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Interacting topological insulators on the kagome and decorated honeycomb lattices¹ JUN WEN, ANDREAS RÜEGG, University of Texas at Austin, CHENG-CHING WANG, Georgetown University, GREGORY FIETE, University of Texas at Austin — We study the phase diagram of an extended Hubbard model on the kagome and decorated honeycomb lattice. At the mean-field level a rich set of conventional and topological phases emerges, including some where spin-orbit coupling is dynamically generated and a Z_2 topological band insulator with time-reversal symmetry appears. We discuss the connection between different topological phases, including those involving broken time-reversal symmetry in the strong interaction limit.

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