A new family of antimagic graphs

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Joint work with O. Phanalasy and J. Ryan

A tribute to Mirka Miller

An *antimagic labeling* of a graph $G = (V, E)$ is a bijection from the set of edges E to the set of integers $\{1, 2, \ldots, |E|\}$ such that all vertex weights are pairwise distinct and where the weight of a vertex is the sum of all edge labels incident with that vertex. A *double broom* $DB(p, q, m)$ is a graph with $p + q + m + 1$ vertices and whose $p + q + m$ edges are the edges of a path of length m to which were added at the ends points, respectively p and q edges ($p, q \geq 2$ and $m \geq 1$). The question of the antimagicness of those graphs was proposed by Mirka during the 12th GraphMasters in Plzen (2014), and she should be very pleased to know that we proved that the answer to her question is yes.

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