



INSTITUTE COLLOQUIUM

Friday, 23 May 2014

4.00 pm

Fermion

Speaker:

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Title:

The Mott transition on frustrated lattices

Abstract:

The Mott transition is a central theme in correlated electron systems, much studied both experimentally and theoretically. The effect of geometric frustration in spin systems is also widely studied, but seemingly unrelated to Mott physics. The geometrically frustrated magnets are in fact insulators deep in the Mott regime and some of them, remarkably, can be metallised by application of pressure. The approach to metallisation forces us to handle long range spatial correlations, typically ignored in theories of the Mott transition. Experiments, on the other hand, reveal signatures of spin glass behaviour and non Fermi liquid properties near the Mott transition. I will review experiments on some frustrated Mott systems and describe some of our recent work on building a real space approach to the Mott transition.
