

Infinite paths and cliques in random graphs

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We determine the probability thresholds for the emergence of various properties in random subgraphs of $(\mathbb{N}, <)$. In particular, we give sharp sufficient conditions for the existence of cliques and paths in a random subgraph. No specific assumption on the probability, such as independency, is made. The main tools are a topological version of Ramsey theory, exchangeability theory and elementary ergodic theory.

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