

Finiteness of totally geodesic hypersurfaces in variable negative curvature

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Abstract: When can a negatively curved manifold admit infinitely many totally geodesic submanifolds of dimension at least two? I will explain some motivations for this question coming from different parts of mathematics. I will also explain a proof of the fact that a compact manifold with a real-analytic negatively curved metric admits only finitely many totally geodesic hypersurfaces, unless it is a hyperbolic manifold. And also state a more general conjecture. This is joint work with Simion Filip and Ben Lowe.

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