

## **abstract**

ANALYSIS SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

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In this talk I will consider actions of non-abelian groups on  $n$ -dimensional tori, explain the notions of stiffness and stationary measures, and show how under fairly general assumptions stationary measures can be classified. A key ingredient is a result of Bourgain related to the sum product phenomena on the reals.

In particular, we prove the following: let  $A, B$  be two non commuting  $2 \times 2$  integer matrices of determinant one. Consider a random product  $X_r \dots X_1.y$  where  $y$  is a point in the two torus. We show that as  $r \rightarrow \infty$  this random product is distributed in an increasingly uniform manner.

Based on joint work with Bourgain, Furman and Mozes.