1138-20-126    **Bin Sun\*** (`bin.sun@vanderbilt.edu`), 1326 Stevenson Center, Vanderbilt University, Nashville, TN 37240. *A dynamical characterization of acylindrically hyperbolic groups.*

The notion of an acylindrically hyperbolic group was introduced by Osin as a generalization of non-elementary hyperbolic and relative hyperbolic groups. This class of groups not only contains plenty of interesting examples, for instance groups with deficiency at least two and outer automorphism groups of non-abelian free groups, but also has various nice algebraic, geometric and analytic properties so that useful tools such as Monod-Shalom rigidity theory, group theoretic Dehn surgery and small cancellation theory can be applied to yield beautiful results. In this talk, I would like to define a condition on group actions on topological spaces and prove its equivalence with acylindrical hyperbolicity. As an application, I shall show that non-elementary convergence groups are acylindrically hyperbolic. (Received February 06, 2018)