

Discrete Mathematics Seminar

Illinois State University

2:00–2:50 pm, February 4

Speaker: Gexin Yu, The College of William & Mary

An enhancement of the Erdős-Lovász Tihany Conjecture for line graphs of multigraphs

We will talk about an enhanced version of the Erdős-Lovász Tihany Conjecture for line graphs of multigraphs. That is, for every graph G whose chromatic number $\chi(G)$ is more than its clique number $\omega(G)$ and for nonnegative integer ℓ , any two integers $s, t \geq 3.5\ell + 2$ with $s + t = \chi(G) + 1$, there is a partition (S, T) of the vertex set $V(G)$ such that $\chi(G[S]) \geq s$ and $\chi(G[T]) \geq t + \ell$. In particular, when $\ell = 1$, we can obtain the same result just for any $s, t \geq 4$. The Erdős-Lovász Tihany conjecture is a special case when $\ell = 0$. This is based on joint work with Yue Wang.

