



Geometry Webinar AmSur/AmSul

The stability of standard Einstein manifolds

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Resumo: Given a compact differentiable manifold M , the critical points of the total scalar curvature functional Sc on the space of all unit volume Riemannian metrics on M are called Einstein metrics and play a fundamental role in Differential Geometry and Physics. Among Einstein metrics with positive scalar curvature, those which are stable as critical points of Sc (i.e., negative definite Hessian) on the subspace of all constant scalar curvature metrics, and in particular local maxima, seems to be extremely rare. In this talk, after some general preliminaries, we will focus on the case when the metrics and the variations are considered to be G -invariant for some compact Lie group G acting transitively on M . The standard metrics (i.e., defined by minus the Killing form of G) which are Einstein will be specially treated. This is joint work with Emilio Lauret (Universidad Nacional del Sur and INMABB (CONICET), Argentina) and Cynthia Will (Universidad Nacional de Córdoba and CIEM (CONICET), Argentina).