



GEOMETRY SEMINAR

Construction of acylindrical hyperbolic 3-manifolds with quasi-Fuchsian boundary

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Abstract

Examples of convex cocompact acylindrical hyperbolic 3-manifolds with Fuchsian boundary have long been constructed. Deformations of such examples, that is, those with quasi-Fuchsian boundary, are guaranteed to exist by the deformation theory of hyperbolic structures, but are harder to describe explicitly. In this talk, I will explain how to construct a one-dimensional family of such examples, explicitly described using hyperbolic polyhedra and reflections in their faces.

If time permits, I will also talk about the motivation behind constructing such examples: the investigation of isometrically immersed hyperbolic planes in hyperbolic 3-folds of infinite volume, and explain how the examples above illuminate this problem at hand.

Date: June 21, 2018 (Thursday)

Time: 3:00 - 4:00pm

Venue: Room 210, Run Run Shaw Bldg., HKU