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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)