

Abstract Submitted  
for the MAR15 Meeting of  
The American Physical Society

**SmB<sub>6</sub> thin films synthesis and transport properties** YUFAN LI, SUNXIANG HUANG<sup>1</sup>, C.-L. CHIEN, Department of Physics and Astronomy, Johns Hopkins University — SmB<sub>6</sub>, the candidate of the newly proposed topological Kondo insulator, has attracted great research interest in its physical properties. Evidences supporting the presence of the topologically protected surface state were gathered from various experimental studies, however mainly focusing on bulk specimens. In this work, (100) textured SmB<sub>6</sub> thin films with dominant epitaxy were synthesized by DC magnetron sputtering. The resistivity saturates below 10 K and forms a plateau, while at higher temperatures the insulating behavior manifests a band gap  $\sim 3$  meV consistent with the reported value of bulk samples. A sign change of the normal Hall coefficient may indicate the formation of the hybridization energy gap.

<sup>1</sup>Now at University of Miami

Yufan Li  
Department of Physics and Astronomy, Johns Hopkins University

Date submitted: 14 Nov 2014

Electronic form version 1.4