
Zbl 659.05075**Caccetta, Louis; Erdős, Paul; Vijayan, K.***Graphs with unavoidable subgraphs with large degrees.* (In English)**J. Graph Theory 12, No.1, 17-27 (1988). [0364-9024]**

Authors' abstract: "Let $\mathcal{G}(n, m)$ denote the class of simple graphs on n vertices and m edges and let $G \in \mathcal{G}(n, m)$. There are many results in graph theory giving conditions under which G contains certain types of subgraphs, such as cycles of lengths, complete graphs, etc. For example, Turan's theorem gives a sufficient condition for G to contain a K_{k+1} , in terms of the number of edges in G . In this paper we prove that, for $m = \alpha n^2$, $\alpha > (k-1)/2k$, G contains a K_{k+1} , each vertex of which has degree at least $f(\alpha)n$ and determine the best possible $f(\alpha)$. For $m = \lfloor n^2/4 \rfloor + 1$ we establish that G contains cycles whose vertices have certain minimum degrees. Further, for $m = \alpha n^2$, $\alpha > 0$ we establish that G contains a subgraph H with $\delta(H) \geq f(\alpha, n)$ and determine the best possible value of $f(\alpha, n)$."

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05C38 Paths and cycles

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