

Discrete Mathematics Seminar

Time: Friday, 26 February 2010, 12:30–1:30 PM

Location: 238 Derrick Hall

Title: Packing of Steiner trees and S -connectors in graphs

Speaker: Huhui Wu, Mathematics Department, University of Illinois at Urbana-Champaign

Abstract:

Nash-Williams and Tutte independently characterized when a graph has k edge-disjoint spanning trees; a consequence is that $2k$ -edge-connected graphs have k edge-disjoint spanning trees. Kriesell conjectured a more general statement: defining a set $S \subseteq V(G)$ to be j -edge-connected in G if S lies in a single component of any graph obtained by deleting fewer than j edges from G , he conjectured that if S is $2k$ -edge-connected in G , then G has k edge-disjoint trees containing S . Lap-Chi Lau proved that the conclusion holds whenever S is $24k$ -edge-connected in G .

We improve Lau's result by showing that it suffices for S to be $6.5k$ -edge-connected in G . In this talk, we will also give analogous results for packing two strong objects called S -Steiner-forests and S -connectors, which will be defined in the talk.