland)</i> , 2018, 8, 591. | 2.0 | 6 |
| 26 | MgO partition between olivine and K ₂ O-rich silicate melt: Geothermometers applicable to high potassium magmas. <i>Journal of Asian Earth Sciences</i> , 2018, 166, 181-194. | 2.3 | 4 |
| 27 | Stability and Reactions of CaCO ₃ Polymorphs in the Earth's Deep Mantle. <i>Journal of Geophysical Research: Solid Earth</i> , 2018, 123, 6491-6500. | 3.4 | 32 |
| 28 | Si-Disordering in MgAl ₂ O ₄ -Spinel under High P-T Conditions, with Implications for Si-Mg Disorder in Mg ₂ SiO ₄ -Ringwoodite. <i>Minerals (Basel, Switzerland)</i> , 2018, 8, 210. | 2.0 | 14 |
| 29 | Formation of abiotic hydrocarbon from reduction of carbonate in subduction zones: Constraints from petrological observation and experimental simulation. <i>Geochimica Et Cosmochimica Acta</i> , 2018, 239, 390-408. | 3.9 | 70 |
| 30 | Recovery of an oxidized majorite inclusion from Earth's deep asthenosphere. <i>Science Advances</i> , 2017, 3, e1601589. | 10.3 | 33 |
| 31 | Some IR features of SiO ₄ and OH in coesite, and its amorphization and dehydration at ambient pressure. <i>Journal of Asian Earth Sciences</i> , 2017, 148, 315-323. | 2.3 | 11 |
| 32 | A new Ca ₃ MgSi ₂ O ₈ compound and some of its thermodynamic properties. <i>Journal of Solid State Chemistry</i> , 2017, 255, 145-149. | 2.9 | 7 |
| 33 | High-pressure experimental verification of rutile-ilmenite oxybarometer: Implications for the redox state of the subduction zone. <i>Science China Earth Sciences</i> , 2017, 60, 1817-1825. | 5.2 | 10 |
| 34 | Phase relations and formation of K-bearing Al-10 Å... phase in the MORB+H ₂ O system: Implications for H ₂ O- and K-cycles in subduction zones. <i>American Mineralogist</i> , 2017, 102, 1922-1933. | 1.9 | 5 |
| 35 | High-pressure synthesis, crystal structure and photoluminescence properties of a new terbium silicate: Na ₂ Tb _{1.08} Ca _{2.92} Si ₆ O ₁₈ H _{0.8} . <i>RSC Advances</i> , 2017, 7, 50195-50199. | 3.6 | 3 |
| 36 | Spinel and post-spinel phase assemblages in Zn ₂ TiO ₄ : an experimental and theoretical study. <i>Physics and Chemistry of Minerals</i> , 2017, 44, 109-123. | 0.8 | 9 |

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|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 37 | Equation of state of synthetic qandilite Mg ₂ TiO ₄ at ambient temperature. <i>Physics and Chemistry of Minerals</i> , 2016, 43, 301-306. | 0.8 | 6 |
| 38 | Anhydrous ringwoodites in the mantle transition zone: Their bulk modulus, solid solution behavior, compositional variation, and sound velocity feature. <i>Solid Earth Sciences</i> , 2016, 1, 28-47. | 1.7 | 15 |
| 39 | Non-monotonic compositional dependence of isothermal bulk modulus of the (Mg _{1-x} Mn _x)Cr ₂ O ₄ spinel solid solutions, and its origin and implication. <i>Solid Earth Sciences</i> , 2016, 1, 89-100. | 1.7 | 8 |
| 40 | Thermal equation of state of a natural kyanite up to 8.55 GPa and 1273 K. <i>Matter and Radiation at Extremes</i> , 2016, 1, 269-276. | 3.9 | 7 |
| 41 | Compressional behavior of MgCr ₂ O ₄ spinel from first-principles simulation. <i>Science China Earth Sciences</i> , 2016, 59, 989-996. | 5.2 | 14 |
| 42 | Some thermodynamic properties of larnite (Ca ₂ SiO ₄) constrained by high-T/P experiment and/or theoretical simulation. <i>American Mineralogist</i> , 2016, 101, 277-288. | 1.9 | 16 |
| 43 | Equation of state of a synthetic ulvåspinel, (Fe _{1.94} Ti _{0.03})Ti _{1.00} O _{4.00} , at ambient temperature. <i>Physics and Chemistry of Minerals</i> , 2015, 42, 171-177. | 0.8 | 9 |
| 44 | Full and ideal mixing behavior between ZrW ₂ (Si ₃ O ₉) and TiW ₂ (Si ₃ O ₉): evidences from mineral chemistry, X-ray diffraction pattern and Raman spectrum. <i>Physics and Chemistry of Minerals</i> , 2015, 42, 223-234. | 0.8 | 7 |
