Samuel Connolly* (samuelc@sas.upenn.edu), Zachary Gabor (zgabor@haverford.edu), Anant Godbole and Bill Kay. Bounds on the Maximum Number of Minimum Dominating Sets.

We use probabilistic methods to find lower bounds on the maximum number, in a graph with domination number $\gamma$, of dominating sets of size $\gamma$. We find that we can randomly generate a graph that, w.h.p. is dominated by almost all sets of size $\gamma$. At the same time, we use a modified version of the adjacency matrix to obtain lower bounds on the number of sets of a given size that do not dominate a graph on $n$ vertices. (Received September 16, 2013)