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 \(|f(u)|^2 - |f(v)|^2 \equiv -1 \pmod{4}\), the label 0 if \(|f(u)|^2 - |f(v)|^2 \equiv 0 \pmod{4}\) and the label 1 if \(|f(u)|^2 - |f(v)|^2 \not\equiv 0 \pmod{4}\).
\[ f(v) \equiv 1 (\mod 4) \]
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, \( P_{2n} \), \( S \), \( mK_3 \), triangular snake graphs and friendship graphs.

**References**


**Index Terms**

- Computer Science
- Applied Mathematics

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