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腾讯会议: 832-3835-0005

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题目: Branching random walks on hyperbolic groups

摘要: Symmetric branching random walks on a non-amenable group  $\Gamma$  exhibits a weak survival phase: there is some critical value  $\lambda_c > 1$  such that for mean offspring  $\lambda \in (1, \lambda_c]$ , the population survives forever, but eventually vacates every finite subset of the graph. In this phase, particle trails must converge to certain boundary  $\partial\Gamma$  of the graph and the random subset  $\Lambda$  of the boundary consisting all the accumulation points is called the limit set of the branching random walk. In this talk, we prove in the case that  $\Gamma$  is a non-elementary hyperbolic group with  $\partial\Gamma$  its hyperbolic boundary, the Hausdorff dimension  $h(\lambda)$  of  $\Lambda$  is at most one half of the dimension of the whole boundary, and has critical exponent  $\frac{1}{2}$  at the critical point  $\lambda_c$ .