

Massachusetts Institute of Technology
Department of Physics

Condensed Matter Theory Seminar

"A duality web in 2+1 dimensions"

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Abstract: I will discuss a web of field theory dualities in 2+1 dimensions that generalize the familiar particle/vortex duality. Some of these dualities relate theories of fermions to theories of bosons. Others relate different theories of fermions. Assuming some of these dualities, other dualities can be derived. I will present several consistency checks of the dualities and relate them to electromagnetic dualities in 3+1 dimensions. I will mention several interesting applications of these dualities to various problems in condensed matter physics, including topological insulators, half-filled Landau levels, and deconfined criticality.

12:00pm
Tuesday, September 13, 2016
Duboc Room (4-331)