

NORDHAUS-GADDUM RESULTS FOR A CONVEX DOMINATION NUMBER OF A GRAPH

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The distance $d_G(u, v)$ between two vertices u and v in a connected graph G is the length of the shortest uv -path in G . A uv -path of length $d_G(u, v)$ is called uv -geodesic. A set X is *convex* in G if vertices from all ab -geodesics belong to X for every two vertices $a, b \in X$. The *convex domination number* $\gamma_{con}(G)$ of a graph G equals the minimum cardinality of a convex dominating set. There are a large number of results in the graph theory literature of the form $\alpha + \bar{\alpha} \leq n \pm \epsilon$ for a domination parameter α . This kind of results is called Nordhaus-Gaddum-type results. The classical paper of Nordhaus and Gaddum [1] established this kind of inequalities for the chromatic numbers. Here Nordhaus-Gaddum-type results for the convex domination number are studied.

Keywords: convex domination number, Nordhaus-Gaddum results.

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