

On graphs perturbed by a random geometric graph.

Alberto Espuny Díaz

In recent decades, a lot of effort has been invested into understanding thresholds for the containment of spanning structures in randomly perturbed graphs (that is, graphs obtained as the union of a dense graph with some minimum degree condition and a binomial random graph $G(n, p)$). These include the containment of powers of Hamilton cycles, different F -factors, spanning trees, and general bounded degree graphs, among many others.

In this talk, I will propose an alternative model where the ‘perturbation’ is given by a random geometric graph and discuss some results in this model. These results include thresholds for the containment of powers of Hamilton cycles, which allows to obtain analogues of several of the results mentioned above in this new setting.

Parts of this talk are based on joint work with Joseph Hyde.