1018-37-244   **Viorel Nitica*** (`vnitica@wcupa.edu`), Department of Mathematics, West Chester University, West Chester, PA 19380, and **Andrew Torok** and **Ian Melbourne**. *Stable transitivity of non-compact extensions.*

Let M be a compact manifold and X a basic hyperbolic set for the diffeomorphism $f : M \to M$. Let K be a compact connected Lie group.

1) In the set of Holder $K \times R^n$ extensions of f there is a Holder open subset of stably transitive transformations which is dense in the set of Holder extensions that do not have the R^n-projection of the periodic weighting separated by any hyperplane.

2) In the set of Holder $SE(2m)$ extensions of f there is a Holder open and dense subset of stably transitive extensions. This is a slight improvement of a result of Melbourne and Nicol.

3) We find several criteria for the transitivity of extensions with non-compact fiber. We find transitive extensions for any connected Lie group fiber, as well as open sets of transitive extensions if the fiber has an open set of elliptic elements close to identity. In particular, there are open sets of stably transitive extensions with fiber symplectic group $Sp(n, R)$. (Received March 07, 2006)