EQUIDISTRIBUTION ON COMPACT ABELIAN GROUPS AND SKEW PRODUCTS OF EPIMORPHISMS

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Venue: Room 102, Shanghai Center for Mathematical Sciences

Abstract: The Khintchin class of an increasing sequence of integers $\{a_n\}$ is defined to be the class of those Lebesgue-integrable functions f on the circle $\mathbb{T}$ such that the Weyl equidistribution criterion for the sequence $\{a_n x\}$ holds with f for almost every x. This concept is naturally extended to all compact abelian groups. Khinchin conjectured that for the whole set of integers $\mathbb{N}$, the Khintchin class includes the space of all bounded measurable functions. But it was refuted by Marstrand (1970). If the Khintchin class of a sequence of integers is equal to $L^1(\mathbb{T})$, we say that the set is a Khintchin sequence. We try to use the skew product to generate random Khintchin sequences. Open questions will be presented.