Jingui Xu

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WORK EXPERIENCE

- Research Scholar, University of Hawaii at Manoa, 2019.03-Present
- Postdoctoral Fellow, Institute of Geochemistry, Chinese Academy of Sciences (CAS), China, 2017.07-2019.02
- Visiting student, Hawaii Institute of Geophysics and Planetology, School of Ocean and Earth Science and Technology, University of Hawaii at Manoa, USA, 2015.11-2016.12

EDUCATION

- Ph.D., Solid Earth Physics, University of Chinese Academy of Sciences (UCAS), China, 2012-2017
- B.S., Resource Exploration Engineering, Guizhou University, China, 2008-2012

RESEARCH AREAS

- Experimental mineral physics of Earth materials: phase transition, elasticity, crystallography

EXPERIMENTAL TECHNIQUES

- Synchrotron X-ray: Single-crystal/powder diffraction

AWARDS AND HONORS

- 2016 National Scholarship at UCAS
- 2017 Presidential Prize, CAS
- 2017 Outstanding Graduate, Beijing
- 2017 Outstanding Graduate, UCAS
- 2018 Excellent Doctoral Dissertation, CAS

PRESENTATIONS

- Talk (AIRAPT26 Conference joint with ACHPR8 & CHPC19, 2017)
  Xu, Jingui, Zhang, Dongzhou, Dera, Przemyslaw, Hu, Yi, Zhang, Jin S., Fan, Dawei, Zhou, Wenge, Phase transitions in MgSiO3 enstatite to 34 GPa and the effect of Ni, Beijing, China
- Poster (AIRAPT26 Conference joint with ACHPR8 & CHPC19, 2017)
  Xu, Jingui, Zhang, Dongzhou, Shi, Feng, Dera, Przemyslaw, Zhou, Wenge, Fan, Dawei, High P/T single-crystal diffraction studies on thermoelasticity of hydrous omphacite, Beijing, China
- Poster (AGU Fall Meeting, 2016)
  Xu, Jingui, Zhang, Dongzhou, Dera, Przemyslaw, Zhang, Jin S., Fan, Dawei, Phase evolution of hydrous enstatite at high pressures and temperatures, San Francisco, USA

- Poster (COMPRES Annual Meeting, 2016)
  Xu, Jingui, Zhang, Dongzhou, Dera, Przemyslaw, Zhang, Jin S., Fan, Dawei, High-pressure single-crystal X-ray diffraction studies of aegirine, augite and hydrous enstatite, Albuquerque, USA

