

Abstract Submitted
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Super-frustration for strongly-correlated fermions in two dimensions PAUL FENDLEY, University of Virginia, KARELJAN SCHOUTENS, University of Amsterdam — We prove that there exists an exotic “super-frustrated” state of strongly-correlated spinless fermions hopping on a two-dimensional lattice. This state is characterized by an extensive ground-state entropy, and very possibly is at a non-Fermi-liquid quantum critical point. We give explicit Hamiltonians which exhibit this behavior. Exploring various lattices and limits, we show how the ground states can be frustrated, quantum critical, or combine frustration with a Wigner crystal.

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