

Condensed Matter Theory Center Seminar



Friday, November 20
10:00 am – 11:30 am
2205 Toll Physics Building

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“Fractional topological states in lattice systems”

Abstract: In this talk, I will review the recent progress on the search for fractional topological states in lattice systems, focusing on the key ingredients that are necessary for stabilizing these exotic states of matter. In particular, two possible pathways will be discussed using either (a) topological flat bands or (b) frustrated lattices on which a discretized Chern-Simons theory can be constructed. For the second approach, I will first demonstrate a generic construction for a discretized Chern-Simons theory. This discretized topological field theory provides important guiding principles for the search of fractional topological states. I will discuss two specific lattice models, in which fractional states are predicted according to our theory. Numerical evidences will also be discussed to compare with the theory.

Host: Will Cole

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

