Analysis Seminar

Title: The descriptive set theory of unitary representations

Speaker: A. T"ornquist (Copenhagen)

Date: Tue 22nd November 2016 at 4:15PM

Location:

Abstract: Classifying the irreducible unitary representations of, say, a countable discrete group is a classical problem that motivated the work in the 1950s and 1960s of Mackey, Glimm, Effros, and others. Famously, Glimm showed that as soon as a group is not type 1, which turns out to be the same as not Abelian-by-finite, then the unitary dual is not "smooth". What this means is: there is no concrete parametrization of the irreducible representations of such a group. In the last decade, descriptive set theorists have attempted to apply their tools to say something more precise about the isomorphism relation on unitary representations, irreducible or otherwise. It turns out that when things are "bad", that is, in the non-type 1 case, one can say a great deal more about "how bad" things really are, but there are still several interesting open questions. In this talk I will give an overview of these developments.