

Asymptotic enumeration of regular hypergraphs

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We prove an asymptotic formula for the number of k -uniform hypergraphs with a given degree sequence, for a wide range of parameters. In particular, we can asymptotically enumerate d -regular k -graphs of density $O(k^{-1})$ for $k < n^{1/10}$. This extends the recent results for graphs of Liebenau and Wormald.

It follows that within our scope, the distribution of the degree sequence of a random k -uniform hypergraph can be approximated by a sequence of independent random variables with the appropriate binomial distribution. This is joint work with Anita Liebenau and Nick Wormald.

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