

1077-05-855

**Benjamin J. Maguire\*** ([benjamin.maguire@my.lrl.edu](mailto:benjamin.maguire@my.lrl.edu)) and **Thierry Zell**

([thierry.zell@lrl.edu](mailto:thierry.zell@lrl.edu)). *Lower bounds on cliques of  $(2, m)$ -agreeable graphs.* Preliminary report.

A graph  $G$  on  $n$  vertices is  $(2, m)$ -agreeable if no subset of  $m$  vertices of  $G$  induces the empty graph (here,  $n \geq m \geq 2$ ). If  $G$  is  $(2, m)$ -agreeable and if the boxicity of  $G$  is at most  $d$ , we prove that  $G$  must contain a clique of size at least  $(2d)^{2-m} n$ . This generalizes a result of Abrahams, Lippincott, and Zell (case  $m = 3$ ), and can be interpreted as a lower bound on the agreement proportion in the framework of convex approval voting introduced by Berg, Norine, Su, Thomas, and Wollan. (Received September 13, 2011)