Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Chiral Majorana edge modes in d-wave superconductor/antiferromagnet heterostructures PIN GAO, TAI KAI NG, VIC KAM TUEN LAW, Hong Kong Univ of Sci & Tech — In this work, we study the heterostructure of a d-wave superconductor coupled to an antiferromagnet. We show that Majorana fermion edge states can be created in the system even in the absence of spin-orbit coupling, given that a supercurrent is induced in the superconductor. The Majorana edge states exist even the bulk is gapless and they propagates perpendicular to the direction of the supercurrent. The Majorana modes can be detected through tunneling and heat transport measurements.

Gao Pin
Hong Kong Univ of Sci & Tech

Date submitted: 14 Nov 2014 Electronic form version 1.4