1041-60-111   **Russell D Lyons***, Dept of Math, Indiana University, Bloomington, IN 47405-5701. *Random Complexes and ℓ^2-Betti Numbers.*

Uniform spanning trees on finite graphs and their analogues on infinite graphs are a well-studied area. We present the basic elements of a higher-dimensional analogue on finite and infinite CW-complexes. On finite complexes, they relate to (co)homology, while on infinite complexes, they relate to ℓ^2-Betti numbers. (Received August 06, 2008)

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