

# An Edge Bound for Bar $k$ -Visibility Graphs

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## Abstract

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 there exists a vertical line connecting the corresponding bars which does not intersect any other bar. In a bar  $k$ -visibility graph, two vertices are adjacent if and only if there exists a vertical line connecting the corresponding bars which intersects at most  $k$  other bars. We present a sharp upper bound on the number of edges in a bar  $k$ -visibility graph on  $n$  vertices. This is a joint work with S. Hartke and J. Vandenbussche.