APPLICATIONS OF FRACTIONAL DOMINATING NUMBER

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ABSTRACT

The fractional domination number, a graph theory concept, generalizes the traditional domination number by assigning fractional weights (ranging from 0 to 1) to vertices in a dominating set, typically optimized using linear programming. This approach is valuable for optimization challenges requiring partial coverage or efficient resource allocation. Here, I outline its applications in Wireless Sensor Networks (WSN), Image Compression, and Metro Train Optimization, Optimization of Intercity Bus Networks based on recent research.

KEYWORDS: *Wireless Sensor Network, Fractional Domination Number, LP Formulation, Dijkstra'salgorithms.*