

# Paired-domination in $P_5$ -free graphs.

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## Abstract

A set  $S$  of vertices in a graph  $G$  is a paired-dominating set of  $G$  if every vertex of  $G$  is adjacent to some vertex in  $S$  and if the subgraph induced by  $S$  contains a perfect matching. The paired-domination number of  $G$ , denoted by  $\gamma_{\text{pr}}(G)$ , is the minimum cardinality of a paired-dominating set of  $G$ . In [?], the authors gave tight bounds for paired-dominating sets of generalized claw-free graphs. Yet, the critical cases are not claws but subdivided stars. We here give a bound for graphs containing no induced  $P_5$ , which seems to be the critical case.

**Keywords:** bounds, paired-domination,  $P_5$ -free

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