

ABSTRACT. If a group is relatively hyperbolic, the parabolic subgroups are virtually nilpotent if and only if there exists a hyperbolic space with bounded geometry on which it acts geometrically finitely.

This provides, via the embedding theorem of M. Bonk and O. Schramm, a very short proof of the finiteness of asymptotic dimension for such groups (which is known to imply Novikov conjectures).