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ASYMPTOTIC NORMALITY OF THE GIANT COMPONENT IN RANDOM INTERSECTION GRAPHS

In a random intersection graph $\mathbb{G}(n, m, p)$, there is a set of n vertices and m attributes, with any pair of vertex and attribute being connected with probability p . Edges between vertices are added if they share an attribute. We are currently studying the size of the giant component near the critical window of the phase transition in this model.

Previous results include the law of large numbers by M. Behrisch (2007) as well as asymptotic normality by L. Dong and Z. Hu (2022) for cases where the average degree is constant. In the sparse supercritical regime where it slowly tends to 1, LLN was proven by B. Wang, L. Wang and K. Xiang (2018). Our research focuses on proving asymptotic normality for this range by using an exploration process and the martingale central limit theorem. This talk will cover our result, as well as remaining problems.

This is joint work with K. Rybarczyk.