

Domination Integrity of Generalized Transformation Graphs

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ABSTRACT

The vulnerability values help network designers build communication networks that maintain stability even when some of their nodes or communication links are disrupted. The transformation graphs investigated in this research are used as a network system model, demonstrating how to strengthen and stabilise the network. For this reason, more nodes are added to the network. Generalized transformation graphs of graphs are the concept used in the construction of this new network. The domination integrity of graph G is defined by $DI(G) = \min \{|S| + m(G - S)\}$ where S is a dominating set of G and $m(G - S)$ denotes the order of the largest component in $G - S$. This parameter is a measures of vulnerability of a graph. In this paper, we investigate the domination integrity of generalized transformation graph G^{++} of standard graphs and the domination integrity of cartesian product of generalized transformation graphs G^{++} . And also determine domination integrity of generalized transformation graphs G^{+-} , G^{-+} and G^{-} .

Keywords: Vulnerability, Integrity, Domination Integrity, Generalized transformation graphs

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