Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Perovskite $BaCrO_3$: completing a materials system with an anomalous Mott transition[1] Z.H. ZHU, F.J. RUECKERT, J.I. BUDNICK, W.A. HINES, M. JAIN, H. ZHANG, B.O. WELLS, University of Connecticut — Perovskite $BaCrO_3$ cannot be stabilized in bulk but we have synthesized this compound as a film. $BaCrO_3$ films have a substantially larger lattice constant than other chromates, are insulating, and exhibit weak ferromagnetism likely associated with canted antiferromagnetism. Comparison with the sister compounds $CaCrO_3$ and $SrCrO_3$ suggests an anomalous Mott transition caused by lattice expansion where magnetism is independent of whether the compound is metallic or insulating.

[1]Supported by the NSF through grant DMR-0907197.

Z. H. Zhu
University of Connecticut

Date submitted: 27 Dec 2012 Electronic form version 1.4