1089-05-265 **Michael Young*** (myoung@iastate.edu). *Anti-Ramsey Multiplicities of Graphs and Arithmetic Progressions.* Preliminary report.

A graph is rainbow if each edge of the graph is distinctly colored. In this talk we discuss results to the following question: Given a graph G and r colors, what is the maximum number of rainbow copies of G in an r-edge colored K_n? A k-term arithmetic progression, $a, a+d, \ldots, a+(k-1)d$, is rainbow if each term is assigned a distinct color. We discuss results of maximizing the number of rainbow arithmetic progressions in r-colorings of $[n]$ and Z_n. (Received February 17, 2013)