

Zbl 242.05122

Erdős, Paul; Szemerédi, A.

On a Ramsey type theorem. (In English)

Period. Math. Hung. 2, 295-299 (1972). [0031-5303]

Let \bar{G} denote the complement of the graph G , and let K_n denote the complete graph on n vertices. The main result of this paper is the following theorem: Theorem 2. Let $G(n, r)$ be a graph of n vertices with $r < \frac{n^2}{k}$ edges. Then there is a positive constant c such that for $s < c \frac{k}{\log k} \log n$, either $\overline{G(n, r)}$ or $G(n, r)$ contains K_s as a subgraph. This result is shown to be best possible as far as the order of magnitude is concerned.

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Classification:

05C15 Chromatic theory of graphs and maps

05C35 Extremal problems (graph theory)