

1035-05-699

**Shilpa Das Gupta** and **J. Richard Lundgren\*** (Richard.Lundgren@cudenver.edu), 2688 S. Newcombe St., Lakewood, CO 80227, and **Elena Ortega**. *A Class of Interval Digraphs*. Preliminary report.

Recently tournaments that are interval digraphs have been characterized by Brown, Busch, and Lundgren. They show that a tournament on  $n$  vertices is an interval digraph if and only if it has a transitive  $(n-1)$ -subtournament. We investigate a broader class of oriented graphs on  $n$  vertices that contain a transitive  $(n-2)$ -tournament as a subdigraph. If such an oriented graph  $D$  is not itself a tournament, then it may be an interval digraph even if it does not contain an  $(n-1)$ -transitive tournament as a subdigraph. A directed graph  $D$  is an interval digraph if for each vertex  $u$  there corresponds an ordered pair of intervals  $(S(u), T(u))$  such that  $uv$  is an arc of  $D$  if and only if the intersection of  $S(u)$  and  $T(v)$  is nonempty. A bipartite graph  $G$  is an interval bigraph if to each vertex there corresponds an interval such that vertices are adjacent if and only if their corresponding intervals intersect and each vertex belongs to a different partite set. We use the equivalence of the models for interval digraphs and interval bigraphs in our investigation of which of these oriented graphs are interval digraphs. (Received September 13, 2007)