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Almost nonnegatively curved manifolds

Abstract: I will discuss recent work with V. Kapovitch and A. Petrunin concerning the geometry and topology of manifolds with almost nonnegative curvature. We show that almost nonnegatively curved n -manifolds are, up to finite cover, nilpotent spaces in the sense of homotopy theory and have $C(n)$ -nilpotent fundamental groups. We also show that up to finite covers almost nonnegatively curved manifolds are fiber bundles with simply connected fibers over nilmanifolds.