

國立交通大學應用數學系

學術演講公告

主講人：Prof. Paul Horn

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講題：Rainbow Spanning Trees in General Graphs

時間：106年6月9日(星期五) 上午 10:10 –11:00

地點：(光復校區) 科學一館 213 室

Abstract

A beautiful conjecture of Brualdi and Hollingsworth states that if the even ordered complete graph K_{2n} is properly edge colored with $2n-1$ colors, then the resulting graph can be decomposed into n edge disjoint rainbow spanning trees, that is spanning trees where each edge color appears exactly once in each tree. Recently, this conjecture has attracted a lot of attention; a result of the speaker states that one can find $\Omega(n)$ edge disjoint trees in this context with a very recent improvement on the implied constant by Pokrovskiy and Sudakov.

In general graphs, a proper edge coloring is not enough to imply the existence of even one such tree. But it is natural to ask what kinds of colorings and conditions on a graph imply the existence of many edge disjoint rainbow spanning trees. In this talk I'll discuss a new result with my student Lauren Nelsen, in which we use a spectral condition to give a strong result in this direction. As part of a greater theme, I'll give some examples of how spectral graph theory can play an important role in extremal graph theory in extending results valid for the complete graph into arbitrary host graphs.

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