The sandwich conjecture of random regular graphs

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Random regular graphs are extensively studied, whose analysis typically involves highly nontrivial enumeration arguments, especially when the degree grows fast as the number of vertices grows. Kim and Vu made a conjecture in 2004 that the random regular graph can be well approximated by the random binomial random graphs, in the sense that it is possible to construct $G(n,d)$, $G(n,p_1)$ and $G(n,p_2)$, where $d \sim np_1 \sim np_2$, in the same probability space so that with high probability $G(n,p_1) \subseteq G(n,d) \subseteq G(n,p_2)$. This is known as the sandwich conjecture. In this talk I will discuss some recent progress in this conjecture.