1093-05-375 **Justin Z Schroeder*** (jzschroeder@gmail.com). *Maximal graphs with a distinguishing partition.* Preliminary report.

A *distinguishing partition* for an action of a group Γ on a set X is a partition of X that is preserved by no nontrivial element of Γ. As a special case, a distinguishing partition of a graph is a partition of the vertex set that is preserved by no nontrivial automorphism. Not all graphs admit a distinguishing partition; for example, the complete graph K_n for $n \geq 2$ does not admit a distinguishing partition, so a natural goal is to determine the minimum number of edges that must be removed from a complete graph on n vertices in order for the remaining graph to admit a distinguishing partition. In this talk, we show that this number is $\left\lceil \frac{n-1}{3} \right\rceil$. (Received August 20, 2013)