Square Difference 3-Equitable Labeling of Some Graphs

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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 \(|f(u)|^2\).
\[ f(v^2) \equiv 1 \pmod{4} \]

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 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  
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