

1030-05-290

Michael O. Albertson* (albertson@math.smith.edu), Department of Mathematics and Statistics, Smith College, Northampton, MA 01063. *Colorings and Crossings*.

Given a drawing of a graph G , two crossings are said to be *dependent* if they are incident with the same vertex. A set of crossings is *independent* if no two are dependent. We conjecture that if G is a graph that has a drawing all of whose crossings are independent, then $\chi(G) \leq 5$. We show that this conjecture is true if $\text{CR}(G) \leq 3$. We also show that if all crossings are independent, then $\chi(G) \leq 6$ and the independence ratio of G is at least $\frac{3}{16}$. We discuss possible generalizations. (Received August 06, 2007)