

Universal behavior near Erdos-Renyi

Lorenzo Sadun, University of Texas at Austin

In the micro-canonical edge-triangle model, the optimizing graphon takes a peculiar and highly asymmetrical form when (e,t) lies slightly above the Erdos-Renyi curve $t=e^3$. This form has also been observed in star models. Using perturbation theory, I will explain the reason for this form, and argue that its appearance is universal. Any model involving the densities of edges and one other sub-graph will exhibit the same phenomenon.