Effective equidistribution of twisted horocycle flows and horocycle maps.

(English summary)


The effective equidistribution of horocycle flows on hyperbolic surfaces has been studied thoroughly in recent decades.

In this remarkable paper, based on Sobolev estimates for solutions of the cohomological equation and on scaling of invariant distributions for twisted horocycle flows, the authors prove bounds for twisted ergodic averages for horocycle flows of hyperbolic surfaces, both in the compact and in the non-compact finite area case. Using these bounds, they derive effective equidistribution results for horocycle maps.

All the previous results indicate that in general the speed of convergence of ergodic averages of sufficiently smooth functions depend on the spectral gap of the Laplace-Beltrami operator of the surface, and a striking feature of the effective equidistribution result in this paper is its independence from the spectral properties of the Laplace-Beltrami operator.

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References


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

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