QUANTITATIVE MAXIMAL RIGIDITIES OF RICCI CURVATURE BOUNDED BELOW

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Abstract

In Riemannian geometry, a maximal rigidity on an n-manifold M of Ricci curvature bounded below by $(n-1)H$ is a statement that a geometric or a topological quantity of M is bounded above by that of an n-manifold of constant sectional curvature H, and "=" implies that M has constant sectional curvature H.

A quantitative maximal rigidity of Ricci curvature bounded below by $(n-1)H$ is a statement that if a geometric quantity is almost maximal, then M admits a nearby metric of constant sectional curvature H (often additional conditions are required).

In this talk, we will survey some recent advances in Metric Riemannian geometry in establishing quantitative maximal rigidities.