Meeting: 1006, Lubbock, Texas, SS 15A, Special Session on Discrete Groups, Homogeneous Spaces, Rigidity

1006-53-116 **Chris Connell*** (`connell@indiana.edu`), 115 Rawles Hall, Indiana University, Bloomington, IN 47405.
Constructing diffeomorphisms to negatively curved manifolds. Preliminary report.

Farrell and Jones showed that smooth rigidity fails for negatively curved manifolds. Nevertheless, we provide geometric conditions (involving only curvature, injectivity radius and volume) for a degree 1 map from a closed manifold to a negatively curved manifold to be homotopic to a diffeomorphism. There are related results for covering maps and a corresponding finiteness theorem. (Received February 10, 2005)