1118-05-212 **Jonathan Cutler** and **Nathan Kahl***, (nathan.kahl@shu.edu). *On the values of independence polynomials at −1.*

The independence polynomial $I(G;x)$ of a graph G is $I(G;x) = \sum_{k=0}^{\alpha(G)} s_k x^k$, where s_k is the number of independent sets in G of size k. The decycling number of a graph G, denoted $\phi(G)$, is the minimum size of a set $S \subseteq V(G)$ such that $G - S$ is acyclic. Engström proved that the independence polynomial satisfies $|I(G;-1)| \leq 2^{\phi(G)}$ for any graph G, and this bound is best possible. Levit and Mandrescu provided an elementary proof of the bound, and in addition conjectured that for every positive integer k and integer q with $|q| \leq 2^k$ there is a connected graph G with $\phi(G) = k$ and $I(G;-1) = q$. In this talk, we sketch our proof of this conjecture. (Received February 01, 2016)