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Jie Han, Chuanyun Zang and Yi Zhao* (yzhao6@gsu.edu), Department of Math & Stat, Georgia State University, Atlanta, GA 30338. *Minimum vertex degree threshold for tiling complete 3-partite 3-graphs.*

Given positive integers $a \leq b \leq c$, let $K_{a,b,c}$ denote a complete 3-partite 3-uniform hypergraph (3-graph) with three parts of size a, b, c . Let H be a 3-graph on n vertices with n divisible by $a + b + c$. We asymptotically determine the minimum vertex degree of H that guarantees a perfect $K_{a,b,c}$ -tiling, that is, a spanning subgraph of H consists of vertex-disjoint copies of $K_{a,b,c}$. This partially answers a question of Mycroft, who proved an analogous result in terms of codegree for k -uniform hypergraphs for all $k \geq 3$. Our proof uses the absorbing method, the concept of fractional tiling, and a recent result on shadows for 3-graphs. (Received February 01, 2015)