Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Crystal Structure, Electric Polarization and Heat Capacity Measurements on Small R-Ion Multiferroic Hexagonal $RMnO_3$ TIAN YU, PENG GAO, TAO WU, TREVOR TYSON, New Jersey Institute of Technology, ROGER LALANCETTE, Rutgers University — Crystal structure, electric polarization and heat capacity measurements on the hexagonal multiferroic $RMnO_3$ reveal that small R ion (Lu and lower cation size) systems are ferroelectric and possess the same space-group as $YMnO_3$. Combined local and long range structural measurements were conducted by XAFS, PDF and single crystal and powder XRD methods. The influence of the Mn-O and R-O distribution on the electric polarization is discussed. Point charge estimates of the electrical polarization are given for comparison with the $YMnO_3$ system. This work is supported by DOE Grant DE-FG02-07ER46402.

Tian Yu
New Jersey Institute of Technology

Date submitted: 09 Nov 2012 Electronic form version 1.4