

**ON STAR DECOMPOSITION DIMENSION OF SOME CLASS OF
GRAPHS**

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Abstract: A complete bipartite graph $K_{1,n}$ is called a star. A decomposition $\mathcal{D} = \{G_1, G_2, \dots, G_t\}$ of a connected graph $G = (\mathcal{V}, \mathcal{E})$, which is ordered, is a star resolving t -decomposition for G , if it is a resolving decomposition and each $G_l, 1 \leq l \leq t$, is a star. If t is the minimum positive integer such that G has a star resolving t -decomposition, then t is called the star decomposition dimension of G , denoted by $sdec(G)$. In this paper, star decomposition dimension of some class of graphs are determined.

Keywords and Phrases: Graph Decomposition, Decomposition Dimension, Resolving Decomposition, Connected Decomposition Number, Star Decomposition Dimension.

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