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Title: Lower Ricci Curvature, Convexity and Applications.

Abstract: We prove new estimates for tangent cones along minimizing geodesics in GH limits of manifolds with lower Ricci curvature bounds. We use these estimates to show convexity results for the regular set of such limits. Applications include the proofs of several conjectures dating back to the work of Cheeger/Colding and the ruling out of certain limit spaces, including the so called generalized trumpet spaces. We construct new examples which exhibit various new behaviors and show sharpness of the new theorems. This work is joint with Toby Colding.