

On local antimagic chromatic number of graphs with cut-vertices

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An edge labeling of a connected graph $G = (V, E)$ is said to be local antimagic if it is a bijection $f : E \rightarrow \{1, \dots, |E|\}$ such that for any pair of adjacent vertices x and y , $f^+(x) \neq f^+(y)$, where the induced vertex label $f^+(x) = \sum f(e)$, with e ranging over all the edges incident to x . The local antimagic chromatic number of G , denoted by $\chi_{la}(G)$, is the minimum number of distinct induced vertex labels over all local antimagic labelings of G . In this paper, the sharp lower bound of the local antimagic chromatic number of a graph with cut-vertices given by pendants is obtained. The exact value of the local antimagic chromatic number of many families of graphs with cut-vertices (possibly given by pendant edges) are also determined. Consequently, we partially answered Problem 3.1 in [Local antimagic vertex coloring of a graph, *Graphs and Combin.*, **33** (2017), 275–285.].

References

- [1] S. Arumugam, K. Premalatha, M. Bača and A. Semaničová-Feňovčíková, Local antimagic vertex coloring of a graph, *Graphs and Combin.*, 2017, 275–285.