# Green metric and boundaries of hyperbolic groups

Ján Špakula

Abstract: The Gromov boundary of a hyperbolic group is well-defined as topological space, but the metric structure(s) on it are only defined "up to a bounded error" in general. On the other hand, in CAT(-1) situation, everything works well: metric is defined "on the nose" by a formula in terms of the Gromov product on the group, and the action is by Mbius transformations. This is particularly important for analytic considerations.

We will discuss one approach for fixing this situation for general hyperbolic groups: replace the word metric on a hyperbolic group by another metric, which behaves well on the boundary. The "new" metric in question is the Green metric, coming from random walks.