1050-05-110 **Chris D Godsil*** (`cgodsil@uwaterloo.ca`). *Cocliques and Polytopes.* Preliminary report.

A d-dimensional eigenspace of the adjacency matrix of a graph determines a convex polytope in $\mathbb{R}^d$. I will outline how this polytope can be used to prove analogs of the Erdős-Ko-Rado theorem for some graphs associated to the symmetric group. (Received March 01, 2009)