

GUOFANG WEI
(UCSB)

Smooth Metric Measure Spaces

Smooth metric measure spaces are Riemannian manifolds with a conformal change of the Riemannian measure and occur naturally as measured Gromov-Hausdorff limits of Riemannian manifolds. The important curvature quantity here is the Bakry-Emery Ricci tensor, which corresponds to the (synthetic) Ricci curvature lower bound for (nonsmooth) metric measure spaces. What geometric and topological results for Ricci curvature can be extended to the Bakry-Emery Ricci tensor? Recently there are many developments. We will discuss comparison geometry and rigidity in this direction.