1046-05-1539 **Karen L Collins*** (kcollins@wesleyan.edu), Dept. of Mathematics and Computer Science, Wesleyan University, Middletown, CT 06459-0128. *The Distinguishing Chromatic Number.*

Collins and Trenk introduced the distinguishing chromatic number of a graph G, $\chi_D(G)$, as the minimum number of colors needed to color the vertices so that

1. the coloring is a proper graph coloring and
2. the only automorphism of the graph which preserves colors is the identity.

Thus the distinguishing chromatic number is closely related to both the chromatic number, $\chi(G)$, and the distinguishing number, $D(G)$ (introduced by Albertson and Collins), of a graph. It is straightforward to see that

$$\chi(G), D(G) \leq \chi_D(G) \leq \chi(G) \cdot D(G)$$

and that the lower bounds are tight. In this talk, we will present infinite families of graphs that achieve the upper bound, and, in contrast, families of graphs with an upper bound on χ_D that depends instead on the automorphism group of the graphs. (Received September 15, 2008)