Abstract

A square difference 3-equitable labeling of a graph $G$ with vertex set $V$ is a bijection $f$ from $V$ to \{1,2,\ldots,|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 $[f(u)]^2$.
\[ f(v) \]
\[ 2 \]
\[ \equiv 1( \mod 4 ) \]
, then the number of edges labeled with \( i \) and the number of edges labeled with \( j \) 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