**Publications**

***Journal paper***

1. Bi, X., et al., *Sodium Peroxide Dihydrate or Sodium Superoxide: The Importance of the Cell Configuration for Sodium–Oxygen Batteries.* Small Methods, 2017. **1**(7): p. 1700102-n/a.

2. Efthimiopoulos, I., et al., *Comparing the Pressure-Induced Structural Behavior of CuCr2O4 and CuCr2Se4 Spinels.* The Journal of Physical Chemistry C, 2017. **121**(30): p. 16513-16520.

3. Finkelstein, G.J., et al., *Single-crystal equations of state of magnesiowüstite at high pressures.* American Mineralogist, 2017. **102**(8): p. 1709.

4. Hu, Q., et al., *Dehydrogenation of goethite in Earth’s deep lower mantle.* Proceedings of the National Academy of Sciences of the United States of America, 2017. **114**(7): p. 1498-1501.

5. Hu, Y., et al., *High-Pressure γ-CaMgSi2O6: Does Penta-Coordinated Silicon Exist in the Earth's Mantle?* Geophysical Research Letters, 2017. **44**(22): p. 11,340-11,348.

6. Liu, G., et al., *Pressure-Induced Bandgap Optimization in Lead-Based Perovskites with Prolonged Carrier Lifetime and Ambient Retainability.* Advanced Functional Materials, 2017. **27**(3): p. 1604208.

7. Qin, F., et al., *Thermal Equation of State of Natural Ti-Bearing Clinohumite.* Journal of Geophysical Research: Solid Earth, 2017. **122**(11): p. 8943-8951.

8. Xu, J., et al., *Experimental evidence for the survival of augite to transition zone depths, and implications for subduction zone dynamics.* American Mineralogist, 2017. **102**(7): p. 1516-1524.

9. Xu, J., et al., *Isosymmetric pressure-induced bonding increase changes compression behavior of clinopyroxenes across jadeite-aegirine solid solution in subduction zones.* Journal of Geophysical Research: Solid Earth, 2017. **122**: p. 142-157.

10. Zhang, C., et al., *Evidence for pressure-induced node-pair annihilation in Cd3As2.* Physical Review B, 2017. **96**(15).

11. Zhang, D., *Making a fine-scale ruler for oxide inclusions.* American Mineralogist, 2017. **102**(10): p. 1969-1970.

12. Zhang, D., et al., *High Pressure Single Crystal Diffraction at PX^2.* Journal of Visualized Experiments, 2017(119): p. e54660.

13. Zhang, R., et al., *Effects of Nonhydrostatic Stress on Structural and Optoelectronic Properties of Methylammonium Lead Bromide Perovskite.* The Journal of Physical Chemistry Letters, 2017: p. 3457-3465.

14. Efthimiopoulos, I., et al., *Universal link of magnetic exchange and structural behavior under pressure in chromium spinels.* Physical Review B, 2018. **97**(18).

15. Gong, J., et al., *Red-emitting salicylaldehyde Schiff base with AIE behaviour and large Stokes shift.* Chinese Chemical Letters, 2018. **29**(10): p. 1493-1496.

16. Huang, E.W., et al., *Irreversible phase transformation in a CoCrFeMnNi high entropy alloy under hydrostatic compression.* Materials Today Communications, 2018. **14**: p. 10-14.

17. Jackson, D.E., et al., *Superconducting and magnetic phase diagram of RbEuFe4As4 and CsEuFe4As4 at high pressure.* Physical Review B, 2018. **98**(1).

18. Lai, X.J., et al., *The high-pressure anisotropic thermoelastic properties of a potential inner core carbon-bearing phase, Fe7C3, by single-crystal X-ray diffraction.* American Mineralogist, 2018. **103**(10): p. 1568-1574.

19. Li, X., et al., *Pressure-induced photoluminescence of MgO.* Journal of Physics-Condensed Matter, 2018. **30**(19).

20. Liu, J.C., et al., *Valence and spin states of iron are invisible in Earth's lower mantle.* Nature Communications, 2018. **9**.

21. Ma, L., et al., *High-Capacity Sodium Peroxide Based Na–O2 Batteries with Low Charge Overpotential via a Nanostructured Catalytic Cathode.* ACS Energy Letters, 2018: p. 276-277.

22. Materne, P., et al., *Suppression of the magnetic order in CeFeAsO: Nonequivalence of hydrostatic and in-plane chemical pressure.* Physical Review B, 2018. **98**(1).

23. Morrison, R.A., et al., *Equations of State and Anisotropy of Fe-Ni-Si Alloys.* Journal of Geophysical Research-Solid Earth, 2018. **123**(6): p. 4647-4675.

24. Tang, H., et al., *Metal-to-Semiconductor Transition and Electronic Dimensionality Reduction of Ca2N Electride under Pressure.* Advanced Science, 2018. **0**(0): p. 1800666.

25. Thompson, E.C., et al., *High-Pressure Geophysical Properties of Fcc Phase FeHX.* Geochemistry Geophysics Geosystems, 2018. **19**(1): p. 305-314.

26. Tschauner, O., et al., *Ice-VII inclusions in diamonds: Evidence for aqueous fluid in Earth's deep mantle.* Science, 2018. **359**(6380): p. 1136.

27. Xu, J.G., et al., *Phase Transitions in Orthoenstatite and Subduction Zone Dynamics: Effects of Water and Transition Metal Ions.* Journal of Geophysical Research-Solid Earth, 2018. **123**(4): p. 2723-2737.

28. Zhang, Q., et al., *Pressure Impact on the Crystal Structure, Optical, and Transport Properties in Layered Oxychalcogenides BiCuChO (Ch = S, Se).* Journal of Physical Chemistry C, 2018. **122**(28): p. 15929-15936.

***Ph.D. theses***

29. Xu, Jingui, *Phase transformations and equation of state of pyroxenes at high pressure and temperature*, 2017, University of Chinese Academy of Sciences.

30. Qin, Fei, *High-pressure investigation on crystal chemistry of several mineral phases in subduction zones*, 2018, Peking University.

31. Hu, Yi, *Metastable pyroxenes and their role in the subduction process*, 2018, University of Hawaii at Manoa.