Institut für Diskrete Mathematik

Combinatorics Seminar

Friday 14th January 14:15

Online meeting (Webex)

The birth of the strong components

Stephan Wagner

(Uppsala University)

We consider random digraphs in a directed version of the classical Erdős–Rényi model: given n vertices, each possible directed edge is inserted with probability p, independently of the others. It turns out that these graphs undergo a phase transition when p is about $1/n$, which can be seen in the answer to questions such as: what is the probability that there are no directed cycles (equivalently, that all strongly connected components are singletons)? Using methods from analytic combinatorics, we obtain very precise asymptotic answers to questions of this kind.

Meeting link:

https://tugraz.webex.com/tugraz/j.php?MTID=ma70275cd258e7748417214793956c7bf

Meeting number: 188 980 7021

Password: ahMZ84fJYQ2

Joshua Erde, Mihyun Kang