1073-05-246 **Patrick Bennett** and **Tom Bohman*** (tbohman@math.cmu.edu). *A natural barrier for random greedy hypergraph matching.*

Let r be a fixed constant and let $\mathcal{H}$ be an r-uniform, D-regular hypergraph on N vertices. Assume further that co-degrees in $\mathcal{H}$ are at most L where $L = o(D)$. We consider the random greedy algorithm for forming a hypergraph matching; that is, we choose a matching in $\mathcal{H}$ at random by iteratively choosing an edge uniformly at random to be in the matching and deleting all edges that share at least one vertex with the chosen edge before moving on to the next choice. This process terminates when there are no edges remaining in the graph. We show that with high probability the proportion of vertices of $\mathcal{H}$ that are not saturated by the final matching is at most $(L/D)^{\frac{1}{2(r-1)}+o(1)}$. This point is a natural barrier in the analysis of the random greedy hypergraph matching process. (Received August 02, 2011)