| 45 | 3D-FEM modeling of the microscopic stress field of forsterite aggregate under hydrostatic pressure: Significance of the crystal orientation. <i>Science China Earth Sciences</i> , 2014, 57, 1192-1198. | 5.2 | 0 |
| 46 | Vibrational mode analysis and heat capacity calculation of K ₂ Si ₃ O ₉ -wadeite. <i>Physics and Chemistry of Minerals</i> , 2013, 40, 563-574. | 0.8 | 8 |
| 47 | Expansivity and compressibility of strontium fluorapatite and barium fluorapatite determined by in situ X-ray diffraction at high-T/P conditions: significance of the M-site cations. <i>Physics and Chemistry of Minerals</i> , 2013, 40, 349-360. | 0.8 | 13 |
| 48 | Expansivity and compressibility of wadeite-type K ₂ Si ₄ O ₉ determined by in situ high T/P experiments, and their implication. <i>Physics and Chemistry of Minerals</i> , 2013, 40, 29-40. | 0.8 | 10 |
| 49 | Effect of carbon, sulfur and silicon on iron melting at high pressure: Implications for composition and evolution of the planetary terrestrial cores. <i>Geochimica Et Cosmochimica Acta</i> , 2013, 114, 220-233. | 3.9 | 31 |
| 50 | Thermal elastic behavior of CaSiO ₃ -walsstromite: A powder X-ray diffraction study up to 900 ÅC. <i>American Mineralogist</i> , 2012, 97, 262-267. | 1.9 | 9 |
| 51 | High-P behavior of anorthite composition and some phase relations of the CaO-Al ₂ O ₃ -SiO ₂ system to the lower mantle of the Earth, and their geophysical implications. <i>Journal of Geophysical Research</i> , 2012, 117, . | 3.3 | 84 |
| 52 | A large volume cubic press with a pressure-generating capability up to about 10 ÅGPa. <i>High Pressure Research</i> , 2012, , 1-16. | 1.2 | 17 |
| 53 | In situ high-temperature powder X-ray diffraction study on the spinel solid solutions (Mg _{1-x} Mn _x)Tl ₂ ETQq1 1 0.784314 rgBT /Overlaid | 0.8 | 15 |
| 54 | Solid solutions between lead fluorapatite and lead fluorovanadate apatite: compressibility determined by using a diamond-anvil cell coupled with synchrotron X-ray diffraction. <i>Physics and Chemistry of Minerals</i> , 2012, 39, 219-226. | 0.8 | 16 |

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|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----------|
| 55 | Thermal expansion of andalusite and sillimanite at ambient pressure: a powder X-ray diffraction study up to 1000°C. <i>Mineralogical Magazine</i> , 2011, 75, 363-374. | 1.4 | 24 |
| 56 | Synthetic lead bromapatite: X-ray structure at ambient pressure and compressibility up to about 20 GPa. <i>Physics and Chemistry of Minerals</i> , 2011, 38, 397-406. | 0.8 | 11 |
| 57 | Solid solution between lead fluorapatite and lead fluorvanadate apatite: mixing behavior, Raman feature and thermal expansivity. <i>Physics and Chemistry of Minerals</i> , 2011, 38, 741-752. | 0.8 | 22 |
| 58 | Equation of state of CAS phase to pressure of the uppermost lower mantle at ambient temperature. <i>Science China Earth Sciences</i> , 2011, 54, 1394-1399. | 5.2 | 2 |
| 59 | A first-principles study of the phase transition from Holl-I to Holl-II in the composition $KAlSi_3O_8$. <i>American Mineralogist</i> , 2011, 96, 974-982. | 1.9 | 14 |
| 60 | Isotropic Thermal Expansivity and Anisotropic Compressibility of ReB_2 . <i>Chinese Physics Letters</i> , 2011, 28, 036401. | 3.3 | 10 |
| 61 | Orientation of channel carbonate ions in apatite: Effect of pressure and composition. <i>American Mineralogist</i> , 2011, 96, 1148-1157. | 1.9 | 35 |
| 62 | Equation of state of carbonated hydroxylapatite at ambient temperature up to 10 GPa: Significance of carbonate. <i>American Mineralogist</i> , 2011, 96, 74-80. | 1.9 | 28 |
