Title: Some Skolem square difference mean graphs

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Abstract:
In this paper, the new concept Skolem square difference mean labeling has been introduced and a formula for Skolem square difference mean labeling has been established. If $f$ is a bijective function from the vertices of $G$ to the set $\{1, 2, \ldots, p\}$ such that when each edge $uv$ is assigned the label $f$ if $|f(u) - f(v)|^2$ is even and $|(f(u))^2 - (f(v))^2|$ is odd, then the resulting edge labels are distinct ranges from 2 to $q$. The function $f$ is called Skolem square difference labeling of a graph $G$ with $q$ edges. A graph that admits Skolem square difference mean labeling is called the Skolem square difference mean graph. It is proved that the star $K_{1,n}$, path $P_n$, cycle $C_n$, cycle with one chord, the graph obtained by the subdivision of the edges of $K_{1,n}$, bistar $B(n,n)$, banana tree $BT(n_1, n_2, \ldots, n_k)$ are Skolem square difference mean graphs.