

# ON $k$ -LIMITED DOMINATION IN GRAPHS

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In this talk, we present a new type of domination in graphs, called *k-limited domination*. The concept is motivated by applications in which dominating vertices have limited capacity and cannot serve too many vertices outside the dominating set. More precisely, for an integer  $k \geq 1$ , a dominating set  $D \subseteq V(G)$  is said to be *k-limited* if every vertex of  $D$  has at most  $k$  neighbors outside  $D$ . The minimum size of such a set is denoted by  $\gamma_k^L(G)$ . While the case  $k \geq \Delta(G)$  reduces to classical domination, the range  $1 \leq k < \Delta(G)$  imposes an additional capacity constraint and therefore leads to a substantially different domination problem. The talk will survey the known results from [1, 2].

## References

- [1] D. Božović, G. Radić, Ž. Kovijanić-Vukićević, A. Tepeh, On *k*-limited domination in graphs, submitted.
- [2] A. Tepeh, On *k*-limited domination: complexity and Cartesian products, submitted.