
Zbl 576.05019**Erdős, Paul; West, Douglas B.***A note on the interval number of a graph.* (In English)**Discrete Math.** **55**, 129-133 (1985). [0012-365X]

Three results on the interval number $i(G)$ and d -dimensional interval number $i_d(G)$ of a graph G with n vertices are presented. Theorem 1. The inequalities $i(G) \geq n/4 \lg_2 n$, $i_d(G) \geq n/4d \lg_2 n$ hold for almost every graph (i.e. the probability, that the lower bounds hold, goes to 1 as $n \rightarrow \infty$ in the probability spaces containing all graphs on n vertices, each of them with the same probability). The first lower bound is also asymptotically true for almost every bipartite graph. Theorem 2. There exist $K_{m,n}$ -free bipartite graphs with interval number at least $c(m) \cdot n^{1-2(m+1)}/\lg_2 n$, which can be improved to $\sqrt{n}/4 + o(\sqrt{n})$ for $m = 2$ and $(n/2)^{2/3}/\lg_2 n$ for $m = 3$. Theorem 3. There exist regular graphs of girth at least g with interval number at least $((n-1)/2)^{1/(g-2)}$.

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60C05 Combinatorial probability

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