

Spaces of Riemannian Metrics satisfying Surgery Stable Curvature Conditions

Jan-Bernhard Kordass

(Karlsruhe)

Abstract:

In an effort to extend a well-known result by V. Chernysh and M. Walsh, we explore the notion of a surgery stable curvature condition as suggested by the work of S. Hoelzel. We will sketch the construction of a deformation map, which allows to continuously alter a Riemannian metric to a certain prescribed one in a small neighbourhood of an embedded submanifold, while curvature conditions are controlled. Moreover, we will comment on disconnectedness properties for spaces of metrics satisfying several curvature conditions and explain an application to highly-connected manifolds.

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