

Embedding bounded-degree graphs in a random graph

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Abstract

In this talk we discuss few results related to embedding graphs with bounded maximum degree into a typical graph G sampled from $G(n, p)$. We start with describing an embedding technique based on matchings, developed by Alon and Füredi, and independently by Ruciński. We then show how to combine it with few simple graph-partitioning lemmas for obtaining new results regarding the universality of the random graph $G(n, p)$ with respect to some interesting subfamilies of spanning graphs with bounded degrees. We continue with extending these results to all graphs with bounded degrees and give a new general upper bound for the edge-probability p for which a typical member of $G(n, p)$ is universal w.r.t. the family of all almost-spanning graphs of bounded degree.

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