Subgroup Separability in Relatively Hyperbolic Groups

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Joint work with Jason Manning (SUNY Buffalo). It is unknown whether there exists a hyperbolic group which is not residually finite. Under the assumption that there is no such group, we deduce the separability of all quasiconvex subgroups of relatively hyperbolic groups with peripheral structure consisting of virtually nilpotent subgroups. In the talk, we will explain how the result follows from applications of the Dehn filling construction for relatively hyperbolic groups, the combination theorems for quasiconvex subgroups and work by Agol, Groves and Manning.