

Talk 7: degrees in Erdős-Rényi random graphs

Speakers. Katharina Petre

Date. Thursday, April 18.

Reference material

[Roc]

Goal

The goal is to study the degree sequence of Erdős-Rényi random graphs using coupling methods.

Content

- Definition of the total variation distance (Sec 4.1.3 in [Roc]), alternative definition of total variation distance (Lemma 4.1.9 in [Roc]), coupling inequality (Lemma 4.1.11 in [Roc]), Poisson approximation (Theorem 4.1.18 in [Roc])
- Asymptotics for the degree sequence in Erdős-Rényi (Theorem 4.1.21 and its proof in [Roc]).

References

[Roc] Sébastien Roch. Modern discrete probability an essential toolkit. <https://people.math.wisc.edu/~roch/mdp/roch-mdp-full.pdf>.