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University of Cambridge, Huntingdon Road, Cambridge. *Shadows of ordered graphs.*

An ordered graph is a graph together with a linear order on its vertices. Given a collection \mathcal{G} of ordered graphs on $[n]$, we define the shadow $\partial\mathcal{G}$ of \mathcal{G} to be the collection of ordered graphs on $[n-1]$ which are ordered subgraphs of some element of \mathcal{G} . Our aim is to bound $|\partial\mathcal{G}|$, given $|\mathcal{G}|$.

Shadows of sets have been extensively studied, but ordered graphs are somewhat more complicated objects, and as far as we know nothing has been proved about their shadows. In this talk I shall discuss the following result: if $|\mathcal{G}| < n$, then $|\partial\mathcal{G}| \geq |\mathcal{G}|$. I shall also present an application involving hereditary properties of ordered graphs. (Received January 31, 2008)