

Limits of Randomly Grown Graph Sequences

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Abstract: Motivated in part by various sequences of graphs growing under random rules (like internet models), convergent sequences of dense graphs and their limits were introduced by Borgs, Chayes, Lovász, Sós and Vesztergombi and by Lovász and Szegedy. We use this framework to study one of the motivating class of examples, namely randomly growing graphs. We prove the (almost sure) convergence of several such randomly growing graph sequences, and determine their limit. The analysis is not always straightforward: in some cases the cut distance from a limit object can be directly estimated, in other case densities of subgraphs can be shown to converge.

This is joint work with Christian Borgs, Jennifer Chayes, László Lovász and Vera Sós.

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