

CLOSED FORMULAE FOR THE STRONG METRIC DIMENSION OF LEXICOGRAPHIC PRODUCT GRAPHS

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Abstract

Given a connected graph G , a vertex $w \in V(G)$ strongly resolves two vertices $u, v \in V(G)$ if there exists some shortest $u - w$ path containing v or some shortest $v - w$ path containing u . A set S of vertices is a strong metric generator for G if every pair of vertices of G is strongly resolved by some vertex of S . The smallest cardinality of a strong metric generator for G is called the strong metric dimension of G . In this paper we obtain several relationships between the strong metric dimension of the lexicographic product of graphs and the strong metric dimension of its factor graphs.

Keywords: strong metric dimension, strong metric basis, strong metric generator, lexicographic product graphs.

2010 Mathematics Subject Classification: 05C12, 05C69, 05C76.

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Received 1 August 2015
Revised 27 January 2016
Accepted 27 January 2016