



# Radio mean number of pendant graphs for even cycles with odd diameter

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**Abstract:** Graph labeling is simply plugging numbers (integers) to the vertices, edges, or both in a particular graph. Here we only focus on vertex labeling. The idea of radio mean labeling is one of the most ubiquitous fields of graph labeling. The assignment (particular radio mean labeling) will give us the integers. There, the radio mean number or radio number is the integer that spans the labels in that location. The radio number  $rnn(G)$  stands for the minimum span of a radio labeling for  $G$ . This paper discusses a general proof for the radio number of pendant graphs with an even cycle (the cycle takes the product with complete graph one) having odd diameter. To take the radio number, a generalized equation must be obtained. We must treat the cycle and the diameters separately since they both have odd and even variants. Here, our attention is limited to even cycles with odd diameters. In a later project, we hope to apply our research to the entire Pendant graph family or, in the more significant case, Corona.

**Keywords:** Cycle and diameter, Radio mean labeling,  $rnn$