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On the total domination number of Cartesian products of graphs. (English) Zbl 1062.05109
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Summary: The most famous open problem involving domination in graphs is Vizing's conjecture which states the domination number of the Cartesian product of any two graphs is at least as large as the product of their domination numbers. In this paper, we investigate a similar problem for total domination. In particular, we prove that the product of the total domination numbers of any nontrivial tree and any graph without isolated vertices is at most twice the total domination number of their Cartesian product, and we characterize the extremal graphs.

MSC:

- 05C69** Vertex subsets with special properties (dominating sets, independent sets, cliques, etc.)
05C35 Extremal problems in graph theory

Cited in **4** Reviews
Cited in **12** Documents

Keywords:

Graph products; Total domination; Vizing's conjecture

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