

# THE HYPERGRAPH TURAN PROBLEM

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A central problem of extremal combinatorics is to determine the Turan number of a given  $k$ -graph  $F$ , i.e. the maximum number of edges in a  $k$ -graph on  $n$  vertices that does not contain a copy of  $F$ . Since the problem was introduced over sixty years ago, it has only been solved for relatively few hypergraphs  $F$ . Many of these results were found very recently by means of the stability method, which has brought new life to research in a challenging area. However, this method only has the potential to solve the problem when the extremal configuration is unique, so in other cases we need new techniques. In this talk we will survey a variety of methods and results on Turan problems.