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Jacob Russell* (jrussellmadonia@gradcenter.cuny.edu), **Davide Spriano** and **Hung Cong Tran**. *The local-to-global property for Morse quasi-geodesics.*

A hallmark of hyperbolic spaces is the nice behavior of their quasi-geodesic. In particular, both the Morse property (every quasi-geodesic is close to a geodesic) and the local-to-global property (every local quasi-geodesic is a global quasi-geodesic) characterize hyperbolic spaces. We examine a natural extension of these properties by studying the class of spaces in which every local Morse quasi-geodesic is a global Morse quasi-geodesic. We show that this class of spaces is incredibly rich, encompassing CAT(0) spaces, the mapping class group, Teichmüller space, and 3-manifold groups. We also show a number of consequences for this local-to-global property for Morse geodesic, including a generalization of a theorem of Gitik to combinations of stable subgroups of CAT(0) groups, the mapping class group, and 3-manifold groups. In the case of the mapping class group, this produces a combination theorem for the topologically important convex cocompact subgroups. (Received January 22, 2020)