Large Characterisation of Graphs with Exclusive Sum Labelling

Joe Ryan

University of Newcastle, Australia

(Joint work with Mirka Miller, Zdenek Ryjacek)

A *sum graph* G is a graph with a mapping from the vertex set of G onto a set of positive integers S in such a way that two vertices of G are adjacent if and only if the sum of their labels is an element of S. In an *exclusive sum graph* the integers of S that are the sum of two other integers of S form a set of integers that label a collection of isolated vertices associated with the graph G. A graph bears a *k-exclusive sum labelling* (abbreviated k-ESL), if the set of isolated vertices is of cardinality k, an *optimal exclusive sum labelling* if k is as small as possible, and Δ-optimal if k equals the maximum degree of the graph.

joe.ryan@newcastle.edu.au