| 63 | Structural change in lead fluorapatite at high pressure. <i>Physics and Chemistry of Minerals</i> , 2010, 37, 1-9. | 0.8 | 23 |
| 64 | X-ray absorption spectroscopy of ultramarine pigments: A new analytical method for the polysulfide radical anion S_3^{2-} chromophore. <i>Spectrochimica Acta, Part B: Atomic Spectroscopy</i> , 2010, 65, 75-79. | 2.9 | 45 |
| 65 | Pressure-induced phase transition in $BaCrO_4$. <i>Physical Review B</i> , 2010, 81, . | 3.2 | 11 |
| 66 | Thermal expansion of kyanite at ambient pressure: An X-ray powder diffraction study up to 1000°C. <i>Geoscience Frontiers</i> , 2010, 1, 91-97. | 8.4 | 18 |
| 67 | High-pressure phase relations in the composition of albite $NaAlSi_3O_8$ constrained by an ab initio and quasi-harmonic Debye model, and their implications. <i>Earth and Planetary Science Letters</i> , 2010, 298, 427-433. | 4.4 | 18 |
| 68 | Note: An anvil-preformed gasket system to extend the pressure range for large volume cubic presses. <i>Review of Scientific Instruments</i> , 2010, 81, 116102. | 1.3 | 31 |
| 69 | Phase relations of nahcolite and trona at high P-T conditions. <i>Journal of Mineralogical and Petrological Sciences</i> , 2009, 104, 25-36. | 0.9 | 18 |
| 70 | Sodium hydrogencarbonate ($NaHCO_3$): coincidence-site lattice twinning and structure refinement. <i>Zeitschrift für Kristallographie</i> , 2009, 224, . | 1.1 | 1 |
| 71 | Equation of state of tricalcium phosphate, $Ca_3(PO_4)_2$, to lower mantle pressures. <i>American Mineralogist</i> , 2009, 94, 1388-1391. | 1.9 | 23 |
| 72 | Compressibility of a natural kyanite to 17.5 GPa. <i>Progress in Natural Science: Materials International</i> , 2009, 19, 1281-1286. | 4.4 | 25 |

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|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|
| 73 | Type A and B carbonate chlorapatite synthesized at high pressure. Journal of Solid State Chemistry, 2008, 181, 2494-2500. | 2.9 | 22 |
| 74 | High-pressure study on lead fluorapatite. American Mineralogist, 2008, 93, 1581-1584. | 1.9 | 27 |
| 75 | Accommodation of the carbonate ion in fluorapatite synthesized at high pressure. American Mineralogist, 2008, 93, 1460-1469. | 1.9 | 41 |
| 76 | Hydrogen-carbonate ion in synthetic high-pressure apatite. American Mineralogist, 2007, 92, 1764-1767. | 1.9 | 17 |
| 77 | EFFECTS OF P2O5 AND TiO2 ON THE PARTIAL MELTING OF SPINEL LHERZOLITE IN THE SYSTEM CaO-MgO-Al2O3-SiO2 AT 1.1 GPa. Canadian Mineralogist, 2007, 45, 649-655. | 1.0 | 4 |
| 78 | Coupled substitution of type A and B carbonate in sodium-bearing apatite. Biomaterials, 2007, 28, 916-926. | 11.4 | 198 |
| 79 | The phase boundary between CaSiO3 perovskite and Ca2SiO4 + CaSi2O5 determined by in situ X-ray observations. Geophysical Research Letters, 2006, 33, n/a-n/a. | 4.0 | 13 |
| 80 | Phase relations in the system KAlSi3O8 and NaAlSi3O8 at high pressure and high temperature conditions and their implication for the petrogenesis of lingunite. Earth and Planetary Science Letters, 2006, 246, 317-325. | 4.4 | 46 |
| 81 | Decomposition of kyanite and solubility of Al2O3 in stishovite at high pressure and high temperature conditions. Physics and Chemistry of Minerals, 2006, 33, 711-721. | 0.8 | 24 |
| 82 | The Effects of Small Amounts of H2O, CO2 and Na2O on the Partial Melting of Spinel Lherzolite in the System CaO-MgO-Al2O3-SiO2 ± H2O ± CO2 ± Na2O at 1-1.5 GPa. Journal of Petrology, 2006, 47, 409-434. | 2.8 | 52 |
| 83 | Partial Melting of Spinel Lherzolite in the System CaO-MgO-Al2O3-SiO2 ± K2O at 1-1.5 GPa. Journal of Petrology, 2004, 45, 1339-1368. | 2.8 | 27 |
| 84 | The Effect of Cr2O3 on the Partial Melting of Spinel Lherzolite in the System CaO-MgO-Al2O3-SiO2-Cr2O3 at 1-1.5 GPa. Journal of Petrology, 2004, 45, 2261-2286. | 2.8 | 42 |