**Publication from the PX^2 user program for 2016-2017**

Highlighted in yellow are publications in premiere journals with impact factor higher than 9.

1. Bi, X., Wang, R., Ma, L., Zhang, D., Amine, K., Lu, J., 2017. Sodium Peroxide Dihydrate or Sodium Superoxide: The Importance of the Cell Configuration for Sodium–Oxygen Batteries. Small Methods 1, 1700102.
2. Efthimiopoulos, I., Tsurkan, V., Loidl, A., Zhang, D., Wang, Y., 2017. Comparing the Pressure-Induced Structural Behavior of CuCr2O4 and CuCr2Se4 Spinels. The Journal of Physical Chemistry C 121, 16513-16520.
3. Finkelstein, G.J., Jackson, J.M., Sturhahn, W., Zhang, D., Alp, E.E., Toellner, T.S., 2017. Single-crystal equations of state of magnesiowüstite at high pressures. Am Mineral 102, 1709.
4. Hu, Q., Kim, D.Y., Liu, J., Meng, Y., Yang, L., Zhang, D., Mao, W.L., Mao, H.-K., 2017. Dehydrogenation of goethite in Earth’s deep lower mantle. P Natl Acad Sci USA 114, 1498-1501.
5. Hu, Q.Y., Kim, D.Y., Yang, W.G., Yang, L.X., Meng, Y., Zhang, L., Mao, H.K., 2016. FeO2 and FeOOH under deep lower-mantle conditions and Earth's oxygen-hydrogen cycles. Nature 534, 241-244.
6. Hu, Y., Kiefer B., Bina C.R., Zhang D., Dera P., 2017. High‐pressure γ‐CaMgSi2O6: Does penta‐coordinated silicon exist in the Earth's mantle? Geophysical Research Letters, L075424.
7. Kong, L.P., Liu, G., Gong, J., Hu, Q.Y., Schaller, R.D., Dera, P., Zhang, D., Liu, Z.X., Yang, W.G., Zhu, K., Tang, Y.Z., Wang, C.Y., Wei, S.H., Xu, T., Mao, H.K., 2016. Simultaneous band-gap narrowing and carrier-lifetime prolongation of organic-inorganic trihalide perovskites. P Natl Acad Sci USA 113, 8910-8915.
8. Liu, G., Kong, L.P., Gong, J., Yang, W.G., Mao, H.K., Hu, Q.Y., Liu, Z.X., Schaller, R.D., Zhang, D., Xu, T., 2017. Pressure-Induced Bandgap Optimization in Lead-Based Perovskites with Prolonged Carrier Lifetime and Ambient Retainability. Adv Funct Mater 27, 1604208.
9. Liu, J., Caracas, R., Fan, D.W., Bobocioiu, E., Zhang, D., Mao, W.L., 2016. High-pressure compressibility and vibrational properties of (Ca,Mn)CO3. Am Mineral 101, 2723-2730.
10. Xu, J., Zhang, D., Dera, P., Zhang, B., Fan, D., 2017a. Experimental evidence for the survival of augite to transition zone depths, and implications for subduction zone dynamics. Am Mineral 102, 1516-1524.
11. Xu, J., Zhang, D., Fan, D., Downs, R.T., Hu, Y., Dera, P.K., 2017b. 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, 142-157.
12. Zhang, D., 2017. Making a fine-scale ruler for oxide inclusions. Am Mineral 102, 1969-1970.
13. Zhang, D., Dera, P.K., Eng, P.J., Stubbs, J.E., Zhang, J.S., Prakapenka, V.B., Rivers, M.L., 2017a. High Pressure Single Crystal Diffraction at PX^2. Journal of Visualized Experiments, e54660.
14. Zhang, D., Hu, Y., Dera, P.K., 2016. Compressional behavior of omphacite to 47 GPa. Phys Chem Miner 43, 707-715.
15. Zhang, R., Cai, W., Bi, T., Zarifi, N., Terpstra, T., Zhang, C., Verdeny, Z.V., Zurek, E., Deemyad, S., 2017b. Effects of Nonhydrostatic Stress on Structural and Optoelectronic Properties of Methylammonium Lead Bromide Perovskite. The Journal of Physical Chemistry Letters, 3457-3465.