

Zbl 174.04104

Erdős, Pál; Rényi, Alfréd

On random matrices. II (In English)

Stud. Sci. Math. Hungar. 3, 459-464 (1968).

Let $\nu(M_n)$ denote the maximum number of edge-disjoint 1-factors in the bipartite graph corresponding to an n by n matrix M_n of 0's and 1's; clearly $\text{perm}(M_n) \geq \nu(M_n)$. Let $N = n \log n + (r-1)n \log \log n + n\omega(n)$ where r is a fixed positive integer and where $\omega(n) \rightarrow \infty$ arbitrarily slowly as $n \rightarrow \infty$. The authors show, among other things, that the probability that $\nu(M_n) \geq r$ for a random matrix with N 1's and $n^2 - n$ 0's tends to one as n tends to infinity. This generalizes one of their earlier results [Publ. Math. Inst. Hung. Acad. Sci., Ser. A 8, 455-461 (1963; Zbl 133.26003)].

J.W.Moon

Classification:

05C50 Graphs and matrices