1067-AF-1536   **William T. Trotter*** (`trotter@math.gatech.edu`), School of Mathematics, Georgia Institute of Technology, Atlanta, GA 30332. *Interval Shadow Orders.*

Consider a family of line segments in the plane. There is a natural partial order $<$ defined on this family by setting $s < t$ when (1) s and t are disjoint, (2) the projection of s on the x–axis is contained in the projection of t on the x–axis, and (3) any vertical line intersecting both s and t intersects s below t. In more descriptive terms, $s < t$ when s is in the "shadow" of t.

Which partial orders are shadow orders? Can you recognize them with an efficient algorithm? These are surprisingly difficult questions. In this talk, we outline the origins of this problem, the motivation for asking questions of this type, and the connections with other related classes of graphs and orders.

This is joint work with Csaba Biró of the University of Louisville. (Received September 21, 2010)