

Bange, D. W.; Barkauskas, A. E.; Slater, P. J.

Efficient dominating sets in graphs. (English) [Zbl 0664.05027](#)

Applications of discrete mathematics, Proc. 3rd SIAM Conf., Clemson/South Carolina 1986, 189-199 (1988).

[For the entire collection see [Zbl 0655.00007](#).]

A subset D of the vertex set $V(G)$ of a graph G is called dominating, if for each vertex $x \in V(G) - D$ there exists a vertex $y \in D$ adjacent to x . If any two vertices of a dominating set D in a graph G have the distance at least 3, the set D is called an efficient dominating set in G . It is proved that the problem to determine whether a given graph has an efficient dominating set is NP-complete. A constructive characterization of trees having an efficient dominating set and of trees having two disjoint efficient dominating sets is presented.

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MSC:

[05C35](#) Extremal problems in graph theory

[05C05](#) Trees

[05C99](#) Graph theory

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