Abstract Submitted
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Three 'species' of Schrodinger cat states in an infinite-range spin model[1] BO ZHAO, COTTY KERRIDGE, DAVID HUSE, Princeton University — We explore a transverse-field Ising model that exhibits both spontaneous symmetry-breaking and eigenstate thermalization. Within its ferromagnetic phase, the exact eigenstates of the Hamiltonian of any large but finite-sized system are all Schrodinger cat states: coherent linear superpositions of states with 'up' and 'down' spontaneous magnetization. This model exhibits two dynamical phase transitions *within* the ferromagnetic phase between regimes where the motion of the order parameter between 'up' and 'down' is via quantum tunneling or not, and is always overdamped or not.

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