

**Meeting:** 1005, Newark, Delaware, AMS CP 1, Session for Contributed Papers

1005-05-102      **William Calhoun, Kevin Ferland, Lisa Lister and John Polhill\*** (jpolhill@bloomu.edu),  
Department of Mathematics, CS, and Stat, 1105 McCormick Center, Bloomsburg University,  
Bloomsburg, PA 17815. *Minimal Distinct Distance Trees.*

In 1975, Leech introduced the problem of finding trees whose edges can be labeled with positive integers in such a way that the set of distances between vertices is  $\{1, 2, \dots, \binom{n}{2}\}$ , where  $n$  is the number of vertices. We refer to such trees as perfect distance trees. More generally, we define a distinct distance tree to be a weighted tree in which the distances between vertices are distinct. In this talk we will focus on identifying distinct distance trees that minimize the maximum distance between vertices. Some generalizations will also be considered. (Received February 02, 2005)