

Abstract Submitted
for the MAR13 Meeting of
The American Physical Society

Symmetry-broken phases proximate to Z_2 spin liquid on Kagome lattice GIL YOUNG CHO, YUAN-MING LU, ASHVIN VISHWANATH, University of California, Berkeley — Recently, Z_2 spin liquid was proposed as the ground state of the Kagome quantum antiferromagnet [S. Yan, D.A. Huse, and S.R. White, *Science*, 332, 1173 (2011)]. We study proximate symmetry-broken phases that may appear on exiting the spin liquid phase, by tuning parameters such as further neighbor couplings. Given that the Dirac spin liquid is also a relatively low energy state, we consider models of Z_2 spin liquids that are proximate to it. Specifically we consider the s-wave paired state of an algebraic spin liquid on Kagome lattice, $Z_2[0, \pi]\beta$ state of Y.-M Lu, Y. Ran, and P.A. Lee, *Phys. Rev. B* 83, 224413 (2011)] and examine its relations with other competing states. This allows us to characterize the proximate magnetically ordered and VBS phases and criticality between them and the quantum spin liquid.

Gil Young Cho
University of California, Berkeley

Date submitted: 07 Nov 2012

Electronic form version 1.4