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EDGE DISTINGUISHING INDEX OF A GRAPH

A neighbourhood of an edge of a simple graph is a subgraph induced by this edge and all edges adjacent to it. We say that a given colouring of edges distinguishes a pair of edges, if there does not exist an isomorphism of their neighbourhoods preserving colours. The smallest number of colours in a colouring which distinguishes every pair of edges is called the edge distinguishing index of a graph.

We discuss the edge distinguishing index for some simple classes of graphs.

This is joint work with Mariusz Woźniak.