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**Chiral spin liquid in the extended Heisenberg model on the Kagome lattice** WENJUN HU, WEI ZHU, California State University, Northridge, YI ZHANG, Stanford University, SHOUSHU GONG, California State University, Northridge, FEDERICO BECCA, SISSA, DONGNING SHENG, California State University, Northridge, DONNA SHENG TEAM — We investigate the extended Heisenberg model on the Kagome lattice by using Gutzwiller projected fermionic states and the variational Monte Carlo technique. In particular, when both second- and third-neighbor super-exchanges are considered, we find that a gapped spin liquid described by non-trivial magnetic fluxes and long-range chiral-chiral correlations is energetically favored compared to the gapless U(1) Dirac state. Furthermore, the topological Chern number, obtained by integrating the Berry curvature, and the degeneracy of the ground state, by constructing linearly independent states, lead us to identify this flux state as the chiral spin liquid with  $C = 1/2$  fractionalized Chern number.

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