Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Growth of $CaIrO_3$ and $Gd_2Ir_2O_7$ by MBE[1] YUEFENG NIE, RAINER HELD, SHOUVIK CHATTERJEE, ERIC MONKMAN, DANIEL SHAI, JOHN HARTER, BULAT BURGANOV, CAROLINA ADAMO, Laboratory of Atomic and Solid State Physics, Department of Physics, Cornell University, Ithaca, NY 14853, USA, DARRELL SCHLOM, Department of Materials Science and Engineering,Cornell University, Ithaca, New York 14853, USA, KYLE SHEN, Laboratory of Atomic and Solid State Physics, Department of Physics, Cornell University, Ithaca, NY 14853, USA — Recently, it was pointed out that the 5d transition metal iridium oxides (iridates) are promising candidates to realize topological insulators, which provide a unique platform in studying the interplay of Coulomb interactions, spin-orbit coupling, and the band topology of solids. We successfully grew epitaxial perovskite $CaIrO_3$ and pyrochlore $Gd_2Ir_2O_7$ films by reactive molecular-beam epitaxy (MBE). A range of biaxial strains for epitaxial CaIrO3 films was achieved by growing on different substrates. Angle-resolved photoemission spectroscopy (ARPES) will be used to investigate the electronic structure of the epitaxial $CaIrO_3$ and $Gd_2Ir_2O_7$ films.

[1]The work is supported by the Cornell Center for Materials Research through the National Science Foundation.

Yuefeng Nie
Laboratory of Atomic and Solid State Physics, Department of Physics,
Cornell University, Ithaca, NY 14853, USA

Date submitted: 13 Dec 2011 Electronic form version 1.4