Meeting: 999, Nashville, Tennessee, SS 3A, Special Session on Index Theory and the Topology of Manifolds

999-53-32 **Stanley S Chang*** (sschang@palmer.wellesley.edu), Department of Mathematics, 106 Central St, Wellesley, MA 02481, and **Shmuel Weinberger**, Department of Mathematics, University of Chicago, Chicago, IL 60637. *Rigidity of arithemtic manifolds.* Preliminary report.

Let M be an arithmetic manifold, i.e. the double coset space of torsion-free arithmetic group. If the q-rank of M is at most one, Farrell and Jones prove a proper rigidity theorem for M which conjecturally also holds for $q = 2$. In this paper we shall demonstrate a type of converse: that an arithmetic manifold with q-rank at least 3 will have a finite-sheeted cover which is not properly rigid. On the other hand, such a manifold M will be topologically rigid in the category of continuous coarsely Lipschitz maps. (Received July 13, 2004)