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Yulan Qing* (yulan.qing@gmail.com). *Sublinearly Morse Boundaries of Groups.*

Gromov boundary plays a key role in many aspects of geometric group theory. In this study, we develop a theory of boundary when the condition on hyperbolicity is removed: Given a proper, geodesic metric space X and a sublinear function κ , we define the κ -boundary, as the space of all κ -Morse quasi-geodesics rays. The sublinearly Morse boundary is QI-invariant and thus can be associated with the group that acts geometrically on X . For a large class of groups, including all CAT(0) groups and the mapping class groups, we show that sublinearly Morse boundaries are large: they provide topological models for the associated Poisson boundaries. We will discuss new and interesting directions of study in this subfield. The main results are based on joint projects with IlyaGekhtman, Kasra Rafi and Giulio Tiozzo. (Received January 25, 2022)