Physics Seminar: Nikita Sopenko

Wednesday, November 15·2:00 – 3:00pm

Location: 103

Title: Equivariant Higher Berry classes for quantum many-body systems

Abstract: I will discuss the invariants of topologically ordered states of quantum lattice systems that generalize Berry classes and can be defined for any gapped state in any dimension. The equivariant version of such invariants unifies and generalizes the Hall conductance and the Thouless pump. I will also discuss the construction of 2d chiral states for which these invariants can be computed exactly, providing evidence that these states realize topological order associated with an arbitrary unitary rational vertex operator algebra.