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The Structure of Haken Hyperbolic 3-manifold Groups

A *graph group* is a group whose presentation is obtained by removing some of the relators from the usual presentation for a free-abelian group.

Let M be a hyperbolic 3-manifold with a geometrically finite incompressible surface. I will describe ongoing research towards proving that $\pi_1 M$ virtually embeds in a graph group.

This substantially illuminates the subgroup structure of $\pi_1 M$. In particular, it leads to the subgroup separability of $\pi_1 M$ as well as to a finite cover of M that fibers over the circle.