

Meeting: 1003, Atlanta, Georgia, SS 11A, AMS Special Session on Riemannian Geometry, I

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Constructing diffeomorphisms to negatively curved spaces. Preliminary report.

We consider a smooth compact manifold M homotopy equivalent to a compact manifold N admitting a negatively curved metric. We consider the question of whether M and N are diffeomorphic. Farrell and Jones have shown that this is not always possible even for homeomorphic M and N . Using Besson-Courtois-Gallot theory, we examine special conditions which do give a diffeomorphism. (Received October 05, 2004)