

Commensurability of hyperbolic Coxeter groups

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I shall discuss the commensurability classification for the family of cofinite hyperbolic Coxeter groups whose fundamental polyhedra are pyramids over a product of two simplices of positive dimensions. These groups are rich in arithmetic and non-arithmetic examples and exist in hyperbolic space up to dimension 17.

The methods involved are diverse. They range from gluing properties and subgroup relations, algebraic considerations around free products with amalgamation and Bieberbach's theorem for crystallographic groups to arithmetic tools.

This is joint work with Rafael Guglielmetti and Matthieu Jacquemet.