1033-05-117   **Gretchen L Matthews*** (`gmatthe@clemson.edu`), Dept. of Mathematical Sciences, Clemson
University, Clemson, SC 29634-0975. *Acyclic colorings of Hamming graphs.*

An acyclic coloring of a graph G is a proper coloring of the vertex set of G such that G contains no bichromatic cycles.
The acyclic chromatic number of a graph G is the minimum number k such that G has an acyclic coloring with k colors.
In this talk, we discuss acyclic colorings of products of complete graphs, known as Hamming graphs. We use the distance
two chromatic number to bound the acyclic chromatic number of such a graph. This yields the exact acyclic chromatic
number of certain Hamming graphs (in particular, certain hypercubes) and improved bounds for others. This is joint
work with Robert Jamison. (Received September 07, 2007)