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Non-Compact Einstein Manifolds with Symmetry

Abstract: For Einstein manifolds with negative scalar curvature admitting an isometric action of a Lie group G with compact, smooth orbit space, we show the following rigidity result: The nilradical N of G acts polarly, and the N-orbits can be extended to minimal Einstein submanifolds. As an application, we prove the Alekseevskii conjecture: Any homogeneous Einstein manifold with negative scalar curvature is diffeomorphic to a Euclidean space. This is joint work with R. Lafuente.