
Zbl 375.05034**Bollobás, Béla; Erdős, Paul; Simonovits, M.; Szemerédi, E.***Extremal graphs without large forbidden subgraphs.* (In English)**Ann. Discrete Math. 3, 29-41 (1978).**

The theory of extremal graphs without a fixed set of forbidden subgraphs is well developed. However, rather little is known about extremal graphs without forbidden subgraphs whose orders tend to ∞ with the order of the graph. In this note we deal with three problems of this latter type. Let L be a fixed bipartite graph and let $L + E^n$ be the join of L with the empty graph of order m . As our first problem we investigate the maximum of the size $e(G^n)$ of a graph G^n (i.e. graph of order n) provided $G^n \not\supseteq L + E^{[cn]}$, where $c > 0$ is a constant. In our second problem we study the maximum of $e(G^n)$ if $G^n \not\supseteq K_2(r, cn)$ and $G^n \not\supseteq K^3$. The third problem is of a slightly different nature. Let $C^k(t)$ be obtained from a cycle C^k by multiplying each vertex by t . We shall prove that if $c > 0$ then there exists a constant $l(c)$ such that if $G^n \not\supseteq C^k(t)$ for $k = 3, 5, \dots, 21(c) + 1$, then one can omit $[cn^2]$ edges from G^n so that the obtained graph is bipartite, provided $n > n_0(c, t)$.

Classification:

05C35 Extremal problems (graph theory)