1046-05-371 **Geir Agnarsson** and **Jill Bigley Dunham*** (jbigley@gmu.edu). *Extremal Coin Graphs in the Euclidean Plane.* Preliminary report.

A coin graph is a simple geometric intersection graph where the vertices are represented by non-overlapping closed disks in the Euclidean plane and where two vertices are connected if their corresponding disks touch. The problem of determining the maximum number of edges of a unit coin graph on n vertices, where all the radii are of unit length, is well known and has a beautiful solution.

In this talk we consider related extremal problems of coin graphs that satisfy certain natural conditions relating to the ratios of the possible radii of the coins of the graph. Further, we will explore the algebraic equations describing wheel graphs, as they relate to the maximum number of edges in our mentioned coin graphs. (Received August 28, 2008)