Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Transport and thermodynamic properties of topological semimetal candidate RPdBi (R:rare earth)[1] YASUYUKI NAKAJIMA, RONGWEI HU, KEVIN KIRSHENBAUM, ALEX HUGHES, PAUL SYERS, JOHNPIERRE PAGLIONE, Center for Nanophysics and Advanced Materials, Department of Physics, University of Maryland — The search for topologically non-trivial surface states, involving topologically protected gapless states on the boundary, is one of the central activities in the search for new quantum states of matter. Resent theoretical studies have indicated that the ternary half-Heusler system RPdBi (R:rare earth) can involve strong band inversion due to spin-orbit coupling, leading to the topologically non-trivial state. To clarify possible topological aspects of these materials, we report the characterization of single-crystal samples of RPdBi by transport and thermodynamic measurements down to very low temperatures.

[1]This work was supported by AFOSR-MURI FA9550-09-1-0603.

Yasuyuki Nakajima
Center for Nanophysics and Advanced Materials,
Department of Physics, University of Maryland

Date submitted: 27 Nov 2012 Electronic form version 1.4