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Component sizes of scale-free inhomogeneous random graphs

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The Norros-Reittu model is an inhomogeneous random multigraph that exhibits the so-called scale-free or power-law behaviour, which is observed in real-world complex networks. We study the component sizes of the Norros-Reittu model in the subcritical regime, i.e. in the abscence of a giant component, and show convergence of the point process of the component sizes to a Poisson process. The same result holds for closely related graphs such as the Chung-Lu model and the generalized random graph. It is planned to derive similar results for geometric graph models like the random connection model.

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