Combinatorics Seminar

Friday, April 20, 2012

1:00 pm in Hume 331

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Complete tripartite graphs and their competition numbers

ABSTRACT

Let G be a simple graph and let I_k denote the graph on k isolated vertices. The competition number of G is the minimum k such that $G \cup I_k$ is the competition graph of an acyclic digraph. We present a piecewise formula for the competition numbers of the complete tripartite graphs. For positive integers x, y and z where $2 \leq x \leq y \leq z$, the competition number of the complete tripartite graph $K_{x,y,z}$ is $yz - z - y - x + 3$ whenever $x \neq y$ and $yz-2y-z+4$ otherwise. We also present bounds for the competition number of $K_{n,n,n,n}$ when n is odd.