

Topology Seminar

Sune Reeh

of MIT will be speaking on

Saturated fusion systems as stable retracts of groups

on September 28 at 4:30 in
MIT Room 2-131

A saturated fusion system associated to a finite group G encodes the p -structure of the group as the Sylow p -subgroup enriched with additional conjugation. The fusion system contains just the right amount of algebraic information to for instance reconstruct the p -completion of BG , but not BG itself. Abstract saturated fusion systems F without ambient groups exist, and these have (p -completed) classifying spaces BF as well. In spectra, the suspension spectrum of BF becomes a retract of the suspension spectrum of BS , for the Sylow p -subgroup S , so BF gets encoded as a characteristic idempotent in the double Burnside ring of S . This way of looking at fusion systems as stable retracts of their Sylow p -subgroups is a very useful tool for generalizing theorems from groups or p -groups to saturated fusion systems. In joint work with Tomer Schlank and Nat Stapleton, we use this retract approach to do Hopkins-Kuhn-Ravenel character theory for all saturated fusion systems by building on the theorems for finite p -groups.