

Abstract Submitted
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Exact Chiral Spin Liquid with Stable Spin Fermi Surface on the Kagome Lattice¹ VICTOR CHUA, Department of Physics, University of Texas at Austin, HONG YAO, Department of Physics, University of California, Berkeley, California, GREGORY FIETE, Department of Physics, University of Texas at Austin — We study an exactly solvable quantum spin model of Kitaev type on the kagome lattice. We find a rich phase diagram which includes a topological (gapped) chiral spin liquid with gapless chiral edge states, and a gapless chiral spin liquid phase with a spin Fermi surface. The ground state of the current model contains an odd number of electrons per unit cell which qualitatively distinguishes it from previously studied exactly solvable models with a spin Fermi surface. Moreover, we show that the spin Fermi surface is stable against weak perturbations.

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