

EXPONENTIAL MIXING OF FLOWS FOR GEOMETRICALLY FINITE HYPERBOLIC MANIFOLDS WITH CUSPS

Online seminar

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Abstract:

Let \mathbb{H}^n be the hyperbolic n -space and Γ be a geometrically finite discrete subgroup in $\text{Isom}_+(\mathbb{H}^n)$ with parabolic elements. We investigate whether the geodesic flow (resp. the frame flow) over the unit tangent bundle $T^1(\Gamma \backslash \mathbb{H}^n)$ (resp. the frame bundle $F(\Gamma \backslash \mathbb{H}^n)$) mixes exponentially. This result has many applications, including spectral theory, prime geodesic theorems, orbit counting, equidistribution, etc.

I will start with a survey of the past results, methods, and related problems on this topic. Along the way, I will present the joint work with Jialun Li, Pratyush Sarkar.