

1106-05-2001 **Apoorva Khare*** (khare@stanford.edu) and **Bala Rajaratnam** (brajarat@stanford.edu).
Differential calculus on the space of countable labelled graphs.

I will discuss recent work on limits of labelled graphs. We show interesting parallels to the graphon literature, including a representation theory that metrizes convergence of “homomorphism indicators”, a Counting Lemma, and compactness of the space of all limit objects. However, there are significant differences with graphons because of sampling issues. We also develop a theory of differentiation on labelled graph space, including a First Derivative Test. (Joint with Bala Rajaratnam) (Received September 15, 2014)