

Geometry, Topology and Dynamics Seminar

Relatively hyperbolic groups vs 3-manifold groups.

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Abstract: Bowditch described the boundary of a relatively hyperbolic group pair (G, P) as the boundary of any hyperbolic space that G acts geometrically finitely upon, where the maximal parabolic subgroups are conjugates of the subgroups in P . For example, the fundamental group of a hyperbolic knot complement acts geometrically finitely on \mathbb{H}^3 , where the maximal parabolic subgroups are the conjugates of $\mathbb{Z} \oplus \mathbb{Z}$. Here the Bowditch boundary is S^2 . We show that torsion-free relatively hyperbolic groups whose Bowditch boundaries are S^2 are relative $PD(3)$ groups, and give some other applications of our techniques. This is joint work with Bena Tshishiku. If time permits, I'll show some examples of relatively hyperbolic group pairs with planar boundary which are not 3-manifold pairs, joint with Chris Hruska.

Monday, December 4 at 2:00 PM in SEO 636