

1104-62-249

Sonja Petrovic* (sonja.petrovic@iit.edu), **Dane Wilburne**, **Despina Stasi**, **Michael Pelsmajer** and **Vishesh Karwa**. *A family of statistical models for k -core decompositions of graphs.*

In the network (random graphs) literature, network analyses are often concerned- either directly or indirectly- with the degrees of the nodes in the network. Familiar statistical frameworks, such as the beta or p1 models, associate probabilities to networks in terms of their degree distributions. However, this approach may fail to capture certain vital connectivity information about the network. Often, it matters not just to how many other nodes a particular node in the network is connected, but also to which other nodes it is connected. Degree-centric analyses are not well-suited to model such situations. This talk introduces a model family for one such connectivity structure and is motivated by examples of social networks. (Received September 02, 2014)