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## The cohomogeneity one Einstein ODE

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**Raum 7.530**

Abstract: For a Riemannian manifold  $M^n, g$  the Einstein equation  $ric(g) = \lambda \cdot g$  is (weakly) elliptic. Assuming symmetry this second order PDE simplifies: If the Riemannian manifold is homogeneous the Einstein equation turns into an algebraic equation. If the Riemannian manifold is of cohomogeneity one, the Einstein equation becomes a highly non-linear dynamical system, the cohomogeneity one Einstein ODE. In this talk I will present general structure results for the cohomogeneity one Einstein ODE both for positive and non-positive Einstein constant  $\lambda$ .

