Meeting: 1004, Bowling Green, Kentucky, SS 2A, Special Session on Graph Theory

1004-05-235 **J Michael McGrew*** (mcgrew@bsu.edu), Department of Compute Science, Ball State University, Muncie, IN 47306-0450, and **Jay S Bagga**, **John W Emert** and **Frank W Owens**. *Some Structural Properties of Visibility Graphs.*

We describe some recent and ongoing research in structural properties of visibility graphs. For a (closed and simple) polygon P, the (internal) visibility graph of P is the graph which has vertices as those of P, with two vertices adjacent if the line segment connecting them does not intersect the exterior of P. The external visibility graph of P can be similarly defined. We call such graphs polygon visibility graphs. We can similarly define the segment endpoint visibility graph of a given set S of n disjoint line segments in the plane. In these graphs, the vertices are the 2n endpoints of segments in S, and two vertices are adjacent if the line segment connecting them is either in S or is internally disjoint from all segments in S. We discuss our current research in this area, and describe some open problems. (Received January 25, 2005)