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John Lenz* (lenz@math.uic.edu). *Perfect Packings in Quasirandom Hypergraphs.*

The Hajnal-Szemerédi theorem states that if $|V(G)| = n$ and $\delta(G) \geq (1 - 1/r)n$, then G contains a perfect K_r packing, a collection of disjoint copies of K_r which cover all the vertices of G . The constant $1 - 1/r$ is sharp, and similar sharp minimum degree bounds are known for graphs besides K_r and for various k -uniform hypergraphs. Nevertheless, Komlós-Sárközy-Szemerédi showed that for graphs the lower bound on the minimum degree can be weakened if the graph is assumed to be quasirandom. In this talk, I will discuss recent results (joint with Dhruv Mubayi) on perfect packings in weak/linear quasirandom hypergraphs. Both existence of packings and quasirandom constructions which avoid packings will be discussed. This is joint work with Dhruv Mubayi (Received July 26, 2013)