
On the closure of irregular orbits of the horocyclic flow of infinite finess

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The topological dynamics of the horocycle flow h on the unit tangent bundle of a geometrically finite hyperbolic surface $\mathcal{S}$ is well known. In particular on such surfaces the flow h is minimal or the minimal sets are the periodic orbits. When the surface $\mathcal{S}$ is geometrically infinite, the situation is more complex; the possible presence of orbits which are neither dense nor closed, called irregular horocyclic orbits, makes the description of minimal sets complicated. In this text, through examples, we study the meeting times between those irregular orbits and their corresponding geodesic rays in order to describe the h -minimal sets.

Key words: Irregular horocyclic orbit · Minimal set · Asymptotic fineness · Almost minimizing geodesic ray.

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