The Metric Dimension of Graphs

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(Joint work with Mohsen Janessari)

Abstract

A set $W \subseteq V(G)$ is called a resolving set, if for each two distinct vertices $u, v \in V(G)$ there exists $w \in W$ such that $d(u, w) \neq d(v, w)$, where $d(x, y)$ is the distance between the vertices x and y. The minimum cardinality of a resolving set for G is called the metric dimension of G, and denoted by $\dim_M(G)$. This concept is introduced by Slater in 1975. He described the usefulness of this concept when working with U.S. Sonar and Coast Guard Loran stations. In this talk, as well as some variant applications of this concept, we see a short review of the results on this topic.