

1067-05-2312

**Amin Bahmanian** and **Dan Roberts\*** (dpr0003@auburn.edu), Dept. of Mathematics and Statistics, Auburn, AL 36849-5310. *On Hyperstar Decompositions of Hypergraphs.*

A hypergraph  $G = (X, \mathcal{E})$  is a *hyperstar* with center  $C$  if  $C \subseteq \bigcap_{E \in \mathcal{E}} E$ . The *size* of  $G$  is  $|\mathcal{E}|$  and we say that  $G$  has *center size*  $|C|$ . We find necessary and sufficient conditions for complete uniform hypergraphs and complete hypergraphs to be decomposed into  $S_{m_1}, \dots, S_{m_\ell}$  where  $S_{m_i}$  is a hyperstar of size  $m_i$  with center size 1. (Received September 22, 2010)