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Connected domatic number in planar graphs. (English) Zbl 1079.05512
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Summary: A dominating set in a graph G is a connected dominating set of G if it induces a connected subgraph of G . The connected domatic number of G is the maximum number of pairwise disjoint, connected dominating sets in $V(G)$. We establish a sharp lower bound on the number of edges in a connected graph with a given order and given connected domatic number. We also show that a planar graph has connected domatic number at most 4 and give a characterization of planar graphs having connected domatic number 3.

MSC:

05C69 Vertex subsets with special properties (dominating sets, independent sets, cliques, etc.) Cited in 3 Documents

Keywords:

[connected dominating set](#); [connected domatic number](#); [planar](#)

Full Text: [DOI](#) [EuDML](#)

References:

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