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COVERS, LAPLACIANS, AND KESTENS THEOREM

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Abstract of Poster: Kestens Theorem is a classical result that estimates the spectral radius of regular random walks on graphs. It also characterizes the two extremes in the estimate: the lowest value is obtained by regular trees and the highest by amenable graphs. We provide a proof of Kestens Theorem using combinatorial covers and normalized Laplacians. In the process, we analyze the heat kernel of the weighted ray and the dynamical properties of amenable graphs.