

Speaker: Ethan Lake (MIT)

Title: The dipolar Bose-Hubbard model

Abstract: I will discuss a simple model of interacting bosons whose dynamics conserves both boson charge and boson dipole moment. This model, the "dipolar Bose-Hubbard model", provides a simple framework in which the consequences of dipolar conservation laws can be explored. I will discuss the phase diagram of this model in various dimensions, its fractonic aspects, and show how it realizes several rather unusual phases of matter (including a Bose condensate which is not a superfluid).