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A class of Ramsey-finite graphs. (In English)

Proc. 9th southeast. Conf. on Combinatorics, graph theory, and computing, Boca Raton 1978, 171-180 (1978).

[For the entire collection see Zbl 396.00003.]

The notation $F \to (G, H)$ is used to imply that if the edges of Fare colored with two colors, say red and blue, then either there exists a red copy of G or a blue copy of H. The class of all graphs F or which $F \to (G, H)$ is denoted $R'(G, H)$. The class of minimal graphs in $R'(G, H)$ is denoted $R(G, H)$. The authors show that if G is an aritrary graph on n vertices and m is a positive integer, then whenever $F \in R(mK_2, G)$, we always have $|E(F)| \le \sum_{i=1}^{b} n^i$ where $b = (m-1)(\binom{2m-1}{2}) + 1) + 1$. As a corollary, they conclude that he class $R(mK_2, G)$ is finite. It should be noted that there are large classes of graphs for which $R(G, H)$ is infinite but few nontrivial examples are known where $R(G, H)$ is finite.

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