

Maximum stationary values in directed random graphs

Guillem Perarnau (UPC Barcelona)

In this talk we will consider the extremal values of the stationary distribution of the sparse directed configuration model. Under the assumption of linear $(2 + \eta)$ -moments on the in-degrees and of bounded out-degrees, we obtain tight comparisons between the maximum value of the stationary distribution and the maximum in-degree. Under the further assumption that the order statistics of the in-degrees have power-law behavior, we show that the upper tail of the stationary distribution also has power-law behavior with the same index. Moreover, these results extend to the PageRank scores of the model, thus confirming a version of the so-called power-law hypothesis. Joint work with Xing Shi Cai, Pietro Caputo and Matteo Quattropani.