1077-05-2509   **Fan Chung**, **Mary Radcliffe*** (`mradcliffe@math.ucsd.edu`) and **Stephen Young**. *The spectra of several random graph families.*

We consider Multiplicative Attribute Graphs, a random graph model in which nodes are represented by words in an alphabet Γ and the probability that u is adjacent to v is determined by comparing the words corresponding to u and v coordinatewise. We use a Chernoff inequality for matrices to show the eigenvalues of the the normalized Laplacian of this model can be approximated by those of the weighted expectation graph. We apply similar techniques to approximate the spectrum of other random graph families, including Stochastic Kronecker Graphs and other graphs that arise from real-world applications. (Received September 22, 2011)