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Manfred L Einsiedler* (manfred@math.osu.edu), Mathematics Department, OSU, 231 W. 18th Avenue, Columbus, OH 43210. *THE DISTRIBUTION OF PERIODIC TORUS ORBITS ON HOMOGENEOUS SPACES.*

In this joint work with E. Lindenstrauss, P. Michel, and A. Venkatesh we study periodic orbits of the full diagonal subgroup on $SL_n(\mathbb{R})/SL_n(\mathbb{Z})$ and similar quotients. (For $n = 2$ these are the closed geodesics on the unit tangent bundle of the modular surface.) A periodic orbit like this is assigned a notion of arithmetic complexity – the discriminant. We prove results towards the equidistribution of the closed orbits when the discriminant goes to infinity. (Received August 09, 2006)