1106-05-2217 **John S. Caughman**, **Charles L. Dunn**, **Joshua D. Laison*** (jlaison@willamette.edu), **Nancy Ann Neudauer** and **Colin L. Starr**. *Minimum Representations of Rectangle Visibility Graphs.* Preliminary report.

Let S be a set of nonintersecting open rectangles in the plane with horizontal and vertical sides. Two rectangles R_1 and R_2 are *visible* if there exists a *line of sight* between them, a horizontal or vertical line segment that intersects both R_1 and R_2 but no other object in S. We construct a graph G with a vertex for each rectangle in S, and an edge between two vertices if and only if their corresponding rectangles are visible. For a given graph G, if such a representation of G with rectangles exists then G is a *rectangle visibility graph* (*RVG*) and S is a *rectangle visibility representation* of G. Suppose the corners of the rectangles in S have integer coordinates. For a given RVG G, we ask how small its rectangle visibility representation can be. We think of the size of a rectangle visibility representation as the area of the smallest axis-parallel rectangle that encloses it (the *area* of S), or as the length of the shorter side of this rectangle (the *height* of S). We find the height of a rectangle visibility representation of a tree. We also ask for the RVG with n vertices and largest area. We begin answering this question for small values of n. (Received September 16, 2014)