

Seminar

Prof. Catherine Meusburger

U Erlangen

Kitaev lattice models as a Hopf algebra gauge theory

Thursday, March 30, 2017

at 16:00 h

ESI, Boltzmann Lecture Hall

Abstract: We generalise the notion of a lattice gauge theory with values in a group to Hopf algebra valued lattice gauge theories and show that a Kitaev lattice model for a finite-dimensional semisimple Hopf algebra H is equivalent to a Hopf algebra gauge theory for the Drinfeld double $D(H)$. This shows in particular that Kitaev models are a special case of combinatorial quantisation of Chern-Simons theory introduced by Alekseev, Grosse, Schomerus und Buffenoir and Roche. This can be viewed as an analogue of the relation between Turaev-Viro and Reshetikhin-Turaev TQFTs and explicitly relates Kitaev models to the quantisation of moduli spaces of flat connections on surfaces.

N. Carqueville

February 21, 2017