

Abstract Submitted
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Exotic correlated electron phases in the Kagome Hubbard model¹

RONNY THOMALE, Ecole Polytechnique Federale de Lausanne — We employ different renormalization group (RG) schemes to investigate the Kagome Hubbard model at low, intermediate, and strong coupling. At weak coupling where our RG calculation is asymptotically exact, we develop a new notion of sublattice interference mechanism to describe the Fermi surface instabilities at van Hove filling. For intermediate coupling, we observe an intricate interplay of the Fermi surface topology, sublattice interference, and range of interactions. In particular, we find a charge and spin bond order phase as well as a d+id Pomeranchuk instability. At strong coupling, we employ our recently developed slave particle RG schemes to investigate the J1-J2 Kagome Heisenberg model. We discuss its quantum phase diagram in the light of experiments and evidence from other approaches.

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