
JOY MORRIS, University of Lethbridge

A new measure of EKR-robustness on permutation groups

One of many questions that arises naturally out of extensions of the Erdős-Ko-Rado Theorem, is the question of how many edges must be removed from a graph before the independence number increases. We study a variation on this question. The derangement graph of a permutation group is the Cayley graph on that group, whose connection set consists of all of the derangements in the group. Since we are dealing with Cayley graphs, rather than considering all subgraphs that can be produced by removing edges, we instead consider only subgraphs that are still Cayley graphs on the original group: that is, that can be produced by removing inverse-closed sets of elements (derangements) from the original connection set.

This is joint work with Karen Gunderson, Karen Meagher, Venkata Raghu Tej Pantangi, and Mahsa N. Shirazi.