Michael S Keane* (mkeane@wesleyan.edu), Science Tower 655, Middletown, CT 06459, and Marcus Pivato and Reem Yassawi. A note on rank one amenable group actions.

Let G be a countable amenable Abelian group acting equicontinuously and freely on the compact metric space X, such that the metric on X is invariant with respect to the action of G. Suppose also that there is a point in X which has a dense G-orbit. Then a result of Halmos and von Neumann implies that X can be made into a compact Abelian group with normalized Haar measure m, and that m is invariant under the action of G. We prove that this G-action on the measure space (X,m) is a rank one action. This is joint work with Marcus Pivato and Reem Yassawi. (Received August 13, 2005)