

Chez Pierre

Presents ...

Tuesday, October 17, 2023

12:00 pm -1:00 pm

Duboc Room – 4-331



Special Chez Pierre Seminar

Nandini Trivedi, Ohio State University

“Proposal to detect fractionalized excitations in quantum spin liquids”.

Quantum spin liquids have been difficult to observe in experiments because of their lack of magnetic order and broad signatures in inelastic neutron scattering. We show that while the response to single spin excitations is broad, the spectral function corresponding to two-spin excitations has sharp signatures. The electric and magnetic anyons that are created by 2 spin flips, display fracton-like behavior with restricted mobility along specific one-dimensional directions and provide a fingerprint of fractionalization that should be observable by inelastic light scattering and pump-probe experiments.