DOCTORAL PROGRAM
DISCRETE MATHEMATICS

TU & KFU GRAZ · MU LEOBEN
AUSTRIA

Graz University of Technology

Institut für Optimierung und Diskrete Mathematik

Vortrag im Seminar Diskrete Mathematik und Optimierung

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Seminarraum C208, Steyrergasse 30, 2. Stock

The core in random hypergraphs and local weak convergence

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The degree of a vertex in a hypergraph is defined as the number of edges incident to it. In this talk we study the k-core, defined as the maximal induced subhypergraph of minimum degree at least k, of the random r-uniform hypergraph $\mathbf{H}_r(n,p)$ for $r \geq 3$. We consider the case $k \geq 2$ and $p = d/n^{r-1}$ for which every vertex has fixed average degree $d > 0$. We derive a multi-type branching process that describes the local structure of the k-core together with the mantle, i.e. the vertices outside the core.

Mihyun Kang