PUBLICATIONS

1. **Xu, Jingui**, Zhang, Dongzhou, Fan, Dawei, Dera, Przemyslaw, Shi, Feng, Zhou, Wenge, (2019), Thermoelastic Properties of Eclogitic Garnets and Omphacites: Implications for Deep Subduction of Oceanic Crust and Density Anomalies in the Upper Mantle, Geophysical Research Letters 46(1), 179-188.
2. **Xu, Jingui,** Zhang, Dongzhou, Fan, Dawei, Wu, Xiang, Shi, Feng, & Zhou, Wenge, (2019). Compressional behavior of natural eclogitic zoisite by synchrotron X-ray single-crystal diffraction to 34 GPa. Physics and Chemistry of Minerals, 46(4), 333-341.
3. Zhang, Bo, Hu, Xianxu, Asimow, Paul D, Zhang, Xin, **Xu, Jingui,** Fan, Dawei, & Zhou, Wenge, (2019). Crystal size distribution of amphibole grown from hydrous basaltic melt at 0.6–2.6 GPa and 860–970 °C. American Mineralogist, 104(4), 525-535.
4. Zhang, Dongzhou, Hu, Yi, **Xu, Jingui,** Downs, Robert T, Hammer, Julia E, & Dera, Przemyslaw, (2019). High-pressure behavior of liebenbergite: The most incompressible olivine-structured silicate. American Mineralogist, 104(4), 580-587.
5. Ye, Zhilin, Li, Bo, Chen, Wei, Huang, Shijie, **Xu, Jingui**, & Fan, Fawei, (2019). Pressure-temperature phase diagram and thermoelastic behavior of manganese fluoride up to 13.1 GPa and 700 K. Materials Research Express. https://doi.org/10.1088/2053-1591/ab49f7
6. Fan, Dawei, **Jingui Xu**, Chang Lu, Sergey N. Tkachev, Bo Li, Zhiling Ye, Shijie Huang, Vitali B. Prakapenka, and Wenge Zhou. "Elasticity of single-crystal low water content hydrous pyrope at high-pressure and high-temperature conditions." American Mineralogist 104(7) (2019): 1022-1031.
7. Ye, Zhilin, Bo Li, Wei Chen, Ruilian Tang, Shijie Huang, **Jingui Xu**, Dawei Fan, Wenge Zhou, Maining Ma, and Hongsen Xie. "Phase transition and thermoelastic behavior of barite-group minerals at high-pressure and high-temperature conditions." Physics and Chemistry of Minerals 46(6) (2019): 607-621.
8. Li, Zeming, Yuan Yin, Justin D. Rumney, Sean R. Shieh, **Jingui Xu**, Dawei Fan, Wen Liang, Shuai Yan, and Shuangmeng Zhai. "High-pressure in-situ X-ray diffraction and Raman spectroscopy of Ca2AlFeO5 brownmillerite." *High Pressure Research* 39, no. 1 (2019): 92-105.
9. **Xu, Jingui**, Zhang, Dongzhou, Fan, Dawei, Zhang, Jin S., Hu, Yi, Guo, Xinzhuan, Dera, Przemyslaw, Zhou, Wenge, (2018), Phase Transitions in Orthoenstatite and Subduction Zone Dynamics: Effects of Water and Transition Metal Ions, Journal of Geophysical Research: Solid Earth 123(4): 2723-2737.
10. Li, Bo, **Xu, Jingui**, Chen, Wei, Fan, Dawei, Kuang, Yunqian, Ye, Zhilin, Zhou, Wenge, Xie, Hongsen, (2018), Phase transition and thermoelastic behavior of cadmium sulfide at high pressure and high temperature, Journal of Alloys and

