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Chromatic number versus chromatic number in graphs with bounded clique number. (In English)

The cochromatic number $z(G)$ of a graph G is the minimum number of sets into which the vertices of G can be partitioned so that each set is independent in G or induces a complete subgraph of G. The present paper proves the existence of a function $f(n)$ with the following property: If G does not contain a complete n-graph K_n and $G \neq K_{n-1}$, then the usual chromatic number $\chi(G)$ is at most $z(G) + f(n)$. Moreover it is proved that $f(n)$ is exponential in n and that $f(3) = 1$ and $f(4) = 1$.

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Classification:
05C15 Chromatic theory of graphs and maps
05C35 Extremal problems (graph theory)

Keywords:
clique number; cochromatic number