Review of: "High-pressure thermal conductivity and compressional velocity of NaCl in B1 and B2 phase"

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Sodium chloride (NaCl) is a representative ionic crystal with face centered cubic (B1) structure at ambient conditions and is of practice in high *P-T* DAC experiments. The authors obtained the thermal conductivity and sound velocity of NaCl to 66 GPa at room temperature, via using the DAC technique combined with the time-domain thermoreflectance and time-domain stimulated Brillouin scattering measurements. These high-quality experimental data offer important database for the thermal conductivity of a critical pressure medium at high *P-T* conditions.

For geophysical and planetary physics researches, higher temperature and pressure conditions are often involved. Therefore, the temperature and pressure conditions studied in this paper are far below that exist in the interiors of the majority of planet which are more concerned by researchers. Moreover, these data demonstrate some classical laws, such as the T^{-1} dependence law for thermal conductivity and the Birch's law for sound velocity. However, people may be more interested in the changing behavior of these properties under higher temperature and pressure conditions, such as whether there will be abnormal behavior contrary to these laws. High quality data is also helpful to verify the theoretical model. The density functional theory has proved its ability to calculate the thermal conductivity of materials, such as thermoelectric materials. It is regret that we have not seen the comparison between DFT calculation and experimental data and the in-depth DFT calculation and analysis of experimental results in this article.