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FURTHER STUDY ON GEO ENERGY OF GRAPHS

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Abstract: Let $G = (V, E)$ be a (p, q) simple connected graph. K. Palani[7] introduced the concept of geo energy of graph as the sum of absolute values of the spectrum of its Geo matrix. The scope of this study is to inspect numerous bounds on geo energy through graph theory and utilization.

Keywords and Phrases: Geo matrix, Geo spectrum, Geo energy.

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1. Introduction and Preliminaries

The idea of graph energy was debuted by Gutman [3] in 1978 as the sum of absolute values of spectrum of its adjacency matrix. The concept of geodetic was proposed by Harary F [5] in 1993. Let $u, v \in V(G)$. Then $d(u, v)$ is the shortest path of $u - v$ and is known as geodesic path. A set $S \subseteq V(G)$ is a geodetic set if $I[S] = V(G)$, where $I[S]$ is the union of closed intervals $I[u, v]$ consisting of all vertices lying in a $u - v$ geodesic of G, i.e, $I[S] = \bigcup_{u,v \in S} I[u, v]$. The geodetic number of G is the minimum cardinality among all the geo sets and is denoted by $'g'$. K.Palani et. al., [7] introduced the concept of geo energy of graphs and is defines as the sum of absolute values of the spectrum of its Geo matrix. This paper investigate the characteristic of Geo spectrum and Geo energy and derive