Brendon Stanton* (bstanton@iastate.edu), Iowa State University, Department of Mathematics, 396 Carver Hall, Ames, IA 50010. Vertex Identifying Codes on The Hexagonal Grid. Preliminary report.

An $r$-identifying code on a graph $G$ is a set $C \subset V(G)$ such that for every vertex in $V(G)$, the intersection of the radius-$r$ closed neighborhood with $C$ is nonempty and unique. On a finite graph, the density of a code is $|C|/|V(G)|$, which naturally extends to a definition of density in certain infinite graphs which are locally finite. We present improved bounds for the minimum density of a code on the infinite hexagonal and square grids. (Received September 07, 2010)