

Radio Mean Number of Pendant Graphs with Odd Cycles

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Graph labeling is the process of assigning numbers (integers) to a graph's vertices, edges, or both. In this paper, we will focus solely on vertex labeling. One of the most common concepts in graph labeling is radio-frequency labeling. This task involves assigning integers to the vertices such that the integer that crosses the nearby labels is known as the radio mean number, or radio number. The minimum span of a radio labeling for a graph G is represented by the radio number $rmn(G)$. In this context, G refers to a graph, while "Complete Graph 1" refers to a complete graph with one vertex. This paper focuses on pendant graphs with an odd cycle that takes the product with Complete Graph 1. Our goal is to present a general proof and obtain a generalized equation that can be used to determine the radio number. Since both the cycle and the diameters contain odd and even variations, we must handle them independently. Specifically, we will focus on odd cycles that have both even and odd diameters. Our findings will be applied to the entire Pendant graph family or, in a more important example, Corona in a subsequent effort.

Keywords: Diameter, Pendant Graphs, Radio Mean Labeling, Radio Mean Number