Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Kondo Breakdown in Topological Kondo Insulators[1] ONUR ERTEN, Rutgers Univ, VICTOR ALEXANDROV, PIERS COLEMAN, Rutgers University — Motivated by the observation of light surface states of SmB_6, we examine the effects of surface Kondo breakdown in topological Kondo insulators. We present both numerical and analytic results which show that the decoupling of the localized moments at the surface disturbs the compensation between light and heavy electrons and dopes the Dirac cone. Dispersion of these uncompensated surface states are dominated by inter-site hopping, which leads to a much lighter quasiparticles. These surface states are also highly durable against effects of magnetism and decreasing the thickness of the sample.

[1]Work supported by Department of Energy grant DE-FG02- 99ER45790

Onur Erten
Rutgers Univ

Date submitted: 11 Nov 2014 Electronic form version 1.4