

Growth Tight Actions

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Abstract: (Joint with Arzhantseva, Tao) We study the growth rate of an orbit of a group G acting on a geodesic metric space X . We impose geometric conditions that control the distortion of the orbit and guarantee that G acts in a direction that looks hyperbolic, and conclude that the growth rate of the orbit of G is strictly larger than the growth rate of its quotients. Examples of such actions include groups acting geometrically on hyperbolic spaces, relatively hyperbolic spaces, and many $CAT(0)$ spaces. Examples also include the action of the mapping class group of a hyperbolic surface on its Teichmueller space.