

FAIR TOTAL DOMINATION NUMBER IN CACTUS GRAPHS

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Abstract

For $k \geq 1$, a k -fair total dominating set (or just kFTD-set) in a graph G is a total dominating set S such that $|N(v) \cap S| = k$ for every vertex $v \in V \setminus S$. The k -fair total domination number of G , denoted by $ftd_k(G)$, is the minimum cardinality of a kFTD-set. A fair total dominating set, abbreviated FTD-set, is a kFTD-set for some integer $k \geq 1$. The fair total domination number of a nonempty graph G , denoted by $ftd(G)$, of G is the minimum cardinality of an FTD-set in G . In this paper, we present upper bounds for the 1-fair total domination number of cactus graphs, and characterize cactus graphs achieving equality for the upper bounds.

Keywords: fair total domination, cactus graph.

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