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ON SUPER (a, d)-H-ANTIMAGIC TOTAL COVERING OF STAR RELATED GRAPHS

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Abstract

Let $G = (V(G), E(G))$ be a simple graph and H be a subgraph of G. G admits an H-covering, if every edge in $E(G)$ belongs to at least one subgraph of G that is isomorphic to H. An (a, d)-H-antimagic total labeling of G is a bijection $\lambda : V(G) \cup E(G) \to \{1, 2, 3, \ldots, |V(G)| + |E(G)|\}$ such that for all subgraphs H' isomorphic to H, the H' weights

$$wt(H') = \sum\nolimits_{v \in V(H')} \lambda(v) + \sum\nolimits_{e \in E(H')} \lambda(e)$$

constitute an arithmetic progression $a, a+d, a+2d, \ldots, a+(n-1)d$ where a and d are positive integers and n is the number of subgraphs of G isomorphic to H. Additionally, the labeling λ is called a super (a, d)-H-antimagic total labeling if $\lambda(V(G)) = \{1, 2, 3, \ldots, |V(G)|\}$.

In this paper we study super (a, d)-H-antimagic total labelings of star related graphs $G_u[S_n]$ and caterpillars.

Keywords: super (a, d)-H-antimagic total labeling, star.

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