

ON THE QUANTITATIVE EQUIDISTRIBUTION OF NILFOWS AND WEYL SUMS

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The content of this talk is work in progress with G. Forni. It is well known that the equidistribution of the fractional parts of polynomial sequences with irrational leading coefficient can be derived from the unique ergodicity of (certain) nilflows. We will present some results on the speed of convergence of ergodic averages of nilflows under Diophantine conditions and discuss the relation with known results and conjectures on bounds of Weyl sums (exponential sums for polynomial sequences). The method of proof is based on the analysis of the action of a suitable rescaling on the space invariant distributions for nilflows.