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Jerry Spinrad* (spin@vuse.vanderbilt.edu), Electrical Engineering and Computer Science, School of Engineering, Vanderbilt University, Nashville, TN 37240, and **Garrett Linn**. *Precedence Orders*.

There are several well known general methods for defining graphs and partial orders based on relationships between geometric and other types of objects. For example, there is a great deal of work on classes based on intersection graphs, in which vertices of a graph are adjacent if the corresponding objects have nonempty intersection. Similarly, we have notions of containment orders (element x is less than or equal to element y if the object corresponding to x is contained in the object corresponding to y). Recently there has been work on defining graphs based on other relationships between objects; visibility graphs, tolerance graphs, and to a lesser extent overlap graphs have been studied for various objects.

We discuss the notion of precedence orders of objects; element x is less than or equal to element y if the object corresponding to x comes "before" the object corresponding to y . The most basic order of this type, interval orders, have been well studied, and some specific generalizations of interval orders have been discussed. However, it has not generally been realized that we can study precedence between objects in the same way we discuss intersection and containment, and this gives rise to a large number of natural new classes of partial orders. (Received September 21, 2010)