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Jie Han* (jhan22@student.gsu.edu), Department of Mathematics and Statistics, Georgia State University, Atlanta, GA 30303, and **Yi Zhao** (yzhao6@gsu.edu), Department of Mathematics and Statistics, Georgia State University, Atlanta, GA 30303. *Absorbing lemma for the multipartite Hajnal-Szemerédi Theorem.*

Let G be a k -partite graph with n vertices in each part such that each vertex is adjacent to at least $\bar{\delta}(G)$ vertices in each of the other parts. Magyar and Martin proved that for $k = 3$, if $\bar{\delta}(G) \geq \frac{2}{3}n + 1$ and n is sufficiently large, then G contains a K_3 -factor (a spanning subgraph consisting of n vertex-disjoint copies of K_3). Martin and Szemerédi proved that the conclusion holds for $k = 4$ when $\bar{\delta}(G) \geq \frac{3}{4}n$ and n is sufficiently large. Both results were proved by the Regularity Lemma. Keevash and Mycroft recently used a geometric approach to show that $\bar{\delta}(G) \geq \frac{k-1}{k}n + o(n)$ guarantees a K_k -factor for all $k \geq 2$. In this talk we give a proof of these results by the absorbing method. (Received January 18, 2012)