



INVITATION
to a Colloquium given by

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Frustrated Magnets and Quantum Spin Liquids

A quantum spin liquid is a solid whose atoms have magnetic moments but, because of quantum fluctuations, these moments fluctuate like a liquid even at zero temperature. Two dimensional spin liquids have been suggested as a way to produce high temperature superconductivity, and to build quantum computers. Just as helium is the only element which is a liquid at zero temperature, 2D spin liquids have been extremely difficult to find, despite decades of effort, raising the question, do realistic spin liquids even exist? Recently, apparent spin liquids have been found experimentally, stimulating theoretical work to find simple model Hamiltonians of frustrated spin systems that have spin liquid ground states.

This talk will give a broad overview of spin liquids and then focus on simulations of the kagome Heisenberg model, a simple, realistic model of some of the recent experimental spin liquids, where we find a spin liquid ground state.

Friday, 4th May, 2012
14:30

Erwin Schrödinger Institute, Boltzmann Lecture Hall

Hosted by Frank Verstraete