

CONSISTENCY OF WEIGHTS AND SIZES OF COMPONENTS IN THE CRITICAL RANK-1 INHOMOGENEOUS RANDOM GRAPH

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Time&Venue:

SCMS Room 102, Oct. 16 (Thursday), 14:00-15:30

Abstract:

We consider the rank-1 inhomogeneous random graph in the critical window, where a vertex i is assigned a weight w_i and an edge (i,j) is present with probability $\exp(-C w_i w_j)$, independent of other edges. Under third moment assumptions on the weights, Aldous'97 showed that the ordered sequence of component weights converge in ℓ_2 to the lengths of ordered excursions of a Brownian motion with parabolic drift. We obtain the same result for ordered component sizes, and further show that for large components, this ranking by weights and sizes agree with high probability.

Biography:

Dr. Deka is currently a postdoctoral fellow at Beijing International Center for Mathematical Research (BICMR), Peking University. He obtained his Bachelors and Masters in Mathematics from Indian Statistical Institute, Bangalore, and PhD from the Department of Statistics and Operations Research at University of North Carolina, Chapel Hill, under the supervision of Sayan Banerjee and Mariana Olvera-Cravioto. Broadly, he is interested in probability, and his current research involves studying asymptotic properties of random graphs and networks, and processes on them.