## Abstract

Quantum many-body scarring is a prototypical example of weak ergodicity breaking in quantum many-body systems, which could support coherent revival dynamics from special initial states when scars form an equally spaced tower in the energy spectrum. In contrast to many-body localization, where all eigenstates are area-law entangled, quantum many-body scars are a small fraction of nonthermal eigenstates immersed in a sea of thermal ones. In this talk, I will introduce our recently proposed method on extracting quantum many-body scarred eigenstates. Then I will show how to embed quantum many-body scars into decoherence-free subspaces in open systems.