1126-05-107 **Adam Jump** and **Alexander Halperin*** (adhalperin@salisbury.edu), 1101 Camden Ave., Salisbury, MD 21801. *A Sharp Upper Bound on the k-Color Connectivity of a Graph.* Preliminary report.

How much security is needed to optimally harden a network against cyberattack? How many types of cargo need exist between a freight carrier and its destination in order to guarantee it has the most possible supplies? These problems can be phrased in terms of edge-colored connectivity of graphs: how many edge colors does a graph need to contain a path with k distinct colors between every pair of vertices? Equivalently, what is the *k-color connection number* of a graph? Denoting the k-color connection number of G as $cc_k(G)$, Coll et al. conjectured $cc_k(G) \leq 2k-1$ and, for a sharp condition, observed that $cc_k(C_{2k-1}) = 2k-1$. We prove $cc_k(G) \leq 2k-1$ by analyzing the k-color connection number of chorded cycles. Additionally, we display our Mathematica package that determines the k-color connection number of chorded cycles. (Received January 07, 2017)