Antimagic Labeling problems on Graphs

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Let $G = (V, E)$ be a finite and simple graph. Consider an bijective mapping $f : E \to \{1, 2, \ldots, |E|\}$. For each vertex u of V, the *vertex-sum* φ_f at u is defined as $\varphi_f(u) = \sum_{e \in E(u)} f(e)$, where $E(u)$ be the set of edges incident to u. If $\varphi_f(u) \neq \varphi_f(v)$ for any two distinct vertices u, v of V, then f is called an *antimagic labeling* of G. A graph G is called *antimagic* if G has an antimagic labeling.

The concept of antimagic labelings of a graph is to produce distinct vertex sums by labeling edges through consecutive numbers starting from one. A long-standing conjecture is that every connected graph, except a single edge, is antimagic. In this talk, I will introduce some results of this problem.

References

[1] Fei-Huang Chang, Pinhui Chin, Wei-Tian Li, Zhishi Pan, The Strongly Antimagic labelings of Double Spiders. (submitted) arXiv:1712.09477

[2] Fei-Huang Chang, Hong-Bin Chen, Wei-Tian Li, ZhishiPan, Shifted-antimagic Labelings for Graphs. (submitted) arXiv:1806.06019