

Let \mathcal{G} be a class of graphs with some structure, for example being decomposable or having some other properties of a class like the planar graphs. We are interested in the behaviour of the random graph R_n sampled uniformly from the set \mathcal{G}_n of graphs in \mathcal{G} on vertex set $[n]$, in particular in the probability that R_n is connected. A natural approach has been to show first that \mathcal{G} is smooth (that is, $n |\mathcal{G}_{n-1}| / |\mathcal{G}_n|$ tends to a limit as $n \rightarrow \infty$). We discuss some general results following this approach, and recent work which does not require smoothness.