

Locating-dominating sets in twin-free graphs

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A locating-dominating set of a graph is a dominating set such that each vertex not in the set has a unique neighbourhood within the set. In 2014, Garijo, González and Márquez conjectured that any twin-free graph without isolated vertices admits a locating-dominating set of size at most half the order. We discuss this beautiful conjecture and present proofs of it for the special cases of split graphs, cobipartite graphs, cubic graphs, and line graphs. We also discuss the set of graphs having location-domination number exactly half the order.