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Diophantine approximation and the geometry of limit sets in Gromov hyperbolic metric spaces.

Let (X, d) be a Gromov hyperbolic metric space, and let ∂X be the Gromov boundary of X . Fix a group $G \leq \text{Isom}(X)$ and a point $\xi \in \partial X$. We consider the Diophantine approximation of a point $\eta \in \partial X$ by points in the set $G(\xi)$. Our results generalize the work of many authors, in particular Patterson ('76) who proved most of our results in the case that G is a geometrically finite Fuchsian group of the first kind and ξ is a parabolic fixed point of G . (Received January 25, 2013)