

1153-05-347

**József Balogh, Felix Christian Clemen\*** (fclemen2@illinois.edu), **Mikhail Lavrov, Bernard Lidický** and **Florian Pfender**. *Making  $K_{r+1}$ -Free Graphs  $r$ -partite*.

The Erdős–Simonovits theorem for cliques states that for all  $\varepsilon > 0$  there exists  $\alpha > 0$  such that if  $G$  is a  $K_{r+1}$ -free graph on  $n$  vertices with  $e(G) > ex(n, K_{r+1}) - \alpha n^2$ , then one can remove  $\varepsilon n^2$  edges from  $G$  to obtain an  $r$ -partite graph. Füredi gave a short proof that one can choose  $\alpha = \varepsilon$ . We give a bound for the relationship of  $\alpha$  and  $\varepsilon$  which is asymptotically sharp as  $\varepsilon \rightarrow 0$ . (Received September 01, 2019)