Abstract

Here I define a new labeling and a new graph called square difference labeling and the square difference graph. Let G be a (p, q) graph. G is said to be a square difference graph if there exists a bijection $f : V(G) \rightarrow \{0, 1, \ldots, p-1\}$ such that the induced function $f^* : E(G) \rightarrow \mathbb{N}$ given by $f^*(uv) = |[f(u)]^2 - [f(v)]^2|$ for every $uv \in E(G)$ are all distinct. A graph which admits square difference labeling is called square difference graph. In this paper I discussed the square difference labeling is admitted for some graphs like cycles, complete graphs, cycle cactus, ladder, lattice grids, wheels, quadrilateral snakes, the graph $G = K_2 + m K_1$.

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