Jie Han (jasonhan2011@gmail.com), Allan Lo (s.a.lo@bham.ac.uk), Andrew Treglown (a.c.treglown@bham.ac.uk) and Yi Zhao* (yzhao6@gsu.edu), Department of Math & Stat, Georgia State University, Atlanta, GA 30303. Exact minimum codegree threshold for $K_4^-$-factors in 3-uniform hypergraphs.

Given two (hyper)graphs $F$ and $H$, an $F$-factor in $H$ is a family of vertex-disjoint copies of $F$ which cover all the vertices in $H$. Let $K_4^-$ denote the 3-uniform hypergraph with 4 vertices and 3 edges. We show that for sufficiently large $n \in 4\mathbb{N}$, every 3-uniform hypergraph $H$ on $n$ vertices with minimum codegree at least $n/2 - 1$ contains a $K_4^-$-factor. The minimum codegree here is best-possible and resolves a conjecture of Lo and Markström, who earlier proved an asymptotic version of this result. Our proof makes use of the absorbing method as well as a result of Keevash and Mycroft concerning almost perfect matchings in hypergraphs. (Received August 11, 2015)