

The Unit-Distance Crossing Number of a Graph

Matt Noble, Middle Georgia State University

In this talk we will introduce and elaborate upon the *unit-distance crossing number* of a graph. For a finite, simple graph G of dimension n , let $udcr(G)$ be the minimum number of edge-crossings among all unit-distance representations of G in \mathbb{R}^n . Unlike most formulations of crossing number variants, this parameter gives rise to some interesting results in \mathbb{R}^n for $n > 2$. Numerous questions will be raised. Hey, maybe a few of them will even be answered!

Keywords: unit-distance graph embeddings, graph dimension, edge-crossings