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Title: Stationary measures, stiffness and equidistribution on the torus

Abstract: In a joint work with Jean Bourgain, Alex Furman and Elon Lindenstrauss we study stationary measures and equidistribution on the d -dimensional torus. Let μ be a probability measure supported on a (finite) subset of $SL_d(\mathbb{Z})$. We show that if the group generated by the support of μ is large enough, in particular if this group is Zariski dense in SL_d , for any irrational point x in the torus the probability measures $\mu_n \mu_x$ tend to the uniform measure on T^d . If in addition x is Diophantine generic, we show this convergence is exponentially fast.