

FROM HOLONOMY REDUCTIONS OF CARTAN GEOMETRIES TO GEOMETRIC COMPACTIFICATIONS

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(based on joint work with A. Rod Gover and M. Hammerl.)

Poincaré–Einstein metrics are special cases of conformally compact (pseudo–)Riemannian metrics. Starting from the description of Poincaré–Einstein metrics via reductions of conformal holonomy, I will describe similar reductions of projective and c –projective holonomy. Generalizing the structures obtained from these reductions leads to the concepts of projective and c –projective compactness. On a manifold with boundary, these concepts give rise to different geometric structures on the interior and on the boundary, which are tied together by a “background structure” on the whole manifold with boundary.