

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Dirac lines in the superconducting hyper-honeycomb lattice

ADRIEN BOUHON, ANNICA BLACK-SCHAFFER, Uppsala Univ — Motivated by the recent discovery of the hyper-honeycomb β -Li₂IrO₃ studied in the context of Kitaev spin liquids, we investigate the possibility to realize superconductivity in the hyper-honeycomb lattice. Based on a t-J model we discuss the effect of the band structure and spin-orbit coupling on the most stable superconducting state. Using group theory we construct all symmetry allowed superconducting states and show that we naturally get Dirac line nodes protected by the non-symmorphic symmetries.

Adrien Bouhon
Uppsala Univ

Date submitted: 07 Nov 2015

Electronic form version 1.4