
Zbl 529.05027
Erdős, Paul; Simonovits, Miklos
Supersaturated graphs and hypergraphs. (In English)
Combinatorica 3, 181-192 (1983). [0209-9683]

In this paper are investigated supersaturated graphs and hypergraphs. Let $\mathcal{L}$ be a family of graphs (hypergraphs) and ex $(n, \mathcal{L})$ denote the maximum number of edges (hyperedges) of a graph (hypergraph) on n vertices which do not contain a subgraph from $\mathcal{L}$. A graph (hypergraph) with n vertices containing more than $\text{ex}(n, \mathcal{L})$ edges es called a supersaturated graph (hypergraph).
The problem solved in this paper is to determine the number of copies of a subgraph from $\mathcal{L}$ which must occur in a supersaturated graph (hypergraph) with $\text{ex}(n, \mathcal{L}) + k$ edges. There are given some lower bounds for the number of subgraphs from $\mathcal{L}$ with respect to value of k. In the case of ordinary graphs the characterisation of supersaturated graphs with a low number of prohibited subgraphs is given.

L.Niepel

Classification:
05C35 Extremal problems (graph theory)
05C65 Hypergraphs

Keywords:
uniform hypergraph; forbidden subgraphs; Turan graphs; supersaturated hypergraph