



THE WEIZMANN INSTITUTE OF SCIENCE  
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE  
Geometric Functional Analysis and Probability Seminar

Room 290C ,Ziskind Building  
on Thursday, Jun 08, 2017  
at 11:15

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Irrational rotations, random affine transformations and the central limit theorem

Abstract:

It is a well-known result from Hermann Weyl that if  $\alpha$  is an irrational number in  $[0,1)$  then the number of visits of successive multiples of  $\alpha$  modulo one in an interval contained in  $[0,1)$  is proportional to the size of the interval. In this talk we will revisit this problem, now looking at finer joint asymptotics of visits to several intervals with rational end points. We observe that the visit distribution can be modelled using random affine transformations; in the case when the irrational is quadratic we obtain a central limit theorem as well. Not much background in probability will be assumed. This is in joint work with Jon Aaronson and Michael Bromberg.