Measure rigidity beyond uniform hyperbolicity: invariant measures for Cartan actions on tori. (English summary)


Summary: “We prove that every smooth action $\alpha$ of $\mathbb{Z}^k$, $k \geq 2$, on the $(k+1)$-dimensional torus whose elements are homotopic to corresponding elements of an action $\alpha_0$ by hyperbolic linear maps preserves an absolutely continuous measure. This is the first known result concerning abelian groups of diffeomorphisms where existence of an invariant geometric structure is obtained from homotopy data.

“We also show that both ergodic and geometric properties of such a measure are very close to the corresponding properties of the Lebesgue measure with respect to the linear action $\alpha_0$.”

{For additional information pertaining to this item see [B. Kalinin, A. B. Katok and F. Rodriguez Hertz, J. Mod. Dyn. 4 (2010), no. 1, 207–209; MR2643892].}

REVISED (October, 2010)
Current version of review. Go to earlier version.

References

15. A. Katok and F. Rodriguez Hertz, *Uniqueness of large invariant measures for $\mathbb{Z}^k$ actions with Cartan homotopy data*, in this volume.

Note: This list reflects references listed in the original paper as accurately as possible with no attempt to correct errors.