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More results on Ramsey-Turán type problems. (In English)

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In [Combinat. Struct. Appl., Proc. Calgary Internat. Conf. Calgary 1969, 407-410 (1970; Zbl 253.05145)] *V.T.Sós* raised a general scheme of new problems that can be considered as common generalizations of the problems treated in the classical results of Ramsey and Turán. This paper is a continuation of a sequence of papers on this subject.

One of the main results is the following: Given $k \geq 2$ and $\varepsilon > 0$, let G_n be a sequence of graphs of order n size at least $(1/2) \left(\frac{3k-5}{3k-2} + \varepsilon \right) n^2$ edges such that the cardinality of the largest independent set in G_n is $o(n)$. Let H be any graph of arboricity at most k . Then there exists an n_0 such that all G_n with $n > n_0$ contain a copy of H . This result is best possible in the case $H = K_{2k}$.

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Classification:

05C35 Extremal problems (graph theory)

05C55 Generalized Ramsey theory

05C05 Trees

Keywords:

arboricity; sequence of graphs; largest independent set