1135-05-2955 **Huseyin Acan***, huseyin.acan@rutgers.edu, and **Jeff Kahn**. *Disproof of a conjecture of Alon and Spencer.*

Let ν_k denote the size of a largest family of edge-disjoint k-cliques that can be packed into the random graph $G = G_{n,1/2}$. Alon and Spencer conjectured the expected value of ν_k to be $\Omega(n^2/k^2)$ when k is slightly smaller than the clique number of G. We disprove this conjecture by showing that the expected value in question is $O(n^2/k^3)$.

Our main interest lies in answering the following more general question. Let $k \ll \sqrt{n}$ and $A_1, \ldots, A_t$ be random k-subsets of $[n]$, chosen uniformly and independently. Then what can we say about the probability

$$\mathbb{P}\big(|A_i \cap A_j| \le 1 \ \forall i \neq j\big)\,?$$

We provide upper bounds for this probability that almost agree with the values obtained by pretending the events $\{|A_i \cap A_j|\}_{i<j}$ are independent. (Received September 26, 2017)