

Abstract Submitted
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Quantum spin-ordered states for the frustrated XY model on the honeycomb lattice ANDREA DI CIOLO, Joint Quantum Institute, University of Maryland and Georgetown University, JUAN CARRASQUILLA, Georgetown University and Pennsylvania State University , FEDERICO BECCA, International School for Advanced Studies and CNR-Istituto Officina dei Materiali (Trieste) , VICTOR GALITSKI, Joint Quantum Institute, University of Maryland , MARCOS RIGOL, Georgetown University and Pennsylvania State University — We consider the frustrated XY model on the honeycomb lattice and determine the stability of several classical spin states supplemented with a long-range Jastrow factor that introduces quantum fluctuations. In particular, we focus on the competition between antiferromagnetic, collinear, and generic spiral order upon increase of frustration. Our investigation is based on Variational Monte Carlo calculations.

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