VCU Discrete Mathematics Seminar

CPT posets and graphs

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Monday, March 13
1:00-1:50
3003 Harris Hall (on the bridge)

A *containment model* of a poset $(X, \leqslant)$ maps each element x of X into a set M_x in such a way that $x < y$ if and only if M_x is a proper subset of M_y. It is well known that posets admitting a containment model mapping vertices into intervals of the line (CI posets for short) are the posets with dimension at most 2; thus, if a transitive orientation of a comparability graph G is a CI poset then any other transitive orientation of G is also a CI poset. Comparability graphs of CI posets were shown to be the permutation graphs.

Generalizing this ideas we began to study posets admitting a containment model mapping vertices into paths of a tree and their comparability graphs (CPT posets and CPT graphs, respectively).

In this talk, I will present some first results on this topic. Several open problems will be posed.

For the DM seminar schedule, see:

`http://www.people.vcu.edu/~clarson/DM-seminar.html`