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Saturated r -uniform hypergraphs. (In English)

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The following dual version of Turán's problem is considered: for a given r -uniform hypergraph F , determine the minimum number of edges in an r -uniform hypergraph H on n vertices, such that $F \not\subset H$ but a subhypergraph isomorphic to F occurs whenever a new edge (r -tuple) is added to H . For some types of F we find the exact value of the minimum or describe its asymptotic behavior as n tends to infinity; namely, for $H_r(r+1, r)$, $H_r(2r-2, 2)$ and $H_r(r+1, 3)$, where $H_r(p, q)$ denotes the family of all r -uniform hypergraphs with p vertices and q edges. Several problems remain open.

Classification:

05C65 Hypergraphs

05C35 Extremal problems (graph theory)

Keywords:

Turán's problem; minimum number; hypergraphs