Algebra Seminar

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Quantitative disjointness of nilflows and horospherical flows

Abstract:
In his influential disjointness paper, H. Furstenberg proved that weakly-mixing systems are disjoint from irrational rotations (and in general, Kronecker systems), a result that inspired much of the modern research in dynamics. Recently, A. Venkatesh managed to prove a quantitative version of this disjointness theorem for the case of the horocyclic flow on a compact Riemann surface. I will discuss Venkatesh’s disjointness result and present a generalization of this result to more general actions of nilpotent groups, utilizing structural results about nilflows proven by Green-Tao-Ziegler. If time permits, I will discuss applications of such theorems in sparse equidistribution problems and number theory.

Host: Amir Mohammadi
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