Sets of bounded discrepancy for multi-dimensional irrational rotation
Sigrid Grepstad, Norwegian University of Science and Technology (NTNU)

The equidistribution theorem for the irrational rotation of the circle may be stated by saying that the discrepancy $N(S,n) - n \mes(S) = o(n)$, where $S$ is any set whose boundary has measure zero, and $N(S,n)$ is the number of points falling into $S$ among the first $n$ points in the orbit.

It was discovered that for certain special sets $S$, the discrepancy actually remains bounded as $n$ tends to infinity. Hecke and Kesten characterized the intervals with this property, called "bounded remainder intervals".

In this talk I will discuss the Hecke-Kesten phenomenon in the multi-dimensional setting. This is joint work with Nir Lev.