

Meeting: 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

1003-05-718 **Anne Shiu*** (annejls@uchicago.edu), **Nadia Heninger** and **Annalies Vuong**. *Vertex neighbor integrity of graphs*. Preliminary report.

In some ways a combination of domination and integrity, the graph parameter Vertex-Neighbor-Integrity measures how susceptible a graph is to being separated into small components by removal of vertices and their neighbors. Thus, heuristically it can be viewed as a measure of the strength of a spy network. We prove the upper bound of $\lceil n/3 \rceil$ on the vertex-neighbor-integrity of any connected graph of n vertices, and provide a slightly tighter bound for k -regular graphs, improving the best known linear bounds. (Received September 28, 2004)