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 $[(f(u))^2 - (f(v))^2] \equiv 1\ (mod\ 4)$. 
If \( f(v) \equiv 1 \pmod{4} \), then the number of edges labeled with \( i \) and the number of edges labeled with \( j \) differ by at most 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 behavior of middle graph of paths, fan graphs, \( (P_{2n}, S_1, mK_3) \), triangular snake graphs and friendship graphs.

**References**


**Index Terms**

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