1135-I5-570 **Ryan R. Martin** and **Shanise Walker*** (shanise1@iastate.edu). *A lower bound for a vertex-identifying code in (p, β)-jumbled graphs.*

Let $N[v]$ denote the closed neighborhood of a vertex v. For a finite graph G, a vertex-identifying code in G is a subset $C \subset V(G)$, with the property that $N[u] \cap C \neq N[v] \cap C$, for all distinct $u, v \in V(G)$ and $N[v] \cap C \neq \emptyset$, for all $v \in V(G)$. A graph G on a vertex set V is (p, β)-jumbled if, for all vertex subsets $X, Y \subseteq V(G)$, $|e(X,Y) - p|X||Y|| \leq \beta\sqrt{|X||Y|}$, where $e(X,Y)$ is the number of edges between X and Y. Let n be an integer, $0 < p < 1$ where p is fixed, and let $\beta = o(\sqrt{n \log_2 n})$. We prove there exists an $\varepsilon = o(1)$ such that if G is a (p, β)-jumbled graph on n vertices, then every vertex-identifying code in G has cardinality at least $\frac{(1-\varepsilon)\log_2 n}{H_2(p)}$. (Received September 08, 2017)