1079-05-365 **Jeff Cooper*** (jcoope8@uic.edu). *Counting Independent Sets in Triangle-Free Graphs.*

Ajtai, Komlós, and Szemerédi proved that for sufficiently large t every triangle-free graph with n vertices and average degree t has an independent set of size at least $\frac{n}{100t}\log t$. We extend this by proving that the number of independent sets in such a graph is at least

$$2^{\frac{1}{2400}\frac{n}{t}\log^2 t}.$$

This result is sharp for infinitely many t, n apart from the constant. This is joint work with Dhruv Mubayi. (Received January 18, 2012)