Yet another talk on perfect matchings in hypergraphs

Andrew Treglown

Last term Peter Keevash and Fiachra Knox both gave talks on perfect matchings in hypergraphs. In this self-contained talk we look at the problem of establishing minimum degree conditions which force a hypergraph to contain a perfect matching.

Indeed, given positive integers k and r with $k/2 \leq r \leq k-1$, we give a minimum r-degree condition that ensures a perfect matching in a k-uniform hypergraph. This condition is best possible and improves on work of Pikhurko, who gave an asymptotically exact result. Our approach makes use of the absorbing method.

This is joint work with Yi Zhao (Georgia State University).