

Abstract Submitted  
for the MAR08 Meeting of  
The American Physical Society

**Probing Spin-Lattice Correlations in Hexagonal RMnO<sub>3</sub> Multiferroics**<sup>1</sup> TREVOR TYSON, ZHIQIANG CHEN, New Jersey Institute of Technology, SUNGBACK KIM, SANG-WOOK CHEONG, Rutgers University — The hexagonal multiferroic system RMnO<sub>3</sub> is known to exhibit strong spin-lattice correlations based on bulk thermal expansion measurements. Enhanced correlations at the spin ordering temperatures are observed. In this work, we examine the local structure about the R and Mn sites in order to determine the changes in atomic interactions which coincide with the spin alignments. Measurements over a broad range of temperatures are presented and estimates of the changes in atomic bond distances are given.

<sup>1</sup>This work is supported by DOE Grant DE-FG02-07ER46402.

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Date submitted: 03 Jan 2008

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