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EFFECTIVE EQUIDISTRIBUTION OF RATIONAL POINTS ON EXPANDING HOROSPHERES

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In this talk, we study the behaviour of rational points on the expanding horospheres in the space of unimodular lattices. The equidistribution of these rational points is proved by Einsiedler, Mozes, Shah and Shapira (2016) and their proof uses techniques from homogeneous dynamics and relies in particular on measure-classification theorems due to Ratner. We pursue an alternative strategy based on Fourier analysis, spectral theory of automorphic functions and Weil's bound for Kloosterman sums which yields an effective estimate on the rate of convergence for a specific horospherical subgroup in any dimension.

This is a joint work with D. El-Baz, B. Huang and J. Marklof.