## Amenability and Growth of Closed Geodesics for Regular Covers

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## Abstract

For compact (or convex co-compact) negatively curved Riemannian manifolds, a classical object of study is the exponential growth rate of closed geodesics, which is equal to the topological entropy of the geodesic flow. In this talk, we discuss the corresponding growth rate of closed geodesics for regular covering manifolds of compact (or convex co-compact) manifolds. Since the growth rate for the cover is always smaller than (or equal to) the growth rate for the base manifold, we ask when we have equality. The answer to this depends only on an abstract property of the covering group. This is joint work with Richard Sharp.