

Condensed Matter Theory Center Seminar
Thursday, October 30 at 11:00 AM
2205 Physics Building

Speaker: Brian Swingle (Stanford)

Title: Renormalization Group Constructions of Topological Quantum Liquids

Abstract:

I will discuss recent work with John McGreevy (1407.8203) on constructing ground state wavefunctions of general gapped Hamiltonians using a renormalization group approach. The formalism provides a number of results including a partial proof of the area law for entanglement entropy, efficient tensor network representations for wavefunctions, a definition of short- and long-range entanglement, and a classification scheme which we conjecture applies to all gapped phases. A special role is played by what we call topological quantum liquids which are gapped phases that are insensitive to the "shape" of space (like quantum Hall fluids).

Host: Jay D. Sau

<http://www.physics.umd.edu/cmtc/seminars.html>
