

Upper bounds on the Steiner diameter of a graph

P. Ali*, P. Dankelmann and S. Mukwembi

University of KwaZulu-Natal

dankelma@ukzn.ac.za

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Let G be a connected graph and S a nonempty set of vertices of G . Then the Steiner distance, $d(S)$, of S is the minimum size of a connected subgraph of G whose vertex set contains S . If n is an integer, $2 \leq n \leq p$, the Steiner n -diameter, $diam_n(G)$, of G is the maximum Steiner distance of any n -subset of vertices of G .

In this talk we give an improved bound on $diam_n(G)$ for a graph G in terms of the order of G and the minimum degree of G . Also we give bounds on $diam_n(G)$ for K_3 -free graphs and C_4 -free graphs. Moreover, we demonstrate that the bounds are best possible.