

1030-53-213

David Constantine* (constand@umich.edu), Department of Mathematics, 2074 East Hall, 530 Church Street, Ann Arbor, MI 48109. *Ergodic Frame Flow and Rank Rigidity*.

In this talk I will present a rank rigidity result that is proved using the dynamics of the frame flow on a manifold. A manifold is said to have higher hyperbolic rank if along every geodesic in the manifold there exists a parallel vector field making curvature -1 with the geodesic direction. In light of past results it seems likely that compact negatively curved manifolds with higher hyperbolic rank are locally symmetric spaces. In this talk I prove that when the dimension of the manifold is odd, or when the curvature is pinched sufficiently close to -1 this is the case, and in fact the manifold is hyperbolic. (Received August 03, 2007)