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Upper Bounds on the Paired Domination Number of Cubic Graphs

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Abstract : Let G be a simple undirected graph with no isolated vertex. A paired dominating set of G is a dominating set which induces a subgraph that has a perfect matching. The paired domination number of G, denoted by $\gamma_{pr}(G)$, is the size of its smallest paired dominating set. Goddard and Henning conjectured that $\gamma_{pr}(G) \leq 4n/7$ holds for every graph G with $\delta(G) \geq 3$, except the Petersen Graph. In this paper, we prove this conjecture for cubic graphs.

Keywords : paired dominating set, upper bound, cubic graphs, weight function
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