

Abstract Submitted  
for the MAR15 Meeting of  
The American Physical Society

**RMO3 perovskite oxides with magnetic and ferroelectric polar structures** WEI REN, SHUNBO HU, YABEI WU, Shanghai University — Enhancing the electrical polarization and the magnetic ordering transition temperatures constitutes a current research focus in multiferroics of fundamental and technological importance. Here we report on some progress on the RMO3 perovskites for novel routes to realize multiferroics, giving specific examples of rare earth and transition metal oxide materials. First principles computations, either supported by experimental results or awaiting for experimental verifications, are shown to offer useful guidance for the research of unconventional multiferroics. We hope to stimulate more efforts from experimentalists and theorists to work together for the future developments in fundamental science and device applications. These experimental and theoretical approaches will open up new possibilities for exploring, modeling, and exploiting novel electromagnetism and multiferroic materials.

Wei Ren  
Shanghai University

Date submitted: 14 Nov 2014

Electronic form version 1.4