
SJANNE ZEIJLEMAKER, Eindhoven University of Technology

Optimization of eigenvalue bounds for the independence and chromatic number of graph powers

The k th power of a graph G is the graph in which two vertices are adjacent if their distance is at most k . This talk presents eigenvalue bounds for the independence and chromatic number of G^k which purely depend on the spectrum of G , together with a method to optimize them. Some new bounds for the k -independence number also work for its quantum counterpart, which is not known to be computable in general. Infinite graph families for which the bounds are sharp are presented as well. This is joint work with A. Abiad, G. Coutinho, M.A. Fiol and B.D. Nogueira.