The Metric Dimension of Graph with Pendant Edges

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Abstract

For an ordered set $W = \{w_1, w_2, \cdots, w_k\}$ of vertices and a vertex v in a connected graph G, the representation of v with respect to W is the ordered k-tuple $r(v|W) = (d(v, w_1), d(v, w_2), \cdots, d(v, w_k))$ where $d(x, y)$ represents the distance between the vertices x and y. The set W is called a resolving set for G if every two vertices of G have distinct representations. A resolving set containing a minimum number of vertices is called a basis for G. The dimension of G, denoted by $\dim(G)$, is the number of vertices in a basis of G. In this paper, we determine the dimensions of some corona graphs $G \odot K_1$, and $G \odot \overline{K}_m$ for any graph G and $m \geq 2$, and a graph with pendant edges more general than corona graphs $G \odot \overline{K}_m$.
Keywords: Resolving set, metric dimension, corona

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