

Abstract Submitted  
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**Pressure Dependence of the Phonon Modes of Hexagonal-RMnO<sub>3</sub>**<sup>1</sup> PENG GAO, TREVOR A. TYSON, Physics Department, New Jersey Institute of Technology, ZHENXIAN LIU, Geophysical Laboratory, Carnegie Institution of Washington, SUNG BAEK KIM, SANG-WOOK CHEONG, Dept. of Physics and Astronomy, Rutgers University — We present high pressure IR measurements of the phonon spectra of HoMnO<sub>3</sub> and YMnO<sub>3</sub>. Measurements were conducted over the pressure range ambient to ~20 GPa. No phase changes were observed over this broad range of hydrostatic pressures. A strong non-linear variation of frequency with pressure is observed suggesting saturation at higher pressures. A discussion of the effect of hydrostatic pressure on the ferroelectric properties of these systems will be given based on comparisons with density functional calculations.

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