

Abstract Submitted  
for the MAR11 Meeting of  
The American Physical Society

**Ferroelectricity driven by symmetric exchange striction in orthorhombic HoMnO<sub>3</sub>** NARA LEE, YOUNG JAI CHOI, SANG-WOOK CHEONG, Rutgers University — Orthorhombic HoMnO<sub>3</sub> crystallizes in a distorted perovskite structure (space group *Pbnm*). It has been predicted that the spin configuration below the Néel temperature corresponds to a collinear E-type antiferromagnetic phase, which accompanies a large ferroelectric polarization originated from local oxygen distortions driven by exchange striction. In order to understand the exact nature of the E-type magnetism-driven ferroelectricity as well as the influence of Ho magnetism on ferroelectricity, we have performed comprehensive measurements of physical properties of the system, including magnetic susceptibility, dielectric constant, ferroelectric polarization and heat capacity with the variation of temperature and magnetic fields.

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Date submitted: 09 Nov 2010

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