

Institut für Diskrete Mathematik

Seminar für Kombinatorik und Optimierung

Friday 11th December 14:15

Online meeting (Webex)

Resilience for Hamiltonicity in random hypergraphs

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Sudakov and Vu introduced the concept of local resilience of graphs for measuring robustness with respect to satisfying a given property. A classical result of Dirac states that any subgraph G of the complete graph K_n of minimum degree $\delta(G) \geq \frac{1}{2}n$ contains a Hamilton cycle. In the binomial random graph $G(n, p)$ the threshold for the appearance of a Hamilton cycle is $p = \log n/n$. Lee and Sudakov generalised Dirac's result to random graphs by showing that with $p \geq C \log n/n$ asymptotically almost surely any subgraph G of $G(n, p)$ with minimum degree $\delta(G) \geq (\frac{1}{2} + \epsilon)n$ contains a Hamilton cycle, where C depends only on $\epsilon > 0$. These kind of resilience problems in random graphs received a lot of attention. In this talk we discuss a generalisation of the result of Lee and Sudakov to tight Hamilton cycles in random hypergraphs.

This is joint work with Peter Allen and Vincent Pfenninger.

Meeting link:

<https://tugraz.webex.com/tugraz/j.php?MTID=m1cd0904285a119237aa9a7ce985ad803>

Meeting number: 137 149 1265

Password: JYc3B3dunG2

Joshua Erde, Mihyun Kang