EMBEDDING ERDŐS–RÉNYI GRAPHS INTO BIREGULAR RANDOM GRAPHS

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Let $G(n,m,m)$ be a graph chosen uniformly at random from the class of all bipartite graphs with color classes $V_i, i = 1, 2$ with $|V_i| = n_i$ and $m$ edges. Given a number $p \in [0,1]$ such that $d_1 := n_2 p$ and $d_2 := n_1 p$ are integers, let $R(n,n,p)$ be a random graph chosen uniformly at random from all bipartite graphs with color classes $V_1$ and $V_2$ such that every $v \in V_i$ has degree $d_i$, for $i = 1, 2$. In this paper we show that for almost the entire range of $p = p(n) \in (0,1)$ and some $\gamma = o(1)$ one can embed $G(n,m,m)$ into $R(n,n,p)$ for $m := \lfloor (1-\gamma)n_1 n_2 p \rfloor$. This is joint work with T. Klímošová, C. Reiher, and M. Šileikis.