# Bundles with fiberwise negatively curved metrics

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## Abstract:

A smooth M-bundle is said to be negatively curved if its fibers are equipped with Riemannian metrics of negative sectional curvature, varying continuously from fiber to fiber. The difference between negatively curved M-bundles and smooth M-bundles is measured by the space of all negatively curved metrics on M. In this talk I will show that the latter space has non-trivial rational homotopy groups, provided certain dimension constraints are satisfied. Hence the two bundle theories generally differ. The results extend to other spaces of metrics, e.g. spaces of Riemannian metrics with geodesic flow of Anosov type. This is joint work with F.T. Farrell and Y. Jiang.

Monday, May 7, 2018, 16:00

MathII 0.101 (Lonza)