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Effects of pressure on the magnetic anisotropy of ferromagnetic insulator $Cr_2Ge_2Te_6$[1] ZHISHENG LIN, MARK LOHMANN, CHI TANG, JUNXUE LI, Univ of California - Riverside, WENYU XING, JIANGNAN ZHONG, SHUANG JIA, WEI HAN, Peking University, Beijing,China, JING SHI, Univ of California - Riverside — $Cr_2Ge_2Te_6$ is an interesting atomically layered ferromagnetic insulator with space group $R\bar{3}$ that has a Curie temperature of ˜61 K and a band gap of ˜0.2 eV. Owing to the van der Waals nature of the crystal structure, both electronic and magnetic properties depends on the interlayer coupling; therefore, it is interesting to study the effects of the interlayer spacing on physical properties. In this study, we apply a hydrostatic pressure to a CGT crystal up to 2000 PSI while measuring its magneto-transport properties with an external magnetic field applied along the c-axis of CGT. With increasing pressure, we observe a systematic increase in the anisotropic magnetoresistance ratio accompanied by a decrease in the band gap. In the meantime, the saturation field in the magnetoresistance increases as the pressure increases, indicating that the magnetization gradually favors to be in the ab-plane. This induced anisotropy change could be attributed to the increased interlayer coupling as the layers are bought closer to each other.

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