

Combinatorics Seminar

Wednesday, March 28, 2012

3:00 pm in Hume 331

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Well-covered k -trees, k -frames, and unique colorability

ABSTRACT

A graph is said to be well-covered if all maximal independent vertex sets have the same cardinality. Well-covered trees can be characterized as trees with a perfect matching consisting of pendant edges, i.e. edges incident with a vertex of degree one. The main result of the talk is a generalization of this result to k -trees, with pendant cliques playing in k -trees the role which pendant edges play in trees.

A graph is said to be uniquely colorable if, modulo permutations of the colors, there is only one coloring in the minimal number of colors. It is easy to see that k -trees are uniquely colorable. A (possibly) new class of uniquely colorable graphs, the k -frames, will be introduced, generalizing the class of k -trees.