Abstract

In a graph \( G = (V,E) \), a set \( M \subseteq V \) is called a monopoly set of \( G \) if every vertex \( v \in V - M \) has at least \( \frac{d(v)}{2} \) neighbors in \( M \). The monopoly size \( mo(G) \) of \( G \) is the minimum cardinality of a monopoly set among all monopoly sets in \( G \). In this paper, the minimum monopoly distance energy \( E_{Md} \)
of a connected graph

is introduced and minimum monopoly distance energies of some standard graphs are computed. Some properties of the characteristic polynomial of the minimum monopoly distance matrix of

are obtained. Finally, Upper and lower bounds for

are established.

References

12. F. Harary, Graph Theory, Addison Wesley, Massachusetts, 1969.
16. X. Li, Y. Shi and I. Gutman, Graph Energy, Springer, New york Heidelberg Dordrecht,
London 2012


Index Terms

Computer Science
Applied Mathematics

Keywords

Minimum monopoly set, minimum monopoly distance matrix, minimum monopoly distance eigenvalues, minimum monopoly distance energy