

## The proportionality principle via hyperbolic geometry

**Speaker:** Filippo Sarti

**Abstract:** A classical striking result in hyperbolic geometry, known as Mostow-Prasad rigidity, states that  $n$ -hyperbolic closed manifolds with isomorphic fundamental group are in fact isometric.

A very nice proof of this fact for closed orientable manifolds, due to Gromov, makes strong use of simplicial volume. More precisely, a fundamental step in the proof is to show that hyperbolic volume and simplicial volume coincide up to a constant. The aim of this talk is to understand the skeleton of the proof of such a result, known as Gromov proportionality principle, proving formally the “easy” inequality and sketching the converse part which is a little more technical.

The complete proof can be found in the books by Thurston, Benedetti and Petronio or the more recent one by Martelli.