Massachusetts Institute of Technology
Department of Physics

Condensed Matter Theory Seminar

"Foliated Fracton Order"

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Abstract: The quantum information study of quantum codes and quantum memory has led to the discovery of a new class of exactly solvable lattice models called the fracton models. The fracton models are similar to the better understood topological models in that they also support fractional excitations and have stable ground state degeneracy. But it is also clear that the fracton models exist beyond the realm of conventional topological order due to their extensive ground state degeneracy and the restricted motion of their fractional excitations. In this talk, I will present a new framework, which we call the "foliated fracton order", to capture the nontrivial nature of the order in a large class of fracton models. Such a framework not only clarifies the connection between various different models, but also points to the direction of search for interesting new features.

12:00pm
Friday, April 19, 2019
Duboc Room (4-331)

Host: Xiao-Gang Wen