

FIXED SUBGROUPS OF AUTOMORPHISMS OF RELATIVELY HYPERBOLIC GROUPS

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Let G be a finitely generated relatively hyperbolic group. We show that if no peripheral subgroup of G is hyperbolic relative to a collection of proper subgroups, then the fixed subgroup of every automorphism of G is relatively quasiconvex. It follows that the fixed subgroup is itself relatively hyperbolic with respect to a natural family of peripheral subgroups. If all peripheral subgroups of G are slender (respectively, slender and coherent), our result implies that the fixed subgroup of every automorphism of G is finitely generated (respectively, finitely presented). In particular, this happens when G is a limit group, and thus for any automorphism ϕ of G , $Fix(\phi)$ is a limit subgroup of G .