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Fan Chung and **Paul K Horn*** (phorn@math.ucsd., edu), Department of Mathematics, UCSD, 9500 Gilman Dr, La Jolla, CA 92093-0112. *The spectral gap of a random subgraph of a graph.*

The spectral gap of the normalized Laplacian of a graph controls the mixing rate of random walks, expansion and discrepancy properties and other related properties. Here we consider a random subgraph H of a given graph G where each edge in G is taken in H independently with probability p , and derive bounds on the spectral gap of H in terms of the spectral gap of G . This can be thought of as an extension of earlier work on the Erdős-Rényi $G(n, p)$ model, which effectively treats a special case where the underlying graph is the complete graph K_n . (Received September 19, 2007)