Abstract

A square difference 3-equitable labeling of a graph $G$ with vertex set $V$ is a bijection $f$ from $V$ to \{1,2,...,|V|\} such that if each edge $uv$ is assigned the label -1 if $|f(u)|^2 - |f(v)|^2 \equiv -1(\mod 4)$, the label 0 if $|f(u)|^2 - |f(v)|^2 \equiv 0(\mod 4)$ and the label 1 if $|f(u)|^2 - |f(v)|^2$
\[ f(v) \equiv 1 \pmod{4}, \text{ then the number of edges labeled with } i \text{ and the number of edges labeled with } j \text{ differ by atmost 1 for } -1 \leq i, j \leq 1. \]

If a graph has a square difference 3-equitable labeling, then it is called square difference 3-equitable graph. In this paper, we investigate the square difference 3-equitable labeling behaviour of middle graph of paths, fan graphs, \(P_{2n}\), \(S_1\), \(mK_3\), triangular snake graphs and friendship graphs.

**References**


**Index Terms**

Computer Science  
Applied Mathematics

**Keywords**
Square difference 3-equitable labeling, square difference 3-equitable graphs