Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Time-Reversal-Invariant Topological Superconductivity in n-type Doped BiH FAN YANG, CHENG-CHENG LIU, Beijing Institute of Technology, YU-ZHONG ZHANG, Tongji University, YUGUI YAO, Beijing Institute of Technology, DUNG-HAI LEE, University of California, Berkeley — Intrinsic and symmetry protected topological states have attracted lots of interest in condensed matter physics recently. In particular, time reversal symmetry protected fermion topological insulators have been theoretically predicted and experimentally verified. However despite considerable experimental and theoretical works, definitive evidence for time reversal invariant topological superconductivity is still lacking. Here we propose that upon electron doping the hydrogenated single bilayer Bi, namely BiH, will exhibit time reversal invariant topological superconductivity. If confirmed experimentally this material will constitute the first example of TRI topological superconductor.

Fan Yang
Beijing Institute of Technology

Date submitted: 13 Nov 2014 Electronic form version 1.4