ID de Contribution: **47** Type: **Non spécifié**

Symmetry enriched phases of quantum circuits

jeudi 3 juin 2021 19:40 (40 minutes)

Quantum circuits consisting of random unitary gates and subject to local measurements have been shown to undergo a phase transition, tuned by the rate of measurement, from a state with volume-law entanglement to an area-law state. I will argue that a much richer phase structure emerges if symmetries are imposed on the circuit. The classification of phases is governed in this case by an enlarged effective symmetry, which combines the physical circuit symmetry with dynamical symmetries associated with the ensemble of quantum trajectories. I'll give concrete examples for the establishment of steady states, which would not have been possible in thermal equilibrium in the presence of the circuit symmetry alone: (i) Topological states and measurement protected order in a 1+1 dimensional circuit with Z2 symmetry; (ii) A critical phase and measurement induced Kosterlitz-Thouless transition in a Gaussian Majorana circuit.

Orateur: ALTMAN, E.