Compounds 743: 419-427.
11. Li, Bo, **Xu, Jingui**, Chen, Wei, Ye, Zhilin, Huang, Shijie, Fan, Dawei, Zhou, Wenge, Xie, Hongsen, (2018), Compressibility and expansivity of anglesite ($PbSO_4$) using in situ synchrotron X-ray diffraction at high-pressure and high-temperature conditions, Physics and Chemistry of Minerals 45: 833-893.
12. Hu, Xianxu, Zhang, Bo, Tang, Qizhe, **Xu, Jingui**, Fan, Dawei, Zhou, Wenge, (2018), Fractal Analysis of Amphibole Aggregation Growth from a Basaltic Melt and Residual Melt at High Pressure and High Temperature, Journal of Musculoskeletal Research, 1850032.
13. **Xu, Jingui**, Zhang, Dongzhou, Fan, Dawei, Downs, Robert T, Hu, Yi, Dera, Przemyslaw, (2017), Isosymmetric pressure-induced bonding increase changes compression behavior of clinopyroxenes across jadeite-aegirine solid solution in subduction zones, Journal of Geophysical Research: Solid Earth 122(1): 142-157.
14. **Xu, Jingui**, Zhang, Dongzhou, Dera, Przemyslaw, Zhang, Bo, Fan, Dawei, (2017), Experimental evidence for the survival of augite to transition zone depths, and implications for subduction zone dynamics, American Mineralogist 102(7): 1516-1524.
15. Kuang, Yunqian, **Xu, Jingui**, Zhao, Dongyu, Fan, Dawei, Li, Xiaodong, Zhou, Wenge, Xie, Hongsen, (2017), The high-pressure elastic properties of celestine and the high-pressure behavior of barite-type sulphates. High Temperatures--High Pressures 46(6).
16. Zhao, Dongyu, **Xu, Jingui**, Zhang, Bo, Kuang, Yunqian, Fan, Dawei, Zhou, Wenge, Li, Xiaodong, Xie, Hongsen, (2017), Compressibility of natural manganite at high pressure: Influence of Jahn-Teller effect and hydrogen bond. High Temperatures--High Pressures 46(1).
17. Fan, Dawei, Lu, Chang, **Xu, Jingui**, Yan, Binmin, Yang, Bin, Chen, Jiuhua, (2017), Effects of water on PVT equation of state of pyrope, Physics of the Earth and Planetary Interiors 267: 9-18.
18. Fan, Dawei, Kuang, Yunqian, **Xu, Jingui**, Li, Bo, Zhou, Wenge, Xie, Hongsen (2017), Thermoelastic properties of grossular–andradite solid solution at high pressures and temperatures. Physics and Chemistry of Minerals 44(2): 137-147.
19. **Xu, Jingui**, Kuang, Yunqian, Zhang, Bo, Liu, Yonggang, Fan, Dawei, Li, Xiaodong, Xie, Hongsen, (2016), Thermal equation of state of natural tourmaline at high pressure and temperature. Physics and Chemistry of Minerals 43(5): 315-326.
20. Fan, Dawei, Kuang, Yunqian, **Xu, Jingui**, Zhang, Bo, Xie, Hongsen (2016), Influence of Hydrogen on the Thermoelastic Properties of the Major Rock-Forming Minerals in the Upper Mantle. Acta Geologica Sinica (English Edition) 90(5): 1933-1934.
21. **Xu, Jingui**, Kuang, Yunqian, Zhang, Bo, Liu, Yonggang, Fan, Dawei, Zhou, Wenge, Xie, Hongsen, (2015), High-pressure study of azurite $Cu_3(CO_3)_2(OH)_2$ by synchrotron radiation X-ray diffraction and Raman spectroscopy. Physics and Chemistry of Minerals 42(10): 805-816
22. Fan, Dawei, **Xu, Jingui**, Ma, Maining, Wei, Shuyi, Zhang, Bo, Liu, Jing, Xie,

Hongsen (2015), *P-V-T* equation of state of $Ca_3Cr_2Si_3O_{12}$ uvarovite garnet by using a diamond-anvil cell and in-situ synchrotron X-ray diffraction. American Mineralogist 100(2-3): 588-597

23. Fan, Dawei, **Xu, Jingui**, Ma, Maining, Liu, Jing, Xie, Hongsen, (2015), *P-V-T* equation of state of spessartine-almandine solid solution measured using a diamond anvil cell and in situ synchrotron X-ray diffraction. Physics and Chemistry of Minerals 42(1): 63-72.
24. Fan, Dawei, **Xu, Jingui**, Kuang, Yunqian, Li, Xiaodong, Li, Yanchun, Xie, Hongsen, (2015), Compressibility and equation of state of beryl ($Be_3Al_2Si_6O_{18}$) by using a diamond anvil cell and in situ synchrotron X-ray diffraction. Physics and Chemistry of Minerals 42(7): 529-539.
25. **Xu, Jingui**, Ma, Maining, Wei, Shuyi, Hu, Xianxu, Liu, Yonggang, Liu, Jing, Fan, Dawei, Xie, Hongsen (2014), Equation of state of adamite up to 11 GPa: a synchrotron X-ray diffraction study. Physics and Chemistry of Minerals 41(7): 547-554.
26. Fan, Dawei, **Xu, Jingui**, Ma, Maining, Liu, Jing, Xie, Hongsen, (2014), *P-V-T* equation of state of molybdenite (MoS_2) by a diamond anvil cell and in situ synchrotron angle-dispersive X-ray diffraction. Physica B: Condensed Matter 451: 53-57
27. Fan, Dawei, **Xu, Jingui**, Liu, Jing, Li, Yanchun, Xie, Hongsen, (2014), Thermal equation of state of natural stibnite up to 25.7 GPa and 533 K. High Temperatures-High Pressures 43(5).