

Condensed Matter Theory Center Seminar



Tuesday, February 23
11:00 am – 12:30 pm
2205 Toll Physics Building

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“Spin Fluctuations and Entanglement”

Abstract: I will compare the effects of quantum and thermal fluctuations in a spin chain by calculating the probability distribution for spin fluctuations in a segment. The calculation will use the concept of an "entanglement Hamiltonian." The entanglement Hamiltonian can be used to identify topological phases, but I will show that it is helpful for long-wavelength correlations as well as topological ones. The entanglement Hamiltonian is an imaginary system that describes the correlations of the ground state. It cannot be measured directly, but it is related to the statistics of the fluctuations, so measuring the spin fluctuations of the atoms on the sites of an optical lattice is an indirect way of measuring the entanglement Hamiltonian.

Host: Jed Pixley

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

