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# High pressure synchrotron x-ray diffraction study of the $\text{Mn}_{0.94}\text{Ti}_{0.06}\text{CoGe}$ alloy



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### ABSTRACT

High pressure x-ray diffraction studies up to 10.4 GPa were performed on the  $\text{Mn}_{0.94}\text{Ti}_{0.06}\text{CoGe}$  alloy using synchrotron radiation with a diamond anvil cell. No structural phase transitions occurred in the entire range of our measurements. Unit cell parameters were determined up to 10.4 GPa and the calculated unit cell volumes were found to be well represented by a third order Birch-Murnaghan equation of state. The bulk modulus determined from the pressure – volume data was found to be,  $B_0 = 231.72 \pm 7.79$  GPa. This study, employing high resolution synchrotron x-rays has helped clarify the behaviour of the  $\text{Mn}_{0.94}\text{Ti}_{0.06}\text{CoGe}$  alloy under high pressure.