Institut für Diskrete Mathematik

Seminar für Kombinatorik und Optimierung

Friday 29th January 14:15

Online meeting (Webex)

The Erdos-Hajnal conjecture is true for C_5-free graphs

ALEX SCOTT

(University of Oxford)

It is well known that a graph on n vertices need not have complete subgraphs or independent sets of size more than about $\log n$. But what if we consider graphs which do not contain some specific induced subgraph? Erdős and Hajnal conjectured in 1977 that for every graph H there is a constant c such that every graph on n vertices without an induced copy of H contains a clique or stable set of size n^c. The Erdős-Hajnal conjecture is only known for H belonging to a small family of graphs; and it is even open for some graphs on five vertices.

In this talk, we will show that the Erdős-Hajnal conjecture is true when H is a five-cycle, and discuss some related results. This is joint work with Maria Chudnovsky, Paul Seymour and Sophie Spirkl.

Meeting link:

 https://tugraz.webex.com/tugraz/j.php?MTID=m91ec9c9750952c39a471f6bb21bf4e83

Meeting number: 121 709 2890

Password: JYc3B3dunG2

Joshua Erde, Mihyun Kang