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**Allan Lo** ([s.a.lo@bham.ac.uk](mailto:s.a.lo@bham.ac.uk)), School of Mathematics, University of Birmingham, Birmingham, B15 2TT, United Kingdom, and **Yi Zhao\*** ([yzhao6@gsu.edu](mailto:yzhao6@gsu.edu)), Department of Mathematics and Statistics, Georgia State University, Atlanta, GA 30303. *Codegree Turán density of complete  $r$ -uniform hypergraphs.*

Let  $r \geq 3$ . Given an  $r$ -graph  $H$ , the minimum codegree  $\delta_{r-1}(H)$  is the largest integer  $t$  such that every  $(r-1)$ -subset of  $V(H)$  is contained in at least  $t$  edges of  $H$ . Given an  $r$ -graph  $F$ , the codegree Turán density  $\gamma(F)$  is the smallest  $\gamma > 0$  such that every  $r$ -graph on  $n$  vertices with  $\delta_{r-1}(H) \geq (\gamma + o(1))n$  contains  $F$  as a subhypergraph. Using results on the independence number of hypergraphs, we show that there are constants  $c_1, c_2 > 0$  depending only on  $r$  such that

$$1 - c_2 \frac{\ln t}{t^{r-1}} \leq \gamma(K_t^r) \leq 1 - c_1 \frac{\ln t}{t^{r-1}},$$

where  $K_t^r$  is the complete  $r$ -graph on  $t$  vertices. This gives the best general bounds for  $\gamma(K_t^r)$ . (Received January 22, 2019)