

# Complete bipartite Turán numbers

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Let  $H$  be a graph. The function  $ex(n, H)$  is the maximum number of edges that a graph with  $n$  vertices can have, which contains no subgraph isomorphic to  $H$ .

If  $H$  is not bipartite then the asymptotic behaviour of  $ex(n, H)$  is known, but if  $H$  is bipartite then in general this is not the case. This talk will focus on the case that  $H$  is a complete bipartite graph. I will review the previous constructions from a geometrical point of view and explain how this enables us to improve the lower bound of  $ex(n, K_{5,5})$ .