

## Extended Roman Domination Number of Honeycomb Networks

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### Abstract

An extended Roman domination function on a graph  $G=(V,E)$  is a function satisfying the conditions that (i) every vertex  $u$  for which  $f(u)$  is either 0 or 1 is adjacent to at least one vertex  $v$  for which  $f(v)=3$ ,(ii) if  $u$  and  $v$  are two adjacent vertices and if  $f(u)=0$  then  $f(v)\neq 0$ . The weight of an extended Roman domination function is the value  $f(V) = \sum_{u \in V} f(u)$ . The minimum weight of an extended Roman domination function on graph  $G$  is called the extended Roman domination number of  $G$ , denoted by  $\gamma_{R_e}(G)$ . In this paper we study this variant of domination for honeycomb networks.

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