

A new model for analysis of the random graph d -process

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Abstract:

A graph d -process starts with an empty graph on n vertices, and adds one edge at each time step, chosen uniformly at random from those pairs which are not yet edges and whose both vertices have current degree less than d . Erdős posed the question of finding the distribution of the degree sequence of the vertices in the final graph. Once upon a time, Ruciński and I showed using a martingale argument that asymptotically almost surely there is at most one vertex of degree less than d . We now have an entirely new approach to analysing this process which allows us to obtain much more accurate answers to a number of questions, such as: when does the last vertex of degree 0 disappear?

This is joint work with Andrzej Ruciński.