

1014-05-1371

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A bar visibility representation of a graph  $G$  is a collection of horizontal bars in the plane corresponding to the vertices of  $G$  such that two vertices are adjacent if and only if the corresponding bars can see each other along an unobstructed vertical sightline. In a bar  $k$ -visibility graph, a bar can see another bar if there are at most  $k$  intervening bars along a vertical sightline. Bar  $k$ -visibility graphs were introduced by Dean, Evans, Gethner, Laison, Safari, and Trotter in 2005. In this talk, we present several new results about bar  $k$ -visibility graphs, including a sharp upper bound on the largest size of a complete bar  $k$ -visibility graph, forbidden induced subgraphs, and regular bar  $k$ -visibility graphs. (Received September 28, 2005)