PARAMETERS OF SECONDARY DOMINATION IN GRAPHS

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Let G be an undirected, connected, simple graph and let $k \geq 1$ be an integer. A subset $D \subseteq V(G)$ is called $(1, k)$-dominating if for every vertex $v \in V(G) \setminus D$ there exist $u, w \in D$ such that $vu \in E(G)$ and $d_G(v, w) \leq k$. For $k = 1$ we have the definition of $(1,1)$-dominating sets, which are also known as 2-dominating sets. For $k = 2$ we obtain the well-known concept of $(1,2)$-dominating sets, see [1].

Clearly, the family of all $(1,1)$-dominating sets of a graph G is contained in the family of all $(1,2)$-dominating sets. Therefore we introduce and study *proper* $(1,2)$-*dominating sets* which are a special version of $(1,2)$-dominating sets i.e. $(1,2)$-dominating sets that are not $(1,1)$-dominating.

In the talk some results concerning $(1,2)$-dominating sets, proper $(1,2)$-dominating sets and domination parameters related to them will be presented.

References

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