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Clark, Brent N.; Colbourn, Charles J.; Erdős, Paul

A conjecture on dominating cycles. (In English)

Combinatorics, graph theory and computing, Proc. 16th Southeast. Conf., Boca Raton/Fla. 1985, Congr. Numerantium 47, 189-197 (1985).

[For the entire collection see Zbl 619.00006.]

A dominating cycle in a graph is a cycle in which every vertex of the graph is adjacent to at least one vertex on the cycle. We conjecture that for each c there is a constant k_c such that every c -connected graph with minimum degree $\delta \geq \frac{n}{c+1} + k_c$ has a dominating cycle. We show that this conjecture, is true, if best possible. We further prove the conjecture for graphs of connectivities 1 through 5.

Classification:

05C38 Paths and cycles

05C99 Graph theory

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dominating cycle