

# An antimagic graph for each degree sequence

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(Joint work with Oudone Phanalasy, Joe Ryan and Mirka Miller)

In 1990 Hartsfield and Ringel introduced the concept of an antimagic graph.

Label the edges of a graph  $G = (V, E)$  with  $1, 2, \dots, |E|$ , one label per edge. The weight of a vertex is the sum of the labels of the edges incident with the vertex. The labelling is antimagic if the vertex weights are distinct. A graph is antimagic if it has an antimagic labelling.

Hartsfield and Ringel conjectured that every connected graph, except  $K_2$ , is antimagic. Many classes of graphs are known to be antimagic, but we seem to be a long way from seeing a proof of the conjecture.

In this talk we show that for every sequence that is the degree sequence of a connected graph, there is an antimagic graph with that degree sequence.

This work builds on work of Phanalasy, who did his PhD with Mirka Miller.

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