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József Balogh, Tom Bohman, Béla Bollobás and Yi Zhao* (yzhao6@gsu.edu). *Turán densities of hypergraphs related to K_{k+1}^k .*

Let $B_i^{(k)}$ be the k -uniform hypergraph on the vertex set $S \cup T$ with $|S| = i$ and $|T| = k - 1$ whose edge set consists of all k -sets containing S or T . We derive upper and lower bounds for the Turán density of $B_i^{(k)}$ that are close to each other as $k \rightarrow \infty$. We also obtain asymptotically tight bounds for the Turán density of other infinity families of hypergraphs. The construction that supports the lower bounds is derived from elementary number theory by probabilistic arguments. To prove the upper bounds, we apply the results of de Caen, Sidorenko, and Keevash on Turán densities. (Received January 18, 2012)