1044-05-147 **Linyuan Lu** and **Yi Zhao*** (yzhao6@gsu.edu), Dept of Math & Stat, P.O. Box 4110, Atlanta, GA 30302. *On the upper bound for the Turán density of* K^r_{r+1}.

We first prove an exact result for hypergraphs: given $r \geq 3$, let p be the smallest prime factor of $r-1$. Let $G = (V, E)$ be an r-uniform hypergraph on n vertices such that every $r+1$ vertices contain 0 or r edges. If $n > (p-1)r$, then either $E = \emptyset$ or $E = \{S \subset V : |S| = r, S \ni x\}$ for some $x \in V$. We then use it to show that the Turán density

$$\pi(K^r_{r+1}) \leq 1 - \frac{1}{r} - \frac{1}{2r^{2p-3}}$$

for all even $r \geq 4$, improving a well-known upper bound $1 - \frac{1}{r}$ of de Caen and Sidorenko. (Received August 29, 2008)